Conflict Management in Organizations:
A Conceptual Model

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Abstract. To capture and represent conflicts in organizations, this research presents a conceptual model of conflict, conceptualized as *vignette*. We define a vignette as similar to, yet distinct in important ways from a case in that it is analytical, theory-laden, and of multiple perspectives. It represents key information pertaining to a conflict, such as cause, claims, transitions, actions, and strategies. Instead of providing a single version of the reality, we define some constructs of a vignette as *perceptual* ones, and apply them to show differences in views of a conflict. The application of the model is demonstrated with a conflict situation collected from an online community.

Keywords: Conflict, Conceptual Modeling, Vignette, Conflict Model, Perceptual Construct.

1   Introduction

Conflicts are a pervasive phenomenon in organizations [1]. A *conflict* refers to an interactive process that occurs due to differences in goals, differences in ways of working, or interpersonal dissonance [2, 3]. Managing conflicts is important for modern organizations not only because it is required to limit the negative aspects of conflicts, but also because it is crucial for project success, e.g. unleashing creativity [4, 5].

A few systems have been proposed for conflict management [6, 7]. Existing systems either provide communication support (e.g. anonymous messages, procedural support, and voting) [8–10] or offer rational solutions to conflicts (e.g. based on quantitative codification) [6, 11, 12]. Although these types of systems provide a suite of tools to manage the underlying data, each of them can only provide a fractional and static view of conflict. None of them incorporates a conceptual model that can represent the whole process of conflict, such as events that occur as a conflict situation unfolds, the different behaviors of conflict parties, and the different views/perspectives that these parties can bring to the situation. As a result, these systems cannot provide managers the ability to understand a wide variety of conflict situations, and make effective conflict management choices.

To address the challenge, we aim to design and implement a novel type of conflict management system that can assist conflict parties to understand conflict situations

and make effective conflict management choices. The key motivation to our work is outlined above. In line with the direction proposed by Ross et al [7], we envision the system as a case-based reasoning (CBR) system that can help users to understand and manage conflict situations by referring to past conflict situations [13]. Our study is also inspired by the fact that computer-mediated communication (CMC) has been frequently used in modern organizations [14]. The increasing use of CMC produces a large amount of communication data that is rich in interaction, opinion, and emotional information. This provides an opportunity for overcoming the constraint in terms of data availability that has limited prior work on conflict management system development.

The design of a CBR system involves three considerations: case representation, case retrieval, and case generation [15]. Among these, case representation is crucial because it reflects the informational components and their structure that provide the foundation of the CBR system. In this paper, we describe (the efforts to develop) a key foundation for the research: the underlying conceptual model for structuring and organizing conflict information. Specifically, we report findings from an effort to apply conceptual modeling to conflict situations via vignettes, and to incorporate the perspectives of different conflict parties. The conceptual model is intended to capture informational components and structure that can provide the foundation for ongoing research. The rest of this paper is organized as follows. In the next section, we introduce challenges in conceptual modeling for conflict. After that, we review prior research about application of conceptual modeling to conflict situations. Next, we describe a preliminary conceptual model for conflict, based on the notion of vignettes. To provide a proof-of-concept evaluation for the model, we present a vignette collected from a real conflict situation. We conclude with a discussion of ongoing challenges related to conceptual modeling in the context of this research.

2 A Motivating Scenario and The Challenge for Modeling

Conceptual modeling is a process of discovering and describing the important and relevant aspects of the real world. A conceptual model provides a set of constructs and relationships between them to represent a particular phenomenon or problem. Conventionally, conceptual modeling focuses primarily on describing reality from a single perspective. As such, most conceptual models lack the ability to describe a "multi-perspective abstraction of reality" [16].

Conflicts represent a situation that is difficult to model through the conventional modeling approach. Consider, for example, the following scenario.

> **Scenario.** *"Properties" context menu is a function provided in Firefox version 3.0 that displays some meta-information when users right click on an item, such as a link or an image. The developers decide not to include the menu in the new release of Firefox because the menu seems to be useless in most situations, but it accounts for thousands of lines of code. When the decision is posed on bugzilla.mozilla.org, an online community for reporting and fixing bugs in Firefox, a conflict arises between the developers and*

some users who frequently use and thus value the menu. In order to solve the conflict, the developers propose a solution that they will continue to get rid of the menu. At the meanwhile, they will develop some add-ons to supply the same function.

