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A Systemic Model for Managing and Evaluating Conflicts in Organizational Change

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Abstract Change or innovation diffusion is a key issue for most business organizations but is yet difficult to implement as the change management process is often complex as it relies on an organized methodology to complement an organization's commitment and participation. An ambiguous environment surrounding change mechanism tends to develop unintended attitudes, resulting in resistance and conflict. The study proposes a model for the management of such conflicts among change participants (involved and affected) in the context of organizational change. The authors consider organizational change process as an innovation project that treats change and conflicts holistically with the Ulrich's notion of boundary considerations (boundary critique). A social network setting of multiple stakeholders is considered to effectively help in resolving problematic situations that hinder organizational learning and change. The proposed model provides a theoretical foundation based on concepts governing Critical Systems Heuristics (CSH), change theory, stakeholder theory and conflict management.

Keywords Systemic model · Change management · Conflict · Critical Systems Thinking (CST)

Introduction

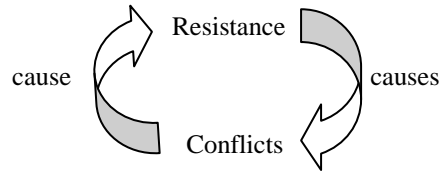
Implementing change within organizations often leads to conflicts (Montana and Charnov 2000) that hinder the change process. Despite the wealth of literature available to dealing with this challenge, many problems still occur within organizations from a stakeholder's view point. For theory and practice to progress, an alternative perspective is required to understand the complex interplay of change and conflicts amongst multiple stakeholders within an organizational setting. The aim of this paper is to examine how a systems perspective, focusing on stakeholders, can be used to improve change management practices and theory.

As a multi-stage dynamic process (Pettigrew 1985; Dawson 1994), organizational change is a complex phenomenon involving a collective effort of multiple actors (Bower 1997). Successful resistance management is arguably the most important challenge in the change exercise (O'Connor 1993). Resistance can be anticipated if proposed changes or innovations alter values and visions as stakeholders often perceive that these actions cause disenfranchisement and redistribute benefits (Trader-Leigh 2001). Psychological and management literature describe it as a natural and almost inevitable response that applies to changes ranging from modest (first order) to the far-reaching (second order) (see for example Kotter et al. 1979; Conner 1998; Mullins 1999). Cooper and Markus (1995) indicate that organizations often fail to realize that the resistance offered by people is not to the change per se, but the way they are treated and the roles they play in the change process.

The authors argue that it is critical to identify stakeholders, know how they are affected and understand the dynamics and cost of change. This shall help in identifying the factors underlying resistance and consequently in managing conflicts. The authors regard conflicts as a consequence of resistance which in turn can cause further conflicts, as shown in Fig. 1.

The authors emphasize that the identification of resistance factors must be an essential part of conflict management in organizational change. The purpose of this paper is to propose a conflict management model for organizational change, having its theoretical foundations on the concepts of Critical Systems Heuristics (CSH), change theory, stakeholder theory and conflict management. The authors consider that treating change and conflicts holistically with Ulrich's notion of boundary considerations (boundary critique), based on the involvement of multiple stakeholders, can effectively help in successfully addressing the challenging nature of such problematic situations providing a smoother pace for organizational learning and change.

Fig. 1 Resistance and conflicts



The paper has been divided into four main sections. The first section analyses the literature and highlights the foundation concepts of the paper; the second presents the proposed model; the third discusses the implications of the proposed model and the last section focuses on limitations and overall conclusions.

Literature Analysis and Model Development

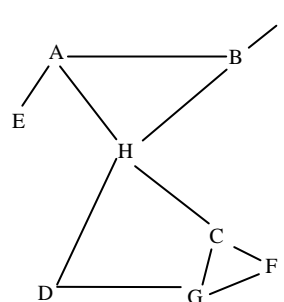
This section presents a brief overview of the concepts which underpin the proposed model. It also highlights how these concepts evolve as components (systems of stakeholders and conflicts) which ultimately serve as the building blocks for the proposed model.

A Management Perspective of Stakeholder Theory

It is extremely difficult to discount stakeholders in developing organizational models as they are a consistent dimension in any organizational life cycle (Rowley 1997). In defining stakeholder perspective, organizations should address stakeholder expectations by managing the stakeholders' influences on organizations (Brenner and Cochran 1991).

It was Freeman (1984) who brought stakeholder theory into the mainstream of management literature (Frooman 1999). Freeman defined a stakeholder as, "any group or individual who can affect or is affected by the achievement of the firm's objectives" (Freeman 1984, p. 25). He conceptualized the firm or the focal organization (F.O.) as the hub of a wheel and stakeholders as the ends of spokes around it (Frooman 1999). This was extended by Freeman and Evan (1990) as a series of multilateral contracts among stakeholders, giving birth to a network of influences, as shown in Fig. 2(a).

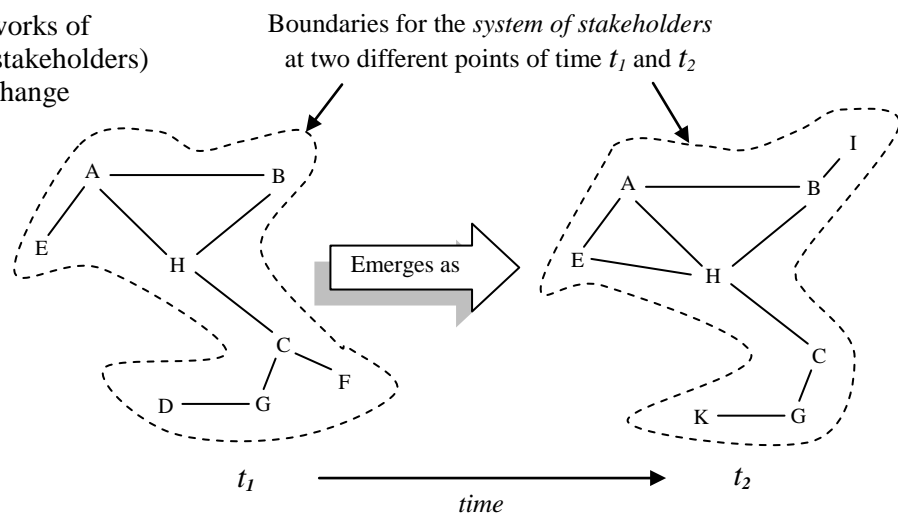
Fig. 2(a) Network of stakeholders



Thus, explaining an organization's response to its stakeholders requires an analysis of a complex array of multiple and interdependent relationships among stakeholders rather than just their individual relationships with the organization. Therefore, treating a stakeholder's position as a variable in a complex social system opens a door to understand the impact of

patterns of stakeholder interactions. This concept of ‘interaction of interactions’ (Nohria 1992) is thus, an important determinant of an organizational behaviour. From a critical systems thinking perspective, the extended view of stakeholders by Freeman and Evan (1990) would be considered as a boundary drawing guideline for the proposed model. It would rather be a role-based dynamic network of stakeholders emerging as a *system of stakeholders* with the progression of change, as shown in Fig. 2(b). So, the stakeholder relevant to this system at a certain point of time may become irrelevant as new stakeholders come into play through the sieve of boundary considerations (boundary critique) and as the knowledge about the involvement of stakeholders is refined with the progress of change. The details about boundary critique and the roles stakeholders play within these emerging networks are discussed later in the article.

Fig. 2(b) Emerging networks of stakeholders (system of stakeholders) with the progression of change



Systems Thinking and Critical Systems Heuristics (CSH)

Systems Thinking views the world in terms of ‘wholes’ in contrast to the reductionist approach which focuses on the manipulations of parts of a system without considering how they affect the whole through their interactions (Ackoff 1995). Systems thinking deals with grasping all the ‘wholes’ relevant to the problem situation and studying their multiple cross level interactions over time (Waldman 2007). According to Jackson (1995), the most interesting and important problems for managers surface when the parts interact and produce emergent properties which are not directly related to those of individual parts.

