

**ALEXANDRU IOAN CUZA UNIVERSITY**  
**FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATION**

**DOCTORAL THESIS**  
**ANALYSIS OF MOTIVATION-PERFORMANCE**  
**RELATIONSHIP IN MARKETING OF**  
**ACADEMIC RESEARCH**  
**- SUMMARY-**

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## **1. RESEARCH PREMISES**

The performance of academic employees who have a dual role as both teachers and researchers, determines the quality of educational act experienced by the students.

Most universities have a mission to provide students a quality education act. This mission can be accomplished only through teachers; therefore, their motivation is crucial. In addition, research has an important role. First, keeps alive teachers interest on their topics of interest and secondly, helps achieve a positive image of the institution they work for.

Authors such as Rowley believes that teachers who are well motivated publish a lot, and this leads to their international recognition and, hence the recognition of university which they belong. This has a positive impact in terms of several aspects: valuable students are attracted, funds for research are attracted and consulting contracts are signed. For this reason, the motivation is considered the key to success in increasing the quality of higher education (Rowley, 1996).

In addition, measuring the output of a researcher is becoming increasingly important for justifying the acceptance of projects, for selecting some researchers, or for providing some scientific awards (Alonso, Cabrerizo, Herrera-Viedma și Herrera, 2010).

From this perspective, identifying factors that increase the motivation of university teachers is useful both in local level, to

universities leadership and in the national level, for those in ministry that can sustain a national strategy to increase the country's international visibility. (Ursachi (Horodnic), 2011a).

Educational marketing strategies, in general, and the marketing of academic research, particularly, at micro, institutional level and at the macro national level, also have a foundation based on teacher motivation.

## **2. THE PURPOSE AND OBJECTIVES OF THE RESEARCH**

The doctoral paper proposed is *multidisciplinary* in nature, since the attainment of research goals requires knowledge in several areas such as marketing, psychology, human resources, statistics and educational sciences.

The paper is made from a marketer's perspective who wants to know the factors that motivate researchers from academia (professors) to be able to act on them to improve the "product". In other words, researchers are considered a product (through their output: publications, projects, inventions, etc.) that must be stimulated and promoted nationally and internationally. So, from this perspective, an "advanced product" can only be achieved by influencing motivational factors.

"New product" marketing is also targeted: knowing the relationship between motivation and performance it can be employed professors and researchers according to the objectives and needs of the institution.

The study aims to identify and analyze factors influencing research motivation. Although various international studies ranks Romanians people in leading places in terms of intelligence, the international visibility of Romanian research is very low (especially in the field of economics and business administration). This low level of international visibility of romanian research generates a high need for relevant information on this domain to develop educational marketing strategies, in general, and academic research marketing, in particular.

Although analysis of motivation is not a new area, applied research studies in academic area are very rare and almost nonexistent on the Romanian market. Trough and after analyzing the current state of knowledge in this field, we aim to bring a new element, a contribution to knowledge development by developing a model of motivation in academic research in Romania.

*The purpose* of doctoral research is to build and test a model of motivation to research for teachers of economics and business in Romania.

*Overall research goals* derive from its purpose, as follows:

- Identifying factors that influence motivation and performance in academic research;

- Developing a suitable model to measure motivation and productivity of economics professors in Romania;
- Developing a motivation - productivity model for professors of economics and business administration from Romania;
- Providing some guidelines for increase the motivation of economics and business administration professors (this goal has prescriptive character and it is secondary one).

### 3. METHODOLOGY

To achieve the overall objectives of the thesis we used different research methods suitable for each individual case.

In the *documentary study*, in order to achieve the first objective of the thesis, *identifying factors that influence motivation and performance in academic research*, data collection was performed using the following sources: *databases* (Sage Publications, EMERALD, ProQuest, SpringerLink, ScienceDirect, Elsevier, Ebsco, J store, Elektra Search, Wiley Interscience), *libraries* (BCU Iași, FEAA Library, Konstanz University Library), *internet resources*. The materials included in the analysis were mainly articles indexed in database, written in English (over 95%).

In order to achieve the secondary objectives related to the development and testing of the research instrument we used research methods presented in Table 1.

**Table no. 1. Types of studies used to test the instrument**

Research Objectives	Tests Used	Type of subjects	Sample size
Content validity testing	Evaluating items by experts	Experts	7
Content and construct validity testing	Q-sorting	PhD Students	29
Construct validity testing (Internal Consistency)	Factor Analysis Reliability Analysis	Professors	32

*Source:* author representation

For achieving secondary objectives regarding *developing a motivation - productivity model for professors of economics and business administration from Romania*, the main research method used was based on *questionnaire survey*.

