

ADVANCES IN BUSINESS-RELATED SCIENTIFIC RESEARCH JOURNAL



ISSN 1855-931X

VOLUME 6 (2015), NUMBER 2

CONTENTS:

- HOUSEHOLD FINANCE MANAGEMENT EFFECTIVENESS OVER THE LIFE CYCLE**
MARTA MUSIAŁ 89
(JEL CLASSIFICATION: D14, D10, G32)
- BUILDING BLOCKS OF NEGOTIATION POWER: A STUDY OF TOP AND MIDDLE MANAGERS IN OMAN**
IMAN M. AL-TOUBI QABOOS A. AL-KEYOUMI ALEXANDRE A. BACHKIROV 101
(JEL CLASSIFICATION: M12, M54, J53)
- COMPETITIVE SUSTAINABILITY WITHIN RESEARCH INSTITUTIONS. CASE STUDY: CENTRE OF COMPETENCE FOR SPACE TECHNOLOGIES – STARWALKER**
CRISTIAN VIZITIU MIHAELA MARIN ALEXANDRU NISTORESCU VLAD VĂLEANU
PIERRE DE HILLERIN 111
(JEL CLASSIFICATION: L20, Q01, M10)
- SUSTAINABLE MUSEUMS FOR SUSTAINABLE DEVELOPMENT**
IZABELA LUIZA POP ANCA BORZA 119
(JEL CLASSIFICATION: Q01, L26, O10)
- BURDEN SHARING AND OPTIMAL STATE AID SCHEMES**
MARC JEGERS CAROLINE BUTS 133
(JEL CLASSIFICATION: L50, L00, H70)
- WORD OF MOUTH, PERCEIVED RISK AND EMOTIONS, EXPLAINING CONSUMERS' COUNTERFEIT PRODUCTS PURCHASE INTENTION IN A DEVELOPING COUNTRY: IMPLICATIONS FOR LOCAL AND INTERNATIONAL ORIGINAL BRANDS**
MISBAH KHALID SALEEM UR RAHMAN 145
(JEL CLASSIFICATION: M14, M31, M10)
- EU GROWTH STRATEGY INDICATORS 2020 AND ECONOMIC GROWTH: AN EMPIRICAL INVESTIGATION FOR EU-27 COUNTRIES**
AYNUR PALA 161
(JEL CLASSIFICATION: O47, O40, O52)

EDITOR: BOSTJAN ANTONCIC

<p>ABSRJ - mednarodna znanstvena revija ADVANCES IN BUSINESS RELATED SCIENTIFIC RESEARCH JOURNAL</p> <p>ISSN 1855-931X</p>	<p><i>Copyrights: GEA College – Faculty of Entrepreneurship</i> <i>Editor: Bostjan Antoncic</i> <i>Issued and published by: GEA College – Faculty of Entrepreneurship, Dunajska cesta 156, SI- 1000 Ljubljana, Slovenia</i> <i>Volume (Year): 6 (2015)</i> <i>Number: 2</i> <i>Electronic publication: www.absrc.org</i> <i>Number of issued CDs: 200</i></p>
--	---

SCOPE

Advances in Business-Related Scientific Research Journal (ABSRJ) is an international journal, which publishes scientific papers on diverse topics on business and economics and business-related sciences research. The aim of the journal is to publish new, contemporary, and quality research, including conceptual and empirical research papers. The papers are subject to double blind peer review. The journal is open and encourages the use of various research methods (conceptual development, various univariate and multivariate quantitative methods, various qualitative methods including case studies, action research, ethnographic research, etc.).

Diverse business and business-related issues are covered in ABSRJ, which include, but are not limited to, the following topic groups:

Business strategy	Management consulting
Change management and organizational development	Management education, training and development
Conflict management	Managerial and organizational cognition and psychology
Critical management	Marketing and consumer behavior
Economic growth	Microeconomics
Economics for business decisions	Natural sciences and business
Entrepreneurship	Organizational behavior
Gender, diversity and social issues	Organizational information and communication systems
Human resource management and career development	Organizations and financing
Humanities and arts and business	Production and operations management
Industry, area or region specific studies	Research methods
International business	Social sciences and business
Language in organizations	Sustainable development
Law and business	Technology and innovation management
Macroeconomics	

SUBMISSIONS

The expected research papers' length is about 7,000 to 8,000 words, but also shorter or longer contributions may be considered. Submissions should be sent to:
absrj@absrc.org

EDITOR

Bostjan Antoncic, University of Ljubljana, Ljubljana, Slovenia

SCIENTIFIC EDITORIAL BOARD

Prof. Dr. Suavi Ahipasaoglu, Okan University, Istanbul, Turkey
Prof. Dr. Bostjan Antoncic, University of Ljubljana, Ljubljana, Slovenia
Prof. Dr. Silviu Beciu, University of Agronomic Sciences and Veterinary Medicine Bucharest, Bucharest, Romania
Prof. Dr. Heri Bezic, University of Rijeka, Rijeka, Croatia
Prof. Dr. Ionel Bostan, University "Stefan cel Mare" of Suceava, Suceava, Romania
Patrycja Chodnicka, University of Warsaw, Warsaw, Poland
Prof. Dr. Alex F. DeNoble, San Diego State University, San Diego, California, U. S. A.
Prof. Dr. Giorgio Dominese, LUISS University Rome, Rome, University of Udine, Udine, University of Rome Tor Vergata, Rome, Italy
Prof. Dr. Doris Gomezelj Omerzel, University of Primorska, Koper, Slovenia
Prof. Dr. Dietmar Grichnik, University of St. Gallen, St. Gallen, Switzerland
Prof. Dr. Katherine Gundolf, GSCM - Montpellier Business School, Montpellier, France
Prof. Dr. Robert D. Hisrich, Thunderbird School of Global Management, Phoenix, Arizona, U. S. A.
Dr. Nicholas S. Jewczyn, Ashford University, San Diego, California, U. S. A.
Prof. Dr. Ronald C. Johnson, American Public University, Charles Town, West Virginia, U. S. A.
Dr. Renata Karkowska, University of Warsaw, Warsaw, Poland
Dr. Claudine Kearney, University College Dublin, Dublin, Ireland
Prof. Dr. Ekaterina Kostina, Novosibirsk State Pedagogical University, Novosibirsk, Russia
Prof. Dr. Abey Kuruvilla, University of Wisconsin Parkside, Kenosha, Wisconsin, U. S. A.
Prof. Dr. Leonard H. Lynn, Case Western Reserve University, Cleveland, Ohio, U. S. A.
Prof. Dr. Stephen O. Migirol, Graduate School of Business Leadership, Midrand, South Africa
Prof. Dr. Rickie Moore, EM Lyon, Lyon, France
Dr. Malgorzata Olszak, University of Warsaw, Warsaw, Poland
Prof. Dr. Figen Ozulke, Okan University, Istanbul, Turkey
Prof. Dr. N. Panchanatham, Annamalai University, Tamil Nadu, India
Dr. Mohammed Abdul Raffey, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, India
Prof. Dr. Cezar Scarlat, University Politehnica of Bucharest, Bucharest, Romania
Prof. Dr. Seval Selimoglu, Anadolu University, Eskisehir, Turkey
Prof. Dr. Gangaram Singh, San Diego State University, San Diego, California, U. S. A.
Dr. Seweryn Spalek, Silesian University of Technology, Gliwice, Poland
Prof. Dr. Stanislav Stofko, University of Zilina, Zilina, Slovakia
Prof. Dr. Dindayal Swain, International Management Institute, Bhubaneswar, India
Prof. Dr. Igor Todorovic, University of Banja Luka, Banja Luka, Bosnia and Herzegovina
Prof. Dr. Jaka Vadnjak, GEA College, Ljubljana, Slovenia
Dr. Drasko Veselinovic, GEA College, Ljubljana, Slovenia

ABSRJ ACCESS

Advances in Business-Related Scientific Research Journal (ABSRJ) is an open access journal. Licensing conditions are described under a Creative Commons Attribution 3.0 Unported (CC BY 3.0) License.

ABSRJ PUBLICATION ETHICS AND PUBLICATION MALPRACTICE STATEMENT

ABSRJ has the commitment to maintain the highest standards of publication ethics and to take all possible measures against any publication malpractices. Authors, who submit to the journal their works for publication as original articles: (1) declare that the submitted works represent contributions of their authors and that the submitted works have not been copied or plagiarized in whole or in part from other works; (2) acknowledge that they have disclosed all conflicts of interest with their work (any actual or potential conflicts of interest or partial benefits associated with the work).

The ABSRJ publication ethics and malpractice statement contains the following subjects:

A. Publication and authorship issues: (1) authors need to include a relevant and proper list of references and an appropriate notation, when they received financial support; (2) authors shall not use plagiarism or fraudulent data; (3) it is forbidden to publish same research in more than one journal.

B. Responsibilities of authors: (1) authors may be asked but are not obliged to participate in peer review processes; (2) all authors need to have significantly contributed to the published research; (3) all data in published research are real and authentic; (4) authors are obliged to provide disclaimers or corrections of mistakes.

C. Responsibilities in peer review processes: (1) reviewers should minimize subjectivity of their judgments; (2) reviewers should have no conflict of interest related to the authors, the research or the research funders; (3) reviewers should indicate relevant published work that has not been cited; (4) the treatment of reviewed articles should be confidential.

D. Responsibilities of editors: (1) editors have complete responsibility and authority to reject or accept a research work; (2) editors should have no conflict of interest related to research works they reject or accept; (3) editors should accept a research work only when reasonably certain; (4) editors are obliged to promote disclaimers or corrections of mistakes; (5) anonymity of reviewers should be preserved.

E. Publishing ethics: (1) the publishing ethics is monitored by the editorial board; (2) research works not following the publication ethics will be retracted; (3) the integrity of the academic record should be maintained; (4) business needs that would compromise intellectual and ethical standards are prohibited; (5) we are always willing to publish corrections, clarifications, retractions and apologies when needed; (6) no research works should be based on plagiarism or fraudulent data.

ABSRJ IS LISTED/INDEXED IN

DOAJ Directory of Open Access Journals
EBSCO - Business Source Elite
EconBiz - Virtuelle Fachbibliothek Wirtschaftswissenschaften
Elektronische Zeitschriftenbibliothek EZB (Electronic Journals Library)
Journal Finder
Journalseeker Researchbib
New Jour - Electronic Journals & Newsletters
Search-Document
WorldCat



ISSN 1855-931X

HOUSEHOLD FINANCE MANAGEMENT EFFECTIVENESS OVER THE LIFE CYCLE¹

Marta Musiał

University of Szczecin, Faculty of Management and Economics of Services

Poland

marta.musial@wzieu.pl

Abstract

The article concerns the problem of household finance management effectiveness. Effectiveness is not clearly defined, thus the literature is full of different approaches to this phenomena. Most of them concern effectiveness of organizations. Because of that, author has tried to adapt the chosen approaches to household and construct the evaluation model of the effectiveness. The research², which was conducted in Poland, in Western Pomerania Province, shows that we can measure effectiveness of household in few different dimensions. Moreover what seems to be interesting are the changes of household finance management effectiveness over the life cycle.

Keywords: household finance, effectiveness, life cycle

Topic Groups: Gender, diversity and social issues, Marketing and Consumer Behavior, Microeconomics

JEL Classification: D14, D10, G32

INTRODUCTION

Problem of effectiveness, defined in different contexts is an issue quite widely described in literature in relation to functioning of enterprises. Problem is still current due to lack of clear definition of effectiveness as a term and different approaches to research. This problem in relation to functioning of household is not a new problem – it exists since the beginning of household finance science and effectiveness of markets. Effective management of household finance is the process of raising funds, while maintaining a level of costs, which leads to

¹ The article is the result of the research project nr 2013/09/N/HS4/03697 funded by National Science Centre in Poland.

² The research was co-financed by the European Union under the European Social Fund and the State Budget Sub-measure 8.2.2 Human Capital Operational Programme 2007-2013 (w ramach projektu „Inwestycja w wiedzę motorem rozwoju innowacyjności w regionie - II edycja” współfinansowanego przez Unię Europejską w ramach Europejskiego Funduszu Społecznego i Budżetu Państwa Poddziałanie 8.2.2 Programu Operacyjnego Kapitał Ludzki 2007-2013).

increased wealth and standard of living of the household (Świecka, 2009). The structure of income and household expenditures varies over the life cycle. Different phases are related to other financial needs that are expressed in the form of financial goals. Financial goals of young singles are set due to personal development needs. During the "working years" people set financial goals so they are focused on maintaining a family gathering assets and securing the future. However, in the time of retirement financial goals of people are related to the safe and joyful lifestyle. The evolution of financial goals over the life of the individual is called financial life cycle (English et al., 2003). Therefore, one can hypothesize that there is a correlation between the level of efficiency of financial management and financial household life cycle. The purpose of this article is to evaluate the effectiveness of the financial management of Polish households over the life cycle.

THEORY

The term " efficiency " is derived from the Latin word "efficio", which means: to do, to finish, to draw, to make, to fulfill (Rybicki, 2005). W. Rybicki (2005) defines efficiency as a component of the three characteristics: effectiveness, proficiency and relevance. In the literature, "efficiency" and "effectiveness" are often used interchangeably with other terms, such as "profitability", "proficiency", "productivity", "benefits", "economy".

The first models of effectiveness have been of a one-dimensional character. This means that for the assessment of the successes and failures of the organization a single measure has been used. Usually (Steers 1975):

- overall assessment made by the members of the organization or external judges;
- productivity, usually measured by the size of the product;
- employee satisfaction;
- profit or capital payback period concerned.

In the table 1, an attempt to adapt selected one-dimensional approaches to effectiveness of the operation of the household has been done.

Table 1: Household one-dimensional approaches to effectiveness

Approach interpretation of effectiveness	Definition of household's effectiveness
Teleological approach	The effectiveness is expressed by the targets at the lowest possible cost incurred.
System approach	Effectiveness is the ability of a household to overcome the uncertainty arising from the environment and to use environment in such a direction that they encourage the development of the household.
Traditional approach	Effectiveness means saving - lower costs (expenses) by reducing losses and waste of resources (materials, products, services, time, force), which household possesses.
Holistic approach	Effectiveness is achieved through good relationships, appropriate division of labor between household members, as well as planning and attention to all aspects of the household (finance, development of household members, property repairs, etc.)

Evolutionary model approach	The effectiveness is achieved in many ways through functioning of the household. It is a powerful, competitive, efficient, communicative and moral functioning of the household respectful of nature.
-----------------------------	---

Analyzing effectiveness approaches in scientific achievements in the field of organizational management, economics, corporate finance, public finance and banking, as well as sociology, psychology, mathematics and other scientific fields an attention should be paid to multidimensional approach to effectiveness, such as:

- six variables efficiency by D. J. Lawless (1979);
- evolutionary model by M. Holstein-Beck (1997);
- four-dimensional model of efficiency by H. C. Pfohl (1998);
- 7-efficiency multi-dimensional approach by M. Bielski (1992);
- four balanced scorecard perspectives by R. S. Kaplan and D. P. Norton (2001);
- two-dimensional matrix (9 variables) model efficiency by G. A. Rummler and A. P. Brache (2000);

Multi-dimensional approach by M. Bielski (1992) will be further discussed, which takes seven dimensions of efficiency for the needs of its multi-criteria evaluation:

- tangible (tangible effectiveness), which describes how the organization is effective in addressing specific social needs or the extent to which it achieves its exterior goals;
- economic (economic efficiency), which includes the criteria expressing the relationship between the effects and expenditures, in different ways. If those are the ratios of the effects to the investment, the criteria are performance (people, equipment), productivity (fixed assets) and profitability. This corresponds to the praxeological term of economy. If those are the differences between the effects and expenditures it is a measure of profit (corresponding to the praxeological benefits);
- system (system efficiency) is an expression of the health of the system and its ability to exist in a given environment. The criteria for this dimension are long-term goals of the organization: survival and development, and its ability to change, ie adaptation to the environment. Development and adaptation will be expressed in the growth of the organization, investments, entering into new lines of business, mastery of new markets, etc.;
- "political" (political efficacy) refers to the interaction of an organization with the environment. At the same efficiency of processing (transformation) the effectiveness of the organization may vary, depending on the skillful placement of orders, dexterity in trade negotiations, the right choice of investment location, etc. The "political" activities can also be addressed within the organization and targeted to obtain possible best (for organizations) conditions of participation of people, such as overtime hours, high-intensity efforts, limiting wage claims. The criteria of political dimensions may include its bargaining positions in relation to the environment, monopoly power, and finally bargaining position in negotiations with employees or, more widely put: participants in the organization.;
- political, which refers to the efficiency of the organization in consolidating country's existing socio-political order. It is the efficiency of the organization from the point of view of the interests not of itself but the ruling class or political group ;
- cultural (cultural efficiency), which refers to the ability of the organization to perpetuate the values and standards that help maintain the cultural identity of the

society, as well as their contribution to the development of culture and its adaptation to the changes in culture on the world's scale;

- behavioral (behavioral efficiency) includes criteria such as job satisfaction, intensity of internal conflicts, employee morale, etc. It expresses the interests of the participants and the organization is mainly assessed from their point of view, but not only. The effectiveness of the organization in this dimension may raise its effectiveness in other dimensions: tangible, economic, system. It can also be positively correlated with the political dimension - the conflicts in the workplace, exceeding a certain severity, can be easily transformed into political conflicts.

Based on the discussed concept of multidimensional efficiency it is proposed to approach the efficiency of the household according to the following dimensions: economic, praxeological, behavioral, social, system. The economic dimension includes criteria for expressing the relationship between the effects and expenditures and analyzes the financial situation of the household. Praxeological dimension boils down to the evaluation of the household in terms of the achievement of its objectives. Behavioral dimension expresses satisfaction level of finances as well as fulfillment of the individual needs of household members. The social dimension refers to the relationship of the household to its environment. System dimension expresses the ability of a household to overcome the uncertainty arising from the environment, or adapting and achieving objectives such as survival and development (Zdanowska 2011). The first initial conceptualization of this approach is presented in Table 2.

Table 2: Concept of evaluation of the effectiveness of personal finance management

The dimension of personal finance management performance	Efficiency criteria of personal finance management	Examples of indicators of effectiveness criteria of personal finance management
The economic dimension	profitability	<ul style="list-style-type: none"> - amount of expenditure; - amount of expenditure per person; - the ratio of expenses to income; - ratio of recurrent expenditure to total expenditure; - level of debt; - the ratio of debt to the value of the property; - ratio of monthly debt to monthly income;
	productivity, efficiency	<ul style="list-style-type: none"> - level of income; - level of income per capita; - cost savings; - amount of savings per person;
	profitability	<ul style="list-style-type: none"> - increase in the value of assets;
Praxeological dimension	achievement of financial goals	<ul style="list-style-type: none"> - degree of financial objectives realization; - the amount of expenditure on financial objectives; - amount of the costs of financial objectives;

Behavioral dimension	morale	<ul style="list-style-type: none"> – sense of security; – financial satisfaction of individual members of the household;
	climate	<ul style="list-style-type: none"> – relationships; – number of conflicts over budget; – behavior of household members in accordance with the approved financial targets;
The social dimension	public perception	<ul style="list-style-type: none"> – widespread confidence in the members of the household; – regulation of financial liabilities; – providing financial assistance to those in need; – level of spending on ecology;
	support from outside	<ul style="list-style-type: none"> – financial dependence; – size of grants, scholarships, etc. welfare; – volume of loans from family, friends;
System dimension	development	<ul style="list-style-type: none"> – value of investments; – the number of household members improve their qualifications; – value of spending on education / development of household members;
	adaptation	<ul style="list-style-type: none"> – reducing variable costs; – reducing recurrent expenditure; – purchase of new technology to reduce the cost (eg. energy); – amounts of funds for rainy days;
	survival	<ul style="list-style-type: none"> – household financial balance; – the degree of vulnerability to poverty – the degree of insolvency, bankruptcy.

METHODS

The survey was conducted in the Western Pomerania province in Poland. The selection of the region has been based on the indicators of income, expenditure and material well-being of the inhabitants of the region (see Table 3). Western Pomerania province is characterized by the average results of these indicators.