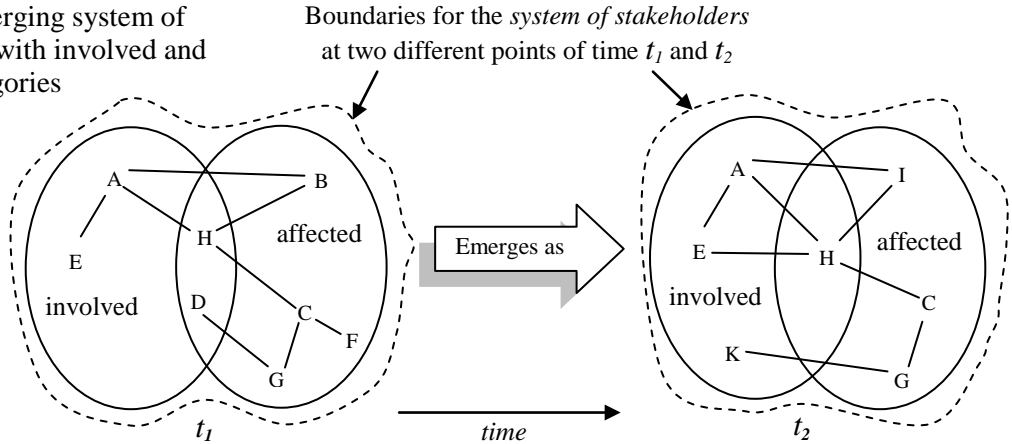
If change is to be called an improvement, then reflecting on the boundary of analysis is vital. Churchman (1970) argues on the importance of pushing out the boundaries of analysis by including or ‘sweeping-in’ as much information as possible. A different system boundary may result in a different problem analysis and, accordingly, in different solutions or changes. Wilby (2005) argues that the goal of holistic study is not to *sweep-in* or include everything involved rather it is about deciding what is relevant to the study and what is not and understanding the reasons of those choices. The choices are affected by the biases and interests about what is likely to be included or excluded i.e. what is in the system as opposed to what is considered as the system’s environment. For example, if a car, producing the desired level of power output, is causing environmental pollution through unhealthy composition of its emissions, then *sweeping-in* the environmental safety consideration into the boundary of analysis will lead to an entirely opposite system evaluation outcome.

The emergence of systems approaches in the last hundred years has been summarized by Midgley (2007) by using a ‘wave’ metaphor. He described three waves of systems thinking by presenting successive developments of their constituent systems ideas and critiques. He identified that Critical Systems Heuristics (CSH) or Critical Systems Thinking (CST) emerged as a consequence of the critiques launched on the second wave of systems thinking during the period of late 1970s and early 1980s as the earlier ‘waves’ did not sufficiently account for power relationships within interventions, and/or conflicts built into the structure of society.

The methodology of Critical Systems Heuristics, proposed by Ulrich (1983) is a systems thinking-based framework for a reflective practice which considers a social system design comprising of those who are involved in and affected by it. It moves Churchman’s (1970, 1979) understanding of the importance of boundaries to systemic analysis (sweep-in) in a new and challenging direction named as ‘boundary critique’ (Midgley 2007). From a change perspective, those involved can influence on the achievement of the objectives pertaining to the change effort where as those affected are influenced by the achievement of these objectives. Furthermore, the authors argue that there could be some stakeholders who are involved and affected by the change process at the same time, as the achievement of the objectives may influence them in terms of their organizational processes, reputation or goodwill, for instance. Such stakeholders are shown at the intersection of the two categories in Fig. 2(c). The details about these two basic categories (involved and affected) of stakeholders are presented later.

The concept of ‘boundary critique’, which is the methodological core principle of Critical Systems Heuristics, is based on the idea of the whole systems improvement (Ulrich 1983). It aims to *sweep-in* the maximum amount of information into the defined system boundary on one hand and poses the question for a rational justification of the boundaries through a debate between stakeholders on the other, thus making it an ethical process involving multiple viewpoints (Achterkamp and Vos 2007). The boundary consideration coherently defines *what* issues are to be included or excluded and *who is to be involved* (stakeholders) with these issues (Midgley 2003). The paper considers the stakeholder categories (involved and affected), their intersection and the boundary definitions over time dimension as the change effort progresses. In relation to this, the emerging stakeholder networks shown in Fig. 2(b) shall look like as shown in Fig. 2(c).

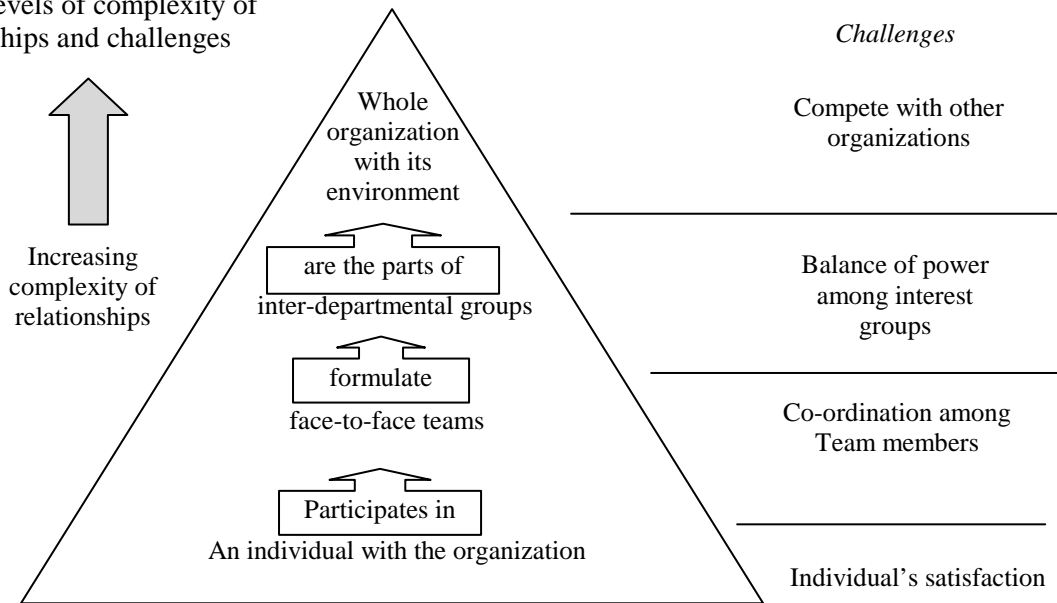
Fig. 2(c) Emerging system of stakeholders with involved and affected categories



Organizational Complexity and Conflicts

The participation of people in organizations is a complex phenomenon (Rashford and Coghlan 1994) with increasing levels of complexity from the relationship of an individual with the organization to the whole organization and its environment taken as a whole (McIlduff and Coghlan 2000), as shown in Fig. 3. The obstructive effect of resistance factors on these four levels of participation is discussed later in the article.

Fig. 3 Levels of complexity of relationships and challenges



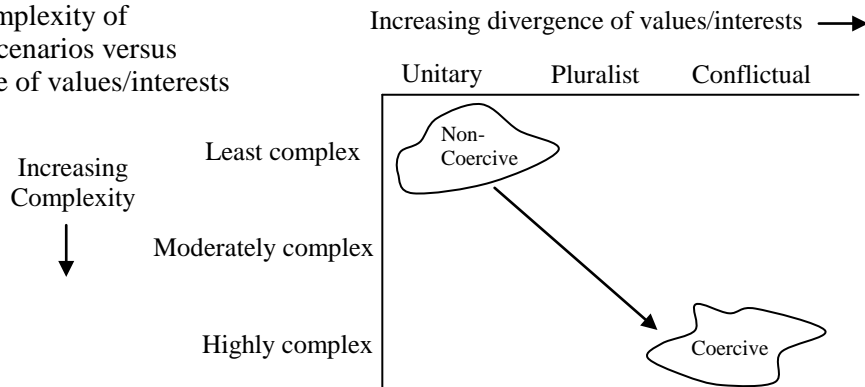
Jackson (1995) defined unitary, pluralist and conflictual relationships as possible 'ideal-type' problem contexts. He positioned these concepts in two dimensions, based on the divergence of values and interests of those involved in or affected by a problem as a horizontal axis and complexity as a vertical axis. Relationships are: unitary when people share values and interests (the details related to these concepts of interests and values shall be discussed later in the paper); pluralist if their values and interests diverge but still share enough in common to form a worthwhile coalition; and conflictual or coercive if their interests diverge irreconcilably (Jackson and Keys 1984). The combination of axes depicts an ideal-type grid in which problem contexts become more cumbersome to manage with the increasing divergence of values and interests with an increase in complexity, as shown in Fig. 4.