The data needed for measurement of independent variable *motivation*, moderating variables and mediating variables were collected through survey, and the data needed for measurement of dependent variable *productivity* were collected from university reports.

Study population consisted of all affiliated professors of state universities which include faculties of economics. The sample was non-probability type of 462 people. For those who answered the

questionnaire on motivation, the productivity was calculated according to the formula  $CLpn$ .

$CLpn$  was developed especially for economic field and encompasses all EconLit journals <sup>1</sup>. Formula that measures the productivity of an individual researcher  $i$  in a fixed period of time (year / years  $T$ ) is as follows (Combes și Linnemer, 2003):

$$CLpn_i(T) = \sum_k \frac{p_{k(i)} w_{k(i)}}{n_{k(i)}}$$

**where:**

$k$  – publications listed in EconLit

$p_{k(i)}$  - number of pages of the paper  $k$

$n_{k(i)}$  - number of authors of the paper  $k$

$w_{k(i)}$  – journal weight (impact) in which the paper  $k$  was published

In this case, the formula is adapted to Romanian market. Thus, it was not considered journal weight (because there are very few Romanian professors who published in EconLit journals, using this weight assignment scheme would lead to zero productivity for the study population) but instead were assigned weights depending on the category of article.

Thus, the categories of articles considered consistent with Executive Unit for Financing Higher Education, Research, Innovation and Development, are: *ISI indexed papers (a)* – papers published in journals with impact factor calculated and cumulated relative influence

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<sup>1</sup> The complete list of journals included in EconLit classification can be found at <http://www.econlit.org/>

score; *ISI indexed papers (b)* - papers published in journals without impact factor calculated (Science and Social Science); *ISI indexed papers (c)* - papers published in Arts and Humanities journals; *ISI indexed papers (d)* - papers published in volumes of indexed conference (ISI Proceedings); *BDI indexed papers* – articles published in foreign journals indexed BDI or articles published in B+ journals (CNCSIS); *CNCSIS (B) articles* – articles published in national CNCSIS journals (B category). The following weights were used: *ISI indexed papers (a)* – 0,8; *ISI indexed papers (b)* – 0,6; *ISI indexed papers (c)*– 0,6; *ISI indexed papers (d)* – 0,4; *BDI indexed papers* – 0,2; *CNCSIS (B) articles* – 0,05.

#### 4. THE MAIN RESULTS OF RESEARCH

The results of the study, structured on the main objectives can be summarized as follows:

➤ ***I. Identifying factors that influence motivation and performance in academic research***

In this paper we analyzed over 200 papers on motivation and productivity of people in academia.

Regarding the factors influencing *research motivation* of the professors, the reviewed studies have identified the influence of the following factors: money / payment / material rewards, prestige,



appreciation of work done, good working conditions, support for personal problems, involvement in decision making, job security, loyalty regarding the employees, freedom in the choice of subjects to be taught, promotion and professional development/ career development, the teaching field, intellectual challenges, social status, professional recognition, contribution to the development of new knowledge, personal pleasure, participation in professional organizations and development of new processes / products, cultural differences (individualism / collectivism, egalitarianism / hierarchy).

Factors that influence *productivity* that were identified in the analysis are: age, the researcher domain, academic pedigree, academic environment where the researcher work, personal circumstances, experience, life cycle, year when the Ph.D. degree has been obtained, desire to promote and financial rewards.

The link between these two elements, motivation and productivity has been analyzed from different angles: intrinsic / extrinsic factors, desire to promote, study plan graduated, Ph.D. program graduated, affiliation, individual/ collective determinants etc.

Based on the theories and factors influencing motivation and productivity, types of variables included in the model, can be seen in Table 2.

**Table no. 2. Variables included in the model**

<b>Independent variables</b>	<b>Dependent variables</b>	<b>Moderating variables</b>	<b>Mediating variables</b>
<b>Motivation:</b> Pleasure Challenge Recognition Rewards	Productivity	Age , Sex, Income, Professional degree, Teaching hours, Research hours	Research hours