The narrative presents a snapshot of a conflict situation that occurred in an online community. Given that both the developers and the users are aware of the conflict, they may have different perceptions of the conflict. As shown later, while the developers view that the conflict is mainly about whether to remove the menu, the users attribute their disagreement and discontent to both the decision made by the developers and the arbitrariness of the developers. With regard to the proposed solution, we, as a third party, view it as a collaborative solution because it takes both the developers' interests and the users' interests into account. However, this may not be perceived in the same way by the two parties. The developers may view it as a concession or compromise because they need to take extra efforts to develop the add-ons. On the other side, the users may not appreciate the developers' efforts if the add-on solution is not perceived to be effective.

Instead of seeking a single version of the truth, conceptual modeling for conflict needs to accommodate the different perspectives of conflict parties. The conceptual model of conflict should, therefore, be able to support the representation and combination of multiple views of one conflict situation.

3　　Prior Research

Conceptual modeling for conflict has not been explicitly discussed in prior research. However, some conceptual models can be implied from two types of systems that have been tested or developed for conflict management.

Communication support systems provide functions intended to facilitate interaction between conflict parties, such as information collection and sharing and procedural support [8–10]. Due to their affinity to Group Decision Support Systems and Negotiation Support Systems, relevant studies assume that the sequential interaction/negotiation process models implemented in those systems are also applicable for modeling conflict process.

Decision support systems are designed to offer rational solutions to some conflict situations, such as resource division and product design [6, 11, 12]. By codifying claims into numerical data, these systems provide functions to identify optimal solutions for these conflict situations. Relevant studies assume a *priori* knowledge of the conflict situations. The conflict model implemented in such a system provides a concrete, quantitative description of a conflict situation, along with a rational solution.

Although useful, these conflict models are subject to two deficiencies. First, they provide only a fractional view of conflict. Some aspects of conflict, especially conflict parties' behavior and their interactions, cannot be reflected in the models. Second, these models focus on a single-perspective interpretation of conflict, assuming that the interpretation is shared invariably by all parties.

4 A Foundation for the Conceptual Model – Vignette

The foundation for our conceptual modeling effort is a *vignette*, analogous to but different in important ways from a *case*. In a CBR system, each case can be conceptualized in terms of a problem and a solution, while the problem description and circumstance is codified for the purpose of case indexing and retrieval [15]. We contend that this design of case is subject to two limitations. First, this design has limited capacity to assist users to *understand* new, hitherto not encountered, problems and develop new solutions because the problem description is weak. Second, each case presents a single version of truth that is assumed to fit all perspectives.

To overcome the limitations, we define a vignette as an *analytical narrative of practice*. It is constructed to convey information about a series of events taken to be representative, typical, or emblematic [17]. There are three key elements that set apart vignettes from cases. First, a vignette remains a narrative of *practice*, that is, it includes a story that takes us beyond a problem-solution pair to include the process. Second, it is *analytical*, in the sense that it is theory-infused – the narrative is described in a theory-laden manner that allows users to reflect on and reuse their experiences by leveraging prior research. Third, it accommodates *multiple perspectives* through constructs that reflect a fact that has different meanings to different people. Table 1 presents a comparison between vignettes and cases.

Table 1. Comparison between Vignettes and Cases

	Case	Vignette
Purpose	Informative	Analytical
Description Focus	Solution	Process
Perspective	Single	Multiple
Format	Experience-based	Theory-based

Conflict vignettes represent the information sets that are substantial for understanding conflict situations. The constructs of conflict vignettes are selected based on the "kernel theories" [18] achieved in prior conflict research [1, 3, 19]. In line with a process view [3], these constructs reflect the informational components pertaining to conflict antecedents [4], conflict behaviors and process [5, 19, 20], and conflict outcomes [21]. Table 2 shows the constructs for conflict vignettes. Figure 1 illustrates the relationships between the constructs.

In order to reflect the differences in perspective, we define two types of constructs: perceptual and universal. *Universal constructs* represent entities or facts that have same meaning to different parties. As such, only one set of information is required. *Perceptual constructs* refers to entities or facts, meanings of which vary when they are viewed from different perspectives. Information pertaining to perceptual constructs needs to be labeled with the perspective through which they are viewed.

We have developed a set of formalisms for the conceptual model of conflict vignettes, but due to space constraints we omit those formalisms here. The formalisms are available upon request.