The study of complexity has produced a set of laws (Warfield 1995), the number of which has been steadily growing. The following laws serve as a basis for this writing:

The law of diverse beliefs – states that at the outset of investigating a complex issue, the group members will have quite diverse beliefs about it.

The law of inherent conflict – asserts that there will always be significant conflict in interpreting what is important in resolving a complex issue regardless of what that complex issue is and what is the group involved.

Fig. 4 Complexity of problem scenarios versus divergence of values/interests



The authors of this paper suggest to analyse conflicts through a *system of conflicts* including participants or stakeholders (involved and/or affected), as shown in Fig. 5. The involved and affected categories are later referred to as *actively involved* and *passively involved* respectively, as the model is discussed in relation to the roles stakeholders play during organizational change.

The authors further suggest that the stakeholders participating in the *system of conflicts* comprise of a subset of the complete stakeholder set determined to formulate the *system of stakeholders* using boundary critique at a certain point of time t_n , during the organizational change process. Hence, both of these systems are the function of time. Also, *system of conflicts* is a subsystem of the *system of stakeholders* throughout organizational change.

Although the purpose of this paper is not to develop a mathematical model for conflict management in organizational context, the authors still opt for representing these systems mathematically to enhance the understanding of the reader about their inter-relationship which will prove helpful in understanding the figures and the proposed model as it starts taking shape from these concepts.

If *system of stakeholders* is represented by $S_s(t)$ and *system of conflicts* by $S_c(t)$, then mathematically it can be represented as:

$$S_c(t_n) \subseteq S_s(t_n), \text{ where } n = \{0, 1, 2, 3, \dots\}; t_0 \text{ represents the initiation of the change project}$$

Diagrammatically, it can be shown as Fig. 5, which shows the *system of stakeholders* determined through boundary critique at time t_1 i.e. $S_s(t_1)$. Thus, $S_s(t_1)$ is composed of the stakeholder set comprising of stakeholders A, B, C, D, E, F, G and H, which can be represented as:

$$S_s(t_1) = \{A, B, C, D, E, F, G, H\}$$

Since the *system of conflicts* at time t_1 i.e. $S_c(t_1)$ is composed of two conflicts c_1, c_2 , therefore:

$$S_c(t_1) = \{c_1, c_2\}$$

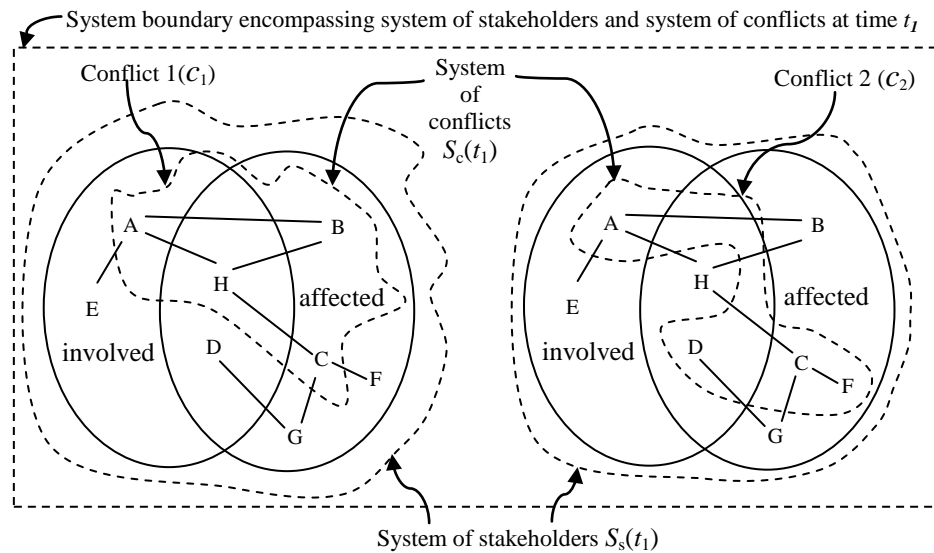
Where c_1 and c_2 consist of stakeholders A, B, C, H and A, C, D, F respectively, i.e.

$$S_c(t_1) = \{\{A, B, C, H\}, \{A, C, D, F\}\}$$

Where,

$$S_c(t_1) \subseteq S_s(t_1)$$

Fig. 5 System of stakeholders and system of conflicts at time t_1



Resistance and Conflicts in Organizational Change

The authors view change as a purposeful innovation diffusion project triggered by thinking humans to bring about improvement in a complex organizational setup, as shown in Fig. 3. An innovation, as defined by Zaltman et al. (1973) is “an idea, practice, or a material artefact, perceived to be new by the relevant unit of adoption”. Innovations can either be *products*, such as computers, curriculum texts or *processes*, such as constructivist teaching techniques and student teamwork (Hall and Hord 2006).

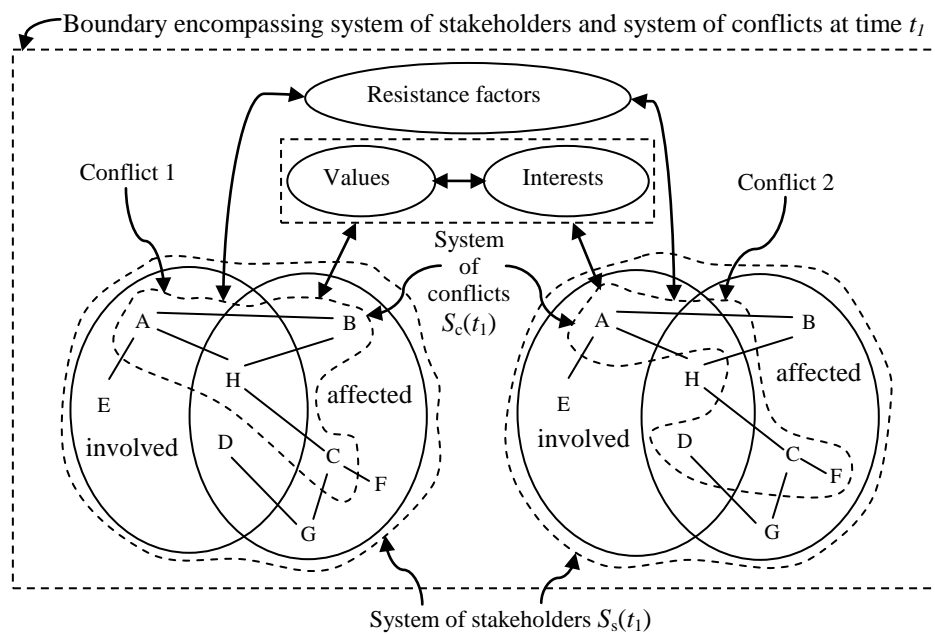
Innovation diffusion is described as “the process by which an innovation is communicated through certain channels over time among the members of a social system” (Rogers 1995). This emphasizes the human element being dealt with during the process. Organizational participants who are vaguely aware of the process can cause rumours and anxiety resulting in attitudes different from those intended by management, which ultimately lead to resistance (Jick 1993). The term resistance was introduced by Kurt Lewin in his field theory related to group dynamics (Lewin 1947). Coch and French (1948) later discussed how resistance is connected to change in organizations. It should be noted that the text in this paper uses change and innovation diffusion interchangeably.

