

Chapter 1

Conflict and Its Different Dimensions

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ABSTRACT

The purpose of this chapter is to explore the nature of conflict from a computer science perspective, throwing to light an up to date review of the evolution and state-of-the-art of the intersection of conflict with technology-assisted systems and tools. The objective is to design a document to organize existing literature, provide a baseline understanding in place of an agreed definition of conflict, depict relevant conflict aspects (dimensions), and made overall evaluation of a range of methods and techniques of conflict resolution. It was also explored the challenges that individuals face in using online technology for collaboration and conflict resolution and management purposes. Finally, is presented some preliminary work regarding the most suitable technologies to implement a technological framework for handling conflict in a digital environment.

INTRODUCTION

Despite the common notion, conflict is an inherent part of human evolution that allow us to learn, progress, grow, and will continue to remain so (Burton, 1998). Although this positive view on the phenomenon, there is a consensus in the literature: only a well-managed conflict will bring functional outcomes and will prevent or reduce dysfunctional ones. Thus, the first logical step in facing conflict is to characterize the problem and then determine which styles (strategies) must be used. In this regard, to understand what lies behind a conflict and which alternatives exist for dealing with it is essential to obtain an in-deep analysis of conflict. When speaking of analysis, we mean the identification of a set of key concepts and issues that can be framed within a pre-specified framework, which should provide the adequate instruments to assess conflict dynamics. In an attempt to develop such analysis, various approaches may be adopted. Especially when, nowadays, conflict arise and is brought to the digital environment.

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In that sense, this work aims to outline a complementary approach to conceptualization and management of conflict in virtual environments. In our opinion, this approach must preview the identification, application and further development of methodologies (being able of measuring conflict dimensions/ characteristics applying appropriated metrics) conveniently exploiting the new technologies of communication and information. Recent studies findings indicate that some work has been done in this direction (Lodder & Zeleznikow, 2005). Even though, it should be kept in mind there is a widespread agreement that exists a lack of proper management to conflicts, which are incurring a substantial cost to society as a whole. Therefore, the importance of developing new approaches to improving conflict resolution effectiveness, based on an intersection of conflict handling theories with technology-assisted systems, is obvious (Carneiro, Gomes, Novais, & Neves, 2011).

In summary, the purpose of this chapter is to explore the nature of conflict from a computer science perspective, throwing to light an up to date review of the evolution and state-of-the-art of the field. It is intentioned to open up discussions around the concept of conflict, prompting a deeper consideration of what is included under the term, and stimulating further thinking about the impact and potential future role of conflict resolution in digital environments. The aim is to design a document to organize existing literature, provide a baseline understanding in place of an agreed definition of conflict, depict relevant conflict aspects (dimensions) by analyzing key features of conflict situation, and made overall evaluation of a range of methods and techniques of conflict resolution. Furthermore, a review of conflict literature is presented, aiming to communicate the findings of a wide variety of studies but is by no means definitive. It was also explored the challenges that individuals face in using online technology for collaboration and conflict resolution and management purposes. Consequently, it can be concluded that developments in technology-assisted systems and tools can play a critical role in exacerbating and/or resolving conflicts. Finally, is also presented how recent Artificial Intelligence innovations can facilitate knowledge acquisition, analysis and presentation of conflict-related data. Some online-specific techniques have been reviewed and also is given some preliminary work regarding the most suitable technologies to implement a technological framework for handling conflict in a digital environment.

AN OVERVIEW OF CONFLICT CONCEPT

One of the major difficulties in articulating a clear definition of conflict is determining whether it should be based on subjective or objective criteria. Subjectively, approaches to define conflict involve attempts to explain it analyzing the ways in which parties understand and behave towards each other. On the other hand, the objective aspects used to define are, roughly, those that are widely independent of the parties' perceptions (e.g. power, scarce resources). An approach to overcome the difficulty mentioned earlier is to provide a baseline understanding in place of an agreed definition (using one criterion or another).

Having a working definition to manage conflict, and to understand its components, is a continual process. Undoubtedly this is significant not only from a theoretical viewpoint but mostly from a practical one. For doing so, one must handle with the different nuances that underlie the same words that scholars use to characterize conflict, differentiating it from related concepts, stressing its components and placing them in perspective. Therefore, the ambition of this section is to understand by looking at theoretical and technical approaches that could potentially be useful for the exploration of conflict. Firstly, the goal is to dissect concepts underpinning conflict, starting by emphasizing its key features and showing its state-of-the-art appraisal. Subsequently, this work wants to move forward by presenting a theoretical

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