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New product development process in Spanish firms: typology, antecedents and technical/marketing activities

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Abstract

On several occasions attempts have been made to explain the success of a new product by means of aspects related to the development process followed. However, few papers have focused either on its degree of market orientation (MO) or on its antecedents, i.e., on the factors which promote or limit the use of said process in the firm. Three basic aims are pursued in this work: first, characterize NPD process in terms of its MO; second, to identify the organisational antecedents of the new product process adopted and, third, to analyse the influence of the process type introduced and of the novelty type of the product on the importance of marketing and technical activities carried out during its development. Results, obtained from a sample of Spanish firms, indicate that the NPD processes adopted may be characterized in terms of MO and rigidity. In the same way as top management emphasis on innovation, the degree of centralisation in decision-making, and experience in new product development influence the type of process introduced into the firm. It is also shown that process type and product novelty conditions the importance given to the technical and marketing activities carried out.

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1. Introduction

The advisability of following a development scheme for new products arose in the sixties when managers were alerted to the fact that such activity was not being carried out properly. Thus, the first studies from the [National Industrial Conference Board \(1964\)](#) noticed the high failure rate of new products and the fact that many causes could be prevented. Seven years later, [Nielsen \(1971\)](#) concluded that only 47% of products that underwent a market test were actually on the market a year later.

Since the early seventies, the hypothesis stating that by following a formally defined development process such failure percentages would be reduced began to take shape. According to [Johne \(1984\)](#), formalisation refers to the “degree in which the process is subject to rules, procedures and structures previously specified”. These determining factors try to define responsibilities and make it easier to transmit information between the different members of the organisation. This way of facing new product development

seems to contribute to the innovation success, as shown in the results obtained in the revision of 47 empirical studies carried out by [Montoya-Weiss and Calantone \(1994\)](#).¹ However, formality should never be understood as rigidity. The process, although requiring previous planning, must be flexible in order to facilitate its adaptation to the nature of the new product project.

The present study looks into the following three questions:

1. Do firms use NPD processes with different degrees of market orientation (MO)?
2. To what extent is the new product development (NPD) process adopted conditioned by organisational and managerial factors such as interest and management involvement in innovation, degree of centralisation in decision-making and firm experience in NPD?

¹ In their work, [Montoya-Weiss and Calantone \(1994\)](#) point out that three out of four of the most important factors when explaining new product success/failure are related to the development process: efficiency in technological activities, efficiency in marketing activities, and protocol proficiency. The fourth factor, product advantage, is of a strategic kind.

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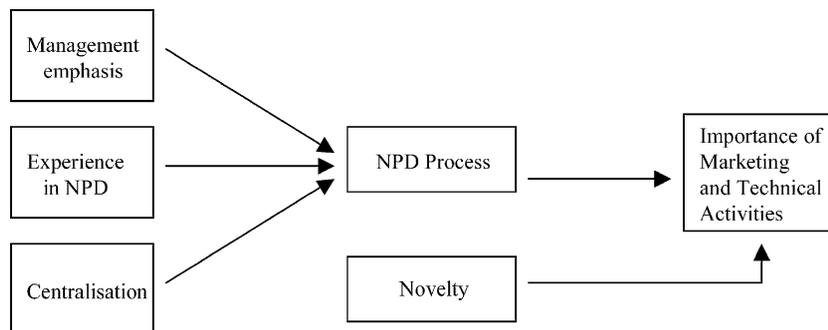


Fig. 1. Conceptual framework.

3. What influence do the NPD process adopted and the novelty type have on the importance given to the technical and marketing activities which make up the process?

So then the study makes three contributions to literature on NPD. First, it looks into the type of processes adopted in terms of MO. Second, it examines to what extent several organisational and managerial characteristics affect the type of NPD process used. Third, it analyses how the process adopted and the product novelty influence the mean importance given to the technical and marketing activities of the process.

In the sections to follow we present the conceptual framework and the proposed relationships. Then, we explain the research design and review the findings from a sample of 75 firms in Spain. In the final sections the results and managerial implications will be discussed, and suggestions for further research will be proposed.

2. Framework

The conceptual framework that guided our research is presented in Fig. 1. This framework shows that we expect three organisational characteristics to determine the type of NPD process adopted and that this variable along with the type of new product to be developed influence the importance of technical and marketing activities which make up the process. We will develop propositions with regard to these relationships below.

2.1. NPD process type

Generally speaking, we may assert that the more successful firms in new product commercialisation have a formal development process that is maintained for a long period of time (Booz, Allen & Hamilton, 1982).

A review of the literature on this subject allows us to identify three main ways of facing a new product development process that, in chronological order, are known as first-, second- and third-generation processes.

First-generation schemes have a functional structure where the technical area acts as the new product development guide, marketing being limited to the final phase (that of launch). These models follow a control and measure methodology, ensuring that the project is adequately developed and that all tasks are fulfilled.

Taking these first models as a basis, second-generation schemes were developed and nowadays are applied. This scheme adjusts to a systematic process called “stage-gate” (Cooper, 1990) that serves as a guide starting from the generation of a new product idea to its launching. The proposed process is sequential and, as happens with first-generation schemes, has a rigid structure. On the other hand, it includes aspects that involve important advantages derived basically from the purely inter-functional approach (Cooper and Kleinschmidt, 1991) both in its actions and decisions: together with R&D, the marketing department takes an active part in the entire process of the new product project, generating market information and incorporating it into the decision-making. However, this scheme also presents some limitations, mainly derived from its structural rigidity, a feature already present in first-generation schemes.

More recently, in order to face the challenge derived from the high speed with which changes occur and the growing competence in the new product development field, Cooper (1994) proposed the third-generation process. Centred on achieving speed and flexibility,² this process is based on the balancing of detail and speed without neglecting the consumer at any moment.

Takeuchi and Nonaka (1986) were pioneers in highlighting that, given the high speed with which changes occur and the growing competence in the new product development field, firms must focus their processes on speed and flexibility, proposing a product development process based

² Cooper and Kleinschmidt (1986) have found a correlation between project success and fulfilment degree in the development process. This is an important finding, since it shows that, despite the need to carry out some tasks in a non-sequential manner, each one must be carried out with a minimal level of success.

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