An organization is composed of diverse groups of people having different issues of concern and is seen as coalition of interest groups in tension (Cao et al. 2003). A change effort occurring in an environment where multiple cultures coexist (Fig. 3) with diverse objectives (Fig. 4) could result in significant conflicts (Trader-Leigh 2001). Although the term ‘conflict’ has diverse meanings (see for example Ackoff 1978; Pruitt and Rubin 1986; Tillett 1991; Borisoff and Victor 1998; Peter 2002), this paper treats it as a dynamic process within a social context. It sits inside the circumference of an organizational change scenario and is underpinned by its management rather than resolution as a conflict may or may not have a

well-defined ending. Under social context, conflict is a state of disagreement perceived by two or more parties on issues such as interests, values, actions, objectives, positions, beliefs (Midgley and Pinzón, 2000).

With reference to the beliefs relating to the values and interests (see laws of complexity and Fig. 4 in section on organizational complexity and conflicts) and the significance of resistance in organizational conflicts, mentioned in the current section (see section on determination of resistance factors for a detailed discussion), a comprehensive conceptual framework for the proposed model (see Fig. 6) emerges as a sequel to Fig. 5 by *sweeping-in* these concepts inside the boundary of analysis. This conceptual framework when woven together with social network mechanisms and intervention strategies (see section on intervening with the conflict participants), results in a methodological model as shown in Fig. 9. The authors suggest that this combination could serve as a nucleus for innovation diffusion and conflict management in organizational change. The next section presents the proposed model.

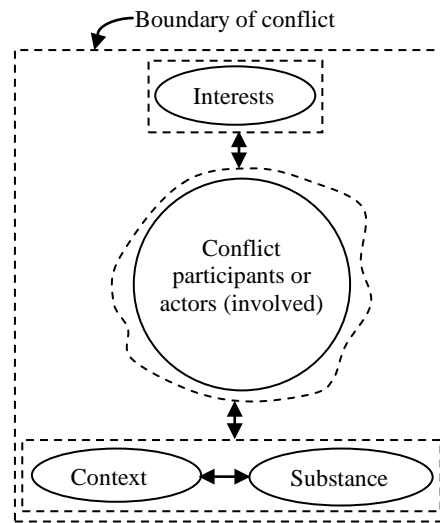
Fig.6 Conceptual framework of the proposed model



The Model

An axiological subjectivism-based model that is most commonly used for conflict evaluation in alternative dispute resolution (ADR) literature is shown in Fig. 7. Mentioned as F1 by Midgley and Pinzón (2000), this model considers to identifying the actors or stakeholder directly involved in the conflict; and their interests in relation to the substance of the conflict. The poverty of this model lies in the fact that it carries out conflict evaluation only from the perspective of the interests of those directly involved or participating in the conflict. So, it attempts to reach at negotiation in light of the influence or impetus provided to the body of conflict by the dominant actors without any guidelines sought from the ‘affected’ category of people. Putting these ‘victims’ beyond the boundary of the model may result in serving the interests of those who are dominant and influential, without *sweeping-in* any ethical considerations for those affected while making boundary judgements. Bazerman and Lewicki (1983) and Lewicki (1997) involve materials that reinforce the use of F1. While the term ‘interest’ in the ADR literature is sometimes used interchangeably with words like ‘desire’, ‘preference’ or ‘utility’, they in fact mean the same (Midgley and Pinzón 2000).

Fig. 7 Conceptual framework for F1



Midgley and Pinzón (2000) evaluated F1 using ‘Colombian guerrilla conflict’, while proposing a systemic model (F2) for conflict evaluation in social contexts. Fig. 8 shows the conceptual framework underlying F2.

In both of these models, the substance is seen as the object of dispute or ‘the bone of contention’ while the context surrounds the entire dispute in terms of actions or understandings pertaining to culture, politics or religion. A context can make same actors value substances in different ways (Midgley 1993). A discussion about the concepts related to values and interests and their relation with each other is provided later.

F2, while providing a basis for the model proposed here, cannot be directly applied in an organizational change scenario as it only provides a conflict evaluation scheme and not a mechanism for conflict management. It helps in evaluating conflicts at a certain point of time but falls short of proposing how different approaches or mechanisms could be employed for a desired output e.g. how conflict evaluation could be geared towards conflict management for the success of an organizational change project.

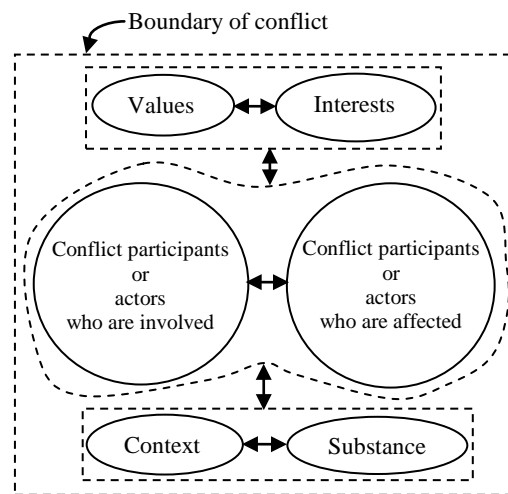
The proposed model, as shown in Fig. 9:

- couples F2 with network stakeholder theory to establish a *system of stakeholders* $S_s(t)$ (Fig. 10) along with the roles stakeholders play during organizational change (see Table 1).
- highlights the importance of determining the resistance factors (both organizational and individual) as a substance for the body of conflict(s) (see section on determination of resistance factors), as most studies on organizational change have discussed organizational perspectives as opposed to individual ones (Bovey and Hede 2001).
- establishes a *system of conflicts* $S_c(t)$ as a subsystem of the *system of stakeholders* $S_s(t)$ (see Fig. 11), both systems being the functions of time.

- recognises the applicability of network-based mechanisms (see Table 3) and intervention strategies (see Table 4) over the *system of conflicts* for conflict management and resolution.
- provides a methodological framework for going about identifying and managing conflicts in the context of organizational change at various complexity levels of an organization involving individuals, face-to-face teams and inter-departmental groups (see Fig. 3).

The components of the proposed model, shown in Fig. 9 are explored below.

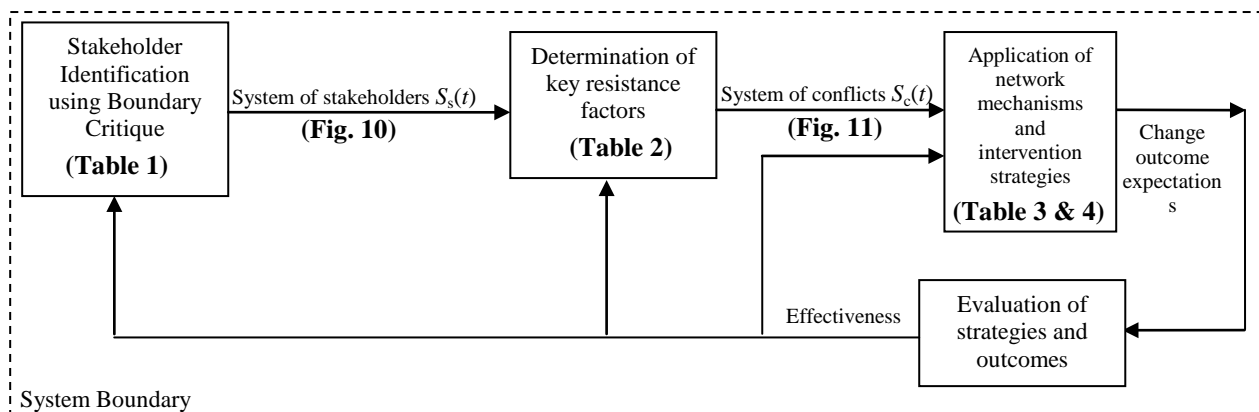
Fig. 8 Conceptual framework for F2



Identification of Stakeholders using Boundary Critique

Identifying stakeholders means that a line is drawn between the parties to be involved and the parties not to be involved (Vos 2003). Donaldson and Preston (1995, p. 67) state that “stakeholder management requires, as its key attribute, simultaneous attention to ... all appropriate stakeholders”, which led stakeholder theorists to address the issue of stakeholder identification (Frooman 1999) and generates a variety of theoretical classifications (Mitchell et al. 1997). The question emerges as to what extent these classifications contribute to solving the identification problem for management practice in relation to boundary critique (Achterkamp and Vos 2007).

