

國立政治大學研究所九十一學年度第二學期碩士論文提要

研究所別：資訊管理研究所

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論文名稱：以行動代理人建置多對多之多屬性協商機制的電子市集

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關鍵詞：代理人、行動代理人、協商、自動協商、限制滿足問題、多屬性效用理論、集合式提案

論文內容提要

以前企業間一頭熱且評論人均看好的電子市集，如今不是選擇合併就是被迫結束經營。有鑒於目前電子市集的商業模式有待改善之處包括：(1)僅以價格作為主要考量，與真實買賣情況不符。也讓賣方多限於價格戰，無法差異其產品，讓不只考慮價格的買方無法買到真正想要的商品。(2)一對多機制的公平缺陷，使買賣雙方的其中一方缺乏參與意願，也無法彰顯市場機能。(3)忽略電子交易時買賣雙方對協商的需要。針對上述的論點，以及目前對多對多協商機制的研究缺乏。本研究的目標在於利用行動代理人(Mobile Agent)的技術來發展出多個買方對應多個賣方的多屬性合作性協商模式，多屬性協商使得賣方不用遭受價格戰的廝殺，可以差異化其產品，買方也可以買到更適合自己需求的產品。在解決協商問題上，利用限制滿足問題(Constraint Satisfaction Problem)和集合式提案(Grouping Proposal)來提出一組候選提案，供對方選擇，以確保協商結果一定會落在效率前緣，以及我方的退讓一定能造成對方效益的增加。本研究並提出「多對多的退讓策略」以適合多對多的協商環境，讓多頭進行的協商能夠互相影響，也就是利用與其他人的協商成果當作己方的協商籌碼。

並將此協商模式套用於電子市集的商業模式中，本研究參考交易所模式和雙向競標的多對多電子市集商業模式，加上多對多協商功能，來設計系統架構，並運用行動代理人的技術 Aglet 與 java 來開發一實作雛型系統，並應用於旅行社與上遊旅館業者間訂房的商務活動。最後並以模擬實驗來驗證所提出的多對多讓步策略是否能有效提高買賣雙方效用。

Title of Thesis : A mobile-agent based marketplace supports multilateral corporative negotiation mechanism

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Graduate Date : June 2003

Degree Conferred : MBA

Abstract :

Marketplaces that enterprises and critics thought highly of before are forced to go bankrupt or choose to merge. But the model of marketplace still has many spaces to improvement, include (1) only considering price, (2) injustice of one-to-many mechanism, and (3) neglecting the need of negotiation.

Considering the above-mentioned and lacking researches of many-to-many negotiation mechanism, the research's goal is to develop multilateral corporative negotiation model by using mobile agent technology. We can describe a negotiation problem as a Constraint Satisfaction Problem (CSP), so we use CSP and Grouping Proposal to offer a set of proposals to be selected by the other party. And we use Multi-Attributes Utility Theory to measure the utility of a proposal for a user, and let agents have a basis to make the decision. The research also proposes a Multilateral Concession Strategy, which is suited for the multilateral-negotiation environment and makes multilateral negotiations can influence each other. At last, we will make several simulated experiments to evaluate the Multilateral Concession Strategy.

Keywords : Agent, Mobile Agent, Negotiation, Automated Negotiation, Constraint Satisfaction Problem(CSP), Multi-Attributes Utility Function(MAUT)