Table 3: Characteristics of the Polish provinces in terms of income, expenditure and material well-being

Polish Province	Income*	Expenditure**	Material well-being
woj. dolnośląskie	106,90%	107,60%	0,04
woj. kujawsko-pomorskie	88,70%	89,60%	-0,19
woj. lubelskie	82,60%	87,40%	-0,22
woj. lubuskie	96,30%	95,80%	-0,01
woj. łódzkie	99,20%	103,10%	-0,11
woj. małopolskie	93,10%	94,30%	0,06
woj. mazowieckie	133,80%	128,80%	0,17

woj. opolskie	101,20%	101,70%	-0,03
woj. podkarpackie	75%	80,20%	-0,22
woj. podlaskie	97,20%	89,60%	0,02
woj. pomorskie	105,60%	101,70%	0,05
woj. śląskie	100%	104,80%	0,02
woj. świętokrzyskie	87,60%	83,30%	-0,32
woj. warmińsko-mazurskie	86,80%	83,50%	-0,11
woj. wielkopolskie	90,20%	88,40%	-0,04
woj. zachodniopomorskie (Western Pomerania Province)	98,80%	98,40%	0,06

Source: GUS, *Sytuacja gospodarstw domowych w 2012 r. w świetle wyników badań budżetów gospodarstw domowych*, http://www.stat.gov.pl/gus/5840_1160_PLK_HTML.htm (26.10.2013); *Diagnoza społeczna 2013*, Czapiński J., Panek T. (red.), www.diagnoza.com (26.10.2013).

* ratio of the average monthly disposable income for 1 person in the household compared to the national average in 2012

** index of average monthly expenditure for one person in the household compared to the national average in 2012

The size of the population of the West Pomeranian province was determined based on the National Census of Population and Housing 2011 and amounts to 1,722,739 inhabitants. Using equation in table 4, the research should be concluded on around 384 households with 5% accepted error.

Table 4: The formula for the calculation of the research sample

$n = \frac{Z^2 [P(1 - P)]}{e^2}$	<p><u>Descriptions for equation:</u> P – evaluated proportion in population; e – accepted error; n – trial size; N – population size; Z – Z value coming from assumed level of confidence (for 95% of confidence Z – 1,96)</p>
----------------------------------	---

Survey questionnaire has been well developer – it contained 23 complex questions. The results of study portrayed later concern only chosen parts of the survey. The tests were carried out using an electronic questionnaire (CAWI³) and a paper questionnaire (PAPI⁴). Non-random selection method of typical units has been used during direct questionnaire pilot research, with an aim of testing questionnaire. Group for direct research has been drawn using the method of random selection. Method of selection of respondents for the online survey will be recruiting selection method, in the form of voluntary panels. In the People over 18 years old (of age), who had managed household finances alone or jointly with another person participated in the study. Among the study group, women accounted for 52%, men 48%. Single households and two-people households dominated the study, which together accounted for over 60% of the study population.

³ Computer-Assisted Web Interview

⁴Paper & Pencil Interview

Table 5: Stages of the survey

Research stages	Research sample	Research method	Period of time
first – test research	50	PAPI	November 2013
Second – survey research	384	CAWI, PAPI	November/December 2013

FINDINGS

One of the questions given to respondents concerned determination of how did standard of living of their household change in the period of the last five years. Almost half of the respondents stated that the standard of living of their household did not change, while 32% felt that this level has improved. Only 18% claimed to have deteriorated in the standard of their lives.

Using several questions regarding factors selected from Table 2 multidimensional effectiveness of the household has been evaluated. Figure 1 shows the relation between the following dimension of effectiveness and the change of the standard of living of the household. It's fair to say that there is a relationship between the general quality of life and the various dimensions of efficiency of household's functioning. For most dimensions, with the exception of the behavioral dimension, along with the deterioration of the standard of living decreases the efficiency of the household. In addition, it is worth noting that the effectiveness of praxeological dimension, behavioral and social assessment is much higher than economic efficiency.

Figure 2 shows how the standard of living of households changed according to the phase of development. Among the groups in which many respondents had indicated that their standard of living of their household has had improved, are: elderly couples (50%), people without children (47%), married couples with children under 18 years of age (45%) , young and childless marriages (44%) and multiple generations households (42%). In contrast, the deterioration of the living standards of household concerned mostly single parents with children under 18 years of age (53%) and lone elderly people (28%).

Figure 1: Multi-dimensional approach to household finance management effectiveness

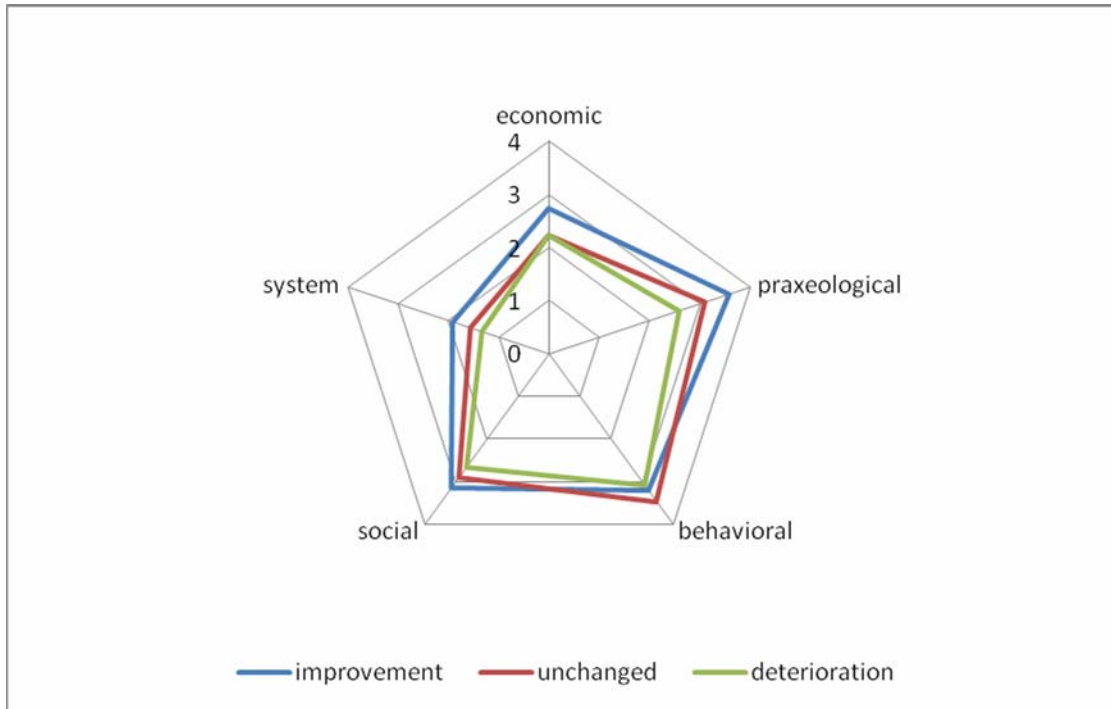
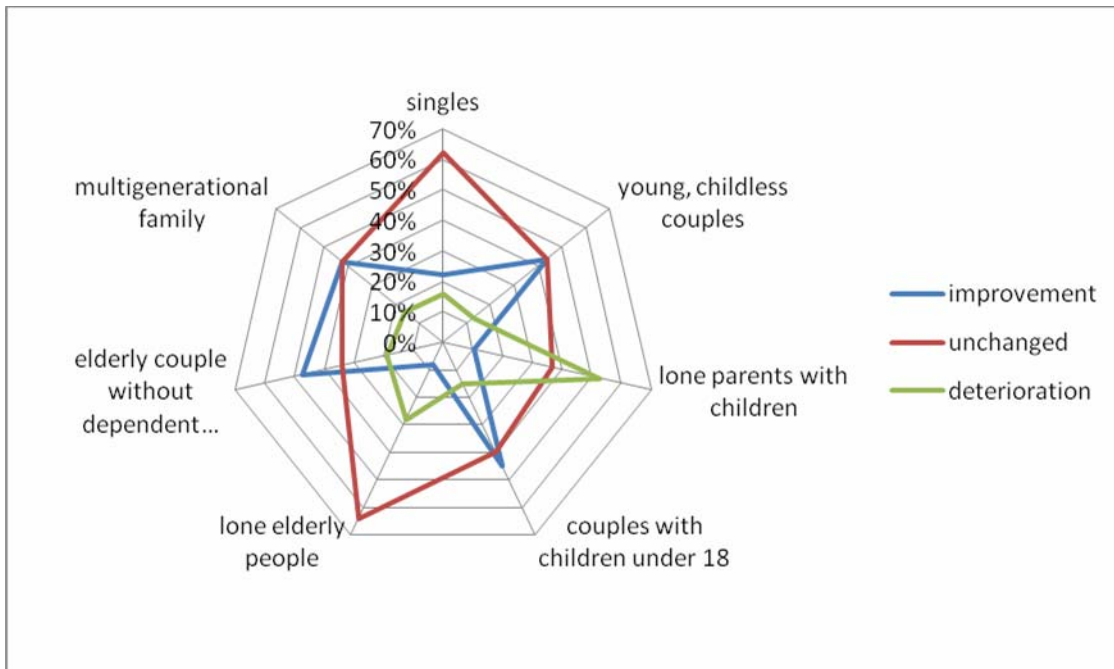


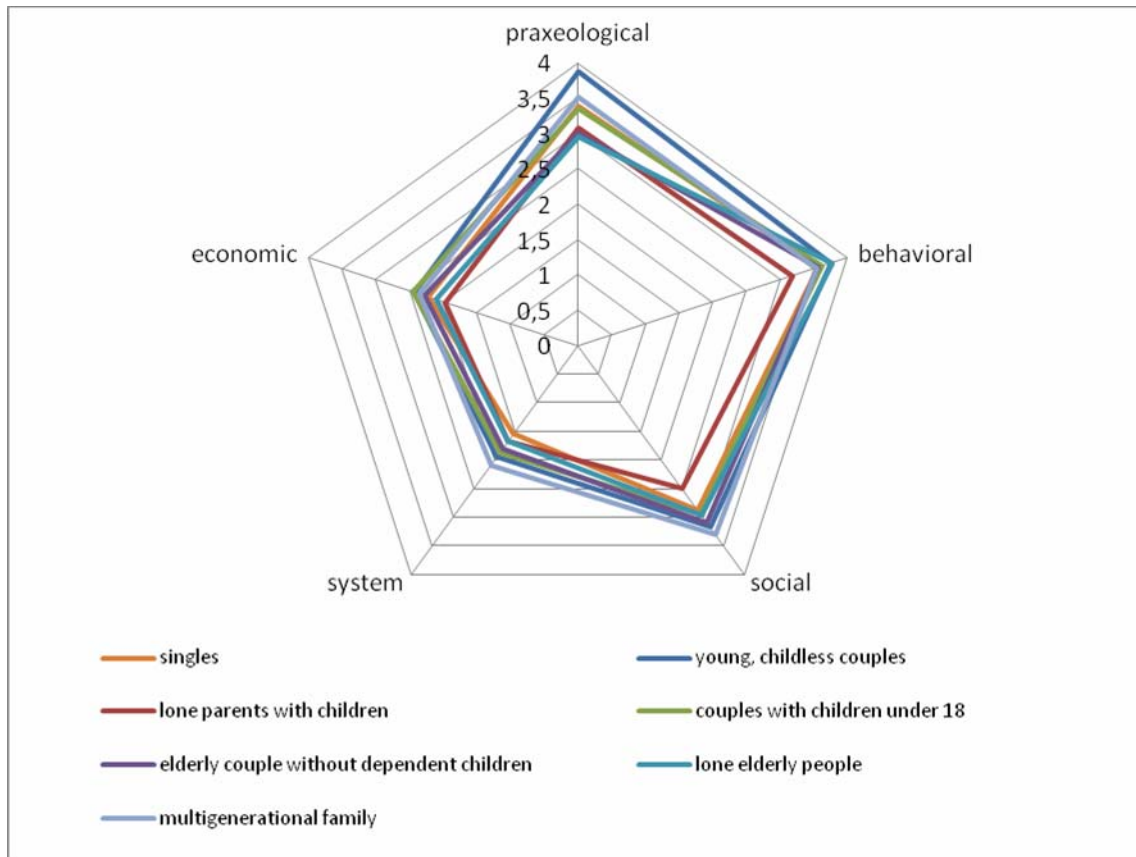
Figure 2: Changes in the standard of living of the family life cycle



The highest economic efficiency characterized the married couples with children under 18 years of age and young and childless marriages. In behavioral aspect leaders are lonely elderly and young people and childless marriages in aspect of society - young, childless marriages, and elderly couples without dependent children. in the system aspect - multiple generations families and young, childless marriages. The praxeological aspect is led by

young, childless marriages, and multigenerations families . To summarize the most effective group are young, childless marriages (see figure 3).

Figure 3: Changes in the standard of living according to family life cycle



DISCUSSION

Many current research are devoted to consumer behavior, household finances and economic situation of households. Consumer reviews about their quality of life and forecast of changes in this level are an important element of the analysis of many companies. According to research, 33% of respondents believe that their standard of living has improved in the past five years. TNS Consumer Index⁵ amounting to - 12.8 in May 2014, shows continuous pessimism among Poles. Important is that this index increases from month to month, which may suggest that the Polish households have adapted to new realities and most of them already know how to survive, and some (33%, who in the study pointed to improvement of their quality of life) are able to develop and prosper due to the use of the environment. According to Genworth Index⁶ for the year 2012, only 1% of households in Poland had a sense of financial security. It can be assumed on the basis of studies that this group had grown. However, it should be kept in mind that improving the standard of living of household need not to be synonymous with a sense of financial security.

In addition, according to studies, the most efficient at financial management are young, childless marriages/couples. This might be the result of extended working time, ie young

⁵ <http://www.tnsconsumerindex.pl/index.php?month=2014-05>

⁶ http://www.genworth.pl/dam/Europe/PL/PDFs/Policyholder/Product/consumer-security-vulnerability-genworth_index_en.pdf

people without children want to as quickly as possible establish financial independence and purchase their own apartment/house. According to a study of ING Bank Slaski⁷ Poles do not like to rent apartments, therefore the aim of almost every young Pole is to get the capital to purchase their own property. Hence, they often work in several places or execute several projects, work over hours, which on the one hand, translates into higher revenues, and on the other to lower costs (while at work they do not have the time to spend the money).

It is worth noting that the study group have shown a higher score for praxeological rather than economic efficiency, which may indicate a low financial awareness of Poles. Respondents believe that they are managing finances by setting financial goals and, more importantly believe that those goals are being achieved by them. Why therefore are they reaching a low economic efficiency, i.e. their financial situation deteriorates? On the one hand, it may be the result of poorly defined financial goals, on the other hand, unfortunately it might be associated with survey research, that might incline respondents to show higher self-esteem when fulfilling the survey .

This article presents only a small portion of the study of the effectiveness of financial management of households in Poland. Knowledge of household finance management, with special mention of factors its influencing as well as measures of effectiveness of this management, is a point of interest for many specialists and institutions. In times of crisis institutions of financial sector are searching for new solutions that could be better adjusted to current economy. Model of effectiveness evaluation of financial management, will become a new tool, which will allow to better evaluating particular household with a debt or looking for a credit. From the other side, based on research, good practice will be worked out, which training companies or financial advisors could use in their practice to help society better manage their finances. Public sector institutions, including: centers for family care, foundations, courts, basing on results of research will be able to more effectively plan social actions.

From consumer's point of view - if people do not understand financial services, then there are not able to choose products fitting them best. It becomes increasingly problematic, because human life (existence) more often and stronger, depends on financial services. Responsibility taken for financial decision lies on people – physical persons, households, which in turn are basic units of an economy. Nowadays financial products become increasingly complex, inducing difficulties in choice between different kinds of them. In some cases, this lack of understanding leads to financial problems and in worst case scenarios to insolvency and bankruptcy.

From economical perspective - if consumer does not know how to make a better choice, market of financial products and services will not function properly. Markets depend on consumer's ability to undertake conscious choices between products. Moreover, enterprises also count on clients to be conscious when it comes to decision making, so they can effectively manage their budget as well as that the chosen products are fitting their needs, which leads to increasing satisfaction for consumer.

⁷ https://www.ingbank.pl/aktualnosci?news_id=1002310%2Cmiedzynarodowe-badanie-ing-polak-gotowy-do-przeprowadzki-ale-niechetny-do-wynajmu

CONCLUSIONS AND IMPLICATIONS

Efficiency of household finance is an important issue from the point of view of the market and the economy of the country. However up until now, more attention was put into effectiveness of companies and markets, omitting the role of households. The problem is still current, and it attempts provide solution, that is necessary in times of financial crisis. Households undertaking financial decisions affect the efficiency of markets and companies. It is important to deepen the knowledge on how to manage finances and what actions are needed to increase the efficiency. According to research, the Poles are characterized by low efficiency, probably due to the low financial awareness and lack of control over their finances. It is also related to psychological factors, ie an approach to life, financial mentality, own principles and beliefs. Most effective at management are young, childless couples, which in comparison with the singles have more revenues from different sources. Compared to couples with children they have fewer dependents and are more dedicated to the job. The later phase of the development is, the less efficiently finances are managed, due to lower financial awareness of the older generation in Poland, as well as the psychological determinants: "Since we have reached our fundamental objectives, why appoint another, we have to live sometime" - people do not analyze, because they pity their time, so they take a lot of inefficient financial decisions. Presented in the article, proposed households' effectiveness evaluation model can be the basis for further scientific consideration, as well as international comparisons.

REFERENCES

- Bielski, M. (1992). *Organizacje: istota, struktury, procesy*. Wydawnictwo Uniwersytetu Łódzkiego, Łódź.
- Emerson, H. (1913). *The Twelve Principles of Efficiency*. New York: The Engineering Magazine Co.
- English, J., Hicks, B., Hrasky, S., & Gyles, N. (2003). *Personal financial management*. Griffin Press.
- Holstein-Beck, M. (1997). *Być albo nie być menedżerem*. Infor Book, Warszawa.
- Kaplan, R. S., & Norton, D. P. (2001). *Strategiczna karta wyników. Praktyka*. Wydawnictwo CIM, Warszawa.
- Kapoor, J. R., Dlabay, L. R., & Hughes, R. J. (2004). *Personal finance*. McGraw-Hill, New York.
- Lawless, D. J. (1979). *Organizational behavior*. New York.
- Pfohl, H. (1998). *Zarządzanie logistyką. Funkcje i instrumenty*. Instytut Logistyki i Magazynowania, Poznań.
- Rummler, G. A., & Brache, A. P. (2000). *Podnoszenie efektywności organizacji*. PWE, Warszawa.
- Rybicki, W. (2005). *O wielostronności, relatywizmie i złożoności kategorii efektywności*. In Dudycz, T. (Ed.), *Efektywność – rozważania nad istotą i pomiarem*. Prace Naukowe Akademii Ekonomicznej, no. 1060, AE, Wrocław.
- Steers, R. M. (1975). *Problems in measurement of organizational effectiveness*. „Administrative Science Quarterly”, no. 4.
- Świecka, B. (2009). *Niewypłacalność gospodarstw domowych. Przyczyny – skutki - przeciwdziałanie*, Difin, Warszawa.
- Zdanowska, M. (2011). *Koncepcja efektywności zarządzania finansami osobistymi*, In Korenik, D. (Ed.), „Finanse i Rachunkowość” Seminarium Doktorantów Edycja VIII, Wyższa Szkoła Zarządzania i Finansów we Wrocławiu, Zeszyt Naukowy no. 32, Wrocław.



ISSN 1855-931X

BUILDING BLOCKS OF NEGOTIATION POWER: A STUDY OF TOP AND MIDDLE MANAGERS IN OMAN

Iman M. Al-Toubi

Sultan Qaboos University, the Management Department

The Sultanate of Oman

iman.altoubi@gmail.com

Qaboos A. Al-Keyoumi

Sultan Qaboos University, the Management Department

The Sultanate of Oman

qaboosalkeyoumi@gmail.com

Alexandre A. Bachkirov

Sultan Qaboos University, the Management Department

The Sultanate of Oman

alexbach@squ.edu.om

Abstract

The aim of this study is to identify the building blocks of power in negotiation and investigate how Omani managers create their negotiation power. We developed a comprehensive model of negotiation power, the MNP. The model incorporates a set of elements distributed across three levels through which negotiation power can be acquired and developed. In addition, the model identifies a range of auxiliary actions and negotiator characteristics critical to the process of creating and using negotiation power. A group of top- and middle-level Omani managers were interviewed to assess the viability and relevance of the model. The results suggest that, although Omani managers do not use some of the elements of the model, they still go through the stages suggested by the model. Another important finding was that Omani managers have distinct auxiliary characteristics which they use to build negotiation power.

Keywords: negotiation power, Oman, negotiations, bargaining

Topic Groups: International business, Managerial and organizational cognitions and psychology, Organizational behavior

JEL Classification: M12, M54, J53

INTRODUCTION

Negotiation is ubiquitous in management behavior both in and between organizations. Neal and Bazerman (1992) define negotiation as “decision making process among interdependent parties who do not share identical preferences” (p. 42) when resolving differences and allocating resources. Negotiation may be motivated by the need to improve relationships among individuals, resolve conflict, distribute scarce resources, get better deals, and maximize joint outcomes. In order to get the best possible outcomes one should possess negotiation power (Kleef, et al., 2006), and be able to fully understand the negotiation process (Bazerman et al., 2000).