Fig. 9 The proposed model for conflict management in organizational change



Freeman's (1984) definition is widely acknowledged as a 'landmark' in stakeholder theory and a starting point for analyzing stakeholder classifications (Mitchell et al. 1997; Rowley 1997). As a boundary drawing guideline for the proposed model, it provides clues for deciding which parties to be included in, or excluded from a *system of stakeholders* (Achterkamp and Vos, 2007). Ulrich (1983) provides practical guidelines that planners and ordinary citizens can both use equally proficiently to conduct boundary critique. For this purpose, he offers a list of twelve questions which can be employed by those involved in and affected by planning to interrogate what the system currently *is* and what it *ought* to be. More specifically, Achterkamp and Vos (2007), propose a four-step method for project-based stakeholder identification using boundary critique that focuses on two key points: *roles of involvement* and *phasing this involvement*. They define a project broadly as an innovation project especially set up for pursuing the development of new products, services or processes, or a project concerning a (temporary) task inside or outside an organization. The *roles of involvement* are underpinned by Ulrich's notion of boundary critique (Ulrich 1983) while *phasing of involvement* relates these roles to the dynamic processes of a project encompassing its four phases of *initiation, development, implementation, and maintenance*. Table 1, maps the roles stakeholders play in the context of the proposed conflict management model to the categories mentioned by Achterkamp and Vos (2007).

While Achterkamp and Vos (2007) distinguish four phases of a project, the authors of this paper do not use this approach as change implementation strategies may differ among organizations based on the organization size and the nature or degree of change. The authors, however, emphasize on the ongoing requirement of the identification of stakeholders and its repetition as required with the progression of change, as shown in Fig. 9. This identification will generate the *system of stakeholders* (see Fig. 10) while its repetition will *sweep-in* more information based on the effectiveness of the conflict management strategies applied in the previous cycle(s). This will eventually result in the re-definition of the boundaries under consideration, establishing the *system of stakeholders* as a function of time. Fig. 10 shows the *system of stakeholders* at time t_0 .

The roles of stakeholders, with abbreviations as used in Fig. 10, 11 and 12 are listed in Table 1. These roles fall into two main categories of involved or affected (named as *actively* and *passively involved* respectively), while the other may fall into either of these categories. In Fig. 10, W, X, Y, and Z have been shown to exemplify stakeholders in the involved or affected category playing the roles neither of a client, nor a decision maker nor a designer. The authors argue that there could be some stakeholders that lie at the intersection of these two basic categories. These could be the ones who can influence the objectives of the innovation project but are also influenced due to the achievement of those objectives. Client (C) has been shown at the intersection of the two categories to illustrate an example, as this may vary among different project scenarios.

Thus, $S_s(t_0)$ is composed of the stakeholder set comprising of stakeholders A, B, C, D, E, F, G and H, which can be represented as:

$$S_s(t_0) = \{C, D, DM, R, W, X, Y, Z\} \dots \dots \dots (1)$$

Where C, D, DM and R represent specific roles of stakeholders mentioned in Table 1.

If the two basic categories of actively and passively involved are represented by the subscripts a and p respectively, and the area at the intersection of the two by ap then, Fig. 10 can be represented as:

$$S_s(t_0) = \{C_{ap}, D_a, DM_a, R_p, W_p, X_a, Y_a, Z_p\} \dots \dots \dots (2)$$

Determination of Resistance factors

Resistance, on one hand, is a phenomenon which can undermine organizational change by delaying or slowing down its beginning, hindering its implementation, and increasing its costs (Ansoff 1990) but can also be an information source for developing a more successful change process (Beer and Eisenstat 1996; Goldstein 1988).

The authors suggest that factors causing resistance must be determined, assessed and managed as a part of the conflict management strategy. McIlduff and Coghlan (2000) point out that organizational change involves the responding behaviour from individuals, teams and groups in the light of their perception of the change process (see Fig. 3). They mention *perception of change*, *assessment of the impact of change* and *response* to be as three critical elements in the dynamics of change process for individuals, teams and interdepartmental groups. The numerous causes of resistance mentioned in the literature can be broadly classified as individual and organizational factors. The former include selective perception and retention, self interest, frustration, fear of unknown, low motivation, feelings of failure, self-distrust, conservatism, and loss of control (Coch and French 1948; Conner 1998). The latter can encompass conformity to norms and values (culture), past experiences and threats to power or influence (Mullins 1999).

Trader-Leigh (2001) conducted a study for identifying resistance factors for change management in US State Department using variables identified by O'Toole (1986). Trader-Leigh (2001) suggests that identification and understanding of the factors underlying resistance may improve outcomes of change implementation and proposes a model with an organizational analysis of resistance factors as its basic ingredient. Table 2 provides a summary of the resistance factors identified in her study.

Table 1 Definitions of the roles of involvement – based on Achterkamp and Vos (2007)

Role	Definition
Party involved actively and passively (the two basic categories)	A <i>party involved</i> is any group or individual who can affect (1) the achievement of the change objectives (<i>actively involved</i>) or (2) who is affected by the achievement of these objectives (<i>passively involved</i>).
Client (C)	A <i>client</i> is the party whose purposes are being served through the change process.
Decision maker (DM)	A <i>decision maker</i> sets requirements regarding the change process outcomes and evaluates strategic effectiveness whether these requirements are met.
Designer (D)	A <i>designer</i> contributes expertise in the identification of stakeholders, determination of

resistance factors, application of strategies and is responsible for the (interim) deliverables.

Passively Involved, representative (R)

A *passively involved* party is affected by the project outcomes or project process without being able to influence the process or these outcomes. A *representative* is a person who has been chosen to act on behalf of that party.

Fig. 10 System of stakeholders with roles of involvement at time t_0

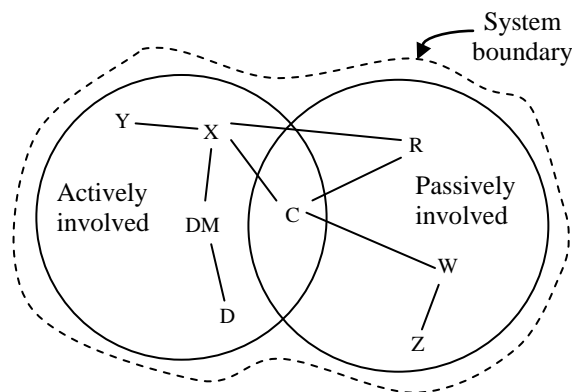


Table 2 Resistance factors in change management (information drawn from Trader-Leigh 2001)

Resistance Factor	Description
Self Interest	People offer resistance if they see ways they benefit from being eroded by change.
Psychological impact	Perceptions of threat in the form of job security, professional expertise and one's social status
Tyranny of custom	Despotism of custom inhibits change
Redistributive factor	Changing policies, procedures, funding strategies
Destabilization effects	Change of assignments, posts or designations disrupting service levels
Cultural incompatibility	Conflicts with bureaucratic structures having traditional monopolies
Political effect	Upset in the balance of power and control

In addition to identifying the resistance forces emerging from the organizational factors such as cultural incompatibility and threats to power or influence (political effects), the authors also emphasize the importance of individual resistance causes, which can be positioned in the four

complexity levels of organizational participation shown in Fig. 3. An individual's disaffection with themselves and/or with their organization results in dysfunctional behaviour hinders team effectiveness and impacts negatively on the bonds within the organization. Team dysfunction then limits the effectiveness of the inter-departmental group co-ordination, ultimately obstructing the organization's capability to compete effectively. This makes these levels dynamically and systemically inter-related (McIluff and Coghlan, 2000). This shows that individual behaviour is also a major cause of conflicting situations and thus cannot be ignored. Later in this paper, the authors present some propositions for outlining intervention strategies to mitigate resistance by targeting both individual behaviour and team/group work in the system of conflicts.

