



دهمین کنفرانس بین المللی مهندسی صنایع

Tenth International Industrial Engineering Conference

۷ و ۸ بهمن ماه ۱۳۹۲

27-28 January, 2014



A systematic approach for buyer-supplier conflict detection with xTriz

Davoud Haghighi
Department of Industrial Engineering
University of Tehran
Tehran, Iran
haghighid@ut.ac.ir

Jafar Razmi (Professor)
Faculty of Industrial Engineering
College of Engineering, University of Tehran
Tehran, Iran
jrazmi@ut.ac.ir

Abstract— Every organizational entity, whether operated for profit or not, must purchase goods and/or contract for services to meet the needs of its customers, clients, and stakeholders. As a result of the dynamics that occur in this process, the potential for buyer-supplier conflict is extremely high and is in fact a very common occurrence. Proper identification, assessment, and management of buyer-supplier conflict can lower the cost of conflict and improve the efficiency and effectiveness of an alliance.

The costs associated with buyer-supplier conflict include lost productivity, strained relationships, poor resource utilization, and unfulfilled potential of the joint activities undertaken by the buyer and supplier in support of the relationship. This paper applying a methodology, extending the concept of TRIZ (XTriz), to discover supply chain conflict before they occur and cause detrimental effects to system performance. The approach involves specifically focus on extending TRIZ with Root Conflict Analysis, which allows us to extract and map the contradictions arising in supply chain that are the root cause of certain problems. We applied the proposed methodology on new product development (NPD) to illustrate the validity of the tool. Although, further research is needed to fully explore this method of conflict detection, we believe that this research does indeed provide some much needed insight into the daunting task of conflict discovery and therefore proactive handling of these potentially negative occurrences in the supply chain.

Keywords :xTriz;RCA+;buyer-supplier conflict; New product development

I. INTRODUCTION

Many companies have undertaken initiatives to coordinate the efforts and activities of the various functional areas and supply chain members—clearly

coordination is a key component of successful supply chain management. While collaboration can result in significant mutual benefits, many collaborative efforts often produce less than desired outcomes. Many of these shortcomings surface from conflicts inherent in supply chains. Conflicts can result from the incompatibility of goals by different entities, role incongruence and dysfunctional domain definitions and differences of perceptions of reality used in joint decision making such as the lack of accurate information sharing and trust [1,2]. Corbett [3] states that different parties in the supply chain can have conflicts stemming from the fact that each party is often working towards differing objectives that are often in conflict across the supply chain. In different domain contexts, conflicts may arise in distributed operations. For example, Kim et al. [4] investigate hospital bed reservations using a simulation model that manages conflicts between surgeons and intensive-care unit physicians. Chung et al. [5] discuss supply chain conflicts related to global sourcing and present a business model based on a collaborative network to improve performance. Pyke and Cohen [6] discuss the potential conflict between marketing and production functions within an organization and create an approximation model to design and analyze systems, in particular, trade-offs between batch size and inventory levels are examined.

Ideally, supply chain partners could discover potential conflicts before they occur and work together to resolve the issue and redesign the supply chain to avoid future conflicts. While this ability to discover and preempt conflict would be a valuable asset to the management and design of supply chains, there is little insight found in the literature on how to accomplish this. The intent of this