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Coping with Imprecision in Strategic Planning: A Case Study Using Fuzzy SWOT Analysis

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ABSTRACT

In this article, it is shown that using the conventional SWOT analysis in the vicinity of strategic regions in the matrix of internal and external factors, ambiguity can exist in defining final strategies. To cope with this difficulty and to enhance the accuracy of the decision process, a straightforward fuzzy SWOT analysis is presented and exemplified by extracting and analyzing strengths, weaknesses, opportunities and threats in a company known as KPPP. The analysis is performed based on actual field data using 90 external and 85 internal factors and a group of 12 experts. Next to the identification of the fuzzy SWOT matrix, it is shown that the external threats and internal weaknesses of KPPP can have stronger effects compared to its external opportunities and internal strengths.

KEYWORDS

Fuzzy Applications, Internal And External Factors, Strategic Planning, SWOT Analysis

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References

- [1] L. C. Harris and E. Ogbonna, " Initiating Strategic Planning," *Journal of Business Research*, Vol. 56, 2006, pp. 100-121. doi:10.1016/j.jbusres.2005.02.003
- [2] D. Kellogg and W. A. Nie, " A Framework for Strategic Service Management," *Journal of Operation Management*, Vol. 3, 1995, pp. 323-337. doi:10.1016/0272-6963(95)00036-4
- [3] K. E. Papke-Shields, M. K. Malhotra and V. Grover, " Evolution in the Strategic Manufacturing Planning Process of Organizations," *Journal of Operation Management*, Vol. 24, 2006, pp. 421-439. doi: 10.1016/j.jom.2005.11.012
- [4] M. Rhee and S. Mehra, " Aligning Operation, Marketing and Competitive Strategies to Enhance Performance," *International Journal of Management Science*, Vol. 34, 2006, pp. 505-515.
- [5] Y. Sarason and F. Tegarden, " The Erosion of the Competitive Advantage of Strategic Planning," *Journal of Business and Management*, Vol. 9, No. 1, 2003, pp. 1-21.
- [6] M. Tanabe, C. F. D. Angelo and N. Alexander, " The Effectiveness of Strategic Planning: Competitiveness in the Brazilian supermarket sector," *Journal of Retailing and Consumer Services*, Vol. 11, 2004, pp. 51-59. doi: 10.1016/S0969-6989(02)00064-4
- [7] J. Carlos Bou-Llusar, A. B. Escrig-Tena, V. Roca-Puig and I. Beltrán-Martín, " An Empirical Assessment of the EFQM Excellence Model: Evaluation as a TQM Framework Relative to the MBNQA Model," *Journal of Operations Management*, In Press.
- [8] M. Martínez-Costa and A. R. Martínez Lorente, " ISO 9000 & TQM: Substitutive or Complementary? An Empirical Study in Industrial Companies," *International Journal of Quality and Reliability Management*, Vol. 21, No. 3, 2004, pp. 260-276. doi:10.1108/02656710410522711