As mentioned by Bovey and Hede (2001), most studies on organizational change have discussed organizational perspectives as opposed to individual ones. The authors of this paper briefly explore below the role of individuals' perception (cognitive and affective processes (Bovey and Hede 2001)) in offering resistance to organizational change. More detailed analysis is provided by Sullivan and Guntzelman (1991), Spiker and Lesser (1995) and Sekaran (1992).

The basis of cognitive philosophy lies in the fact that individuals tend to have automatic thoughts largely based on misconceptions and faulty assumptions leading to emotional and behavioural disturbances (Corey 1996). These 'cognitive distortions' (Matlin 1995) are creations of mind rather than representations of reality and impair an individual's relationship with the organization (Coghlan and Rashford, 1990). As claimed by Coghlan (1993) and Miller and Yeager (1993), failing to correct these dysfunctional processes will increase resistance to change, thus creating conflicting situations in teams and/or inter-departmental group work. The authors however, argue that these perceptions in some cases may also be based upon realities pertaining to change the process. The study of resistance factors should, therefore, improve understandings and assist change proponents in building intervention strategies as required.

The determination of resistance factors will bring about the *system of conflicts* (see Fig. 11 and 12), comprising of conflicts emerging both from individual and organizational resistance forces. Similar to the *system of stakeholders*, it is also a function of time. Each conflict is considered to have two sets of elements (Midgley and Pinzón 2000):

1. The subjects/actors who participate in the conflict; the substance or object seen as having characteristics of triggering specific actions/reactions (e.g. resistance) in individuals (Maturana and Varela, 1992) and the context pertaining to culture and politics.
2. Interests and values related to the conflict's participants. Fig. 11 and 12, instead of showing values and interests for each conflict, portrays them as a collective set of understandings for the whole *system of conflicts*.

As shown in Fig. 11, the *system of conflicts* at time t_0 i.e. $S_c(t_0)$ is composed of two conflicts c_1, c_2 within $S_s(t_0)$. Therefore expression (2), which takes the stakeholders roles into account, can be written as:

$$S_s(t_0) = c_1 \cup c_2 \cup \{D_a, DM_a, R_p\} \dots \dots \dots (3)$$

As shown in Fig. 11: $S_c(t_0) = \{c_1, c_2\} \dots \dots \dots (4)$

Since c_1 and c_2 consist of stakeholders C_{ap}, X_a, Y_a, Z_p and C_{ap}, W_p, X_a respectively, therefore, expression (4) becomes:

$$S_c(t_0) = \{ \{C_{ap}, X_a, Y_a, Z_p\}, \{C_{ap}, W_p, X_a\} \} \text{ (see Fig. 12)}$$

Since $S_c(t_0)$ is a set of subsets of $S_s(t_0)$, $S_c(t_0)$ is considered to be a subsystem of $S_s(t_0)$,

Therefore, $S_c(t_0) \subseteq S_s(t_0)$ (see Fig. 11)

The authors, here feel necessary to provide some discussion on the nature of values and its relation with interest from the positions of axiological objectivism and axiological subjectivism, by touching on a few representative ideas, which underpin the proposed conflict management model. The authors use the words *objective* and *subjective* for the two terminologies respectively. Values are said to be *objective* in nature if they are thought to exist independently of an individual having an evaluation consciousness, and considered *subjective* if they are said to owe their existence to the act of evaluation of one or more individuals (Midgley and Pinzón, 2000). Scheler (1973, p. 19) regards objective values as true objects free from the state of feelings and are immutable, absolute and unconditional. Frondizi (1966) describes that an object has a value or is valuable as long as it attracts interest. While both of these concepts have been criticized (Midgley and Pinzón, 2000), the authors consider them to be useful for underpinning the construction of the proposed model.

The proposed model considers values as shared understandings of a community or a culture. This assertion relies on a *subjectivist* stance which is the basis for many modern writings on negotiation (see for example, Lewicki and Litterer 1985; Ury 1991). Nevertheless, the authors also couple this understanding with the concept of judgement as it is crucial to acknowledge the multiple possibilities of viewpoints by *sweeping-in* a variety of judgements as part of boundary critique. The challenge lies in mollifying, if not completely satisfying the interests of various stakeholders by creating a culture that encourages expression and avoids suppression of viewpoints of the participants in the conflict. This stance brings with it some ethical responsibility and the need for a people-centred approach aimed at changing not only individual behaviours but attitudes and motivations at collective level (teams/groups) as well.

Let us now discuss about the anatomy of the *system of conflicts* exemplified in Fig. 11 and Fig. 12 (a zoomed-in view to the *system of conflicts*). It comprises of two conflicts involving W, X, Y, Z and the client (represented by C). In Fig. 12, the connection between C and Z has been shown as a dotted line for conflict 1 as there is no direct link between these two stakeholders in the stakeholder network (see Fig. 10). Stakeholder X is involved in both of the conflicts. The client is a stakeholder whose purposes are being served by the change process (see Table 1) and as such is involved in and affected by all of the conflicts hindering the change progress. So, in case of a conflict purely rising from 'cognitive distortions' (Matlin 1995), as discussed above, the conflict shall be considered between the client and individual, provided that the individual in that case is not involved in any team or group work contributing to the change process.

Intervening with the Conflict Participants

After discovering *who* is resisting and *why*, the next challenging issue is to use this information for conflict management. This section discusses how resistance can be managed in conflict situations during organizational change. Based on the literature, the authors first

construct a set of propositions for the *system of conflicts* that change proponents need to consider. Later, the authors discuss the utility of network mechanisms and interventions in a 'networked organization or community' in dealing with the conflict situations.

Proposition 1:

Every change creates some resistance and it surfaces at each stage of the change process (O'Connor 1993).

Proposition 2:

Resistance, instead of being negative, is a contributor to organizational learning. If wisely tackled it may serve as a valuable source of information in managing change (Piderit 2000; Waddell and Sohal 1998)

Proposition 3:

Discovering *who* is resisting and *why* is the real task in change management (O'Connor 1993).

Proposition 4:

Entering into non-emotional debate with resisters can reveal new ways to improve the change project and guide resisters in reframing their thoughts related to that process (Bate 2000).

The authors now discuss the impact of communication on opinions about the change process. Innovation diffusion theory suggests that media as well as interpersonal contacts are the means of providing information and influencing opinions and judgement. As indicated by Rogers (1995), innovation diffusion has four main elements: invention, diffusion or communication through the social system, time and consequences. The social system illuminates the concerns of parties or stakeholders by regarding them as one of the vital ingredients to be considered into the recipe of innovation diffusion. The above listed elements are heavily influenced by the availability of information about the change and the communication process between the change proponents (actively involved) and those who are affected (passively involved) by it (McIlduff and Coghlan 2000). Beckhard (1969) mentions organization development, as an approach for planned organizational change that encourages collaboration and co-ordination between organization leaders and members in managing the change process. It focuses on the aspects of culture (values, beliefs and assumptions) and processes. The authors emphasize on the establishment of a 'networked organization or community' of stakeholders as a part of an overall organization effort for communicating information regarding change. This will bring about transformations in culture, relationships (pertaining to teams and group work) and skills to effectively deal with conflict situations.

Cao et al. (2003) indicates about a shift taking place in the study of organizational form from rational bureaucratic composition towards a network-based configuration. This configuration is characterised by a flat authority structure and multiple horizontal linkages between the inner core of a firm and its outside suppliers, contractors and customers. This framework of stakeholder relationships can be studied and analysed using social network analysis. This analysis has been used by researchers to refine and extend the human understanding of various behavioural and social phenomena, including community elite decision making, social influence, power and innovation diffusion (Rowley 1997; Cao et al. 2003). Nohria and Eccles (1992) regard this network to be a more flexible, innovative and change-friendly than the 'seriously maladaptive' bureaucracies as described by Mintzberg (1979) and others. In similar fashion, Ciborra (1996, p. 104), describes network as a chameleonic organization, capable of taking up the 'colour' in response to the changes occurring in its environment. According to

Cummings and Worley (1993, p. 288), ‘the network structure is highly flexible. Its components can be assembled and reassembled to meet changing conditions.’