We define negotiation power as the art of taking control of a negotiation and making the other party feel as if they have won while one has achieved what was aimed for. However, we note that power is not a one-sided process and can shift from one party to another during a negotiation. This typically depends on a number of factors including changing circumstances, negotiation events, negotiator behaviors, negotiators’ ethics and values, and the process of preference construction by the parties. For that reason, to attain the desired outcomes it is essential to be able to create negotiation power, understand how it works, and be able to manipulate it even if it shifts due to the aforementioned factors.

THEORY

Power has received both theoretical and empirical attention, which produced numerous models and definitions. Perhaps the most well-known definition of power is that provided by Weber (1947), who described power is the probability of a person’s ability to pursue his/her own will despite resistance. Drawing on Weber’s theory, other scholars further developed conceptualizations of power. For instance, French and Raven (1959) identified the five bases of power, Kipnis, Schmidt, and Wilikinson (1980) advanced a typology of influence tactics, and Emerson (1962) proposed a power-dependence theory.

According to French and Raven (1959), there are five bases or sources of power which emerge from various aspects of a relationship between a target of an actor and the actor himself. It is argued that the actor’s power over his/her target is determined by (1) the extent to which the actor is able to give benefits to the target (reward power), (2) the extent to which the actor is able to punish the target if the target does not comply to the actor’s demands (coercive power), (3) the actor’s possession of special expertise or knowledge (expert power), (4) the actor’s legitimate right to prescribe the target’s behavior (legitimate power), and (5) the extent to which the target identifies with the actor (referent power). Subsequently, Raven (1974) added knowledge as the sixth base of power.

Another line of research (Kipnis et al., 1980) focused on categorizing and identifying the tactics commonly used by managers when they attempt to make others comply with their requests. (Kipnis et al., 1980) identified nine dimensions of influence (legitimation, pressure, exchange, ingratiation, coalition, rational persuasion, consultation, inspirational appeal, and personal appeal) and examined how the power relationship of a person with other people can influence the likelihood of using these influence tactics. The findings revealed that

inspirational appeal, pressure, and ingratiation are mostly used in a downward direction; exchange, legitimation, and personal appeal typically employed in a lateral direction; coalition is commonly utilized in upward and lateral directions; finally, rational persuasion is usually applied in an upward direction. Another finding was that consultation, inspirational appeal, and rational persuasion are most effective tactics while legitimation, pressure, and coalition are least effective for the purpose of exerting influence inside organizations.

Finally, the power-dependence theory (Emerson, 1962) implies that, "The power of A over B is equal to and based upon the dependence of B upon A." (p. 32-33). To elaborate, dependence is based on two dimensions: (1) it is inversely proportional to the availability to the outcome at stake via alternative sources, and (2) it is directly proportional to the value endorsed to this outcome. This framework considers power to be non-zero sum in nature, which means that power of each party is determined independently by the other party's dependence. Therefore, relative power is distinguished from the total power in the relationship by this dependence of power.

Even though the above approaches can inform the research on power, none of them offers a comprehensive framework which could be applied in research on negotiation in dynamic contexts. To exemplify, French and Raven (1959) identified the sources from which power may be derived, yet slight attention was paid to the implications of power relations for the tactics used by a power holder. Likewise, the question of how these power sources determine one's power relations to other people was not addressed. Other approaches have similar limitations in that they pay little attention to or disregard others.

Furthermore, the above theories were not necessarily intended to capture the particular types of power dynamics found in the context of negotiation and, consequently, do not sufficiently emphasize how power is created in a negotiation context. In sum, former frameworks address power as a construct, but cannot fully explain where power comes from in negotiations.

Research on Negotiation Power

Within the negotiation domain, several research programs focused on power from a negotiation perspective. For example, Patton (2001) discussed negotiation power from the viewpoint of preparation and maintained that negotiation power is driven by thorough preparation. In order to enhance the negotiation power, one should always be well-prepared, which can increase the odds of a desirable outcome (Patton, 2001). Patton (2001) argued that the main reason why people do not properly prepare for negotiations is their misperceptions. For instance, inexperienced negotiators believe that preparation requires excessively hard work and consumes too much of their time and energy. The negotiation outcome, however, is only determined by the relative "power" and resources of the respective parties. Patton (2001) developed a seven-element approach which aims at maximizing preparation and, consequently, maximizing the negotiation power. The seven elements of preparation are: interests, alternatives, relationships, options, legitimacy, commitments, and communication.

Another influential work focused on the issue of power dynamics in negotiations (Kim et al., 2005) and acknowledged that power affects the performance of a negotiator. Addressing the issue of a cohesive framework of power in negotiations Kim et al. (2005) developed an integrative model which decouples power into four components: (1) potential power, (2) perceived power, (3) power tactics, and (4) realized power.

It is important to note that the existing research only focuses on isolated aspects that may increase the negotiation power of one negotiation party. For instance, Patton (2001) considered only preparation as the ultimate component affecting negotiation power while neglecting other components which affect and shift the negotiation power. Kim et al. (2005), on the other hand, only emphasized the components of power ignoring the question where negotiation power stems from. Importantly, these studies do not integrate all the elements which may be critical for developing negotiation power. Moreover, there have been no empirical attempts to investigate these issues in the Sultanate of Oman. Over the past several decades Oman has seen a remarkable economic growth achieved through a successful collaboration of local workforce and expatriates. Because the local business environment has grown to become truly international, there is an urgent need to examine how Omani managers develop and use negotiation power. For the above reasons, we have developed a comprehensive model which builds on and integrates the previous theories and clarifies how power is created in negotiation.

The Model of Negotiation Power (MNP)

The MNP (Figure 1) focuses on the building blocks of power in negotiations. The model suggests that in order to acquire negotiation power, the negotiator should go through three stages/levels and follow certain steps in each level. By doing this, the negotiator will succeed in developing and maintaining the desired type of power. Each negotiation level contains the elements that help achieve negotiation power. The first level (Level 1) refers to a pre-negotiation phase. Once a negotiation has been scheduled, there are three main things that negotiators should do: seek knowledge, prepare, and practice. Seeking knowledge is defined as (1) seeking information about the negotiation as a whole, about the context of the negotiation, why is it taking place, etc., and (2) seeking information about oneself and about the counterpart in terms of identifying the needs, preferences, priorities, and positions, as well as the other party's track record in negotiations. This knowledge is beneficial because it makes negotiators feel more confident, causes them to be more rational in the decision making process, and protects them from being deceived by others no matter what the context of the negotiation is. In addition, this knowledge is an important step for proceeding with the next element at this particular level – preparation. According to Patton (2001), negotiation power is increased by preparation and, in turn, preparation is achieved through a seven-element framework:

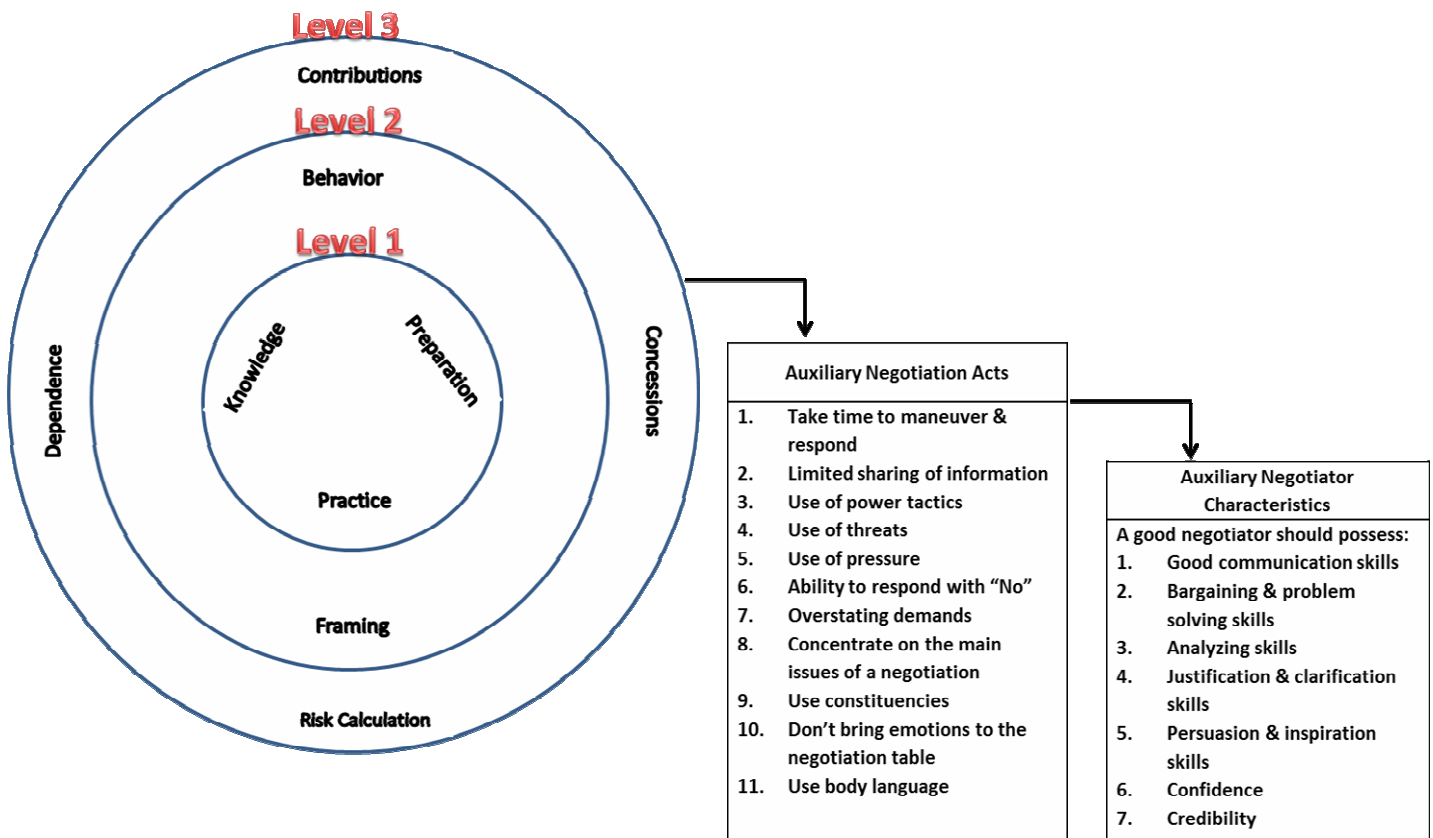
- 1) Interests: identifying interests at stake, purpose of negotiation, desires, concerns, fears, shared interests, and differences.
- 2) Alternatives: deciding on one's action if there is no agreement, an estimation of one's best alternative to a negotiated agreement (BATNA) as well as an estimation of the other side's BATNA.
- 3) Relationships: a negotiator should always seek a collaborative relationship with the counterpart in order to maximize the individual outcome.
- 4) Options: meeting negotiators' interests that require an agreement of the other party; therefore, negotiators should explore how to meet those interests through an agreement, how to maximize shared interests, and how to creatively meet different interests.
- 5) Legitimacy: ensuring that both parties feel they are treated fairly; to achieve that, negotiators should be prepared to persuasively make their best arguments, think of possible arguments both sides might present, and have a good answer to the counterpart's arguments.
- 6) Commitments: options are elements of agreements which only become real when a commitment is made to implement the agreed upon decisions. Commitments allow

the parties to recognize their roles, duties, and actions which must be taken at each step of the negotiation. Having such an agenda ensures that negotiators do not overlook important issues.

- 7) Communication: negotiators should think about all aspects related to communicating with the other party and how to make the negotiation process easier by discussing where to meet, how often, who should attend, the agenda, the roles, and strategies for identifying creative solutions. Once negotiators have sought knowledge and are fully prepared, they should practice by doing trial runs with a friend or a colleague (Patton, 2001). These will help to learn how to respond to the counterpart especially if one is an inexperienced negotiator and does not have much experience.

The MNP suggests that the activities of each level are not carried out in isolation; moving on to the next level means continuing using the elements from the previous stage along with using the elements of the next level.

Figure 1: The Model of Negotiation Power



Level 2 describes the elements which negotiators should use when meeting the counterpart. These include behaviors and framing together with a continuing usage of elements from the first stage. Negotiators should behave in a certain way when meeting their counterpart depending on what they want from the negotiation and the information they have about their counterpart. When negotiators are cannot find sufficient information about the other party at level 1, they can pretend to be unaware at this particular level in order to get information they are seeking. However, this tactic is not always effective in negotiations.

Therefore, negotiators should apply a totally different strategy when dealing with the other party, especially if they have sufficient information and when circumstances are different in terms of time pressure, relationship with the other party, and other factors. It is important that negotiators behave in an assertive way and display high self-esteem. Negotiator behavior can vary depending on the nature and the context of the negotiation. Specifically, negotiator behaviors can be analytical, i.e., driven by the negotiator's process orientation; driven by task orientation and directed goals, and supportive behaviors driven by relationship orientation and focus on feelings.

Despite of the existence of a range of productive behaviors, negotiators sometimes behave in an irritating and aggressive way. The irritating behavior occurs when a negotiator insults the other party by stating or implying that they are unfair or unreasonable and by stating favorable things about themselves, e.g., saying they are exceptionally generous in making an offer to the other party. Also, negotiators may irritate the other party by aggressive questioning, which although may be unintentional, creates a hostile atmosphere, which in turn leaves a negotiator with less power. Therefore, unless it is the purpose to irritate the other party, negotiators should avoid behaving in this way, particularly if they wish to reach an understanding with the other party and acquire negotiation power.

According to the MNP, the behaviors of negotiators are directly influenced by their characteristics (see "Auxiliary Negotiator Characteristics", Figure 1) and skills. For example, if negotiators have good communication, bargaining, and problem solving skills, they would behave differently than when they lack these skills. Framing, which is the second element of this level, refers to negotiators trying to frame or reframe and redefine the problem to present themselves in a favorable light and acquire more power over the other party. For the purpose of framing, some of the auxiliary negotiation actions (Figure 1) may be used, such as "limited information sharing" accompanied by the attempts to modify the other party's perceptions of their own outcomes. This may help to cause the other party to alter their perceptions, create a different perspective on the negotiation, and perhaps shift to a new level of power. Reframing may also be accomplished by altering the scope of a proposed agreement, looking at the problem from the eyes of an expert, inventing new options that meet both parties' requirements, adding resources to achieve the objectives of both parties, cutting the costs of the other party for compliance, and allowing non-specific compensation in which one party achieves its objectives while the other party gets compensated for accommodating the interests of his counterpart.

After meeting the other party, negotiators move to level 3, which contains four elements: contributions, dependence, concessions, and risk calculation. Contributions are the benefits that each party can provide to the other party in order to reach an agreement. We developed the next element – dependence – by drawing on Emerson's (1962) dependence theory. If one party depends on the other to provide for their needs, then there is no negotiation; the dependent party must comply to, accept, and accommodate the fancies of the provider. As a result, the dependent party holds no power and cannot put their demands on the negotiation table. Therefore, there should be a relationship of interdependence between the two parties so that both could reach an outcome that goes beyond their BATNAs. After meeting the other side and conducting the first round of offers, negotiators should decide on both concessions and risks they are willing to take. The MNP suggests that, if negotiators decide to make no concessions, they insist on their original positions. We also suggest that, when one party starts making small concessions, their negotiation power increases because the other party tends to comply more to the demands by considering the

sacrifices this party is making. In terms of risk calculation, it is related to concession making. When making concessions, negotiators should make sure that neither their concessions nor their decisions put them at risk or jeopardize their negotiation position leading to the loss of negotiation power and suboptimal negotiation outcomes.

The MNP also identifies some auxiliary actions and characteristics that are related to and are simultaneously used with the previously described levels. These auxiliary actions and negotiator characteristics should be used along with the elements of acquiring power to make one's negotiation position more powerful and to increase the negotiation power. In addition, the MNP incorporates French and Raven's (1959) five sources of power available to negotiators. Negotiation power will increase depending on the power source this party has access to: reward, coercive, expert, legitimate, or referent power.

METHODOLOGY

The research methodology was based on a qualitative approach. We used semi-structured interviews to collect data from a group of top and middle managers in Muscat metropolitan area, Oman. The interviews were transcribed *verbatim* and analyzed for recurring and unique themes related to different elements that constitute negotiation power and ways in which Omani managers build their negotiation power.

FINDINGS AND DISCUSSION

Level 1

All interviewees regarded knowledge and preparation as the most powerful weapons in building negotiation power. This is due to the fact that, negotiators who do not have an in-depth knowledge of the subject matter, will fail to define their positions and identify their resistance points. Insufficient knowledge owing to inadequate preparation will prevent them from acquiring power over their rivals and, as a consequence, they will not be able to win the negotiation. This supports one of our interviewees' statements: "With knowledge and preparation, one becomes stronger." The MNP separates practice from preparation even though they exist in the same level. This is because only 25% of the interviewees think that practice creates negotiation power. They believe that if negotiators get all the information they need and prepare well, then practice is not of a critical importance.

Level 2

A comment made by one of our interviewees, "Don't label it wrong, name it wrongly", suggests the use of framing. Half of the interviewees used framing techniques to increase the power they already created through the elements of the first level. Framing allows negotiators to control their counterparts indirectly influencing their behaviors in such a way that the probability of the desired outcomes of the negotiation is increased. In addition to framing, 75% of the interviewees carefully monitored their own behaviors when dealing with the other party. They believed that their own actions and manners, as perceived by the other party, were an important factor that could affect the power of negotiators. The interviewees regarded the following behaviors as critical: avoiding aggressiveness while letting the other party be aggressive in order to deplete their energy, exhausting the other party and weakening their negotiation power; remaining calm; behaving naively to elicit information from the other party.

Level 3

Because negotiation power is not only created by pursuing one's own advantage, negotiators should be considerate of the other party's interests, needs, and priorities. This can be achieved by considering what benefits one can give to the other party and by being willing to make concessions to help the counterpart attain all or at least the most important of their goals. The results revealed that 75% of the negotiators always consider what they can offer to their counterparts. The remaining 25% of the interviewed managers do not make concessions and usually give lesser contributions. What is more, the majority of the managers calculate risks associated with their negotiations and calculate the benefits they will gain if they win. Calculating and predicting risks is important to acquiring negotiation power because being able to forecast the dangers enables one to do the best to avoid them. Another interesting finding was that almost none of the managers considers the fourth element of this level, which is dependence, even though it could help them to identify their and the other party's extent of negotiation power. One reason might be that, because Omani negotiators intensely focus on what contributions they give to the other party, they disregard the importance of identifying their dependence on their counterpart.

Auxiliary Actions

Around 75% of the managers use body language as well as analyze the body language of the other party. For instance, they change their position, read the facial expressions of the other party, use a poker face, etc. They also can say "NO" and walk away from a negotiation. However, they only do that when they have thoroughly studied the other party, the situation, and the external factors affecting the negotiation and when they are confident that the other party will reconsider their terms and conditions. Moreover, most of them maneuver and do not haste to respond unless they are under time pressure. They also share limited information with the other party. Nonetheless, it is important to note that Omani managers do not like using threat because they are peaceful and kind and would rather use other methods of persuasion to make the other side comply with their demands. Other key findings of this study include the following. Omani managers do not like to use representatives nor negotiate with representatives of the other party who have limited authority to make decisions; engaging with this type of negotiators is viewed as a waste of time. Some Omani managers use auxiliary actions other than those stated in the MNP. To illustrate, Omani negotiators avoid going too technical, use buffers, try to distract the other party so they will not stay focused during the negotiation, and sometimes wear sunglasses to prevent the other side from reading their reactions and facial expressions.

Auxiliary Characteristics

Regarding the auxiliary characteristics, these include flexibility in dealing with the other party; self-confidence; the ability to establish credibility; good communication, bargaining, and problem solving skills. An interesting finding was that all Omani managers avoid using straight away the negotiation power they have. They believe it is better not to impose one's power on the other party especially if there is time to negotiate. Therefore, they use their power as a last resort. They also believe it is good to convince people rather than to impose power because convincing always brings better results.

CONCLUSIONS

To conclude, this research introduces a comprehensively enhanced model of negotiation power, the MNP. This model can be used to build negotiation power to improve one's negotiation position and get the outcomes close to those expected. It was found that, with

minor exceptions, almost all of the Omani managers go through the steps described by the MNP. It was also found that Omani managers have their own distinct set of actions which are not included in the model. For instance, they use buffers and sometimes wear sunglasses to avoid being facially analyzed by the other party. They also do not like dealing with representatives who do not have sufficient decision making authority. In addition, the use of the negotiation power by Omanis is partially affected by their kindness and peacefulness. All in all, it can be said that the MNP is a good guide to understanding how negotiators can create power in negotiations and reach their goals.