Table 2. Constructs for Conflict Vignettes

| Construct	Description	Type	Source
Conflict	Conflict is a process in which incompatibility between *Claims* from *Conflict Parties* surfaces, and may be resolved.	Universal	(Thomas, 1992)
Cause	Cause refers to the reasons for the incompatibility among *Claim*s that is understood by *Conflict Parties*.	Perceptual	(Jehn and Mannix, 2001)
Claim	Claim represents an intrinsic interest, goal, or opinion of a *Conflict Party*.	Perceptual	(Thomas, 1992)
Transition	Transition refers to a moment when the nature of the *Conflict* shifts substantially.	Universal	(Putnam, 2004)
Conflict Party	Conflict party refers to individuals or groups who are engaged in a *Conflict*.	Universal	(Thomas, 1992)
Role	Role reflects the part that a *Conflict Party* has in a *Conflict*.	Universal	(Putnam and Poole, 1987)
Strategy	Strategy represents the generic intention and plan that *Conflict Parties* apply for coping with *Conflict*.	Perceptual	(Olekalns et al., 2008)
Action	Action is the behavior enacted by a *Conflict Party*.	Universal	(Rahim, 2010)
Outcome	Outcome represents the impact and aftermath caused by a *Conflict*.	Perceptual	(Jehn 1995)
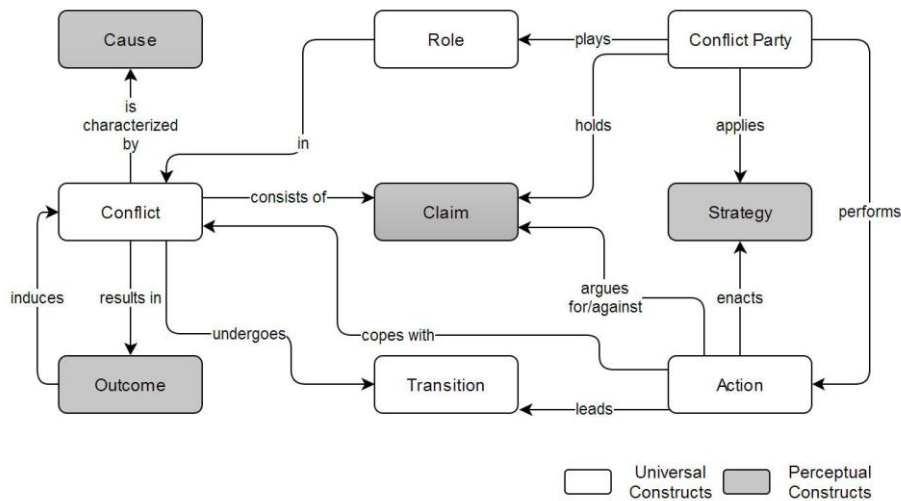
Fig. 1. A Conceptual Model for Conflict

5 Application and Evaluation

The earlier scenario presents a snapshot of a conflict situation that occurred in bugzilla.mozilla.org, the online community for reporting and fixing bugs in an open source web browser, Firefox. The raw CMC data used to generate constructs is a set of emails exchanged between community members via a mail list. To demonstrate the application of vignettes, we decompose the conflict situation into several stages. We elaborate constructs of the conflict vignette at each stage.

Table 3 captures the initial stage of the conflict, when the conflict first arose and the parties started to express their claims and interact with each other. While the developers and the users share the same understandings on most constructs, they view the solution proposed by the developers in different ways, i.e., the developers view it as a compromise while the users view it as a coercive solution.

Table 3. Example Conflict Vignette - Stage 1

Constructs	Views	
	The Developers	*The Users*
Conflict	Remove or keep "Properties" context menu	
Parties & Roles	The developers – Principal Party	
	The users – Principal Party	
Cause	Task-related	Task-related
Claim		
The developers	Remove the menu	Remove the menu
The users	Keep the menu	Keep the menu
Transitions	N/A	
Action		
The developers	Argue for removing the menu	
	Argue against the usefulness of the menu	
	Propose alternative way to provide the function	
The users	Argue for keeping the menu	
	Argue for the usefulness and value of the menu	
Strategy		
The developers	Compromise	Contend
The users	Contend	Contend
Outcomes	N/A	

Different views on the proposed solution led to an escalation of the conflict. The conflict evolved to the second stage when the scope of the conflict was expanded and tension between parties formed. As Table 4 shows, discrepancies existed in the parties' understandings of the causes of the conflict, opponents' claims, and between conducted strategies and perceived strategies.