In the context of our proposed model, ‘networked organization’ is about the establishment of a ‘network of little niches’ for looking at conflicts more closely in terms of their participants (actively and/or passively involved), the issues related to resistance (organizational and individual) governing them and yet not losing the holistic view of how these may be interconnected and also linked to the other stakeholder set not participating in a conflict. Fig. 11 and 12 (zoomed-in view) shows these ‘niches’ as conflict 1 and conflict 2 and their interconnections through stakeholders C and X as they participate in both of these conflicts. These ‘niches’ give birth to polycentric decision-making processes for conflict resolution and management. This sharing of power results in partnerships, which may not always lead to an end to a conflict but engages co-operation and negotiation between its participants (Bate 2000). Network theorists argue that such networks influence perceptions and opinions and are capable changing interpretations associated with and reducing uncertainty about an event, idea or phenomenon (Rogers and Kincaid 1981). The authors of this paper argue that this capability of networks can be used in managing conflicts by influencing perceptions of conflict participants about the change process. Table 3 provides a brief overview of the network mechanisms discussed in the literature.

Fig. 11 System of stakeholders and system of conflicts with the roles of involvement at time t_0

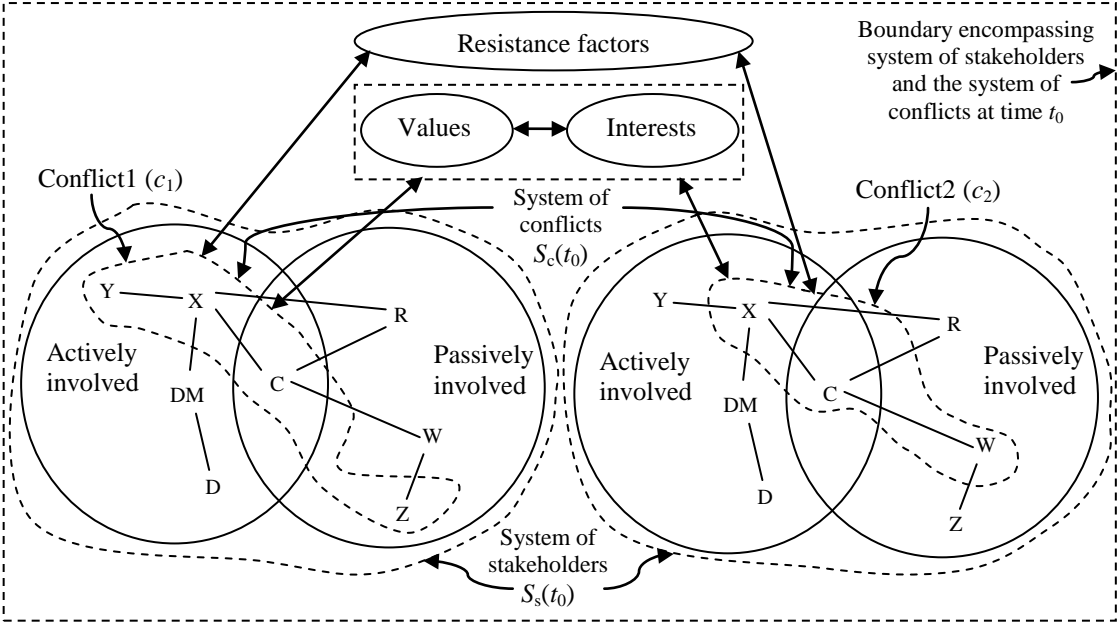
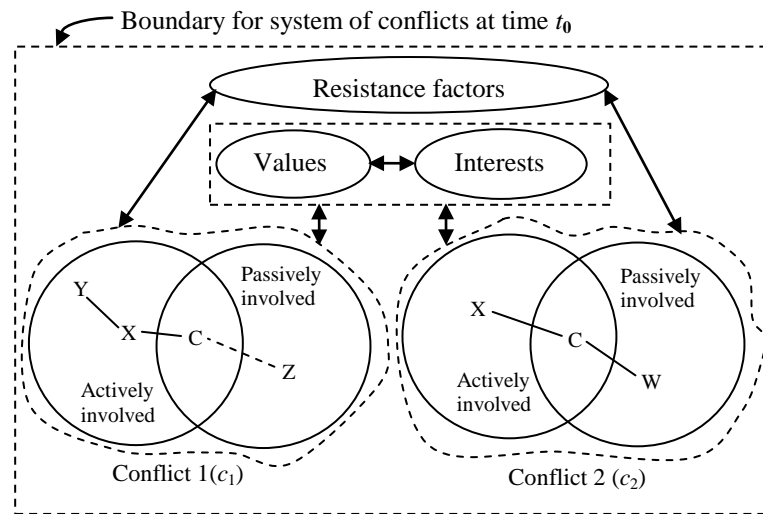


Fig. 12 System of stakeholders zoomed-in to show c_1 and c_2 as network niches in the stakeholder network



A detailed description as to how influence propagates in a network setting is restricted due to space limitation. Together with these network mechanisms, the authors suggest the use of interventions for information propagation through these ‘niches’ about the change process. In the context of change process, an intervention is an action or event that influences the individuals (positively or negatively) involved or expected to be involved in the process (Hall and Hord, 1987, p. 143). McIlduff and Coghlan (2000, p. 724), view interventions as “...all conscious and deliberate actions and behaviours on the part of a manager, consultant or facilitator ...”. The authors argue that network mechanisms combined with appropriate intervention strategies will influence attitudes and behaviour of participants in conflict situations. The network mechanism will serve as a medium for information flow while the nature of intervention and the roles played by opinion leaders during these interventions will collectively determine the likelihood of innovation adoption success. Focusing on various intervention types is not the subject of this writing. Table 4 outlines some of the useful interventions in the context of organizational change. If used well, these become powerful tools for innovation diffusion, but when used poorly, resistance develops and the change approach loses its credibility (Hall and Hord, 2006, p. 86).

Table 3 Network mechanisms and their functionality

Network mechanism	Functionality
Relational proximity or communication proximity	It views organization as a communication network in which stakeholders repeatedly interact (directly and indirectly) to process resources and information (Dow 1988, p. 56; Rogers and Kincaid 1981). As mentioned by Erickson (1988), people most likely to compare and agree with whom they are more strongly tied.
Positional proximity	It refers to the network of structurally proximate individuals, who may not have links with one another as in relational proximity but they are linked to others with similar attributes like roles and obligations, status and expectations (Burt 1980). “Individuals may be the focus of similar

information, requests and demands from members of their role set, creating an information field in which they are embedded,” (Hartman and Johnson 1989, p. 525).

Spatial proximity

It is based on the likelihood of interaction and exposure to social information due to living or working close together, which influences one’s attitudes (Festinger et al. 1950). Unlike direct interaction it may affect social information processing through exposure to or inaccessibility of the individuals to the organizational sub-climates, task materials and events (Hackman 1983).

Table 4 Some useful intervention strategies

Intervention Strategy	Description and function
Survey feedback	To collect information about attitudes and opinions to use this information to design corrective actions. Data collection mechanisms include questionnaires, interviews, telephonic surveys etc. Questionnaires may use <i>Likert scales</i> (Mann and Likert 1952).
One-legged interview	A brief conversation about the innovation project between the change facilitator and the other change participant(s). The focus of the intervention needs to be on helping to resolve current concerns and anticipating the arousal of others (Hall and Hord 2006).
Exercises	To help participants, individually and/or as groups learn new skills and to reflect on their learning. Once the exercise is over, there needs to be a review and critique of how the process of exercise was carried out. An example could be <i>Five Squares</i> (for details see Bavelas (1950)).
The open-ended statement	To collect information about the concerns regarding innovation on a blank piece of paper. The papers are collected and the content is analysed as described in the manual by Newlove and Hall (1976).