REFERENCES

- Bazerman, M. H., Curhan, J. R., Moore, D. A., & Valley, K. L. (2000). Negotiation. *Annual Review of Psychology, 51*, 279-314. doi:10.1146/annurev.psych.51.1.279.
- Emerson, R. M. (1962). Power-dependence relations. *American Sociological Review, 27*, 31–40.
- French, J. R. P. Jr., & Raven, B. (1959). The bases of social power. In D. Cartwright (Ed.), *Studies in social power*: 150–167. Ann Arbor: University of Michigan Press.
- Kim, P. H., Pinkley, R. L., & Fragale, A. R. (2005). Power dynamics in negotiation. *The Academy of Management Review, 30* (4), 799-822.
- Kipnis, D., Schmidt, S. M., & Wilkinson, I. (1980). Intraorganizational influence tactics: Explorations in getting one's way. *Journal of Applied Psychology, 65*, 440–452.
- Kleef, G. A., Dreu, C. K., Pietroni, D., & Manstead, A. S. (2006). Power and emotion in negotiation: power moderates the interpersonal effects of anger and happiness on concession making. *European Journal of Social Psychology, 36*, 557-581. doi: 10.1002/ejsp.320.
- Neale, M. A., & Bazerman, M. H. (1992). Negotiating rationally: The power and impact of the negotiator's frame. *The Executive, 6* (3), 42-51.
- Patton, B. (2001). Negotiation power. *Executive Excellence, 18* (4), 8.
- Vetschera, R. (2013). Negotiation processes: An integrated perspective. *EURO Journal on Decision Processes, 1* (1), 135-164. doi: 10.1007/s40070-013-0006-5.
- Weber, M. (1947). *The theory of social and economic organization*. New York: Free Press.



ISSN 1855-931X

COMPETITIVE SUSTAINABILITY WITHIN RESEARCH INSTITUTIONS. CASE STUDY: CENTRE OF COMPETENCE FOR SPACE TECHNOLOGIES - STARWALKER

Cristian VIZITIU*

*Space Applications for Human Health and Safety, Institute of Space Science–ISS
The Bucharest University of Economic Studies*

Romania

cristian.vizitiu@rocketmail.com

Mihaela MARIN

Space Applications for Human Health and Safety, Institute of Space Science–ISS

Romania

mihaela_gabriela13@yahoo.com

Alexandru NISTORESCU

Space Applications for Human Health and Safety, Institute of Space Science–ISS

Romania

alexnistorescu@yahoo.com

Vlad VĂLEANU

Space Applications for Human Health and Safety, Institute of Space Science–ISS

Romania

vlad@donnamaria.ro

Pierre de HILLERIN

Space Applications for Human Health and Safety, Institute of Space Science–ISS

Romania

hillerin@live.com

Abstract

This article provides a comprehensive solution for achieving competitive scientific and technological sustainability at the national level within the flourishing space sector through the establishment of multi/interdisciplinary collaboration platform between scientific sector and industry in the form of a Centre of Competence for Space Technologies entitled STARWALKER and hosted by Institute of Space Science (ISS), Romania. The herein case study presents the opportunity identification, leading objectives and benefits of STARWALKER addressed to a unique technological niche in the field of Countermeasures for Human Space Flight, centre which envisages achievements of particular national scientific and industrial capabilities and competencies in this field for capitalizing them in European Space Agency (ESA) Programmes participation, in national economic benefits and, as well, in fulfilling societal needs with respect to human performance. Furthermore, the paper expresses also the connection between the internal development concept within research institutes with Corporate Entrepreneurship (CE) phenomenon.

Keywords: competitiveness, Centre of Competence, STARWALKER, space sector, Corporate Entrepreneurship (CE).

Topic Groups: Technology and innovation management; Change management and organizational development; Social sciences and business

JEL Classification: L20, Q01, M10

INTRODUCTION

The current century is characterised by an innovation revolution whereby innovation and knowledge bring value in original ways, and implicitly generate huge impact on economic and social environments (Kuratko, 2009; Bratianu, 2011). In this context, the space sector represents one of the most flourishing industries which despite its high activities costs, it stunningly influences both the globalized economy through a tremendous high return on investments, but also the society by providing scientific knowledge, technological know-how, and, of utmost importance, the essential spin-offs with respect to sustainable operational solutions based on space assets and so beneficial for humanity, as follows: telecommunications, weather, environmental and person safety and security (ESA, 2005; Vizitiu et al., 2013).

The principal actors involved in the space economy consist in *governmental bodies*, with decisive roles in investing, regulating and operating the space and relevant terrestrial infrastructures; *research institutes*, with essential roles in research and development within the space economy value chain, by contracting space agencies and/or industry in order to advance basic research and not merely; *business corporations* and, as well, *small and medium enterprises*, targeting space based manufacturing and operational services (OECD, 2012).

On the other side, Sathe (2003) warns the fact that opportunities which involve large capital investments on middle-long strategic time slots and whose output adds real value for society by fulfilling new needs and establishing new end user communities, need not an ordinary individual entrepreneurial approach, but specific organizational attitudes to promote innovativeness, proactiveness and risk taking within private entities (Antoncic and Hisrich, 2001), and furthermore, added through the herein authors' conception, within research institutes when it is taking into consideration an emergent country as Romania.

The herein research presents an important case study, namely representing a space based organizational solution in the form of a centre of competence for space technologies in order to achieve the right innovative, proactive and risk taking attitude in the frame of research institutes, equivalent with the entrepreneurial attitude in the frame of private entities, defined by Burgelman (1983) *corporate entrepreneurship*, or by Antoncic and Hisrich (2001) *entrepreneurship inside existing organizations*.

The present case study brings into the light an avant-garde Centre of Competence addressing to a specific space technologies niche, called STARWALKER and whose purpose is to increase the science and technological competitiveness at national and international levels in the field of Countermeasures, field which is defined as encompassing applications/systems "*designed to neutralize the hazards of the space environment for astronauts' health and performance*" (Clément et al., 2007:2) with huge advantages upon society.

The present study illustrated in an emergent country as Romania is even more important so because Romania was classified by European Commission (EU) in 2014 as a modest innovator country, detaining the rank 27 from 29 European countries (EU-Innovation Union Scoreboard 2014) with a weak competitiveness and capacity of developing research and innovations, but in the same time Romania is considered to have high potential in research and development, and in the overall global space industry since it became the 19th Member State of European Space Agency (ESA) in December 2011.

In the following sections it will be illustrated the space industry with Corporate Entrepreneurship (CE) implications, will be comprehensively presented the case study in the field of space research and innovations, and, finally, the discussion together with the final paper conclusions.

COMPETITIVENESS WITHIN SPACE INDUSTRY AND CORPORATE ENTREPRENEURSHIP IMPLICATIONS

The space economy is defined as encompassing "the full range of activities and the use of resources that create and provide value and benefits to human beings in the course of exploring, understanding and utilizing space" (NASA, 2007 in OEDC, 2012:19). Space investments represent a substantial opportunity given the fact that the world space economy was evaluated in 2012 at over \$300 billion, whereas around 40% stood in for commercial space based products and services, other 40% targeted the industries involved in support and commercial infrastructures, and the rest in governments/space agencies budgets (Space Foundation, 2014), and furthermore taking into consideration the economic predictions with respect to space economy trend, increasing at around \$600 billion in 2030.

As stated by ESA (2000-2014), space provides competitiveness and economic growth in the world-wide markets, including space adjacent sectors, contributes to innovations through technology and knowledge, and, very important, represents an anchor of stability in the nowadays economic challenges.

Vizitiu and his collaborators (2013) presented a considerable theoretical contribution in this context by underlining a rationale connexion between the space industry expectations with Corporate Entrepreneurship (CE) strategy through the following, but non-exhaustive aspects: creation of new products/services for fulfilling new end-user requirements and even creating new end-user communities, managing large capital investments on long term and stimulating

spectacular innovations for society and economic benefits, fostering interdisciplinary attitude for stimulating research and industrial cooperation.

CE demands "employee initiative from below in the organization to undertake something new" (Vesper, 1984:295), and "diversification through internal development" through "new resource combinations" (Burgelman, 1983:1349). More exactly, CE purpose is to provide sustainable competitive advantages by overcoming the institutions' bureaucracy, complex hierarchies and internal procedures (Thornberry, 2001) through strategic renewal, as relevant dimension for this paper context.

Strategic renewal, also known as organization self-renewal, regards new combinations of organizational resources for acquiring or building novel capabilities and competences which would enable the individuals to further leverage them originally for adding value within economy, implicitly society (Guth & Ginsberg, 1990; Zahra, 1995).

Equivalent with the organizational strategic renewal phenomenon but targeting the public research institutions, the present paper presents a comprehensive solution for obtaining sustainable competitive advantage in the field of space research and innovation. The case study illustrated herewith, namely the STARWALKER Centre of Competence addressing to a specific Human Spaceflight Support niche, provides the roadmap of combining the organizational resources of the centre's institution/laboratory host and more acquiring new resources for seeking proper capacities development, with paramount contribution in spurring the national scientific and industrial community to comply with space grade technology and to add real value to society.

CASE STUDY: CENTRE OF COMPETENCE FOR SPACE TECHNOLOGIES - STARWALKER

STARWALKER Overview and Opportunity Identification

STARWALKER Centre of Competence constitutes a scientific-technologic collaborative platform which gathers both research and industry with the purpose to stimulate and consolidate at the national level the field of Countermeasures for Human Space Flight, namely by means of developing proper solutions for counteracting physiological and psychological impairments inflicted on humans by their prolonged exposure to MICE (Micro-gravity, Isolated and Confined Environment).

The establishment of STARWALKER Competence Centre was based on a project funded by the Romanian Space Agency (ROSA), in the frame of the Romanian National R&D Programme STAR. The legal host of STARWALKER Centre of Competence for Space Technologies is represented by The Institute of Space Science (ISS) through its Space Application for Health and Safety Laboratory, located in Bucharest, Romania. STARWALKER is based on multi/interdisciplinary collaborations with experts both in space engineering and natural/social/management sciences, while performing the whole engineering effort according to Systems Engineering (SE) methodology, as standard approach for European Space Agency (ESA) in balancing between stakeholders' needs and technological advance.

Based on a valuable experience and national/international expertise of the centre's host with regard to space based health and safety research and development, Space Application for Health and Safety Laboratory has decided to involve in the Countermeasures direction in the

context of Romania's new status within ESA Membership. Besides the membership occasion identification for achieving competitiveness as a first mover capability on behalf of the STARWALKER, the real opportunity identification consists in the Countermeasures field, which it is considered in the literature, implicitly by Letier et al. (2012) as being a vast and still more to be discovered domain due to the stringent requirements of space missions (e.g. future Mars exploration etc.) involving increasingly longer exposures of astronauts to MICE and, in the same time, the lack/poor efficiency of the existing countermeasures.

The detrimental effects of MICE inflicted on humans during prolonged Space Flights are physiologically and psychologically, as follows:

Physiological deconditioning caused mainly by bone demineralization, myasthenia, cardiovascular decompensation, but also by imbalances of the neurovestibular, endocrine, and immune systems (Letier et al., 2012; Morpew, 2001);

Psychological problems with negative effects on decision making, mood, and also generating disorders of attention and memory, poor interpersonal dynamics, motivational decline and fatigue (Schneider et al., 2010; Morpew, 2001).

It has to be highlighted the fact that the countermeasure solutions developed within STARWALKER have important spin-off applications terrestrially, namely by enhancing human performance under extreme conditions. Thus, STARWALKER presents paramount importance not merely for space sector, but also for society, implicitly for national economy. The benefits for society, as countermeasure spin-offs, regard higher resistance to physiologic and mental stress of professionals exposed to intentional risks related to extreme conditions, higher motility recovery and increased societal inclusion for disabled persons and trauma victims, increased sport performance, and also, future researches in deepening the informational management in bio-organisms.

STARWALKER Mission and the established unique Niche

The mission of STARWALKER Centre of Competence for Space Technologies highlights the achievements of proper competences in Countermeasures for raising the existent national scientific and technological standards in order to enter to specific ESA Programmes and gain important national scientific and industrial progress. Thus, the mission, as stated in the STARWALKER strategic definition document, targets: *the integration of existing scientific and industrial competences and achievements in countermeasures for Human Space Flight and complementary fields at national level, the valorisation in international context, notably through participation in ESA Programmes, and fostering the progress of the scientific and industrial Romanian space community.*

One aspect of utmost importance in bringing competitive sustainability to STARWALKER is represented by the particular niche identification within the vast domain of countermeasures, niche which is stated in the centre's strategic definition document as follows: *the astronauts' assessment, training and recovery for long exposure to micro-gravity as well as to spatial and social confinement through information-feedback assisted, neuro-muscular control and mental-control training.*

The identified niche is unique both in national and international space context, and is based on the centre's human resource expertise and scientific developments in the human performance frame prior to STARWALKER foundation. Thus, the theoretical basis of the

niche consists in specific visions with respect to information fluxes within the human psychosoma complex, and as well on a novel methodology called CASINOR (Computer Assisted Informational Orthotics) able to *adjust somatic functions to enhance performance and/or recover it*, through *changing and refining information fluxes within the human being* (Văleanu and Hillerin, 2006:8).

STARWALKER Leading Objectives

The considered leading objectives target comprehensively an important range of activities residing to scientific and technological, but as well, industrial levels, all these in order to provide a sustainable development of STARWALKER and concurrently a competitive sustainability. As stated in the STARWALKER strategic definition document, the leading objectives envisage:

A. *The development of the capacity of participation of the Romanian scientific, technologic and industrial community in ESA Programmes* through the identified unique niche in the frame of human spaceflight related activities.

This first objective encompasses methods and devices development for countermeasures with respect to MICE physiological and mental-volitional impairments, mainly in the benefit of humans in space, but also for societal spin-offs.

B. *The entrainment and mentoring of the industry to participate in ESA activities.*

STARWALKER will stimulate and provide consultancy to identified industry in order to enable the private entities in complying with space technological and Systems Engineering (SE) standards, and as well to ESA Programmes requirements. Furthermore, STARWALKER will stimulate through industry the technological transfer to, mainly, space industry, but also to terrestrial spin-offs sector, with benefits to society.

C. *The creation of all level interdisciplinary education and public awareness.*

The awareness process is undertaken at three levels, namely: scientific and technological results publications and presentations within prestigious national/international journals, conferences and seminars in order to increase the visibility of STARWALKER contributions among scientific and industrial communities; continuous professional education through educational and scientific support for students whose Bachelor-of-Science and PhD degrees consists in countermeasures/countermeasures related thematic; outreach activities for promoting STARWALKER activities, and implicitly countermeasures field to the general public including high school students.

D. *The establishment of cooperation with similar entities in Europe and in the world.*

The objective foresees the opportunity to further identify similar entities as STARWALKER in countermeasures or countermeasures related fields in order to get in collaborations and gaining access to a wider network of research and private entities.

DISCUSSION

The case study presented herewith provide a comprehensive solution of combining organizational resources, acquiring/building specific capabilities and competences in order to be leveraged further in a creative way to add value to economy and society.

The present paper contribution is even more important so because is tackled the space sector characterised by high investments on long time horizons, with high technological advance and uncertainty, where the research institutes and industry have real needs in obtaining competitive sustainability. Thus, the herein case study provides a roadmap of

creating a centre of competence for Space Technologies which at its turn to spur the national scientific and industrial communities to make advances in the international space sector with high benefits also for society.

More than that, the herein paper provides a novel connection of centres of competence establishment with CE strategy, fact which could represent a real benefit mainly for the real competitive practice, but also for the strategic management literature which further could trigger new related researches.

CONCLUSIONS

STARWALKER Centre of Competence for Space Technologies explores an important opportunity in the space sector, namely by creating a particular niche within the Countermeasures for Human Space Flight and organizing a scientific-technological collaborative platform with scientific sector and industry, is going to achieve state-of-the-art capacities and competences to participate to ESA Programmes and Missions, to comply with space grade technologies and more, to provide value for society by satisfying societal needs.

STARWALKER introduces a particular technological niche within the Countermeasures for Human Space Flight and a particular scientific trend at the national level, and by means of its umbrella establishment for scientific sector and industry, it can be achieved numerous important benefits as employing and training new workforce, attracting new space/space related European funds, stimulating technological transfers, serving societal needs etc. implicitly with positive impact on the national economic growth in this sector for the future.

STARWALKER encompasses multi/interdisciplinary experts within its national single site collaborative platform, but it is foreseen, due to its real potential, to become after the present pilot phase funded by a national authority, an autonomous national and international, virtual and widely distributed collaborative platform with the purpose to provide competitive sustainability.

ACKNOWLEDGEMENT

This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/142115 „Performance and excellence in doctoral and postdoctoral research in Romanian economics science domain“.

REFERENCES

- Antonic, B., & Hisrich, R. D. (2001). Intrapreneurship: construct refinement and cross-cultural validation, *Journal of Business Venturing, Sep. 2001, 16* (5), 495-527.
- Bratianu, C. (2011). Knowledge and Intellectual Capital. Society for Business Excellence. Bucharest, Romania.
- Burgelman, R. A. (1983). Corporate entrepreneurship and strategic management: Insights from a process study. *Management Science, 29* (12), 1349-1364.
- Clément, G., Bukley, A., & Paloski, W. (2007). The Gravity Of The Situation. *The Space Technology Library Volume, 20*, 1-32.
- ESA (2000-2014). Ministerial Council 2012. SPACE FOR COMPETITIVENESS AND GROWTH.http://www.esa.int/About_Us/Ministerial_Council_2012/Space_for_competitiveness_and_growth2.

- ESA BR-237 (2005). The Impact of Space Activities upon Society. *Published by ESA Publications Division, The Netherlands.*
- EU, (2014): COMMISSION STAFF WORKING DOCUMENT, Assessment of the 2014 national reform programme and convergence programme for ROMANIA. Brussels: http://ec.europa.eu/europe2020/pdf/csr2014/swd2014_romania_en.pdf.
- EU-Innovation Union Scoreboard (2014): The Innovation Union's performance scoreboard for Research and Innovation. http://ec.europa.eu/enterprise/policies/innovation/files/ius/ius-2014-summary_en.pdf.
- Guth, W. D., & Ginsberg, A. (1990). Guest editors' introduction: Corporate entrepreneurship. *Strategic Management Journal*, 11(Summer), 5-15.
- Kuratko, D. F. (2009). The entrepreneurial imperative of the 21st century. *Business Horizons*, 52, 421-428.
- Letier, P., Motard, E., Luchsinger, R., Kovacs, G., Stauffer, Y., Bertschi, M., Evetts, S., Waldie, J., Ilzkovitz, M., Gancet, J., & Runge, A. (2012). DYNASUIT, INTELLIGENT SPACE COUNTERMEASURE SUIT CONCEPT BASED ON NEW ARTIFICIAL MUSCLES TECHNOLOGIES AND BIOFEEDBACK. Study based on ESA Project. http://robotics.estec.esa.int/i-SAIRAS/isairas2012/Papers/Session%206B/06B_03_Letier.pdf.
- Morphew, M. E. (2001). Psychological and Human Factors in Long Duration Spaceflight. *MJM*, 6, 74-80.
- OECD (2012). *OECD Handbook on Measuring the Space Economy*, OECD Publishing. DOI: 10.1787/9789264169166-en.
- Sathe, V. (2003). Corporate Entrepreneurship: Top Managers and New Business Creation. *Cambridge University Press.*
- Schneider, S., Brümmer, V., Carnahan, H., Kleinert, J., Piacentini, M. F., Meeus, R., & Strüder, H. K. (2010). Exercise as a countermeasure to psycho-physiological deconditioning during long-term confinement. *Behavioural Brain Research* 211, 208–214.
- Space Foundation (2014). The Space Report 2014. *The Authoritative Guide to Global Space Activity*. ISBN-13: 978-0-9789993-7-7.
- Thornberry, N. (2001). Corporate entrepreneurship: antidote or oxymoron? Babson College, Massachusetts USA, *European Management Journal Volume 19, Issue 5, October 2001*, 526-533.
- Văleanu V., & Hillerin, P. J. (2006). Computer-Assisted Informational Orthotics - a distinction in Human Performance training, 90th ICB SEMINAR, published in Proceedings of Biomechanics of Human – Machine Systems. Trends and Applications, International Centre of Biocybernetics, Warsaw, Poland, 7-10 December 2006.
- Vesper, K. H. (1984). Three faces of corporate entrepreneurship: A pilot study. In J. A. Hornaday, F. Tarpley, Jr., J. A. Timmons, & K. H. Vesper (Eds.), *Frontiers of entrepreneurship research*, 294-326. Wellesley, MA: Babson College.
- Vizitiu, C., Văleanu, V., & Tanțău, A. D. (2013). Space based mobile telemedicine assisted by specific Systems Engineering approach. In: *6th International Conference on Recent Advances in Space Technologies (RAST) 2013*. Istanbul, Turkey, 12-14 June 2013, 789-783.
- Zahra, S. A. (1995). Corporate entrepreneurship and financial performance: The case of management leveraged buyouts. *Journal of Business Venturing*, 10 (3), 225-247.