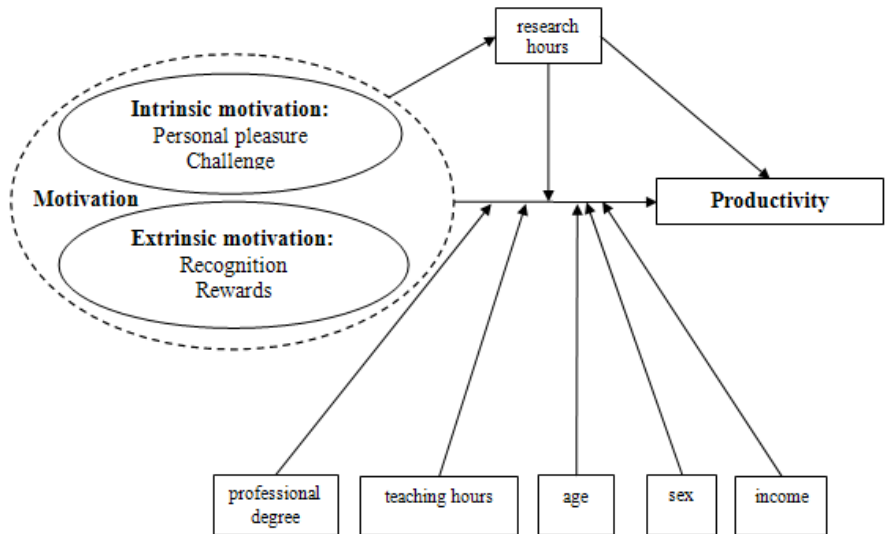
*Source:* author representation

➤ ***II. Developing a suitable model to measure motivation and productivity of economics professors in Romania***

The selected scale to measure motivation (Work Preference Inventory) was tested and purified by four tests: expert opinions, Q-sorting, internal consistency analysis and confirmatory factor analysis. The tests revealed a number of items with issues. Those items were nominated for elimination and re-analyzed in the model testing.

➤ ***III. Developing a motivation - productivity model for professors of economics and business administration from Romania***

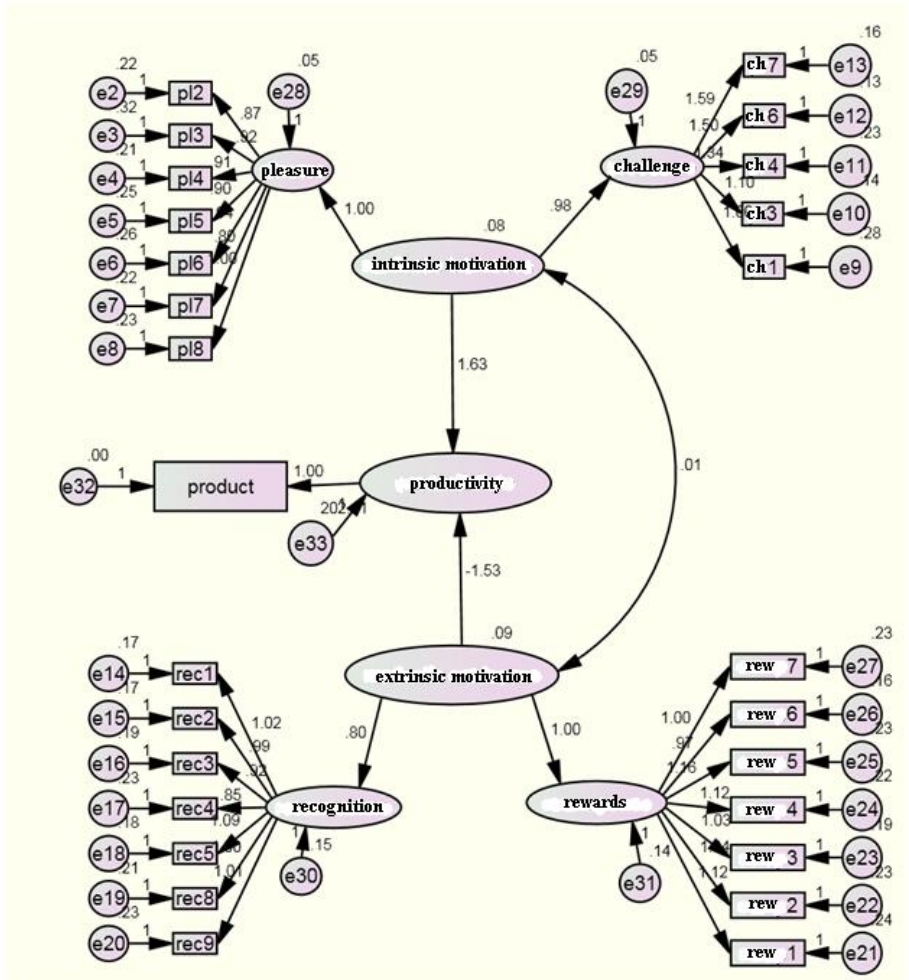
Based on the literature a conceptual model was realized and then was tested (figure no. 1.). Each of the arrows in the model represent a research hypothesis.



**Figure no. 1. Preliminary representation on motivation-productivity model**

*Source:* author representation

Using structural equation modeling it was tested both the measurement model (for each latent variable) and the structural model which test the relationship between the latent variables analyzed. Values for the regression coefficients indicate that both extrinsic and intrinsic motivation significantly influence the productivity. Interpretation of coefficients is like in the regression equation case. Thus, if intrinsic motivation increase with a unit, productivity will increase by 1.63 units. In the extrinsic motivation case, the relationship is inverse (given by a minus sign). For an increase of one unit of extrinsic motivation the productivity will decrease by 1.53 units (figure no. 2).