The authors now provide a discussion about understanding, appreciating and evaluating the perspective of those in conflict (actively and passively involved) about interventions involving individuals and team/group situations. As indicated by Coghlan (2000), the dynamics of change for individuals, teams and inter-departmental groups (see Fig. 3) comprise of: *perception of the change*, which encompasses the meaning of change, the degree of having

control over it and the degree of trust in those promoting it; *assessment of the impact of change*, which involves impact perception along a continuum, ranging from positively enhancing at one end, through uncertain to threatening or destructive at the other; and *response*, which comprises reactions such as denying, opposing, tolerating, accepting, supporting or embracing the change.

The authors of this paper recommend that the following observations should be made while conducting interventions for managing individuals and/or teams/inter-departmental groups in the *system of conflicts*. The word participants in the following points, encompasses both involved and affected categories of stakeholders.

- Reaction and view of conflict participant(s) about the intervention.
- Perception of conflict participant(s) about the way change process is being carried out.
- Perceptions about the impact of change on values and interests of the participant(s) of the conflict.
- Any indication (positive or negative) from the conflict participant(s) about the change in attitude(s) about or level of involvement in the change effort, as compared to the one observed in previous cycle(s) (if applicable).
- Need for boundary refinement to redefine *system of stakeholders* $S_s(t)$ and/or *system of conflicts* $S_c(t)$.
- Need for refining or changing currently or previously applied intervention strategy.

The authors emphasize that an intervention must be characterised by the philosophy underpinning a helping and supportive attitude for reducing learning anxiety and creating psychological safety for the conflict participants.

Discussion

A systemic model, proposed earlier by Midgley and Pinzón (2000), for conflict evaluation in social contexts cannot be directly applied in organizational change scenario as it only provides a conflict evaluation scheme. It thus, deprives of providing any mechanism for conflict management. The proposed model extends it for organizational change management by combining it with change and network stakeholder theories.

This section highlights the impact of proposed model on the management of conflicts in organizational change. The main questions addressed in this section are: What are the guidelines offered by the model in the comprehension and management of organizational conflicts? What are the overall implications of these guidelines?

Certain clarifications are to be made before going into any further discussion. Firstly, the proposed model is not intended to provide a definite solution to conflict management, but it is rather an attempt to looking at conflicts in a more holistic way. This will definitely pave the way for the development of such models in the future. Secondly, like other models, it is a simplified version of the complex nature of conflicts involving multiple stakeholders and thus, has some limitations which are presented at the end of this paper.

Coming down to the above mentioned questions leads us to discuss about the two closely interrelated concepts of 'systems' and 'complexity'. As a system taken as a whole can enable and/or disable the functioning capacity of its parts, so conversely the parts can also contribute to and/or challenge its functionality. Systems thinking deals with considering the 'wholes' that are relevant to a problem situation and studying their multiple cross level interactions over

time (Waldman 2007). Complexity, on the other hand is not only related to the number of parts and their interactions, but also to systems which are dynamic in nature and exhibit 'emergent' properties over time. Allen (1988) has discussed this phenomenon quite in detail. Social systems become complex by the introduction of different normative or subjective perspectives about a situation (e.g. a conflict) where people have to reconcile and shun their taken for granted perceptions (Midgley 1992). Analyzing these perceptions from a dynamic frame of reference makes it even more complex and thus limits our ability to understand the overall scenario and predict system's behavior.

The proposed model presents some guidelines for conflicts and their management by considering both of these as dynamic processes in form of *system of stakeholders* (Fig. 10) and the *system of conflicts* (Fig. 12). Emergence, in this context, sees today's most relevant criteria for conflict management to be ineffective, redundant or in need to be supplemented by others tomorrow. The implication of this guideline provided in the proposed model opens up a venue for decision makers, evaluators and change leaders to regularly rethink about the variables (e.g. resistance) as a system's comprehensiveness cannot be grasped at only one point of time. It rather needs viewpoints to be revisited and boundaries redefined. A different system boundary may result in the problem analysis from a new and entirely different angle and, accordingly in different solutions or changes. Care, however must be taken that the redefinition of boundaries does not ever miss out on the ethical responsibility change proponents have on the rest of the stakeholder set. Their role must always be as change facilitators rather than change enforcers.

The other guideline is related to practicing boundary critique. The model applies it beyond the matter of just including or excluding stakeholders. Flood and Jackson (1991) mention that boundary critique may not produce effective social analyses until used in combination with other planning and evaluation methods. To generate an effective knowledge flow about change or innovation project, the proposed model couples boundary critique with the application of network mechanisms and interventions over the mesh of stakeholders to mitigate the effect of conflict generating causes. Singh (2005) has empirically shown the effectiveness of collaborative networks in knowledge flow and its diffusion. The implication of this guideline, at one hand, makes change initiators to not only define the relevant roles stakeholders play overtime inside the *system of stakeholders* and the *system of conflicts* but also to refine their knowledge about these two dynamic systems. This continuous learning will make change managers to be exactly aware of the concerns of the conflict participants (actively and/or passively involved) and eventually help them to reevaluate their intervention strategies applied in the previous cycle(s) and to revamp the network structure for an improved knowledge flow.

Since *Critical Systems Thinking* is applicable to areas like planning and evaluation, education, business and management, public health, psychology etc. (see for example Midgley et al. 1998), the authors now present a scenario where the proposed model is worth-applying. It is broadly accepted that Information Systems (IS) adoption in organizations is cumbersome due to frequent failures of IS projects (Azzara and Garone 2003). An organization when viewed as a political system requires to considering concepts related to interests and conflicts (Taylor-Cummings 1998). IS methodologies like waterfall, prototyping, and evolutionary models fall short of addressing issues of internal or external politics, perception, expectancy, and cognitive processes resulting in IS projects failure (Yardley 2002). Hence, IS adoption which brings about change in organizational processes and procedures is not only confined to the technical issues but it also revolves around the needs and interests of various stakeholders creating conflicts among various stakeholder groups. It is, therefore, quite critical to identify stakeholders and look IS adoption through the eyes of those involved and affected by it. Standing and Standing (2007) have identified various conflicting issues named as 'systemic

issues' while discussing mobile technology adoption in healthcare sector. They conducted a case study involving 500 nurses, 600 home help personnel and 710 care aid workers. Some of the factors causing resistance between these stakeholders and the administration, as identified by their study, comprised of conservatism, poor communication about a clear rationale for mobile technology adoption, lack of training and support and privacy issues. The authors of this paper believe that the proposed model when applied in consideration with the above mentioned resistance factors and appropriate network mechanisms and interventions, has the capability of providing a smoother pace for such IS adoption projects.

Limitations and Conclusion

The model presented in this paper uses change theory, critical systems thinking, conflict management and network stakeholder theory to provide guidelines for conflict management in an organizational change scenario, not something prescriptive to reach at the final destination.

Change or innovations cannot be implemented in an organization until attitudes towards change are changed. Resistance to change is inevitable and is not something to beat down. It tends to undermine change implementation particularly if the scope of the change affects roles, boundaries and resource allocations. This makes it essential to understand *who* are those affected and *how* they are involved in various conflict situations. The model regards the identification of stakeholders and the determination of resistance factors related to those stakeholders as the key steps to be undertaken before the interventions are carried out. The proposed model which includes analysis of these resistance factors (both individual and organizational) as a component of the conflict management plan does not, however provides a step-by-step method as to how these resistance factors could be determined. The model suggests the use of interventions as a participative or cooperative inquiry in which research is done with people rather than to them. But neither does it recommend any particular intervention plan to cope up with the emerging conflicts as change progresses nor any yard stick to measure the effectiveness of an intervention strategy. It also does not provide a mechanism to indicate when these interventions transform from change facilitation to change manipulation.

In spite of all these limitations, the model provides an organized methodology, based on a systemic or holistic perspective, for managing organizational conflicts that emerge during change or innovation diffusion. The model considers various categories of stakeholders, their involvement in conflict situations and the refinement of boundary definitions over time. The *systems of stakeholders* and the *system of conflicts* are the lenses which provide an insight to the different interests and perspectives to facilitate the development and implementation of collaborative strategies for change. It urges on the need of critical attitudes for carrying out the interpretation and evaluation of conflicts, recognition of marginalized perspectives and demonstrates the need to gain a deeper understanding of the complex character of organizational affairs.

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