ISSN 1855-931X

SUSTAINABLE MUSEUMS FOR SUSTAINABLE DEVELOPMENT

Izabela Luiza Pop*

Babeş-Bolyai University, Faculty of Economics and Business Administration

Romania

pop.izabela.luiza@gmail.com

Anca Borza

Babeş-Bolyai University, Faculty of Economics and Business Administration

Romania

anca.borza@econ.ubbcluj.ro

Abstract

The sustainable development of a region depends on the sustainability and measures taken by all the public and private organizations in the respective area. Museums stand out among these organizations due to the controversies arising in connection with the role they have to play in this process of sustainable development. This paper seeks to analyze whether and why museums should become sustainable and provide an overview on the Romanian museums' sustainability. The qualitative research based on semi-structured interviews with five museum experts showed that the sustainable development of Romania through cultural tourism is threatened due to the fact that few museums take steps towards become sustainable. Among the factors that hinder the process of sustainable change in museums can be mentioned the following: the current legislation, the scarcity and poor training of the human resources, but also the some managers' misconception on the notion of sustainable museum and their resistance to change.

Keywords: museums, sustainability, development, entrepreneurship, change

Topic Groups: change management and organizational development, economic growth, humanities and arts and business

JEL Classification: Q01, L26, O10

INTRODUCTION

One of the first definitions of sustainable development is given by the World Commission on Environment and Development in 1987. The Commission defines sustainable development as *"a development that meets the needs of the present without compromising the ability of future generations to meet their own needs"*. Several years later sustainable development was seen as *"a requirement for our generation to manage the resource base such that the average quality of life that we ensure ourselves can potentially be shared by all future generations"* (Asheim, 1994). According to this view, sustainability corresponds to a situation where the quality remains the same or increases. If the quality drops, then the system can be regarded as unsustainable (Bell & Morse, 2008, p. 12). It is noteworthy that the quality of life is not limited to *"material consumption"* but includes everything that influences the people's lives, *"like health, culture and nature"* (Asheim, 1994). The same idea is shared by Gawęł (2012) who argues that sustainable development *"can be linked with every aspect of human life"*, and Bell and Morse (2008, p. 5) who use the concept of sustainability in a general way, referring to any noun which works with the adjective "sustainable", like: sustainable agriculture, sustainable areas, sustainable cities, sustainable communities, but also sustainable institutions and organizations.

Thus, in recent years there has been an expansion of the concept of sustainability and sustainable development, which is why sustainability tends to become more and more a "must" for museums as well (Genoways & Ireland, 2003, p. 121). Due to the decrease of global resources, the pressure put on museums to provide value for the funds they receive has increased (Coman & Pop, 2012). On the one hand, sustainability is the way by which museums can use their resources with maximum efficiency so as to thrive even with limited resources (Pop & Borza, 2014). On the other hand, sustainability is closely linked to the museum's mission of contributing to the society development (Lord et al., 2012, p. 6).

Despite the fact that several international organizations have defined sustainability and developed criteria for self assessment in this regard (Pop & Sabou, 2013), the positive effects are yet hard to note in the museum sector. So many museums are closed (Steel, 2012) because they lack the ability to implement managerial changes in order to become sustainable. In an attempt to identify the causes for the poor performance of the Romanian museums, Zbucnea (2013) conducted a qualitative research among visitors, assuming that the experiences they have in museums do not match their expectations. Blagoeva-Yarkova (2012) also argues that museums don't fully use their potential so as to satisfy the demands of the communities they belong to. The next question is why isn't the museums' offer in accordance with the visitors' requirements? In order answer this question, we performed a qualitative research within the museum sector, taking into account Pachucki's recommendation (2012) of using interviews with individuals in order to get an overview of a phenomenon. The purpose of this paper is to identify what museum experts think about sustainability, to what extent Romanian museums are sustainable and which are the factors that affect their sustainability.

The paper starts with a short review of the literature focusing on highlighting the museums' role in the sustainable development process. It continues with the description of the research methodology by referring to the type of interview we used and its administration. Next, the most important findings are summarized, followed by discussions on the sustainability of the Romanian museums and the meaning of a sustainable museum. In the end the paper presents some relevant conclusions but also the limitations of the study and the future research directions.

MUSEUMS AS A WAY OF SUSTAINABLE DEVELOPMENT

The sectoral strategy in the field of culture and national patrimony for the period 2014-2020 (CCCCDC, 2013) speaks about the necessity of elaborating and applying such new strategies in the cultural institutions as to allow these institutions to contribute to a better quality of life by using the patrimony as a generator of cultural, social and economic value. Also, it emphasizes that *"culture, as the other social and economic sectors, must in its turn seek and establish synergies with the other sectors with a view to achieving a sustainable and integrated development"* (CCCCDC, 2013; Yuqin, 2008). Thus, on the one hand, one of the requirements for the museums is that they should contribute to the sustainable development of a region through the cultural, social and economic benefits they can generate. On the other hand, by adopting an open system, the cultural institutions have to seek their own sustainability, namely to have *"sufficient resources to maintain existence, and fulfill their objectives, into the future"* (Alcaraz et al., 2009).

According to Gawel (2012) the sustainable development involves *"a sustainable society, sustainable environment and sustainable economy (...) achieved by the creation of new value."* If we take into account all the social, cultural, educational and economic benefits which museums have the capacity to generate (Coman & Pop, 2012), we can argue that these institutions play a significant role in what we call sustainable development. This idea is also upheld by the European Council (2008) which attributes to a well-managed cultural patrimony the quality of a *"resource for sustainable development and quality of life in a constantly evolving society"*.

Museums help build a sustainable society

According to the definition given by ICOM (2013), the purpose for which any museum operates is to serve the development of the society by acquiring, conserving, researching, communicating and exhibiting *"the tangible and intangible evidence of people and their environment."* In their mission of serving the society, Yuqin (2008) highlights that museums have to *"undertake a leading role in promoting sustainable social and cultural development."* The cultural patrimony managed by museums represents a way of getting to know the characteristics and the history of a community and improving the understanding of a culture and different lifestyles (Scott, 2007).

Museums help get a sustainable environment

Also, one of the basic functions of a museum is to preserve the cultural resources of a community not only for the current generation, but also for the future generations. Through their function of conservation and preservation of the patrimony in time, museums contribute to assuring the sustainability of both the cultural and the natural environments (Blagoeva-Yarkova, 2012; Yuqin, 2008). Regarding the natural environment, Yuqin (2008) attributes the natural history museums an important role in the promotion of sustainable development. In her view these museums have to be *"a driving force in the protection of local biodiversity"* because *"a museum not only conserves specimens of extinct animals, but it is also a guardian or defender of the biological and cultural diversity of living creatures"* (Yuqin, 2008). Also, due to their educative function, through the exhibitions they organize, museums can promote and attract attention on *"the vital importance of harmony between humanity and its natural environment"* (Yuqin, 2008).

Museums help build a sustainable economy

It has been demonstrated that well managed museums play an important economic role in the tourist development strategies in various urban regions. According to Kotler et al. (2008, p. 13) well-managed museums "*are magnets of economic development*". The quality of the products and services offered by museums directly influence the development of cultural tourism in a certain region. In its turn, "*cultural tourism is a key factor for sustainable development and intercultural dialogue*" (Drăgulănescu et al., 2014). Bilbao, Valencia, Austin, Louisville, Denver, Linz, Newcastle and Gateshead are just a few examples of cities that have successfully used culture and museums as a part of their sustainable development strategy (Plaza & Haarich, 2013; Sacco et al., 2009).

Therefore, worldwide the cultural sector is considered an essential component of the sustainable development process, both from the social and cultural point of view, and that of environmental protection and economic development (due to cultural tourism). Joshi (2012) mentions even the possibility of making a "*strategic alliance between culture and tourism*", where sustainability should be used as a bridge between the two. But, the degree in which museums contribute to the sustainable development depends on their management. It is certain that a museum which is "*shutting itself up in an ivory tower*" (Yuqin, 2008) will not act as an engine, but, on the contrary, as a burden for the sustainable development of a region. In other words, a museum that only consumes resources (in most cases from public funds), without any consideration given to adjusting its products and services to the needs of the society, will hinder or stop sustainable development or even make it to regress.

The research performed on Romanian museums sustainability is scarce. There are just a few scholars who were interested in measuring and analyzing the sustainability of the Romanian museums. However, Pop and Sabou (2013) tried to measure the sustainability of some museums by using an index built on self-financing capacity and cost per visit. Corbos and Popescu (2011, 2012a, 2012b) performed several researches on the competitiveness of the National Museum of Art and National History Museum and recommended Prado Museum as a model for raising the competitiveness of the Romanian cultural organizations, with the purpose of enhancing the museums' contributions to urban sustainable development. Thus, it can be noticed that the analyses performed were predominantly quantitative, while the qualitative analysis focused on a component of the external environment, such as in the study of Zbucea (2013) about how young people visit museums. However, the process of improving an organization's performance requires, besides the analysis of the external environment, a quantitative and qualitative analysis of the internal environment (Janićijević, 2010). By complementing the research conducted so far, the present study seeks to identify the experts' views on the Romanian museums' sustainability.

RESEARCH METODOLOGY

The purpose of this research was to identify the current situation in the Romanian museum sector in relationship with sustainability. To this end, we performed a qualitative research based on interviews with experts from the museum sector. As regards the interview type, we used a semi-structured interview. All the participants in the interview received the same main questions, in the same order. Depending on the interviewees' answers, additional questions were asked where we considered that a clarification or a deeper, more detailed elaboration of the items under discussion was required.

Five managers of museums and from the Romanian National Network of Museums (RNNM) were selected to take part in this study. The following leaders answered: the manager of the National Museum of the Romanian Peasant, who is also the president of RNNM, the manager of the Art Museum in Cluj-Napoca, the manager of the «Baia Mare Artistic Centre» County Museum of Art, the executive director of RNNM and a vice-president of RNNM. In order to assure the confidentiality of the answers according to the undertaking upon the development of the interviews, in this paper the five experts are randomly coded with letters from A to E. The interviews were conducted in the period November-December 2014. The average duration of the interviews was 32.33 minutes, but they also included questions which are not the scope of this paper. In order for the answers to be analyzed, all the interviews were transcribed, after which the most important ideas were summarized. These are presented below.

FINDINGS

A sustainable museum

All the participants in the interview consider it is important for the museums to be sustainable. What differs significantly from one of these experts to the another is their views on sustainability. Out of the five interviewed experts, only one identified all the components of sustainability, i.e. the socio-cultural component, the financial component and the natural environment component; two of the experts identified only the cultural and the financial components, whereas the rest associated sustainability only with the existence of the resources necessary for the operation of a museum. For expert A, a sustainable museum is the museum which has:

- a) ***The capacity for entrepreneurial administration***, which means finding the most appropriate solutions which could render effective and lead to the organizational development of the museum by means of attracting extra financial resources and generating projects which, in their turn, shall develop into further projects.
- b) ***The capacity for adaptation most effective possible consumption of natural resources***, which refers to the intelligent museums or the green museums which consume few resources by using alternative energies, but whose cultural production is very high.

In this expert's opinion, a sustainable museum can be defined as: *"a creative museum, which offers more than the visiting dimension; a museum which offers something concrete for spending the free time and learning in comparison with its competitors, (...) which knows very well its competitive advantages, market section and targets, which it also projects. A sustainable museum becomes an entrepreneurial museum, a museum which must understand very well that its management is not only a purely administrative management corroborated with permanent social assistance (which means receiving money permanently from the state budget), but, on the contrary, it is a permanent struggle to adjust to the needs and lifestyles taking place around us."* Whereas expert A considers that sustainability originates within the museum, expert E expresses a completely opposite opinion, considering that a sustainable museum is a museum which *"can be supported by patrons, by the society, by the community"* and the economic sustainability of a museum must be provided chiefly by the superior authority sponsoring it.

The high dependence of museums on public subventions in correlation with the sub-financing of museums are considered by experts to be the most important reasons for which

these institutions should become sustainable. In order to become financially sustainable, expert A considers that *"museums should do in such a way as to be valid in their relationship with the society and the public"*, which means *"offering to the visitor every service he might need"*, as well as *"those precise things which determine the visitor to remain in the museum, be content with it, have a memorable visiting experience and leave money there."* The same expert believes that culturally a museum must be *"indeed a learning space, providing not a dour, academic learning, but a relaxed, friendly, yet efficient learning."* More precisely, the things people can learn in a museum must be interesting and useful and must complete the visitor's set of values. Expert C emphasizes that the financial sustainability is necessary only in order to maintain the museum's mission and cultural objectives. The same expert expresses the opinion that museums can become sustainable without necessarily receiving a huge financial income, by entering into partnerships and various types of agreements. The advantage of such an approach would be that *"cash does not come into the museum (...), but the museum evidently takes advantage of the competent services provided by professional companies from various fields and then it can implement projects which otherwise it could not."*

MUSEUM SUSTAINABILITY IN ROMANIA

Expert A expresses the opinion that Romanian museums are at an initial stage as regards sustainability. They are at the stage where they are trying to understand the way *"in which sustainability works and what its benefits are"*, therefore they have not reached the point where they begin to apply this concept, but have passed the stage where they completely refuse even the idea of sustainability. Expert B considers that generally nobody in the Romanian museums gives sustainability any consideration. The purpose of the museums is to obtain *"sure financial sources from the public budgets and, obviously, because these are always insufficient, they also try to obtain financing from occasional events, but such events are seldom strictly related to a museum's activity. Generally these include letting out spaces for events that are not connected with the museum's activity."*

Experts A, D and E consider that Romanian museums are taking steps towards becoming sustainable. An example given by expert A is the project initiated by the Astra Museum Complex of Sibiu, which offers its visitors the possibility of designing homes based on the house models exhibited in the Village Museum. This project generates sustainability since through it the museum gets outside its frame, i.e. collaborates intelligently with the society and the public. This project also has a cultural and pedagogic value as it *"offers a system of educating the public in what regards architecture, esthetic details and the way of building intelligently and healthily"*. Another example of a museum that *"thinks in a sustainable key"* is "Casa Mureşenilor" in Braşov, which can be categorized among the museums which *"transform and orient themselves towards the idea of a community museum"*. Expert D gave the example of the Art Museum of Cluj which applied a strategy for diversifying the activities and services it offers to its visitors. The purpose of this strategy was to transform the museum into a *"cultural center"*, that is *"a space where not only activities specific to an art museum, but also other activities interfering with the other artistic genres should be developed."* To this end, the museum thought of hosting conferences, shows, concerts, debates and other educational activities and programmes, through which it tried to cross certain borders *"in connection with the specific of the a museum as an institution."* One concrete example of an action with a positive impact on the museum's sustainability was the establishment in the museum's yard, during the summer, of a cultural café. The social and cultural impact of this café, which hosted musical, operatic and theatrical performances, was

very big. According to expert D's declaration, *"the public came specially for the cultural programme and less for what could be called terrace service."* On the other hand, this cultural café led to a higher economical sustainability of the museum as a result of the increase in the museum's own income. Expert E also mentioned the expansion of the range of products and services as a strategy, but in his opinion the exhibition policy is the most important method for rendering a museum sustainable. The same expert considers that, through its exhibitions, a museum opens to the community, *"somehow reconciling the experts, who know what it is all about, and the public, who should aspire to it"*. As regards the role of a museum in assuring social cohesion, the expert says that *"additional tasks, outside a museum's immediate specificity, but in which of course a museum should take part, are taken from other sectors of the public domain and placed upon the shoulders of the museum"*.

According to expert C, in Romania there are few museums which adopt measures in order to become sustainable, while the majority of the museums are at present in a period of stagnation or even in decline from the point of view of their development. In this expert's opinion, the best development of Romanian museums coincided with the period of economic growth, which occurred from 2006-2007 until about 2010-2011, after which an unfavourable economic and political context, correlated with a certain "fall into routine" of the museums, caused *"their activity to take a downturn rather than develop"*. According to this expert, one of the factors affecting the museum's economic sustainability is the political and legislative environment in our country. Museums cannot report their own income from one year to the next, and an increase in a museum's own income is often correlated with a decrease in the subsidies it receives from the state budget, which means that *"in fact you don't get more money, you only get to work more for the same money"*. As for the social and cultural sustainability, i.e. "a museum's social and cultural impact", 5 years ago there were *"very many projects in museums which had a cultural component and a social component, and also aimed at social education"*. Now these are in a descending period, since the current projects are rather small and *"therefore their impact is probably somehow limited."* Expert E also considers that Romanian museums' sustainability shows a tendency to depreciate due chiefly to human resources. Skilled employees leave the museum sector after they reach retiring age while any new employment in the system has been blocked for a long time and new employees generally have neither the vocation nor the necessary competences.

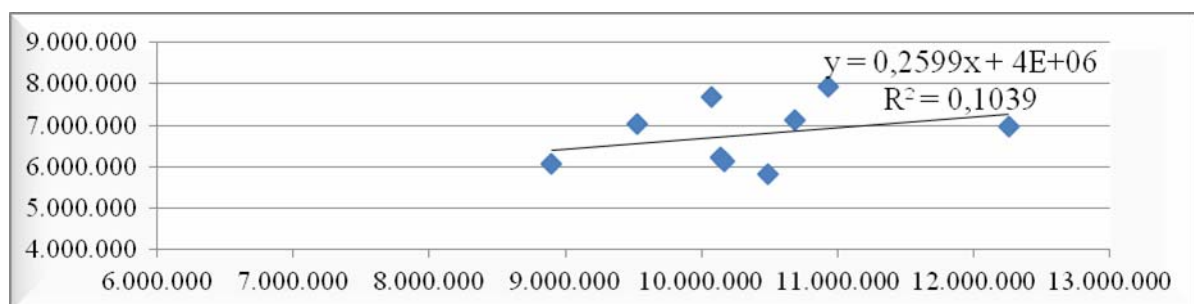
Unfortunately, Romanian museum's lack of sustainability hinders the process of the country's sustainable development through cultural tourism. Unlike other geographic regions, such as the city of Bilbao, Spain (Plaza & Haarich, 2013), in Romania the correlation between the number of tourist arrivals in the accommodation units and the number of museum visitors is almost null. Following the analysis of the information supplied in this respect by the National Institute of Statistics for the period of 2005-2013, we obtained a correlation coefficient of 0.103 (Figure 1), which, according to the interpretation rules (Bowerman et al. 2014, p. 129), shows a non-correlation between the two series of data analyzed (Table 1). The research conducted by Bordean and Borza (2014) confirms the fact that the Romanian hotel industry hardly relies on tourists, their main clients being represented by *"business people, conference participants, government and other public institutions employees and sales representatives"*. In these conditions we can assert that in Romania, with several exceptions, museums do not contribute significantly to the economic development of the regions to which they belong and therefore to the sustainable development of the same regions.

Table 1: The dynamics of the museums visitors and tourists accommodated in Romania (millions people)

Years	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total museum	10.49	10.14	12.26	10.69	10.17	8.90	9.53	10.08	10.93
Total arrivals in tourist	5.81	6.22	6.97	7.13	6.14	6.07	7.03	7.69	7.94

Source: INS Tempo on-line

Figure 1: The relationship between the number of museum visitors and the number of arrivals in tourist accommodation establishments



Source: authors' contribution

Satisfaction of communities' needs by museums

The experts have a common standpoint when it comes to the way a museum can satisfy the needs of a community. In their opinion *"a museum must adapt its programmes to the public's preferences"* and all the activities carried out by a museum must *"meet an immediate public interest"*, be it a conference, a book launch, a debate, an educational programme or an exhibition. Thus, expert A emphasizes that the satisfaction by a museum of the community's needs involves that *"many things, from exhibitions to pedagogical and cultural events"* should be developed *"together with and not for the community."* Expert B expresses the opinion that *"museums should get over the passive role they play in the community, that of providing cultural information and create a cultural event in strict connection with the museum's collection."* This expert gives the example of a history museum which should not *"focus exclusively on presenting the distant local history"*, but *"should take a great interest in what is to happen to the respective locality in the future"*. The reason for this is the fact that museums should take advantage of the people's interest in the development of their localities, since *"through the very nature of their activity, museums have the broadest possibilities of expression"* of all the public cultural institutions in Romania.

