

# TOOLS USED IN INTERVIEWING RESEARCHERS TO DETERMINE INTENTION, MOTIVATION AND PERFORMANCE IN LAUNCHING ACADEMIC ENTREPRENEURSHIP AND INVOLVEMENT IN THE MANAGEMENT OF ACADEMIC SPIN-OFFS

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## BACKGROUND

In recent years we have seen increased interest from universities around the world engaging in the third mission of entrepreneurship and economic development. For this purpose, the development of academic spin-off structures is essential, and the quality of their management is vital in order to resist and establish themselves on the market. Studies analyzing the determinants of the performance of academic spin-offs point to the key role played by the human resources involved in the management of these structures. One of the issues highlighted in many studies (Einsley & Hmieleski, 2005; Kassicieh, 2011; Franklin et al, 2001) is related to the characteristics of academic researchers and their poor entrepreneurial engagement when they lack the motivation and intention for entrepreneurship.

This paper is a review of the literature on the questioning tools and methods for investigating researchers who have become entrepreneurs using determinants such as motivation and intention. Thus, 11 relevant studies conducted in different parts of the world that attempt to establish a causal link between motivation and acting with intention on the part of academic entrepreneurs and the ability of the company to make qualitative management decisions, become more agile and enhance its performance were reviewed. Finally, we have centralized the main conclusions drawn from the research reviewed, highlighting a combination of factors that can decisively influence the quality of management and the market success of academic spin-offs.

## INTRODUCTION

The present study is a synthesis of 11 surveys of academic entrepreneurs and researchers who have not yet entered spin-off entrepreneurship. The research analyzed relates to researchers' intention and motivation towards academic spin-off entrepreneurship and proposes their analysis using various methods of investigation (table no.1). In total the 11 articles analyzed involved 4353 researchers, 353 universities and 724 spin-off structures and were conducted in countries such as: Norway, Italy, Pakistan, Spain, Switzerland, Germany, Hungary and Costa Rica, as reflected in table no. 2.

The 11 articles address the following thematic categories:

- Entrepreneurial intention and its relation to:
- Cognitive styles of researchers
- Factors that lead young researchers to start university spin-offs (analysis based on elements of TPB and THM concepts or combination of the two)
- Entrepreneurial attitude
- Job satisfaction or dissatisfaction
- Transition to entrepreneurship (willingness to commercialize own research results) in the context of analyzing the combined influence of economic and personal factors
- Entrepreneurial skills in the context of studying personality variables of researchers (Big Five - OCEAN)
- Entrepreneurial motivation
- Types of motivation of researchers when engaging in entrepreneurial activities
- The causal relationship between entrepreneurial motivation and entrepreneurial success
- Identifying the dominant motivators for researchers to engage in academic entrepreneurship
- Relationship between the researcher's activity in the spin-off and his/her research performance

## RESULTS

Table no. 1 Articles grouped by theme, analysed group and location

Theme	No of articles	Target group	Universities	Spin-off	Location
ENTREPRENEURIAL INTENTION	7	3840 academic researchers	207		Norway Italy Pakistan Spain Switzerland Germany
ENTREPRENEURIAL MOTIVATION	3	446 academic researchers (spin-off management)	79	440	Spain Hungary Costa Rica
PERFORMANCE IN RESEARCH	1	67 university licensing office administrators	67	284	Italy
TOTAL	11	4.353 researchers	353	724	

Table no. 2 Brief description of the investigation methods used in the studies reviewed

Investigation method	Brief description
Theory of Planned Behaviour - TPB	TPB identifies three aspects predicting behavior: attitude, subjective norms, and perceived behavioral control.
Triple Helix Model – THM	THM consists of three helices: academic environment, private sector, and public environment.
Self-efficacy Theory	Identifies cognitive styles based on belief in one's ability to perform behaviors required to produce outcomes.
Social Cognitive Career Theory - SCCT	SCCT analyzes career choices considering environmental and motivational influences to predict career decisions.
Big Five - OCEAN	OCEAN model: five personality traits influencing entrepreneurship - openness, conscientiousness, extraversion, agreeableness, neuroticism.
Classification of types of motivation	Three motivation types: intrinsic (enjoyment), extrinsic (incentives), prosocial (benefiting others).
Empirical examination of researchers' motivation	Empirical study on researchers' motivation based on factors like achievement, independence, and research necessity.
Tool developed by Autio & Kauranen 1994	Instrument with 35 items in six categories: opportunity knowledge, personal motivation, organizational motivation, available resources, and environment.

## CONCLUSIONS

In terms of entrepreneurial intention that decisively influences subsequent entrepreneurial behaviour:

- Researchers who are characterized by Planning cognitive style, i.e. those who tend to prepare and plan towards goals are best suited to work in entrepreneurial structures
- Entrepreneurial attitude is influenced by university support (infrastructure and incubation centres), government support (fiscal policies), but also support from academic peers, previous experience
- The most important individual factors in predicting entrepreneurial intention are: entrepreneurial attitude, know-how, perceived behavioural control, previous experience, scientific productivity
- In terms of the decision to create a spin-off, scientists give greater importance to reputation and extrinsic rewards than to pecuniary satisfaction
- Researchers who are characterized at a personal level by openness, extroversion and emotional stability are well suited for entrepreneurial contexts

In terms of the entrepreneurial motivation that decisively influences the quality of entrepreneurial activity:

- Extrinsic motivation is an important factor in the decision to engage in entrepreneurial activities
- High entrepreneurial intention is predominantly associated with 3 variables: knowledge, opportunity and personal motivation
- Availability of resources, especially financial resources, was not likely to motivate the researcher to launch projects
- Other aspects favouring the transition to entrepreneurship of researchers are: availability of a suitable manager, existence of production facilities, existence of business incubators, relationship with networks in the specific industry.

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