

ABSTRACT

Collaboration is an interactive, constructive and knowledge-based process that has been widely discussed since the mid 1990s. Relationships among participants in the collaborative supply chain are based on projects; with participants have neither histories of interaction, nor any plan for future cooperation. However, selecting a right partner is a critical starting point for successful collaboration in supply chain management. This study develops a Reputation-Based Partner Selection Model (RBPS model) for selecting unknown collaborative partners to explore a new business opportunity, ensure that the partners have high levels of initial trust. The proposed model utilizes the referral networks and reputation system to identify the objective and subjective testimonies of partner candidates from third parties who had previously collaborated with the candidates. These information elements are aggregated into an initial-trust score, and the candidate with the highest score is selected to be a collaborative partner. The experiments were designed to test the model that can help the requestor enterprise to select a partner with the highest initial trust among multiple candidates. The results showed that the candidate, with fine temperament in three trust types (as competence, goodwill and predictability), was selected far more often than other competitors after multiple tests of computer simulations. Additionally, the critical factors and values that most affect the results of RBPS model to select the most reputable candidates were identified.

Keywords: collaboration, collaborative supply chain, initial trust, reputation system, referral networks

摘 要

協同合作(collaboration)是一個以知識為基礎的互動及建構過程，從1990年中葉起在供應鏈中就被廣泛運用在各項議題中。協同供應鏈成員間的關係主要建立在專案上，彼此間可能沒有合作過的經驗，未來也可能沒有再次合作的機會；事實上，選擇值得信任的合作夥伴是協同供應鏈邁向成功的重要步驟。本研究發展了一個選取信任合作夥伴的模式，在於企業發現新的商業機會時，能選擇一個以往沒有合作經驗但具有高度初始信任(initial trust)的候選人。該模式主要採用聲譽系統(reputation system)和推薦網絡(referral networks)來選取最具有良好聲譽的候選人。我們的模式首先是利用推薦網絡蒐尋到與候選人合作過的第三者來取得候選人的主觀及客觀評選資料，接著利用蒐集到的資料計算出初始信任分數最高的候選人作為協同合作夥伴。在實驗中証實本研究確實可以協助企業選取到具有良好特質的候選人，同時本研究也找出了影響實驗結果的關鍵因素及其值。

關鍵字：協同合作、協同供應鏈、初始信任、聲譽系統、推薦網絡