All the experts consider that the degree in which Romanian museums satisfy the communities' needs is rather small, since there are very few museums which are able to do this. As positive examples, expert C mentions the Museum of Eastern Carpathians and "Casa Mureşenilor" Museum in Braşov, as well as some museum and memorial houses in Bucharest which were able to do so due to the fact that *"the community came up with project propositions which these museums accepted."* Referring to "Grigore Antipa" Museum of National History, the expert considers that this is *"probably one of the few museums which, once their approach started changing, have remained with a somehow different approach"*.

As for the reasons for which Romanian museums fail to satisfy the needs of their communities sufficiently, the experts' opinions vary. Experts B and E uphold that museums find it difficult to cover the needs of the entire community to which they address due to geographic reasons. More exactly, a local museum must address a local community, a county museum *"must be interested in everything that happens in the respective county, not only in the county's capital city"*, whereas a national museum must address a community made up of the entire country, *"not only the community of the city where this museum is established"*. According to expert E, big national museums manage to cover only the needs of the community from the city where they are established as, *"being, through their status, identity and functions, national museums"*, they must meet the needs of the consumers from the entire country. At the same time expert B considers that the degree in which a museum can satisfy the needs of a community depends largely on the interest and involvement of the museum's manager in the life of the community where his museum is established. Expert C considers that the majority of the Romanian museums *"offer public programs by virtue of a practice, of a routine"*. As they don't *"aim in particular at the community"*, *"the community in its turn does not answer"*, which means that *"the community does not go to the museum and is not interested"*. At the opposite pole, expert E believes that the satisfaction of the community's needs by a museum involves firstly *"that the community must satisfy the museum's primary needs"*, and since the primary needs of Romanian museums are not sufficiently met, it follows automatically that the community's needs are not covered either in most cases. Expert D mentions other two causes for the disparity between a museum's offer and the needs of its community:

1. The dispute between the specialists and the public on the museum's offer: many specialists consider that the public is inclined to more popular activities, with a low qualitative content. In their opinion the public's tastes do not meet the scientific or artistic quality proposed by the museum.
2. The insufficient knowledge of the community's needs: as research has been conducted among only the museums' visitors, not the entire community, such research was too little and insufficiently developed to allow real knowledge of the consumer's needs.

DISCUSSIONS

Although museums' sustainability is a relatively new concept, it has been a topic of debate for many scholars. Worldwide museums' associations have tried to explain this notion, state the actions to be taken by museums so as to become sustainable and, last but not least, stress the intrinsic and extrinsic importance of sustainable transformation of museums. However, many museums seem not to be able to implement this new management philosophy (Joshi, 2012). This discrepancy between theory and practice has motivated us to analyze how museum professionals see sustainability and to what extent they think that Romanian museums are sustainable. In order answer these questions, a group of 5 museum professionals were selected to offer their perspective on sustainability. The first part of the interviews consisted of asking the experts to say if museums should be sustainable or not and define what the concept of sustainability meant to them. Another part of the interviews focused around the theme of Romanian museums' sustainability. Respondents were asked to give some examples of measures implemented by the museums in order to become sustainable and think upon the factors that affect the museums' sustainability. Finally, the questions about the satisfaction by the museums of their communities' needs helped us clear up why many museums fail in their mission to serve the society.

After analyzing the experts' responses, we noticed that there are two opposing views on what a sustainable museum means and what the role is that a museum should play in serving the society. Most experts believe that sustainability must come within the museum. Expert A emphasizes that in order to be sustainable, museums must know very well their customers, competitors, competitive advantages, market section and targets, and adopt an entrepreneurial behaviour to increase the value they offer to visitors. The same idea is shared by many scholars. Rentschler (2001) stressed that in order to become sustainable, museums should use entrepreneurial strategies. The two characteristics of entrepreneurship, i.e. creativity and innovation, allow museums: (1) to increase the quality of their services (Griffin, 2002); (2) to maximize the public value and get the resources needed for the performance of their activities (Durel, 2009); (3) to diversify the funding sources and develop creative programs (Rentschler & Geursen, 1999); and (4) to find ways to mitigate the environmental, social and economic risks inherent in their approach toward sustainability (Lord et al., 2012, p. 6). On the other hand, expert E considers that a museum's objective shouldn't be to obtain money or adapt to the customers' needs. In his view, a sustainable museum is a museum to which someone (whether it is the state, the community or a private donor) provides all the necessary resources so that it can carry out its traditional functions related to collecting, preserving and researching the heritage. Therefore, he promotes the idea of a closed system, specific to a planned economy, where the output should not be correlated with the consumers' needs and preferences. The existence of such hugely different points of view within the museum sector is not specific to Romania, but is a global issue. In this regard, Gilmore and Rentschler (2002) used the terms "custodial management" and "marketing management" to make the distinction between the conservative, inside-oriented museums, which are resistant to change, and the modern museums, which focus on offering value to consumers according to their preferences.

Although there are several museums in Romania which attempt to be sustainable by diversifying their products and services according to customer needs and by developing cultural projects with and for their communities, all the interviewed experts generally considered that Romanian museums are not sustainable. While Drăgulănescu and her colleagues (2013) show that cultural tourism is a fundamental element for the sustainable development of a region, our research finds that the Romanian museums' lack of sustainability has a negative impact upon cultural tourism and implicitly upon the sustainable development of the country.

The causes that have led to this situation are related both to the economic, political and legal context in Romania, and to the internal environment of museums, such as the qualification of human resources, the poor training of museum managers in entrepreneurial management and their resistance to change. If external factors are more difficult to control, in theory museums would have the ability to take measures for improving their performance within their internal environment. In this regard, museums should "*radically change their approach to public relations*" (CCCDC, 2013). The manager's role would be to develop strategies "*for both the custodial role and visitor attraction*" (Hume & Mills, 2011).

CONCLUSIONS AND IMPLICATIONS

This paper aimed at analyzing the views of museums professionals on the sustainability of Romanian museums. The findings of the research are useful for museum scholars, as only a few studies have been carried out about such issues. At the same time these findings might

be helpful for the government and the local authorities, as they could change the political and legislative context that influences the museums' sustainability negatively.

The finding that a sustainable museum involves an entrepreneurial behaviour, as well as the finding that the sustainable development of a region depends on its museums' sustainability extend the research on sustainable entrepreneurship or sustainopreneurship (Howaldt et al., 2012, p. 187, Schaltegger & Wagner, 2011), by providing evidence that this notion should be used in the museum sector as well. In fact, we may even say that sustainability in museums involves entrepreneurship and total quality management but means more than that because its final result consists in the development of a sustainable society. While in the business sector sustainopreneurship involves "the use of traditional business skills and knowledge of entrepreneurs to accomplish social and environmental goals" (Boyd et al., 2009), for museums sustainopreneurship is a direct consequence of using entrepreneurial strategies for the museums' sustainability. In other words, an entrepreneurial company doesn't necessary lead to the accomplishment of some social goals, but an entrepreneurial museum does, whether it wants or not. Thus, a major contribution of this study lies in showing that a sustainable museum causes a sustainable development of the society as a whole, but both these results depend on entrepreneurship. For the museums to support the sustainable development of a region, they first have to be sustainable, and in order to be sustainable, they must use the same entrepreneurship and business strategies as private companies.

Besides all the results, our study has a series of limitations as well. First, the interview participants' awareness about the concept of sustainability cannot be extrapolated to all museums specialists; therefore, similar research should be conducted and a larger number of experts' opinions should be considered. Also, despite the fact that nationwide we found no correlation between the number of visitors in museums and the number of arrivals in tourist accommodation establishments, things may be different in some parts of the country. In this regard, similar research should be conducted at regional or county level. Also, future research should focus on a more in-depth analysis of factors influencing the museums' sustainability and the ways through which museums can become sustainable.

ACKNOWLEDGMENTS

This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/134197 „Performance and excellence in doctoral and postdoctoral research in Romanian economics science domain“.

REFERENCES

- Alcaraz, C., Hume, M., & Sullivan Mort, G. (2009). Creating sustainable practice in a museum context: adopting service-centricity in non-profit museums. *Australasian Marketing Journal*, 17(4), 219-225.
- Asheim, G. B. (1994). *Sustainability: ethical foundations and economic properties*, The World Bank Policy Research Department, Public Economics Division.
- Bell, S., & Morse, S. (2008). *Sustainability Indicators: Measuring the Immeasurable?*, 2nd edition, Earthscan, UK.
- Blagoeva-Yarkova, Y. (2012). The Role of Local Cultural Institutions for Local Sustainable Development. The Case-Study of Bulgaria, *Trakia Journal of Sciences*, 10(4), 42-52.
- Bordean, O. N., & Borza, A. (2014). Strategic management practices within the Romanian hotel industry, *Amfiteatru Economic*, XVI(8), 1238-1252.

- Bowerman, B. L., O'Connell, R. T., & Murphree, E. S. (2014). *Business Statistics in Practice*, 7 edition, McGraw-Hill/Irwin: New York.
- Boyd, B., Henning, N., Reyna, E., Wang, D., & Welch, M. (2009). *Hybrid Organizations: New Business Models for Environmental Leadership*, Greenleaf Publishing Limited: Great Britain.
- Centrul de Cercetare și Consultanță în Domeniul Culturii (CCCCD), (2013). Strategia Sectorială în domeniul Culturii și Patrimoniului Național pentru perioada 2014-2020. Retrieved November 24, 2014, from http://www.cultura.ro/uploads/files/STRATEGIA_%20SECTORIALA_IN_DOMENIUL_CULTURII_2014-2020.pdf.
- Coman, A., & Pop, I. (2012). Why do museums matter? A case study on the Maramures County Museums, *The International Conference in Economics and Administration*, Bucharest, 121-133.
- Corboș, R. A., & Popescu, R. I. (2012a). Study regarding the National Museum of Art of Romania visitors' perception on improving its competitiveness. *Administrație și management public*, 19, 62-84.
- Corboș, R. A., & Popescu, R. I. (2012b). Prado Museum - Successful Model for Raising Competitiveness in the Romanian Cultural Organizations in the Context of Urban Development. *Management&Marketing*, X(2), 341-351.
- Council of Europe, (2005). *Council of Europe Framework Convention on the Value of Cultural Heritage for Society CETS No.: 199*, Faro, Retrieved November 24, 2014, from <http://conventions.coe.int/Treaty/EN/Treaties/Html/199.htm>;
- Drăgulănescu, I. V., Stanculescu, G. C., Ion, A., & Stan, T. A. (2014). European cultural and touristic heritage: Sighișoara vs. Verona, *Amfiteatru Economic*, XVI(8), 1160-1177.
- Durel, J. W. (2009). Entrepreneurship in Historical Organizations. *History news*, 64(2), 20-25.
- Gaweł, A. (2012). Entrepreneurship and sustainability: do they have anything in common?, *Poznań University of Economics Review*, 12(1), 5-16.
- Genoways, H. H., & Ireland, L. M. (2003). *Museum Administration: An Introduction*. UK: Altamira Press.
- Gilmore, A., & Rentschler, R. (2002). Changes in museum management. A custodial or marketing emphasis? *Journal of Management Development*, 21(10), 745 – 760.
- Griffin, D. (2002). Entrepreneurship in the Arts: Entrepreneurship in Museums, *The Kenneth Myer Lecture* by the George Fairfax Fellow in Arts & Entertainment Management.
- Howaldt, J., Hochgerner, J., & Franz, H. W., (2012). *Challenge Social Innovation: Potentials for Business, Social Entrepreneurship, Welfare and Civil Society*, Springer (eBook), Berlin.
- Hume, M., & Mills, M. (2011). Building the sustainable iMuseum: is the virtual museum leaving our museums virtually empty?, *International Journal of Nonprofit and Voluntary Sector Marketing*, 16, 275–289.
- INS Tempo on-line – Serii de timp, Retrieved January 10, 2015, from <http://statistici.inse.ro>.
- International Council of Museums. (2013). Code of ethics for museums. Retrieved January 10, 2014, from <http://icom.museum>.
- Janićijević, N. (2010). Business processes in organizational diagnosis, *Journal of Contemporary Management*, 15(2), Croatia, 85-106.
- Joshi, P. V. (2012). Planning Cultural-Heritage Tourism for Sustainable Development, *Golden Research Thoughts*, 1(XI), 1-4.
- Kotler, N. G., Kotler, Ph., & Kotler, W. I. (2008). *Museum Marketing & Strategy*, 2nd edition, Jossey-Bass, USA, San Francisco.

- Lord, B., Lord, G. D., & Martin, L. (2012). *Manual of Museum Planning: Sustainable Space, Facilities, and Operations*, 3rd Edition. UK: AltaMira Press.
- Pachucki, M. C. (2012). Classifying quality: Cognition, interaction, and status appraisal of art museums, *Poetics*, 40, 67–90.
- Plaza, B., & Haarich, S. N. (2013). The Guggenheim Museum Bilbao: between regional embeddedness and global networking. *European Planning Studies*. DOI: 10.1080/09654313.2013.817543.
- Pop, I. L., Sabou, S. (2013). Sustainable development of museums in the new context of market economy, *The International Conference: Managerial Challenges of the contemporary society*, 6, Cluj-Napoca, 35-41.
- Pop, I. L., & Borza, A. (2014). Increasing the sustainability of museums through international strategy. *Economia. Seria Management*, 17(2), 248-264.
- Popescu, R. I., & Corboș, R. A. (2011). Studiu Privind Sursele de Creștere a Competitivității Muzeului Național de Istorie a României în Contextul Dezvoltării Urbane prin Analiza Percepției Vizitatorilor, *Revista Transilvană de Științe Administrative*, 29(2), 155-172.
- Rentschler, R. (2001). *Entrepreneurship: From denial to Discovery in Nonprofit Art Museums?* Brisbane, Queensland: Queensland University of Technology, Program on Nonprofit Corporations.
- Rentschler, R., & Geursen, G. M. (1999). *Marketing and entrepreneurship in the third millennium: the case from art museums*. Retrieved July 4, 2013, from <http://anzmac.info/conference/1999/Site/R/Rentschler.pdf>
- Sacco, P. L., Blessi, G. T., & Nuccio, M. (2009). Cultural Policies and Local Planning Strategies: What Is the Role of Culture in Local Sustainable Development?, *The Journal of Arts Management, Law, and Society*, 39(1), 45-63.
- Schaltegger, S., & Wagner, M. (2011). Sustainable Entrepreneurship and Sustainability Innovation: Categories and Interactions, *Business Strategy and the Environment*, 20, 222-237.
- Scott, C. (2007). Measuring Social Value. In Sandell, R., & Janes, R. R. (Eds), *Museum Management and Marketing*, London: Routledge.
- Steel, P. (2012). Closures hit museums across UK, *Museums Journal*, 112(11), p. 5.
- World Commission on Environment and Development (1987). *Report of the World Commission on Environment and Development: Our Common Future*. Retrieved January 4, 2015, from <http://www.un-documents.net/our-common-future.pdf> .
- Yuqin, D. (2008). The Role of Natural History Museums in the Promotion of Sustainable Development, *Museum International*, 60(1–2), 20-28.
- Zbucea, A. (2013). How do young people visit museums? In C. Buzoianu, L. Ivan (Eds.), *Proceedings of the International Conference Qualitative Research in Communication*, București: comunicare.ro (CD).



ISSN 1855-931X

BURDEN SHARING AND OPTIMAL STATE AID SCHEMES

Marc Jegers*

Vrije Universiteit Brussel, Department of Applied Economics, Pleinlaan 2, BE-1050 Brussel

Belgium

marc.jegers@vub.ac.be

Caroline Buts

Vrije Universiteit Brussel, Department of Applied Economics, Pleinlaan 2, BE-1050 Brussel

Belgium

caroline.buts@vub.ac.be

Abstract

The European Commission attaches great importance to a shared investment burden when it comes to projects supported by state aid. The presence of own funds, whether they are coming from the beneficiary company itself or from other investors, signals that the beneficiary believes that the project is sound and can also contribute to limiting the possible distortion of competition. More specifically, substantial levels of equity ensure that the aid is kept to a minimum, a key principle when evaluating aid measures. This paper builds a model of optimal state aid schemes, taking into account this very important principle of burden sharing. Our model distinguishes between three sorts of state aid, two kinds of politicians and three types of entrepreneurs. The presence of equity increases the attractiveness of government guarantees in cases of failing entrepreneurs for both kinds of politicians: the ones aiming to maximize the externalities of the projects subsidized, as well as the ones acting with overall welfare in mind.

Keywords: State aid, burden sharing, competition policy

Topic Groups: Industrial Organization, microeconomics

JEL Classification: L50, L00, H70

1. INTRODUCTION

Over the past decade, the topic of state aid has gained considerable importance in the literature as well as on the policy agenda. Especially during the recent financial crisis, state

aid policy has played a vital role in saving banks and guiding them through the restructuring process. Even when excluding crisis measures, large amounts of resources are still spent when granting aid to firms. In 2011, about 0.5%¹ of aggregated GDP was spent on state aid by EU Member States (excluding crisis measures.). In addition, both theoretical and empirical economic literature on state aid covering such diverse topics as welfare effects, efficiency studies, electoral motives and consequences on competition, has increased substantially.

In the case of an integrated market, prohibiting state aid can increase welfare as is derived by Collie (2002), studying differentiated products in oligopoly. Martin and Valbonesi (2008) study state aid in an integrating market such as the EU. When achieving efficiency benefits from integration and market expansion, typically, some firms in an industry will go out of business. Consequently, it can be beneficial for a government to aid local firms. Martin and Valbonesi conclude that although it is welfare reducing (as it takes away part of the benefits of the integration process,) providing state aid is an equilibrium outcome. Despite a common understanding and an agreement to forbid state aid, except in particular circumstances within the EU, many governments still grant aid for diverse reasons. Friederiszick et al. (2006) put forward an economic framework to assess these state aid measures. This framework should contribute to reduced and better targeted state aid, less politics and more predictability. More and more, the Commission uses economic analysis to evaluate the impact of state aid measures. A very important part of such an analysis is the balancing test, weighing the benefits of an aid against possible costs, such as the distortion of competition. However, there is a difference between what the Commission considers minimally distortive for competition and what economists model as welfare maximizing. On the one hand, the Commission has a strong preference for fixed cost aid or start-up aid as opposed to aid affecting a firm's variable costs, because fixed cost aid is less distortive for competition. For example, the regional aid guidelines² explicitly require that aid is awarded for initial investment projects. On the other hand, variable cost aid should be preferred when maximizing welfare as discussed by Chor (2009) and Mariniello (2012). As the Commission focuses on the distortion of competition, Garcia and Neven (2005) establish a benchmark model of the effect of three types of state aid. They distinguish between aid affecting marginal cost, entry, and quality and study their effects on competition in markets with different characteristics.

Hainz and Hakenes (2012; HH hereafter) build a model on how to best grant state aid, taking into account three groups of actors, i.e. three types of entrepreneurs, credit specialists and two kinds of politicians. They study direct subsidies as well as indirect subsidies and find that subsidies through banks often bring higher social welfare than direct subsidies.

To the best of our knowledge, there does not exist a theoretical study modeling optimal state aid schemes that explicitly incorporates the principle of burden sharing. However, when assessing state aid, burden sharing is a frequently used concept, to which the European Commission attaches great importance. Basically, the Commission expects the beneficiary to make a considerable contribution of its own funds to a project. For example, the aid beneficiary in a restructuring case should contribute substantially to the restructuring and this input should be "real and free of aid" (European Commission, 2004, p. 1). This should prove that one still believes in the possibility of restructuring. In addition, it will ensure that the aid is kept to a minimum. Also, in light of assistance to the Spanish banking sector, the

¹ European Commission, 2012 (b).

² European Commission, 2006 (b).

importance of minimizing the cost for taxpayers was emphasized³. Bomhoff et al. (2009) explain that burden sharing when restructuring banks can be achieved, for example, by putting temporary restrictions on coupon and dividend disbursement.

Several other Commission documents such as the Community Framework for State Aid for Research and Development and Innovation⁴, the Guidelines on National Regional Aid for 2007-2013⁵, and the General Block Exemption Regulation⁶ all fix maximum aid intensities. These represent the maximum percentage of eligible costs of a project to be covered by the aid and thus also imply the need of a contribution (be it in own resources or by market creditors).

This paper aims to contribute to the theoretical literature and builds on the model of how to efficiently grant state aid which was developed by HH, by explicitly taking burden sharing into account. We thus study the influence of the presence of equity on the optimal state aid scheme. The structure of the paper is as follows: The next and main part starts with our base model. We distinguish between three types of entrepreneurs, two types of politicians, and three methods of granting state aid. It continues by describing the effect of an aid on this base model, resulting in three propositions related to the three state aid methods. The paper carries on by investigating optimal aid schemes which leads to two additional propositions. Next, we assess whether overall predictions on optimal aid schemes, valid for both categories of politicians, can be made, as in HH (p. 223) in the case of an absence of equity. The last part concludes and looks at some possibilities for future research.

