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Antecedents and Manifestations of Conflict in Information Systems Development

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Episodic conflict during the information systems development (ISD) process is a documented problem and source of concern for both practitioners and researchers (Curtis, Krasner, and Iscoe, 1988; Franz and Robey, 1984; Markus, 1983; Newman and Robey, 1992; Orlikowski, 1989, 1993). Recent dialogue on this subject focused on user participation, manifest conflict, and conflict resolution in ISD (Robey and Farrow, 1982; Robey and Franz, 1989; Barki and Hartwick, 1994; Robey, 1994). Barki and Hartwick (1994) discussed three aspects of conflict almost interchangeably but did not clarify the distinctions or relationships among them: the definition of conflict, the dimensions of conflict, and the manifestations ("symptoms") of conflict. This blurring of distinctions may be due to their use of the word "conflict" as a variable in itself, rather than as an overall concept of an interpersonal process within which other stage-related variables are defined, measured, and tested.

The purpose of this paper is to contribute to the ongoing dialogue on conflict in ISD in several ways. First, a conflict episode in ISD is modeled as a multi-stage process involving antecedent conditions, manifest conflict, and conflict aftermath. Second, the literature review integrates work from several disciplines that have found relationships between environmental conditions and conflict, and relationships between antecedent conditions and the manifestations of conflict in observed behaviors.

This paper develops an "upstream" model of conflict in ISD, i.e., it focuses on antecedent conditions and their relationship to manifest conflict. Manifest conflict has been termed "episodic conflict" by MIS researchers (e.g., Newman and Robey, 1992). By contrast, downstream models focus on the outcomes of intervention techniques or negotiation strategies used in the conflict process (e.g., Barki and Hartwick, 1994).

The first antecedent, Perceived Technological Uncertainty, is an environmental variable that involves uncertainty, lack of knowledge, or ambiguity about the status, the effect, or the appropriate responses to the technological environment surrounding the ISD process. The second antecedent, Stakeholder Concern, is a socially constructed variable that involves concern or disagreement by individual stakeholders in ISD over rational, normative, or affective aspects of the ISD process.

Using the literature on perceived environmental uncertainty as a conceptual foundation, three dimensions of Perceived Technological Uncertainty are discussed. State uncertainty about ISD exists when there is lack of sufficient information about how the tools,

techniques, processes, and information technologies (IT) to be employed function, or how these will function with, or in place of, other existing tools, techniques, and IT. Effect uncertainty about ISD exists when there is lack of knowledge about the impact of tools, techniques, processes, and IT will be on the organization (the user community, the MIS community, and other functional areas), or when there is little confidence about predicting these outcomes accurately. Response uncertainty about ISD exists when there is not enough knowledge, skill, or experience for effecting change processes during ISD (technical, social, political, administrative) with a high degree of predictable success (Milliken, 1987).

The conflict and negotiation literature provided the conceptual foundation for use of the term, Stakeholder Concern, to describe issues over which disagreements in ISD can develop and later escalate into manifest (e.g. episodic) conflict. Stakeholder Concern includes rational, normative, and affective aspects over which ISD participants can have conflicts (Thomas, 1992). Participants in ISD can have disagreements about rational aspects of ISD, such as project goals, or technical judgements about elements or tasks in system design. They can also disagree over normative aspects of ISD, such as procedural justice (fairness of system development procedures) and distributive justice (fairness of the outcomes/implications of the system itself or the design process). Affective aspects of Stakeholder Concern include personal and interpersonal disagreements between workers, managers, or organizational units involved in the ISD process. The paper discusses several examples of the antecedents to conflicts in the ISD process from the MIS literature.

In the multi-staged model of the conflict process, antecedent conditions are viewed as the precursors of manifest conflict, or "episodic conflict". Although conflict behaviors have been observed and well documented in several MIS case studies, no taxonomy has been used for the categorization of episodic conflict behaviors. Such a taxonomy would be useful in developing and testing upstream models that investigate the relationship between conflict antecedents and manifest conflict, or developing and testing downstream models that investigate the relationship between manifest conflict and conflict intervention or conflict management techniques (such as user participation, interpersonal communication, or influence tactics).

The paper proposes a taxonomy of behaviors that are manifested during conflict episodes in ISD. The taxonomy is based on a two-dimensional framework of strategic intentions (as related to goal-oriented behavior) of participants in a conflict episode (Thomas, 1992). One axis in the framework represents the "assertive" dimension, or concern with satisfying one's own needs, interests, and requirements. The other axis represents the "cooperative" dimension, or concern with satisfying the other party's needs, interests, and requirements. When these dimensions are plotted in two-dimensional space, five types of behaviors can be observed during a conflict episode: avoiding behaviors (low cooperativeness, low assertiveness); competing behaviors (high assertiveness, low cooperativeness); accommodating behaviors (low assertiveness, high cooperativeness); compromising behaviors (midway in both cooperativeness and assertiveness); collaborative behaviors (high assertiveness, high cooperativeness).

General propositions are developed to guide future research in this area.

Research Propositions

The first two propositions examine the relationship between the antecedent conditions and the manifestation of conflict in ISD.

1) Higher levels of Perceived Technological Uncertainty will be associated with greater numbers, duration, and intensity of manifest conflict episodes.

2) Higher levels of Stakeholder Concern will be associated with greater numbers, duration, and intensity of manifest conflict episodes.

The next proposition examines the relationship between observable behaviors in manifest conflict episodes and the strategic intentions of the participants in the conflict episode.

3) Behaviors by participants in a conflict episode (e.g. manifest conflict phase) are characterized by two types of strategic intentions: assertiveness and cooperativeness.

3a) Collaborative behaviors by participants in a conflict episode are characterized by strategic intentions to be both assertive and cooperative.

3b) Compromising behaviors by participants in a conflict episode are characterized by strategic intentions to be somewhat assertive and somewhat cooperative.

3c) Accommodating behaviors by participants in a conflict episode are characterized by strategic intentions to be unassertive and cooperative.

3d) Competing behaviors by participants in a conflict episode are characterized by strategic intentions to be assertive and uncooperative.

3e) Avoiding behaviors by participants in a conflict episode are characterized by strategic intentions to be neither unassertive and uncooperative.

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Antecedents to Conflict in Information Systems Development

1. Technological uncertainty

1.1 State uncertainty

1.2 Effect uncertainty

1.3 Response uncertainty

2. Stakeholder concerns

2.1 Rational concerns

2.1.1 Goals

2.1.2 Judgements

2.2 Normative concerns

2.2.1 Procedural justice

2.2.2 Distributive justice

2.3 Affective concerns

3. Strategic intentions of participants in a conflict episode

3.1 Assertiveness

3.2 Cooperativeness

Two-dimensional Taxonomy of Conflict Behaviors in Information Systems Development

