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**Abstract**. The main goal of this research is to study the role of several factors and firms’ resources that could have had an impact on the development of innovative activities of firms, exploring how these factors can help to achieve success through innovation and improving business performance. We propose a new model to analyze the relationships between a set of organizational, technological, financial and information-based resources, as well as other aspects such as company’s cooperation.

**Keywords**: Innovation Activities, Information Management, Technology Management, R&D Investment, R&D Personnel

**Аннотация**. Основная цель данного исследования заключается в изучении роли нескольких факторов и ресурсов фирм, которые могли бы иметь влияние на развитие инновационной деятельности фирм. Статья описывает влияния этих факторов на успеха инновации и повышение эффективности бизнеса. Предлагается новая модель, которая оценивает взаимоотношения между набором организационных, технологических, финансовых и информационных ресурсов, а также другие аспекты, такие как сотрудничество компании.

**Ключевые слова**: инновационная деятельность, управление информацией, управление технологиями, R & D инвестиции, R & D персонала.

The relationships between firm’s characteristics, innovation behavior and business performance have been studied by many authors. In fact, the first reference in economic literature related to econometric analysis of R&D activities is Griliches’ technical knowledge production function [1]. Griliches’ function includes the typical productive factors and, additionally, it incorporates another one named “technological capital”, depending on R&D firms’ expenditure, Universities R&D, and Technological Centers’ activities. This production function has been used in several studies [2-5]. Nevertheless, Griliches’ function does not consider all the activities included in innovation process, which is multidimensional and interactive [6]. R&D is only a part of innovation expenses; from the birth of the idea to complete development, and approaching innovation activity by exclusively R&D expenditures involve underestimation, especially in small firms and traditional Industries [7,8].

At the same time, numerous models have been proposed to study the relationships between innovation behavior and firms’ performance. Hurley and Halt analyze innovation activities considering that some structural and process characteristics (size, resources, age, planning, development and control of activities, information management, etc.) influence innovation capacity [9]. Moreover, cultural characteristics (market orientation, participative decision process, and so on) affect innovation receptiveness. The innovation capacity, its receptiveness and structural process, and cultural characteristics determine firm’s competitive advantage.

Other authors [10,11] emphasize the relevance of organizational resources. These authors suggest that firms’ innovative projects are the result of an accumulation of resources, generating new ones especially knowledge.

Therefore, it is clear that approaching innovation by R&D underestimates firms’ innovative capacity, obliging to introduce a new set of variables. At the same time, innovation attitude and results affect firm’s economic performance.

In this article we propose a structural model where different elements (contingent factors, human, organizational and financial resources, cooperation and information management) affect innovation activities. Those activities determine innovation results, affecting firm’s performance. The most distinguishing feature of the model is versatility, breaking the linear structure estimation of the relationship between R&D, innovation and business performance. In our model there is a more flexible design: first, it uses latent variables, also named constructs, obtained from observed variables; secondly, it is very versatile and bendable since it defines different types of causality relationships between those constructs (Figure 1).

The model we propose defines three constructs (latent variables build up from observed variables) affecting R&D activities: “Human resources”, defined by one variable: R&D personnel; “Financial resources”, approached by R&D expenses; and “Cooperation”, observed by one variable, cooperation with other firms. “R&D activities” construct is attained using two variables: internal R&D activities and external R&D activities. They affect innovation results as good as firm’s performance. The model also considers “Contingent factors”, obtained from the observed variables size and type of market, and that have a significant impact both on “R&D activities” and “Innovation results”. “Innovation results” is another latent variable obtained from two experiential variables: product innovation and process innovation. It depends on four constructs: “R&D activities”, “Contingent factors”, “Technological and organizational resources” and “Information management”. “Technological and organizational resources” is a latent variable built up using four observed variables: technology and equipment acquisition, external technological knowledge acquisition, production preparation and commercializetion preparation. “Information management” is another latent variable achieved from three information variables: use of internal information sources, market related sources, and other sources of information. Finally, firms’ performance is the last construct, defined as a latent variable obtained from observed variables effects on products, effects on processes and other effects. We assume that firm’s success can be explained by R&D activities, Innovation results and Information management constructs. The justification for different variables included in the model and their relationships will be explained in the next research.

Technological and organizational resources

• Technology and equipment acquisition

• External knowledge acquisition

• Production preparation

• Commercialization preparation

Information management

• Internal sources

• Market related sources

• Others sources of information

**Innovation results**

• Process innovation

• Product innovation

**Firm’s performance**

• Effects on products

• Effects on processes

• Other effects

**Contingent factors**

• Firm’s size

• Type of market

**Human resources**

• R&D personnel

**Financial resources**

• R&D expenses

Cooperation

• Other firms

R&D activities

• Internal R&D

• External R&D

Figure 1 – The main factors affecting on innovation

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