



Key Success Factors of U-Supply Chain Management from Managerial and Technical Perspectives

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Abstract

There has been a little research focusing on the relationship between the key success factors and the benefits of ubiquitous supply chain management (USCM) adoption. Relying on the literature review, case analysis and interview, this research identified the key success factors and the benefits associated to the adoption of USCM. Upon collecting survey data, this research carried out an empirical examination for the relationship between key success factors and USCM adoption benefits. The results revealed that some factors in the management and technical aspects were closely associated with the benefits of USCM adoption. These findings bring us to an USCM adoption model. The current study is significant in that it provides empirical and theoretical insights for future researches and a practical guideline taking into account the adoption of USCM and ubiquitous computing.

Ubiquitous computing

- Bring about the integration of the physical world and electronic space.
- Defined as an information activity enables such conveniences as communication, information exchange and information sharing in whenever, wherever, and with whomever by invisible computing and embedded computer network functionality (Roussos, 2006a).
- Smart, networked, mobile, embedded and pervasive.
- Sensor network, RFID, mobile devices, PDAs and global positioning system.
- Supply chain is the most successful application of U-computing (Bose & Pal, 2005; Roussos, 2006a).
- To reduce inventory and distribution costs as well as to improve supplier and customer satisfaction.

U-Supply Chain Management

- This research defines the supply chain management based on ubiquitous computing technologies as a Ubiquitous Supply Chain Management (USCM).
- Range of activities such as the planning, control and management of the supply chain based on ubiquitous computing technology
- Recently, supply chain management is a digitally enabled inter-enterprise process activity
- Focuses on improvement and innovation of end-to-end process between enterprises and their customers and suppliers
- USCM has emerged as a key issue for organizations pursuing supply chain transactions processed accurately, quickly and efficiently
- Offering firms a new opportunity within and across companies, and integrating a number of organizational, functional, and technological issues.

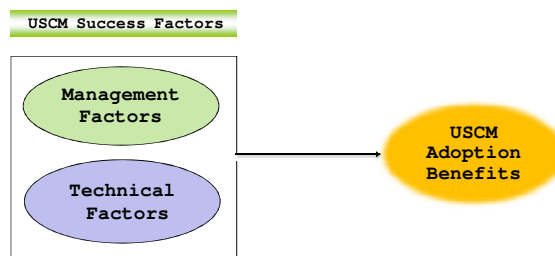
Research Procedure

1. Success factors and benefits of USCM adoption were selected through literature review, case analysis and interviews.
2. Developed a five-point scale survey questionnaire to collect empirical data and then elaborated by interviews with academics and practical experts.
3. Data collection work was carried out in the UK.
4. A statistical analysis was followed to verify and to investigate the relationship between key success factors and USCM adoption benefits
5. Research results were summarized and major implications were addressed in the conclusion.

Research Model

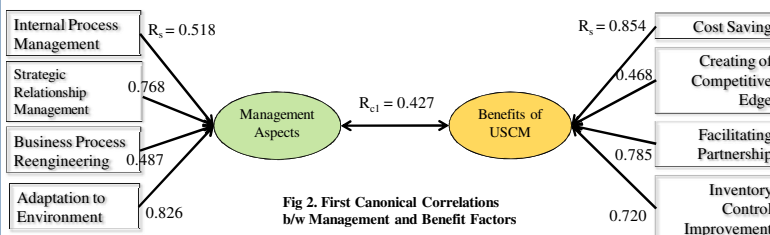
Investigate the relationship between the key success factors of USCM and the benefits of USCM adoption in the UK.

Fig 1. Conceptual Model

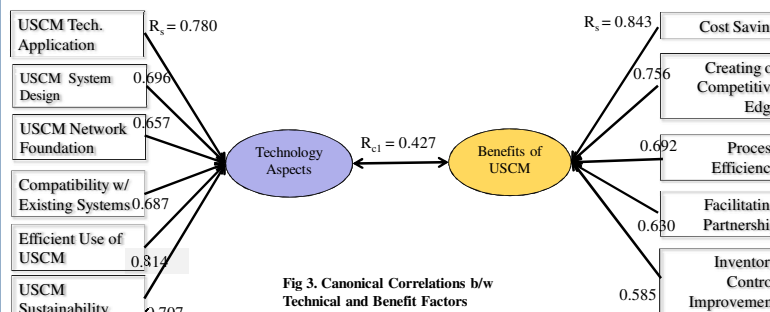


Results of Canonical Correlation Analysis

The first CC analysis was conducted b/w 7 management aspects variables and 5 perceived adoption benefits of USCM.



The first CC analysis was conducted b/w 6 Technical aspects variables and 5 perceived adoption benefits of USCM.



Conclusion

- Various factors from both managerial and technical issues should be addressed for successful implementation and benefits of USCM.
- Technology aspects carry more various concerns on adoption benefits.
- Using USCM technology is perceived not only to yield a short-term monetary gain but also eventually to equip with long-term sustainability of competitiveness.