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# A fuzzy tool for clasifying jobs in the company

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## Abstract

*In this paper we show a fuzzy tool to clasify jobs based on the characteristics of the work. These characteristics include tacit and explicit knowledge, exceptions and changes, and worker's participation in social coordination and control as a result of the technological and environmental conditions. Also, the result of management agency in organizing and directing. Because we want to consider in a realistic way the mentioned characteristics of jobs, we use fuzzy logic to develop our analysis.*

**Keywords:** Job design, Pure jobs, Fuzzy theory, Hamming distance

## 1. Introduction

Different trends in organizational literature and the literature of knowledge have proposed some key issues related to the nature of work and how this nature, or set of features, determine how efficient and effective design work is. This permits us to give a definition of the features of different types of jobs that we propose, taking into account tacit and explicit knowledge incorporated, the exceptions and changes, and the level of socialization reached (Nonaka and Takeuchi, 1995). To this end, taking into account the influence of the company management on technology and work, we also examine how technology affects knowledge, exceptions and changes that are incorporated in these jobs, and pay attention to the level of socialization of work that depends on human resources policies and the institutional context of the company.

All of this permits us to give a definition of the features of different types of jobs that we propose, taking into account tacit and explicit knowledge incorporated, the exceptions and changes, and the level of socialization reached. Tacit knowledge is acquired and retained by individuals but remains difficult to articulate or codify, and consequently share. It is closer to talent, basically formed by attitudes, skills and unencrypted abilities. These features make tacit knowledge a strategic asset, a source of sustainable competitive advantage. However, explicit knowledge can be expressed in words, numbers and symbols. It is easily transferable, so it can be shared with others, mainly in the form of databases and universal principles, being considered a public good. It consists of technical knowledge, codifiable skills and little relation to attitudes.

As for the exceptions and changes that characterize these types of jobs, this is the result of the need to adapt to the market and technology (Burns and Stalker, 1961; Donaldson 2001) and

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Cotec (2004). Análisis del proceso de innovación en las empresas de servicios. Fundación Cotec.

Davila, T.; Epstein, M.J.; Shelton, R. (2006). Making Innovation Work. How to Manage It, Measure It, and Profit from It. Pearson Education, New Jersey.

Goñi Zabala, J.J. (2006). Herramientas para la innovación regional: el impulso desde la administración a las pymes. Tecnimap 2006, Sevilla.

Maña, F. (2000). Herramientas y técnicas de gestión de la innovación para la creación de valor. Instituto Catalán de Tecnología.

Molina, H. (1995). La innovación tecnológica y sus implicaciones estratégicas empresariales: un enfoque descriptivo. Instituto de Cultura Juan Gil-Albert, Alicante.

Mohr, J.; Sengupta, S.; Slater, S. (2005). Marketing of High-Technology Products and Innovations. Pearson Prentice Hall, New Jersey.

Parker, J.E.S. (1978). The economics of innovation. The national and multinational entrerprise in technological change. Second Edition. Longman Group Limited, London.

Rothwell, R. (1986). The role of small firm in technological innovation. En Curran, J.; Stanworth, J.; Watkins, D. (Ed.). The survival of the small firm. Employment, growth, technology and politics. Volumen 2, Gower Publishing Company Limited, Aldershot, England.

Sáez, F.; García O., Palao J. y Rojo P. (2003). Temas básicos de innovación tecnológica en las empresas. Apuntes de la asignatura Innovación Tecnológica. Universidad Politécnica de Madrid; Madrid.

Sánchez, M.P.; Chaminade, C. (1998). El proceso de innovación en las empresas españolas. Análisis de las encuestas de innovación. Cotec, Madrid.

Tidd, J.; Bessant, J.; Pavit, K. (2005). Managing innovation. 3rd edition. John Wiley&Son, Ltd. England.