

The Dissemination of Six Sigma

Ton van der WIELE¹, Jos van IWAARDEN², David POWER²

¹ RSM Erasmus University, Rotterdam, the Netherlands; ² Microsoft, European Operations Centre, Dublin, Ireland
awiele@rsm.nl

Abstract

The purpose of this study is to examine the intra-organisational diffusion of management innovations, taking Six Sigma as a recent management innovation. The study will focus on Six Sigma implementation among companies operating in Ireland. This paper will add knowledge to the diffusion of management practices (Six Sigma implementation). This has been achieved through a theoretical framework which posited that multinational firms act as a diffusion mechanism for Six Sigma. Intra-organisational diffusion does exist. Taking the example of Dell Computers, it was shown that multinationals do act as a diffusion mechanism – Dell first adopted Six Sigma at US headquarters level and then the practice diffused internally to its Irish subsidiary and subsequently to its suppliers and finally other local firms. However the role of traditional diffusion mechanisms was also highlighted. The analysis of Six Sigma implementation consisted of an online survey of 125 firms. Subsequently a qualitative analysis of Six Sigma implementation was conducted through semi-structured interviews with 13 respondents. The results show that roughly half of respondent firms use Six Sigma. These firms are typically large US multinationals and have been using Six Sigma for 3 years. Firms adopt Six Sigma in response to competitive pressure and for cost/efficiency reasons.

Keywords: Six Sigma, Management, Diffusion, Ireland.

References:

- [1] J. Antony (2004): „Assessing the Status of Six Sigma Implementation in the UK Manufacturing Small and Medium-Sized Enterprises (SMEs)“, Centre for Research in Six Sigma and Process Improvement (available at: <http://www.caledonian.ac.uk/crisspi/downloads/Assessing%20the%20Status%20of%20Six%20Sigma%20Implementation%20in%20the%20UK.pdf>).
- [2] G. Bruce (2002): „Six Sigma for Managers“ (Maidenhead, Mc-Graw Hill).
- [3] J. Collins, and R. Hussey (2003): „Business Research“, 2nd Edition, Palgrave Macmillan, Hampshire, UK.
- [4] C.J. Corbett, (2005): „Global Diffusion of ISO 9000 Certification through Supply Chains, Decisions, Operations, and Technology Management“, August 2005 (available at: <http://ssrn.com/abstract=913812>).
- [5] B. Ehigie, and S.S. Babalola (1995): „Understanding Consumer Behavior“ (Ibadan, Newborne Enterprises).
- [6] B. Ehigie, and E.B. McAndrew (2005): „Innovation, diffusion and adoption of total quality management (TQM)): „Management Decision, 43(6), pp.925-940.
- [7] General Electric (2002): General Electric Annual Report, 2002 (available at: <http://www.ge.com/ar2002/editorial/index3.jsp>).

- [8] S. Ghoshal, and C. A. Bartlett (1988): „Creation, Adoption, and Diffusion of Innovations by Subsidiaries of Multinational Corporations“, *Journal of International Business Studies*, 19(Fall), pp.365–88.
- [9] G. Hamel (2006): „The Why, What, and How of Management Innovation“, *Harvard Business Review*, 84(2), pp.18.
- [10] B. Kogut, and U. Zander (1993): „Knowledge of the Firms and the Evolutionary Theory of the Multinational Corporation“, *Journal of International Business Studies*, 24(4), pp.625–646.
- [11] D. Miller, and J. Hartwick (2002): „Spotting management fads“, *Harvard Business Review*, 80(10), pp.26. [12] P.S. Pande (2000): „The Six Sigma Way: How GE, Motorola and other Top Companies are honing their Performance“ (New York, NY, Mc-Graw Hill).
- [13] L. Ponzi, and M. Koenig (2002): „Knowledge management: another management fad?“, *Information Research*, 8(1) (available at: <http://InformationR.net/ir/8-1/paper145.html>).
- [14] E. M. Rogers (1995): „Diffusion of Innovations“, 4th edn. (New York, Free Press).
- [15] R.D. Snee (2000): „Impact of Six Sigma on quality engineering“, *Quality Engineering*, 12(3), pp. 9-14.
- [16] R. D. Snee, and R. W. Hoerl (2003): „Leading Six Sigma – a Step by Step Guide Based on Experience at GE and Other Six Sigma Organisations“ (New Jersey, Prentice Hall).
- [17] G. Szulanski (1996): „Exploring Internal Stickiness: Impediments to the Transfer of Best Practice within the Firm“, *Strategic Management Journal*, 17(Winter), pp.27–43.
- [18] G. Tennant (2001): „Six Sigma: SPC and Six Sigma in Manufacturing and Services“ (London, Gower Publishing Company).