

A Study of Logistics Management System Based on Agent Frameworks-The Case Study of Order Management System

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ABSTRACT

A company's operation cost is closely related to its competitive ability. For the whole business, logistics management system has become one of the important techniques, which can lower company operation cost and increase system efficiency. Most businesses manage sales through network services. With the completion of global logistics management, a company can't meet the management of firmly and many loose into supply ability. Logistics centers have management problems in space fields. As for the requirements of system strategic analysis, facing the space distribution and consumer field is getting higher and higher. Nowadays the complication of logistics system is getting higher and higher, such as, to deal with the heavy customers' inquiries as well as to use the shortest time to deliver the goods to decrease time and space cost. Based on some research, there are three important factors to affect logistics management system, which involve 1)structure-including software information and hardware networks structure, 2)dynamics-including entire goods and order, 3)adjustability-based on the diverseness of customers to adjust the process. The purpose of this research is to use agent techniques to be applied to the order sub-system of logistics management system and to use these to enhance the efficiency of logistics management system, the flexibility of the strategic decision and system adjustment. An agent program has the traits of agency, driver, surveillance and intelligence, can cooperate with others and choose the appropriate reaction in response to the dynamic logistics center, all of which are suitable for solving the problems of dispersion and prescription.

Keywords : agent ; logistics center ; adjustability ; logistics management

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REFERENCES

- 一、中文部份 朱海成(1998), The Integration of Intelligent Decision Support System (IDSS) For Electronic Commerce , 第四屆國際資訊管理研究暨實務研討會 , 163-170。 吳仁和、林信惠(2004), 系統分析與設計-理論與實務應用 , 智勝。 李宗儒、林正章、周宣光(2005), 當代物流管理-理論與實務第二版 , 滄海書局。 李孟熹(2003), 物流管理改善必備實戰手冊 , 群泰企管。 李宗儒、林正章、周宣光(2002), 當代物流管理:理論與實務 , 滄海書局。 杜志挺、陳建良、饒忻、鄭國政(1998), 物流配送整合模式之研究與應用, 第一屆商業現代化研討會論文集 , 167-174。 林寶香(2000), 智慧型代理人於電子商務之整合與應用 , 東海大學工業工程研究所碩士論文。 河西健次、津久井英喜(2004), 物流的新趨勢 , 和昌出版社。 張有恆(1998), 物流管理 , 華泰書局。 張福榮(2005), 物流管理 , 五南書局。 黃聖峰(2003)