**Figure no. 2. Specification of the second order structural model**

*Source:* author representation

Also it was tested the influence of the mediating variables and moderating on the motivation – productivity relationship.

The analysis led to the following results:

**H1:** Motivation is a two-dimensional construct reflective in nature -  
Confirmed

**H2a:** Intrinsic motivation influences academic productivity -  
Confirmed

**H2b:** Extrinsic motivation influences academic productivity -  
Confirmed

**H3:** Academic degree moderates the relationship between motivation  
and productivity - Unconfirmed

**H4:** Teaching hours moderates the relationship between motivation and  
productivity - Partially confirmed

**H5:** Age moderates the relationship between motivation and  
productivity - Unconfirmed

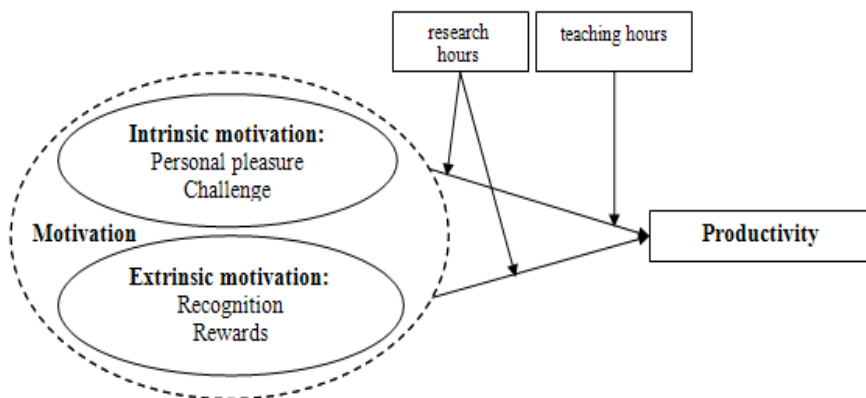
**H6:** Sex moderates the relationship between motivation and  
productivity - Unconfirmed

**H7:** Income moderates the relationship between motivation and  
productivity - Unconfirmed

**H8:** Research hours moderates the relationship between motivation and  
productivity - Confirmed

**H9:** Research hours mediates the relationship between motivation and  
productivity - Unconfirmed

The final model proposed retains only confirmed links (figure no. 3).



**Figure no. 3. Motivation-productivity model representation**

*Source:* author representation

➤ ***IV. Providing some guidelines for increase the motivation of economics and business administration professors***

From the analysis of the survey results, to increase the visibility of a university from Romania, both nationally and internationally, it is indicated that managers take into account:

- the application of a test of motivation to increase the score of intrinsic motivated or highly intrinsic motivated candidates;
- the application of motivation techniques specific to each type of motivation to encourage publication of articles with greater impact;

- to provide rewards for researchers with low-income to increase their productivity;
- to encourage completion of doctoral studies;
- to maintain a reasonable number of teaching hours per teacher.

## 5. CONCLUSIONS

In conclusion, *personal contributions* can be summarized as follows:

– *In theoretical terms*

We analyzed two areas (motivation and productivity of academic teachers) generally treated separately in the literature. In the analysis we identified factors that influence motivation and productivity of professors of economics and business administration, being assembled in a single model.

– *In methodological terms*

We proposed a methodology for quantifying productivity, adapted to the Romanian specific. We have also developed and tested a motivation - productivity structural model by SEM analysis.

– ***In fundamental terms***

We developed and tested a motivation-productivity model on the Romanian market for professors of economics and business administration. In literature we did not find any other model to test this link.

– ***In terms of applicability***

The analysis led to the development of possible solutions to increase professors of economics and business administration productivity, in Romania. The study may help managers (at the micro level - institutional or macro level - national) to better understand the behavior of teachers in terms of research and help hiring the right people, in accordance with the objectives of the institutions concerned.

***Research limits***

One of the research limits is the fact that productivity data were quantified only for a period of five years (2006-2010), because information for previous years are not available.

Regarding the sample, were not included in the analysis than state universities. Data can not be extrapolated to private universities. There were no answers for University of Pitesti (state university) and the results can not be extrapolated to the teachers at this university.



### ***Future directions of research***

As future research direction would be useful to form a sample containing teachers of private universities. Thus, we can check if there are productivity differences between teachers working in the state system and those working in the private sector. Also, in future studies can be analyzed new factors that may affect motivation and productivity, such as marital status, number of children, if performed, or not, internships abroad etc.

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