At the third stage, the conflict came to a closure when the developers coercively removed the menu from the new version of Firefox and the users withdrew from fur-

ther discussion, see Table 5. With regard to the outcome, the developers viewed it as an integrative solution while the users viewed it as a distributive one.

Table 4. Example Conflict Vignette - Stage 2

Constructs	Views	
	The Developers	*The Users*
Conflict	Remove or keep "Properties" context menu	
Parties & Roles	The developers – Principal Party	
	The users – Principal Party	
Cause	Task-related	Task-related and Process-Related
Claim		
The developers	Remove the menu	Remove the menu
The users	Keep the menu	Keep the menu and request a more democratic decision making process
Transitions	Escalation	
Action		
The developers	Argue for removing the menu	
	Argue against the usefulness of the menu	
	Propose alternative way to provide the function	
The users	Argue for the usefulness and value of the menu	
	Argue against the arbitrary decision made by the developers	
	Propose to conduct a poll to before the decision	
Strategy		
The developers	Compromise	Contend
The users	Contend	Collaborate
Outcomes	N/A	

The conflict situation demonstrates how the model may be used to structure and manage conflict situations. The two views describe how the conflict can be interpreted differently at each stage. The conceptual model proposed in this research provides a foundation for designing conflict management systems that can help users make sense of conflict situations and become aware of conflict management behaviors.

6   Discussion and Challenges

Conflicts are a part of the workplace. Conflicts, however, need not be the "dark side of the workplace." Instead, they can be beneficial when appropriately managed [4]. To help managers limit the negative aspects of conflict while promoting its positive aspects, we have proposed the design of a case-based conflict management system that can help conflict parties understand conflict situations and make better decisions by referring to experiences gathered from past conflict situations [13]. The foundation

Table 5. Example Conflict Vignette - Stage 3

Constructs	Views	
	The Developers	*The Users*
Conflict	Remove or keep "Properties" context menu	
Parties & Roles	The developers – Principal Party	
	The users – Principal Party	
Cause	Task-related	Task-related
Claim		
The developers	Remove the menu	Remove the menu
The users	Keep the menu	Keep the menu
Transitions	De-escalation	
Action		
The developers	Remove the menu and provide add-ons	
The users	Withdraw from the discussion	
Strategy		
The developers	Contend	Contend
The users	Withdraw	Withdraw
Outcomes	The menu is removed	
Nature	Integrative	Distributive

for the design is a conceptual model of conflict, conceptualized as vignette. We have defined a *vignette* as similar to, yet distinct in important ways from a *case* in that it is analytical, theory-laden, and of multiple perspectives. It represents key information pertaining to a conflict, such as cause, claims, transitions, actions, strategies, and other relevant information. Instead of providing a single version of the reality, we define some constructs as perceptual ones, and apply them to show differences in views of conflict. The application of the model is demonstrated with a conflict situation collected from an online community.

The conceptual model of conflict vignette lays the foundation of the proposed conflict management system. While encouraging, some challenges and specific issues need to be resolved in future efforts.

First, we acknowledge that much effort has been expended to formatively refine the conceptual model. While the online data provides a proof-of-concept evaluation, experiments and field studies to empirically validate the model are needed.

Second, how to represent multiple views of a conflict remains unclear. Prior effort shows that a single view of conflict can be represented through text and diagrams [13]. Multiple views of a conflict should be represented in such a way that a reader can readily capture the whole view of the conflict, identify changes through the conflict process, and make comparisons between different views. Novel approaches for representing conflict vignettes need to be investigated.

Third, in the proposed system, we plan to put conflict vignettes and raw CMC data into one database. This is not only for the consideration of convenience, but also because multi-dimensional relations need to be established between conflict vignettes and raw CMC data. In order to develop a sense of "being there" [17] when reading a

vignette, a reader may refer to raw CMC data to have close views of some constructs. While this can be realized through a relational database, such a design is less competent in handling the relations. Moreover, CMC data varies in terms of length, type, and format. New database design, such as non-relational database, merits further exploration.

Fourth, CMC data is not readily available for use and manual processing can be daunting. Automatic or semi-automatic approaches are required to help users to generate vignette constructs through parsing and analyzing raw CMC data. The preliminary results from our work show that natural language processing techniques, such as Recursive Neural Tensor Network [21], are able to parse CMC data into atomic information sets that can be used to generate conflict vignette constructs based on some heuristics. However, questions pertaining to how to implement a customized solution for analyzing conflict data and how to separate information to match different perspectives remain unanswered.

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