, UML教學手冊 , 博碩文化股份有限公司。 許聖傑、林君維、楊能舒(1998) , 物流共同配送體系的探討 , 第一屆商業現代化研討會論文集 , 111-118。 陳加訓(2002) , 以 RosettaNet為基礎企業對企業資訊交換之研究-以 RosettaNet與XML/EDI訂單訊息為例 , 中原大學工業工程學系研究所碩士論文。 陳盈志(2001) , 應用UML於軟體塑模之研型:以電腦兵棋為例 , 中山大學資訊管理研究所碩士論文。 陳楷昕、王銘宗、王淑娟(1998) , 商品物流系統中準及時化揀貨作業規劃之研究 , 第一屆商業現代化研討會。 陳慧娟(1997) , 物流中心作業系統 , 經濟部商業自動化系列叢書。 楊能舒、林君維、周雅蘭(1998) , 1998 國內物流產業現況調查與分析 , 第一屆商業現代化研討會論文集 , 95-101。 經濟部商業司(2001, Feb) , 物流經營管理實務 , 中國生產力中心。 經濟部商業司(2001) , 中華民國物流年鑑 , 工研院機械工業研究所委託發行。 劉俞青(2000) , 智慧型多重代理人系統應用於網際網路採購及其作業模式之研究 , 私立朝陽科技大學資訊管理系碩士論文。 賴杉桂(1996) , 臺灣地區商業物流發展課題與因應策略之探討 , 經濟情勢暨評論季刊 , 2(1)。 謝宗穎(2004) , 國內專業物流品質服務評估因素之研究 , 國立台北科技大學技術及職業教育研究所碩士論文。 顏憶茹、張淳智(2001) , 物流管理 , 前程企業。 魏錫賓(1994, Jun) , 臺灣流通產業經營策略與經營績效之相關研究 物流中心之實證 , 國立台灣大學商學研究所。 實其仁、林志敏、林正敏(2006, Jan) , 網路代理人 , 網路應用與服務教學推動中心。 蘇隆德(1995) , 1994年中華民國連鎖店發展年鑑 , 經濟部商業司。 蘇隆德(1997) , 現代化物流對商業流通發展之影響 , 中華民國商業流通研討會論文集 , 19。 蘇雄義、林致立、梁嘉凱、李權益(2000) , 物流與運籌定義、沿革及台灣全球運與物流中心發展策略之芻議 , 2000科技整合管理國際研討會論文集。 二、英文部份 Adler, P. S. (1993). Time-and-motion regained. *Harvard Business Review*, 71 (1), 97-108. Amy, T., Shun P. H.(2002). Human Resource Assignment System for Distribution Centers. *Industrial Management & Data Systems*, 102, 64-72. Arlow, Neustadt (2006). UML物件導向系統分析與設計,學貫行銷股份有限公司。 Aydin, M. E. and Oztemel E.,(2000). Dynamic job-shop scheduling using reinforcement learning. agents. *Robotics and Autonomous Systems*, 2000 Bonarini Andrea(2001).Learning fuzzy classifier systems for multi-agent coordination. *Information Sciences*, 215-239 . C. C. Hayes,(1999). Agent in a Nutshell — A Very Brief Introduction, *IEEE Trans. on Knowledge and Data Engineering*, (11)1. Cabri, G., Leonardi, L. and Zambonelli, F.(2000). MARS: A Programmable Coordination Architecture for Mobile Agents. *IEEE Internet Computing*, 4(4),26-35. Cao, J., Feng, X., Lu, J. and Das, S. K.(2002). Maibox-based Scheme for Mobile Agent Communications. *IEEE Computer*, 35(9), 54-60. Concepcion, A. I., Ruan, J. and Samson R. R.(2002).SPIDER: A Multi-agent Architecture for Internet Distributed Computing System. Proceedings of the ISCA 15th International Conference on Parallel and Distributed Computing Systems, 147-152. Deugo, D.(2001). Mobile Agent Messaging Models. Proceedings of 5th International Symposium on Autonomous Decentralized Systems, 278-286. Dow, C. R., Lin, C. Y., She, C.C., Line, J.H. and Chen, S.C.(2002). A Virtual Laboratory for Macro Universities Using Mobile Agent Techniques. *The International Journal of Computer Processing of Oriental Languages*,15(1), 1-18. Ellram, L. M., Londe, B. J. L., Weber, M. M.(1999). Retail logistics. *International Journal of Physical Distribution & Logistics Management*, 29(7/8) 477-519. Etzioni, O., Weld, D. S.(1995). Intelligent agents on the internet: Fact, fiction and forecast. *IEEE Expert*, 44-49. Fredrik Nilsson, L. E. and Waidringer, P. D.(2005).Toward Adaptive Logistics Management. Proceedings of the 38th Hawaii International Conference on System Sciences, 1-10. Griss, M. L. and Pour, G. (2001). Accelerating development with agent components, *Computer*, (34), 37 - 43. Inverno, D. and Luck.(2001).A Formal Framework for Hypertext Systems. *IEEE Proceedings on Software Engineering*,(3),175-184. Jennings, N. R.; Wooldridge, M. J. (1996): Software Agents. In: *IEEE Review* 1, S. 17-20. Lejter, M. and Dean, T.(1996). A framework for the development of multiagent architectures. *IEEE Expert*, 11(6):47-59. Merwe, J.v.d. and Solms, S.H.v.,(1998). Electronic commerce with secure intelligent trade agents, *Computers & Security*, (17), pp. 435-446. Murugesan, S. (1998). Intelligent Agents on the Internet and Web. *IEEE Region 10 Int. Conference on Global Connectivity in Energy, Computer, Communication and Control*, 1998, 1(1): 97-102 Muzak G., Cavrak I., and Zagar M.(2000), The Virtual Laboratory Project,Proceedings of the 22nd Internal Conference on Information Technology, 241-246. Petersen C. G..(2002). Considerations in Order Picking zone configuration. *International Journal of Operations & Production Management*,22, 793-805. Quinlan(2002), C5.0. Rulequest Research. Ross A. & Droege C.(2002). An Integrated Benchmarking Approach to Distribution Enter Performance using DEA modeling. *Journal of Operations Management*, 20, 19-32. Sandholm Tuomas W., (1996). Negotiation Among Self-Interested Computationaily Limited Agents, University of Massachhusetts, PhD Dissertation. Scheer, August-Wilhelm (2000). ARIS-Business Process Modeling, third edition. Schleiffer, R.(2005), An intelligent agent model, *European Journal of Operational Research*, 166(3),666-693. Sycara, K., Paolucci, M., Ankolekar, A. and Srinivasan, N.(2003), Automated discovery, interaction and composition of Semantic Web services, *Web Semantics: Science, Services and Agents on the World Wide Web*, 1(1), 27-46. Waidringer, Jonas (2001). Complexity in transportation and logistics systems: An integrated approach to modeling and analysis. Doctoral thesis Department of Transportation and Logistics, Chalmers University, Goteborg. Weele, A. V.(2001). Purchasing and Supply Chain Management. International Thomson Business Press. Yu, Chih Yuan and Han Pang Huang. (2001). Development of the Order Fulfillment Process in the Foundry Fab by Applying Distributed Multi-Agent on a Generic Message-Passing Platform. *IEEE/ASME Transactions on Mechatronics*, 6,387-398. 三、網站資料部份 RosettaNet Taiwan(2006). <http://www.rosettanettaiwan.org.tw/> SOAP(2006). <http://www.w3.org/TR/2001/WD-soap12-part1-20011217/> Caire Giovanni.(2003). JADE Programming for beginners. <http://jade.tilab.com/>