2. THE MODEL

2.1. The model: assumptions and definitions

Our model takes the one proposed by HH as a starting point and adds realism to it by explicitly considering the availability of own funds (equity) to entrepreneurs applying for (subsidized) loans. Hence, we focus on the impact of (the amount of) burden sharing by the entrepreneurs on the choice of an optimal state aid scheme. Whenever we depart from the HH model, this will be stated explicitly.

The economy consists of risk neutral non-discounting entrepreneurs (the number of which is normalized to one) perfectly competitive banks which are also credit specialists, and a politician. A typical project requires an investment of I and results, if successful, in a private outcome $Y > 0$ for the entrepreneur, and a positive social externality $X > 0$. If not successful, both outcomes are zero. Entrepreneurs differ in their abilities to be successful. There are three groups (called 1, 2, and 3) with respective probabilities $p_1 > p_2 > p_3$ for success and shares m_1 , m_2 , and m_3 in the total population of entrepreneurs. The first group of entrepreneurs are able to make the investment privately profitable, the second group not, but their abilities would be sufficient to make their investments socially profitable (adding Y and X_i) whereas investments made by the third group would not be successful in any sense. The entrepreneur invests an amount $E (< I)$ of its own funds, hence applying for a loan of $(I-E)$, which obviously is smaller than I . The banks are assumed to have the necessary credit expertise to screen the entrepreneurs. This costs c per application. Entrepreneurs do not

³ European Commission, 2012 (a).

⁴ European Commission, 2006 (a).

⁵ European Commission, 2006 (b).

⁶ European Commission, 2008.

know themselves to which group they belong as they all believe in their competences to develop profitable businesses. The banks correctly assign loan applicants to the correct group, which also follows from the assumption made by HH (p. 220, 224) that they manage to make the noise 'arbitrarily small', mathematically falling to zero.

If the bank accepts the loan applicant, an entrepreneur of group i has to refund R_i if available. As the values of R_i differ across state aid methods, Y can only be interpreted on a 'before financial cost' basis. Profitability however has to be assessed 'after financial costs' ($Y - R_i$). Therefore, avoiding endogeneity issues⁷, we assume that the values of p_i , R_i , Y , I , E , and X allow us to characterize the three groups of entrepreneurs as follows:

$$\text{group 1: } p_1(Y - R_1) \geq E$$

$$\text{group 2: } p_2(Y - R_2) < E \leq p_2(Y - R_2 + X)$$

$$\text{group 3: } p_3(Y - R_3 + X) < E$$

If, e.g., the condition for group 1 would not be met, the group 1 projects would not be privately profitable. Note that if $Y < I$, no 'group 1' investments will be made (as, inevitably, $R_1 \geq (I - E)$). Therefore, Y should exceed I . As for group 2, we will also confine ourselves to situations in which group 2 entrepreneurs do not have enough of their own funds to be able to borrow the remainder needed without any subsidy, even at a zero interest rate: $p_2 Y < (I - E)$.

Two types of politicians are considered: politicians of the first type want to maximize overall social welfare (the sum of private benefits and externalities) and politicians of the second type only maximizing externalities, their utility functions being W and U respectively. HH (p. 222) label the latter type as 'selfish', as they assume that confining oneself only to externalities increases the probability of being re-elected. The first group of politicians is called 'benevolent'. This choice of terminology of the two groups might be unfortunate, as it is not fully justified by the difference in objective functions. However, we will use the same descriptors for consistency.

Three methods of subsidizing are considered and compared as to their welfare effects: a guarantee paid to the bank in case of default ('uninformed subsidy', S^{US}), a subsidy paid to the bank for each application of an entrepreneur of the second group of entrepreneurs after having been rejected by a non-subsidized bank ('subsidized bank', S^{SB})⁸, and a direct subsidy to entrepreneurs of the second group ('informed subsidy', S^{IS}). The concomitant fiscal distortions are characterized by the factor d describing the welfare distortion per unit of subsidy granted. Under the assumption of an efficient government, this implies that d exceeds 1 by a very small amount (Neary, 1994; Collie, 2000). Note that in cases in which governments are inefficiently spending tax money, d could be smaller than 1.

⁷We in fact only assume Y to be large enough to allow the condition for group 1 to be met, p_2 to be low enough and X large enough to allow the conditions for group 2 to be met, and p_3 small enough for group 3 projects to exist. If, e.g., $p_1 Y \geq E$ but $p_1(Y - R_1) < E$ then the bank's calculus becomes much more elaborate.

⁸The aid provided by the European Bank for Reconstruction and Development or the European Investment Bank, in the aftermath of the fall of the Berlin Wall in 1989 are prominent examples of such a type of aid.

2.2. The effects of aid measures

The following propositions describe the outcomes under the three state aid methods described in the previous section.

Proposition 1. Under an **uninformed subsidy** scheme, repayments to the bank by group 1 and group 2 entrepreneurs, the guarantee paid by the politician if a borrowing firm is unsuccessful, aggregate welfare, and the level of externalities are respectively:

$$R_1^{US} = \frac{(I-E) - (1-p_1)S^{US}}{p_1} + \frac{c}{m_1 p_1}$$

$$R_2^{US} = Y$$

$$S^{US} = \frac{(I-E) - p_2 Y}{1-p_2} \left(< \frac{(I-E) - p_2(I-E)}{1-p_2} = I-E \right)$$

$$W^{US} = (m_1 p_1 + m_2 p_2)X + m_1 p_1 Y - m_1 p_1 R_1^{US} - (m_1 + m_2)E - d(m_1(1-p_1) + m_2(1-p_2))S^{US}$$

$$U^{US} = (m_1 p_1 + m_2 p_2)X - d(m_1(1-p_1) + m_2(1-p_2))S^{US}$$

For the proofs of Propositions 1-3, see Appendix A. There it is established that group 3 projects will never be funded by the bank. Therefore we confine ourselves to the implications for projects from groups 1 and 2 for all aid schemes. The expressions for W and U will be used to select optimal subsidy schemes, if any.

Under the uninformed subsidy scheme all entrepreneurs apply for a loan. The bank screens all of them and grants a loan to all applicants of group 1 and group 2. In the case of default, the subsidy is paid directly to the bank. The uninformed subsidy is set at such a level that funding group 2 projects (socially profitable) is feasible for the bank, because in this group, the expected revenues will be $p_2 Y + (1-p_2)S^{US}$, which equals $(I-E)$. If successful, group 2 entrepreneurs repay their income earned (Y) , remember we normalized the interest rate to zero). All screening costs are borne by the group 1 entrepreneurs, through the term $c/m_1 p_1$.

Proposition 2. Under a **subsidized bank** scheme, repayments to the bank by group 1 and group 2 entrepreneurs, the subsidy paid to the bank for each application of a group 2 entrepreneur, aggregate welfare, and the level of externalities are respectively:

$$R_1^{SB} = \frac{(I-E)}{p_1} + \frac{c}{m_1 p_1}$$

$$R_2^{SB} = Y$$

$$S^{SB} = (I-E) - p_2 Y + \left(1 + \frac{m_3}{m_2}\right)c$$

$$W^{SB} = (m_1p_1 + m_2p_2)X + m_1p_1Y - m_1p_1 R_1^{SB} - (m_1+m_2)E - dm_2S^{SB}$$

$$U^{SB} = (m_1p_1 + m_2p_2)X - dm_2S^{SB}$$

The sequence of the game proposed by HH (p. 221), and therefore applied by us, starts with all the entrepreneurs applying for a loan with a non-subsidized bank, which selects the group 1 applicants. The other ones then turn to the subsidized bank, which must distinguish group 2 and group 3 entrepreneurs. It receives a subsidy for the loans granted to group 2 applicants. Their repayment when successful is the same as under the uninformed subsidy scheme. Group 1 entrepreneurs again carry the burden of screening, and do not enjoy guarantees, making their repayment higher than in the uninformed subsidy system. The screening cost also affects the subsidy amount, as it has to be set in such a way that the bank does not incur a loss by granting a loan to a group 2. As it receives the subsidy for each loan granted to a group 2 project and also has to screen group 3 applicants, its expected revenues amount to $m_2S^{SB} + m_2p_2Y - (m_2+m_3)c$ which equals $m_2(I-E)$, the amount lent.

Proposition 3. Under an informed subsidy scheme, repayments to the bank by group 1 and group 2 entrepreneurs, the subsidy paid to each entrepreneur of group 2, aggregate welfare, and the level of externalities are respectively:

$$R_1^{IS} = \frac{(I-E)}{p_1} + \frac{m_1 + m_3}{m_1} \frac{c}{p_1}$$

$$R_2^{IS} = (I-E) + (1-p_2)Y$$

$$S^{IS} = (I-E) - p_2Y$$

$$W^{IS} = (m_1p_1 + m_2p_2)X + m_1p_1Y - m_1p_1 R_1^{IS} - (m_1+m_2)E - dm_2S^{IS} - dc$$

$$U^{IS} = (m_1p_1 + m_2p_2)X - d(m_2S^{IS} + c)$$

The sequence of events proposed by HH (p. 222) is as follows: the politician contracts out the assessment of loan applicants, which directly grants a subsidy to group 2 projects. The fact of having obtained the subsidy reveals that they belong to group 2, which implies the bank cannot distinguish group 1 applicants from group 3 applicants without screening. Also here, the subsidy is designed in such a way that the bank does not object to financing group 2 projects. As the subsidy is granted to all group 2 entrepreneurs, they are able with a probability p_2 to pay R_2^{IS} . In the case of failure, they will have to transfer the subsidy they received to the bank (probability $(1-p_2)$). The expected revenues for the bank therefore are

$$p_2(I-E) + p_2(1-p_2)Y + (1-p_2)(I-E) - (1-p_2)p_2Y = I-E$$

The bank also has to distinguish group 1 applicants from group 3 applicants, hence the (m_1+m_3) in R_1^{IS} .

2.3. Optimal state aid methods

In Appendix B, the optimal state aid methods for the benevolent politician and the selfish politician are derived.

For the benevolent politician, the following proposition applies:

Proposition 4. The **benevolent politician** will never apply the subsidized bank method to grant state aid when he has the possibility to apply either the uninformed or informed subsidy method. The optimal choice between the two possibilities can be described as follows:

- i. for increasing E , the probability that the uninformed subsidy scheme is optimal increases.
- ii. for decreasing m_1 and m_2 , and increasing c and p_1 , the probability that the uninformed subsidy scheme is optimal increases.
- iii. the effects of d and p_2 are indeterminate.

These results differ from the ones obtained by HH as they, in their Proposition 5 (p. 232) find conditions under which the subsidized bank method might be optimal. The basic mechanism underlying the proof in Appendix B is the trade-off between the expected revenues of the entrepreneurs, including possible subsidies they might obtain, and the fiscal distortion entailed by the subsidies granted. When determining the optimal state aid schemes for selfish politicians, the only relevant differences between the aid mechanisms are the fiscal distortions, the expected externalities generated by the projects (through X) being identical for the three mechanisms.

Proposition 5. The **selfish politician** will never apply the informed subsidy method. The choice between the subsidized bank method and the uninformed subsidy method depends on the configuration of the parameters involved:

- i. for increasing E , the probability that the uninformed subsidy scheme is optimal increases.
- ii. the level of fiscal distortion (d) does not affect the choice between the subsidized bank method and the uninformed subsidy method.
- iii. for decreasing m_1 , and increasing m_2 , m_3 , p_1 and c , the probability that the uninformed subsidy scheme is optimal increases.
- iv. the effect of p_2 is indeterminate.

In the following section we discuss some empirical implications of Propositions 4 and 5.

2.4. Empirical predictions

The three state aid methods discussed cover in a way three generic types: guarantees (US), subsidies to financial institutions to stimulate them to provide loans to a specific group of firms (SB), and direct subsidies to a specific group of firms (IS)⁹. HH (p. 223) derive from their analysis, in which the entrepreneur's financial input is disregarded, three empirical

⁹ For an overview of currently used aid instruments, see the overview in the European Commission's search engine available at: http://ec.europa.eu/competition/elojade/isef/index.cfm?clear=1&policy_area_id=3 (last assessed 21.05.2013).

predictions unaffected by the politicians' characteristics. Taking into consideration the entrepreneur's input, however, makes two of these predictions conditional upon the politicians' characteristics, as can be seen from our Propositions 4 and 5. Further, our analysis reveals a new prediction, irrespective of the politicians' characteristics: higher shares of the entrepreneurs' own funds in investments make guarantees more attractive.

HH's Prediction 1 implies that high values of m_2 tend to make guarantees optimal for both groups of politicians. This is not the case anymore when equity is accounted for in the analysis (our Propositions 4(ii) and 5(iii)): guarantees would only be optimal for selfish politicians.

HH's second prediction states that subsidized loans will be preferred for higher values of m_1 and lower values of m_2 . We prove in Proposition 4 that, once the role of equity is acknowledged, subsidized loans are never optimal for benevolent politicians. However, they remain optimal for the selfish politicians (Proposition 5(iii)).

The last prediction formulated by HH is hardly affected by considering the presence of equity: increasing screening costs favors the application of guarantees (Proposition 4(ii) and Proposition 5(iii)).

The upshot is the conclusion that one has to be very cautious when proposing general predictions as to optimal aid schemes: the introduction of one (in our case very realistic) aspect in the analysis drastically reduces the overall validity of a number of predictions derived in earlier work.

3. CONCLUSION

Building on the existing literature on optimal state aid schemes, we model the effect of burden sharing where the beneficiary of an aid contributes its own substantial funds to the project on the optimal state aid scheme. We take the entrepreneur's financial burden into account when assessing the beneficiary's profitability, and we analyze the impact of the level of the beneficiary's own funds on the optimality conditions. One of our inferences is that, from the viewpoint of a politician striving for maximum overall welfare (the 'benevolent' politician,) a system in which banks are directly subsidized for each loan application by financially unprofitable but socially profitable firms is never optimal and therefore not applied. Furthermore, a politician preferring as much externalities as possible (the 'selfish' politician) will not utilize the informed subsidy method. Increasing the equity level makes guarantee mechanisms ('uninformed subsidies') preferable to both kinds of politicians.

Looking at the limited number of studies and the constantly dynamic framework that surrounds state aid policy, many routes are still open to further analyze the best way in which to grant state aid. Further research could look, for example, at the possibility of imperfect screening and / or at the option to endogenize X , dependent on the method of state aid implemented. The former increases complexity by adding realism to the model. The latter builds on the idea that X may vary under different state aid mechanisms, depending on the specific objective of the aid¹⁰. Contributing to further knowledge on this theme is highly relevant for state aid policy; a policy that is still controlling the efficient spending of a substantial amount of resources and has proven its importance recently in guiding governments on how to deal best with the rescue and restructuring of the financial sector.

¹⁰ e.g. Chang-Yang, 2011, Chor, 2009, Petkov, 2007 and Tassej, 1996.

State aid policy has in this way played a vital role in restoring trust and saneness in the financial sector, an essential part of our economic system.

REFERENCES

- Bomhoff, A., Jarosz-Friis, A., & Pesaresi, N. (2009). Restructuring banks in crisis-overview of applicable State aid rules, (European Commission) *Competition Policy Newsletter*, 3, 3-9.
- Chang-Yang, L. (2011). The differential effects of public R&D support on firm R&D: Theory and evidence from multi-country data, *Technovation*, 31, 256-269.
- Chor, D. (2009). Subsidies for FDI: Implications from a model with heterogeneous firms, *Journal of International Economics*, 78, 113-125.
- Collie, D. R. (2000). State aid in the European Union: the prohibition of subsidies in an integrated market, *International Journal of Industrial Organization*, 18, 867-884.
- Collie, D. R. (2002). Prohibiting state aid in an integrated market: Cournot and Bertrand oligopolies with differentiated products, *Journal of Industry, Competition and Trade*, 2, 215-231.
- European Commission (a), (2006). Community Framework for State Aid for Research and Development and Innovation, *Official Journal of the European Union*, C323 of 30.12.2006.
- European Commission (a), (2012). State aid: Commission's contribution to Spanish financial assistance programme focusing on banking sector, available online at: http://europa.eu/rapid/press-release_MEMO-12-1013_en.htm (last assessed 26.02.2013).
- European Commission (b), (2012). Total state aid by Member State as a percentage of GDP, available online at: http://ec.europa.eu/competition/state_aid/studies_reports/expenditure.html (last assessed 26.02.2013).
- European Commission (b), 2006, Guidelines on National Regional Aid for 2007-2013, *Official Journal of the European Union*, C54 of 4.3.2006.
- European Commission, (2004). Communication from the Commission- Community guidelines on State aid for rescuing and restructuring firms in difficulty, *Official Journal of the European Union*, 244 of 1.10.2004.
- European Commission, (2008). Commission Regulation (EC) No. 800/2008 declaring certain categories of aid compatible with the common market in application of Articles 87 and 88 of the Treaty (General Block Exemption Regulation), *Official Journal of the European Union*, L214 of 9.8.2008.
- Friederiszick, H. W., Röller, L. H., & Verouden, V. (2006). European State aid control: an economic framework, in Buccirossi P. (ed.), 2008, *Handbook of antitrust economics*, Cambridge, MIT Press.
- Garcia, J. A., & Neven, D. (2005). State aid and the distortion of competition, a benchmark model, HEI Working Paper, No. 06/2005, available online at: http://graduateinstitute.ch/webdav/site/international_economics/shared/international_economics/publications/working%20papers/2005/HEIWP06-2005.pdf (last assessed 27.02.2013).
- Hainz, C., & Hakenes, H. (2012). The politician and his banker – how to efficiently grant state aid. *Journal of Public Economics*, 96, 218-225.
- Mariniello, M. (2012). Should variable cost aid to attract foreign direct investment be banned? A European perspective, *Journal of Industry, Competition and Trade*, forthcoming.

- Martin, S., & Valbonesi, P. (2008). Equilibrium state aid in integrating markets, *The BE Journal of Economic Analysis & Policy*, vol. 8.1.
- Neary, J. P. (1994). Cost asymmetries in international subsidy games: should governments help winners or losers?, *Journal of International Economics*, 37, 197-218.
- Petkov, P. (2007). Infant firm subsidization in industries with dynamic structure, *Journal of Industry, Competition and trade*, 7, 73-93.
- Tassey, G. (1996). Choosing government R&D policies: tax incentives vs. direct funding, *Review of Industrial Organization*, 11, 579-600.

APPENDIX A

Substituting I by (I-E), the proofs to obtain R_1^* , R_2^* and S^* are identical to the one provided by Hainz and Hakenes (2012, p. 221), including the implication that S^* will not be sufficient to make group 3 projects acceptable for the bank.

Only the projects contribute to aggregate welfare, as the banking market is perfectly competitive. Entrepreneurs receive a credit of (I-E) and invest it together with their own funds E, making then a net investment of $+(I-E)-(I-E)-E = -E$

Fiscal distortions have a negative effect on welfare. The welfare expressions for the three aid methods in the propositions are obtained after algebraic simplification of the following initial expressions:

$$W^{US} = m_1(p_1(Y+X-R_1^{US}) - E) - dm_1(1-p_1)S^{US} + m_2(p_2X - E) - dm_2(1-p_2)S^{US}$$

Note that, for entrepreneurs of group 2, revenues Y are fully used to pay the bank, as $R_2^{US} = Y$.

$$W^{SB} = m_1(p_1(Y+X-R_1^{SB}) - E) - dm_2S^{SB} + m_2(p_2X - E)$$

and

$$W^{IS} = m_1(p_1(Y+X-R_1^{IS}) - E) + m_2(p_2X - E) - dm_2S^{IS} - dc$$

APPENDIX B

To compare the welfare effects of the three state aid methods, it suffices to look at the terms in the welfare expressions that are not common to the three expressions. These are:

$$\text{for } W^{US}: -m_1p_1R_1^{US} - d(m_1(1-p_1)+m_2(1-p_2))S^{US}$$

$$\text{for } W^{SB}: -m_1p_1R_1^{SB} - dm_2S^{SB}$$

$$\text{for } W^{IS}: -m_1p_1R_1^{IS} - d(m_2S^{IS} + c)$$

$$\text{for } U^{US}: -d(m_1(1-p_1)+m_2(1-p_2))S^{US}$$

$$\text{for } U^{SB}: -dm_2S^{SB}$$

$$\text{for } U^{IS}: -d(m_2S^{IS} + c)$$

The comparison of welfare effects under the three state aid methods is further simplified by expressing repayments and subsidies in function of the values obtained for the 'informed subsidy' case:

$$R_1^{US} = R_1^{IS} - \frac{m_1 + m_3}{m_1} \frac{c}{p_1} - \frac{(1-p_1)S^{US}}{p_1} + \frac{c}{m_1 p_1} = R_1^{IS} - \frac{(1-p_1)S^{US}}{p_1} + \frac{m_2 c}{m_1 p_1}$$

$$R_1^{SB} = R_1^{IS} + \frac{m_2 c}{m_1 p_1}$$

$$S^{US} = S^{IS}/(1-p_2)$$

$$S^{SB} = S^{IS} + (1 + \frac{m_3}{m_2})c$$

Inserting these in the six utility expressions above, and deleting the common terms ($-m_1 p_1 R_1^{IS}$ and $-d m_2 S^{IS}$) in the first three we obtain the following expressions to be compared:

$$\text{for } W^{US}: W^{US} = \frac{m_1(1-p_1)}{(1-p_2)}(1-d)S^{IS} - m_2 c = \frac{m_1(1-p_1)}{(1-p_2)}(1-d)((I-E)-p_2 Y) - m_2 c$$

$$\text{for } W^{SB}: W^{SB} = -m_2 c - d(m_2 + m_3)c$$

$$\text{for } W^{IS}: W^{IS} = -dc$$

$$\text{for } U^{US}: U^{US} = -\frac{d(m_1(1-p_1) + m_2(1-p_2))S^{IS}}{1-p_2}$$

$$\text{for } U^{SB}: U^{SB} = -d(m_2 S^{IS} + (m_2 + m_3)c)$$

$$\text{for } U^{IS}: U^{IS} = -d(m_2 S^{IS} + c)$$

We first look at the optimum for the benevolent politician. As the factors $\frac{m_1(1-p_1)}{(1-p_2)}$ and $((I-E)-p_2 Y)$ are positive, as well as $d(m_2 + m_3)c$, and the absolute value of $(1-d)$ is very small (its real value even being positive in the case of inefficient governments), W^{US} always exceeds W^{SB} . We therefore have to compare W^{US} and W^{IS} . $W^{US} > W^{IS}$ if and only if

$$\frac{m_1(1-p_1)}{(1-p_2)}(1-d)((I-E)-p_2 Y) - m_2 c > -dc$$

The statements in Proposition 4 immediately follow from this inequality, considering $(1-d) < 0$. Note that the predictions would be different when $d < 1$.