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- [9] M. Rodney, L. Denis, J. Henderson and S. A. Hazlett, " Grounded Theory Research Approach to Building and Testing TQM Theory in Operations Management," *Omega*, Vol. 36, No. 5, 2008, pp. 825-837. doi: 10.1016/j.omega.2006.04.005
- [10] M. S. Saremi, F. Mousavi and A. Sanayei, " TQM Consultant Selection in SMEs with TOPSIS under Fuzzy Environment," *Expert Systems with Applications*, In Press, (2008).
- [11] T. C. Powell, " Strategic Planning as Competitive Advantage," *Strategic Management Journal*, Vol. 13, No. 7, 1992, pp. 551-558. doi:10.1002/smj.4250130707
- [12] M. Terziovski, P. Fitzpatrick and P. O. Neill, " Successful Predictors of Business Process Reengineering (BPR) in Financial Services," *International Journal of Production Economics*, Vol. 84, No. 1, 2003, pp. 35-50. doi: 10.1016/S0925-5273(02)00378-X
- [13] S. Ghazinoory, A. Esmail Zadeh and A. Memariani, " Fuzzy SWOT Analysis," *Journal of Intelligent & Fuzzy Systems*, Vol. 18, 2007, pp. 99-108.
- [14] L. Kuo-liang and L. Shu-chen, " A Fuzzy Quantified SWOT Procedure for Environmental Evaluation of an International Distribution Center," *Information Sciences*, Vol. 178, 2008, pp. 531-549. doi: 10.1016/j.ins.2007.09.002
- [15] H. Zhangjiajie, " The Application of Fuzzy Control in Strategic Decision-Making of Small and Medium Enterprises," *The International Conference on Measuring Technology and Mechatronics Automation*, China, 2009.
- [16] K. C. Lee, W. J. Lee, O. B. Kwon, J. H. Han and P. I. Yu, " Strategic Planning Simulation Based on Fuzzy Cognitive Map Knowledge And Deferential Game," *Simulation*, Vol. 71, No. 5, 1998, pp. 316-327. doi: 10.1177/003754979807100503
- [17] H.-F. Wang and W.-Y. Chang, " Fuzzy Scenario Analysis in Strategic Planning," *International Journal of General Systems*, Vol. 30, No. 2, 2001, pp. 193-201. doi:10.1080/03081070108960705
- [18] C. Kahraman, N. ?. Demirel, T. Demirel and N. Y. Ate?, " A SWOT-AHP Application Using Fuzzy Concept: E-Government in Turkey," *Fuzzy Multi-Criteria Decision Making*, Vol. 16, 2008, pp. 85-117. doi:10.1007/978-0-387-76813-7_4
- [19] S. Li, B. Davies, J. Edwards, R. Kinman and Y. Duan, " Integrating Group Delphi, Fuzzy Logic and Expert Systems for Marketing Strategy Development: The Hybridisation and Its Effectiveness," *Marketing Intelligence & Planning*, Vol. 20, No. 5, 2002, pp. 273 -284. doi: 10.1108/02634500210441521
- [20] S. J. Chen, C. L. Huang and F. P. Huang, " Fuzzy Multiple Attribute Decision Making Method and Application," Springer, Berlin, 1992.
- [21] H. H. Chang and W. C. Huang, " Application of a Quantification SWOT Analytical Method," *Journal of Mathematical and Computer Modelling*, Vol. 43, 2006, pp. 158- 169. doi: 10.1016/j.mcm.2005.08.016
- [22] F. R. David, " *Strategic Management*," Prentice-Hall, New Jersey, 1998.
- [23] R. G. Dayson, " Strategic Development and SWOT Analysis at University of Warwick," *European Journal of Operation Research*, Vol. 152, 2004, pp. 631-640. doi:10.1016/S0377-2217(03)00062-6
- [24] L. kue, L. Liang and L. S. Chen, " A Fuzzy Quantified SWOT Procedure for Environment Evaluation of an International Distribution Centre," *Information Science*, Vol. 178, 2008, pp. 531-549.
- [25] I. Yuksel and M. Dagdevirn, " Using the Analytic Network Process (ANP) in a SWOT Analysis– A Case Study for a Textile Firm," *Information Sciences*, Vol. 177, No. 16, 15 August 2007, pp. 3364-3382. doi: 10.1016/j.ins.2007.01.001
- [26] K. Altinkemer, A. Chaturvedi and S. Kondareddy, " Business Process Reengineering and Organizational Performance," *International Journal of Information Management*, Vol. 18, No. 6, 1998, pp. 381-392. doi:10.1016/S0268-4012(98)00030-9
- [27] C. V. Altröck and B. Krause, " Multi-Criteria Decision Making in German Automotive Industry Using Fuzzy Logic," *Fuzzy Sets and Systems*, Vol. 63, No. 3, 1994, pp. 375-380. doi:10.1016/0165-0114(94)90223-2
- [28] A. Attaran, " Exploring the Relationship between Information Technology and business process reengineering," *Information & Management*, Vol. 41, No. 5, 2004, pp. 585-596. doi:10.1016/S0378-7206(03)00098-3

- [29] S. A. Drew and R. Kaye, " Engaging Boards in Corporate Direction Setting: Strategic Scorecards," *European Management Journal*, Vol. 25, No. 5, 2007, pp. 359-367. doi:10.1016/j.emj.2007.07.006
- [30] M. V. Severin and A. Grabski, " Complementary Controls and ERP Implementation Success," *International Journal of Accounting Information Systems*, Vol. 8, No. 1, 2007, pp. 17-39. doi:10.1016/j.accinf.2006.12.002
- [31] J. Yang, C. Wu and C. Tsai, " Selection of an ERP System for a Construction Firm in Taiwan," *Automation in Construction*, Vol. 16, No. 6, 2007, pp. 787-796. doi:10.1016/j.autcon.2007.02.001
- [32] K. Abraham, " Fuzzy Expert Systems," CRC Press, Inc. 1992.
- [33] H. Wehrich, " The TOWS Matrix a Tool for Situational Analysis," *Long Range Planning*, Vol. 15, No. 2, 1982, pp. 54-66. doi:10.1016/0024-6301(82)90120-0