Next, we look at the optimum for the selfish politician. The subsidized bank method dominates the informed subsidy method, as $(m_2+m_3) < 1$. U^{IS} exceeds U^{SB} if and only if

$$- \frac{d(m_1(1-p_1) + m_2(1-p_2))S^{IS}}{1-p_2} > -d(m_2S^{IS} + (m_2+m_3)c)$$

or

$$- \frac{d(m_1(1-p_1))}{1-p_2} ((I-E)-p_2Y) > -d(m_2+m_3)c$$

The statements in Proposition 5 immediately follow from this inequality.



ISSN 1855-931X

WORD OF MOUTH, PERCEIVED RISK AND EMOTIONS, EXPLAINING CONSUMERS' COUNTERFEIT PRODUCTS PURCHASE INTENTION IN A DEVELOPING COUNTRY: IMPLICATIONS FOR LOCAL AND INTERNATIONAL ORIGINAL BRANDS

Misbah Khalid

*Faculty of Business, Department of Management Sciences, Iqra University, Islamabad
campus*

Pakistan

misbahriaz129@gmail.com

Saleem Ur Rahman*

Faculty of Business, Department of Marketing, University of Vaasa, Vaasa

Finland

saleem.rahman@uva.fi

Abstract

Not only for local but also for the global brand manufacturers and retailers, counterfeiting is one of the major problems and a barrier to their growth in both developing and developed countries. The problem of counterfeiting is harmful to economic growth and well being of countries and companies. However, this study primarily focused on the issue of counterfeit product purchases from the consumers' viewpoint. For example, using Theory of planned behavior (TPB), consumers' counterfeit purchase intention is judged based on three important factors such as Perceived risk, Word of mouth, and Emotions. Using non-probability convenience sampling technique, a self-administrated questionnaire was designed and distributed among 500 respondents in Islamabad, Lahore and Peshawar city of Pakistan. Out of the total, only (n = 214, 42.8%) questionnaires were completed and retrieved from the respondents. Pearson correlation and General linear model statistical test are applied to examine and interpret the collected data. Results show that, except perceived risk, the word of mouth and emotions positively influence consumers' counterfeit products purchase intentions. The results are of great importance for the business sector as well as to policy makers for hostility against the counterfeit trading, selling, promotion and purchasing in developing countries.

Keywords: Counterfeit Products, Consumer Behavior, Purchase intention, Word of Mouth, Emotions, Perceived Risk, Pakistan

Topic Groups: Marketing and consumer behavior, International business, Social sciences and business

JEL Classification: M14, M31, M10

INTRODUCTION

With the rising demand in counterfeit products, consumer perception towards counterfeit products has become one of the most interesting research areas (San, Yee, & Rahman, 2012). Growing demand of counterfeit products is a major concern of government and business sector, in both developing and developed nations (Hanzaee & Taghipourian, 2012). Any product bearing the name or logo of a registered brand without permission, in order to take advantage of its superior values falls under the umbrella of counterfeit or fake products (Carpenter, 2011). At a supplementary multifaceted level of fake products, it is being developed worldwide to look and feel original (Theng, Tan, Lwin, & Shou-Boon, 2010). In this regard, effective enforcement is critical to gather support of people to combat counterfeiting and piracy, at global scale.

Although marketing managers should publicize the promotion through the media about counterfeit products or spread awareness among people about the differences between original and fake products. However, huge transactions of counterfeits round the world has raised concerns for original products' manufacturers and thus raised the need to examine the factors contributing to the soaring sales of counterfeit products (Lan, Liu, Fang, & Lin, 2012). Counterfeit products have become an imperative economic issue for every country, due to its increase in demand. The prior investigation validates the fact that the purchase behaviors of consumers towards counterfeit products have gained much fame than in the past (Hanzaee & Farzaneh, 2012).

According to the findings of International Anti-counterfeiting Coalition (IACC), that projected value of global trade in counterfeit and pirated goods is around 1.77 trillion dollars (International Anti-Counterfeiting Coalition, 2015). China, India, Russia, Argentina, Chile, Egypt, India and Israel are the major countries, with US is taking a lead role in production of counterfeit products (Chaudhry, 2009). Previous studies investigated the impact of low prices and easy accessibility on the consumer attitude towards copycat products as the main driving force behind the huge purchase of counterfeit products (Mir, 2012). Unfortunately, there is a lack of understanding and awareness about intellectual property laws among the people; even educated class is careless about it probably due to the inaccessibility of intellectual property laws. The average person on the street is found to be ignorant of the publicized benefits of intellectual property protection (Waziri, 2011). One often overlooks the feature of intellectual property rights policy stating the avoidance and enforcement against 'irresponsible defendants' including goods counterfeiters (Spink, 2011). The social structure plays a significant role in influencing views of family and friends on their social circle, leading to an affirmative attitude towards fake products (Riquelme, Rios, Mahdi & Abbas, 2012). Counterfeiters are mostly motivated by greed because they are out to make easy money from someone else's work (Theng et al., 2010).

The increased consumption of counterfeit products by consumers is a growing concern for policy makers as well as for organizations. To combat this problem the business leaders and

lawmakers need to know about the channels involved in increased promotion and demand of counterfeit products specifically in developing countries. For that reason, this research tries to identify the factors influencing consumers' buying intention towards counterfeit products in Pakistan.

Counterfeits products in Pakistan

Not only developed, but even this worldwide problem is troubling various developing nations. Therefore, to fight against the compelling factors that leads to its economic dominion and succession in the whole world is indispensable (Waziri, 2011). It has been observed that most Pakistani consumers hold plain type of ethical judgment in relation to this personal behavior (Butt, Bhutto, and Siddiqui, 2011). People, who produce the imitating version of brands, neither invest their money in research and development nor comply with safety, health and environment regulations. The local market condition shows that the market is flooded with counterfeit medicines, surgical instruments, foodstuffs, soft drinks, cigarettes, vehicle spare parts, electronic products, clothing's and footwear, pesticides, washing powders, glassware, cosmetics and baby products (Kafchinski, & Shelley, 2009; Lan et al., 2012). There is a critical need to combat counterfeiting and piracy, which has not only linked to public safety issues but also is discouraging investments and fosters illicit trade (Dabija, Dinu, Tachiciu, and Pop, 2014).

There is a vast demand of consumers for local products over imported products in Pakistan (Rahman & Khan, 2012). The country is a dumping ground for counterfeit, semi-pirated, and substandard products (The Nation, 2012). In an international report more than 65% of the products being sold in all over the country are pirated, which is distracting the customers, manufacturers and thus hampering the financial system (Associate Press of Pakistan, 2012). The value of counterfeit products has become a major headache for the original product's producers across the world (Penz & Stöttinger, 2008). More than 50% of the brands in Pakistan are either imperfect, polluted or knockoff products that have swamped the market and the consumers have been cheated due to the absence of consumer protection policies (Frontier Economics, 2011). In addition, there is a lack of awareness among the general public to differentiate between counterfeit and genuine products (Tribune, 2012). To tackle this crime the legal action can be taken under Pakistan Copyrights Act 1962 against counterfeit producers and sellers, and can be punished with the fine of more than Pakistani Rupees (PKR) Rs. 100,000. However, there is a lack of political commitment and a will to ratify the Consumer Protection Ordinance to combat against the production and sale of counterfeit products.

As a result of the above mentioned facts, this study tries to identify the important determinants influencing consumer purchase intention of counterfeit products, which can help the policy makers to combat against ever-increasing sales trend of imitating products, hampering the economic and safety conditions of the nation. Pakistan is a developing country with a low literacy rate and the majority of its population living close to the poverty line, resulting in an increased level of counterfeit products' consumption. Thus, it is important that government show and take action to stop counterfeit products manufacturing and trade in the country. Counterfeit products are one of the major problems for the economy. In our status-oriented society, everybody develops a psychological complex of being branded concession diverting his or her mind to counterfeiting and purchase knockoff in lower price. Therefore, this study primarily focuses on the consumers' purchase of counterfeit products, which has implications for the business sector as well as for the policy

makers to combat against the counterfeit purchasing and promotion in a developing country context.

This study has five parts. In the first part introduction to the research problem and context is discussed. Second part reviews the past literature and thus hypothesize the framework model. Third part of the study introduces the research method, sampling method and data collection, and data analysis tests. The fourth part analyzes and interprets the results obtained from the collected data. The fifth and last part of the study summarizes the findings and conclude the results, recommend the managerial implications, discuss the limitations, and suggest future research.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

A worldwide trend is growing with disturbing value, i.e., production, distribution and expenditure of counterfeit goods (Norum & Cuno, 2011). Pirating has become a big problem besetting a lot numbers of industries. It changes all the things, but, the name of the brands become same as it is a real thing with its quality or tang. Knock off products incise the income and harm the product owner's status (Wee, Ta, & Cheok, 1995). Knock off products are just like treachery. Pirated things are the same as fake things, imitative or unlawfully copied for extending money from naïve and submissive legal firm (O'Mathúna, & McAuley, 2005).

The literature differentiates counterfeiting into two types; these are deceptive and non-deceptive counterfeiting. In deceptive counterfeiting purchaser do not ever realize that they are purchasing a counterfeit product. However, in a non-deceptive counterfeit, consumers often willfully buy a counterfeit product (Nia & Zaichkowsky, 2000). Pirated of cash is its ancient form and it was there since coins were made up. Knockoff or piracy product and the lavish buyer are a main universal problem and are more powerful not only in developing countries, but also in the developed world such as Europe (Riquelme et al, 2012). For example, at country level European countries prohibit the counterfeits (Velčovská & Sadilek, 2014). These products are deliberately planned to duplicate, incorporate or imitate products in order to take advantage of reputable products developed through years of use. These things are also referred as "fake", "same" and "facsimile" between other conditions (Slocum & Collen, 2011).

Massing out billions in lawful economic activity and facilitate on "underground economy" that takes away governments of revenues for imperative public services forces the higher burden on taxpayers, disjoins hundreds of lawful jobs and, express customers to dangerous and ineffective products (Frontier economics, 2011). Counterfeit products and pirated products usually come from Asia. China is the pioneer to make the knockoff products in all over the world; it produces nearly two-thirds of the world's pirated products. Asian consumers get a bad status for purchasing knockoff products such as computers, software, fashion clothing and watches (Chan, Wong, & Leung, 1998). Consumer "needs" are found to be rising obvious into "wants" which are insubstantial, of difficult to understand the value, affective in nature and defenseless of marketing communication (Vrontis & Thrassou, 2007).

It is very difficult to understand the reason that why consumer purchase real and genuine luxury brand, what they think about the reality of the real and genuine luxury and what they perceive or think about the value and importance of genuine brands which affects their purchasing behavior in a tradeoff among valid or the knockoff products (Wiedmann, Hennigs

& Klarmann, 2012; Ahuvia, Gistri, Romania, & Pace, 2014). In recent years, there has been a very important discussion on the damaging impact of pirated products on luxury products. Marketing literature defined that the knockoff products negatively affects consumer insights of the real goods (Mir, 2013).

In the wake of these negative consequences of producing and buying counterfeit products for original and authorized products, this study attempts to examine the factors of counterfeit product purchase by consumers in a developing country perspective. By integrating word of mouth communication, the perceived risk, and consumers' emotions determinants into the Theory of Planned Behavior (TPB) (Ajzen, 1991; Cheng, Fu, and Tu, 2011), this study explicitly contributes in existing research on counterfeit consumption and thus answering the call of research on the subject.

Word of mouth communication and counterfeit products

In marketing, word-of-mouth (WOM) communication involves the passing of information between the consumers about their product and service performance experiences (Dichter, 1966). It is an informal form of communication and there are different expressions as to how academics and people refer to it. Bughin, Doogan, and Vetvik (2010) stated that word of mouth is a primary factor behind 20-50 % of all purchasing decisions. Wee et al, (1995) explained that word of mouth is real, powerful, and honest communication tool. People need information about services and products in the market, which becomes the starting point of spreading the word. Mangold, Miller, & Brockway (1999) discussed word of mouth with an example that when our friend asks an advice about a good restaurant, or a nice place to stay, we become happy to be asked and give our wholeheartedly expertise and advice accordingly. Fang et al, (2011) found that Word of mouth is more influential in the spread of services as compare to goods.

Deceptive and Non-Deceptive Counterfeit products are unlawful products so they are not promoted through the public media such as newspaper and TV (Mir, 2012). These products are commercialized in the market due to loopholes in the internet technology, which provide a communication mean for counterfeiters to the general public (Lee & Workman, 2011). For example, Mir (2013) found that especially in developing countries counterfeiters use different websites as compare to traditional media for the promotion of counterfeit products. In addition, the impact of WOM on the consumers' attitude towards the counterfeits is unaddressed. Demand of counterfeit products has increased considerably via word-of-mouth communication. Lee and Workman (2011) proposed that consumers show little ethical concerns and have a favorable attitude towards counterfeit products, besides these factors, WOM is an important factor, which persuade consumers to buy counterfeits. Counterfeiting is a critical and growing problem in both well developed and less developed countries. It is very interesting to investigate how people exchange information and communicate for the sales of counterfeit because the promotion of counterfeit cannot use public media. Therefore, it is hypothesized that,

H1: Word of mouth about counterfeits will positively relate to consumers' intention to purchase those products.

Perceived risk and counterfeit products

The perceived risk relationship begins with the review by making with concern of factors such as involvement and trust. Likewise, there were many factors, for example psychological, social and financial risks load more heavily onto the factors that label "personal risk" (Bauer, 1960). Dowling and Staelin (1994) defined perceived risk as risk in terms of consumer awareness about the negative impact in product purchase. The perceived risk of consumers relates to the financial, performance, prosecution, time and social risks (Veloutsou, & Bian, 2008; Tan, 2002). Several researchers stressed that purchase intention does not show the behavior and attitude towards counterfeit products other than economic reflections. Bian and Moutinho (2011) identified counterfeit brand products (CBP) between the owner of CBP and the owner of the brand product and none but consumers had a better recognition of the brand product (BP) than CBP with the exception of security issues and financial risks. Because the consumers' perceptions of quality hold them, therefore, their perceived risk to buy negatively influences their attitude towards buying counterfeit products (Quintal, & Phau, 2014; Chiu, Lee, & Won, 2014). Therefore, we hypothesize that,

H2: Consumers' perceived risk towards counterfeits will be negatively related to their intention to purchase those products.

Emotions and counterfeit products

Emotions were usually concerned as general proportion like positive and negative effects, but these effects are also getting interest in more specific emotions (Laros & Steenkamp, 2005). Emotions are based on two separate proportions; these are pleasure and awakening (Bigné, Andreu, and Gnoth, 2005). Researchers are known as the early scientists to conceptualize the emotions, or feeling as the magnitude and states of consciousness and as the dimension of personality and behavior (Mir, 2012). The most important and the main reason of emotions is that positive emotions get a positive effect on consumer purchase behavior (Kotler, 1974).

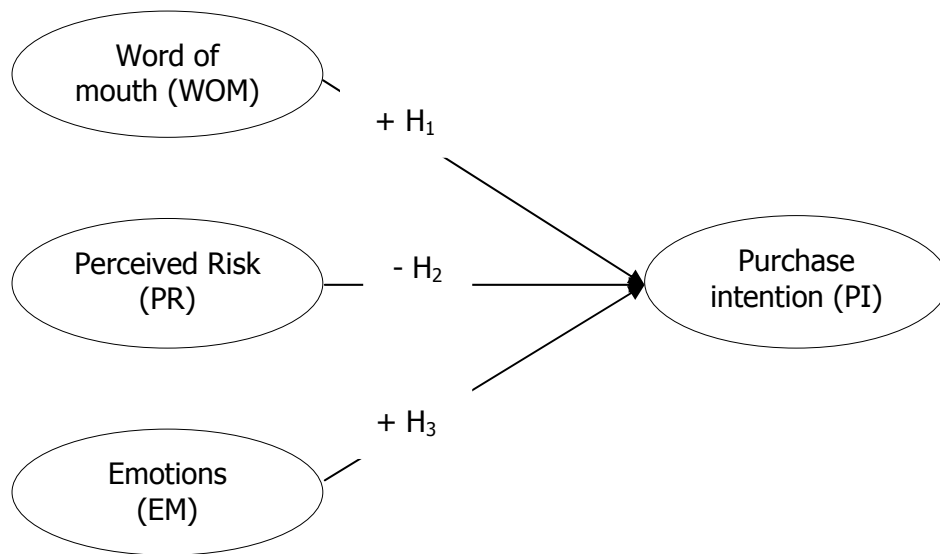
In the context of counterfeit product purchase, Turunen and Laaksonen (2011) were not sure if consumers enjoy the fact are getting something resembling the real thing at a lower cost or if they just did not understand the durability, quality and value of an authentic product. Gino, Norton, and Ariely (2010) explained that counterfeit products generate a feeling of counterfeit self in people that leads them to behave unethically. Therefore, we hypothesize that,

H3: Consumers' emotions towards counterfeits will be positively related to their intention to purchase those products.

Purchase intention

Purchase intention is the predictor of consumer behavior and other external factors that influence it (Ajzen, 1991). According to the theory of planned behavior (TPB), without such reasons or factors, it is difficult to influence the intention of purchase, and thus the factors such as accessibility to products are important to investigate (Phau, Sequeira & Dix, 2009; Viot, Le Roux, & Krémer, 2014). Regardless of product class, consumers' purchase intention can explain by their attitudes towards counterfeits (Ang, Cheng, Lim, & Tambyah, 2001; Phau, & Teah, 2009).

Figure 1: Conceptual model



METHODOLOGY

Methodological considerations contain the procedural structure adopted to conduct the research. The methodology of this study is composed of research design, targeting of population, selection of samples from a population, sampling technique, and scale adopted and used, statistical tools used for the analysis and testing of hypothesis and ethical consideration. In this study, an empirical approach is accepted that practices survey research to examine the consumers' purchase behavior towards counterfeit products.

Population and Sampling

Respondents of the current study were students of the universities and some other people that are rich markets of counterfeit marketing products/parallel imports, in the Islamabad, Lahore and Peshawar city, Pakistan. A convenience Non-probability sampling techniques has been used to distribute the survey questionnaire. A Sample of both young and adult consumers was selected, because both age categories buy and consume products of local origin, foreign made and counterfeit products.

Measures

The measurement scale of different variables helped us to form a questionnaire that is comprehensive and suitable for data collection. We used the questionnaire scale items from previous studies. For example, Word of mouth construct scale with six items is borrowed from the study of Mir (2012), four scale items of Perceived risk construct from the study of Featherman and Pavlou (2003), and five scale items of Emotions construct are adopted from the research study of Tsai (2005). Additionally, six items scale of Purchase intention construct is borrowed from the study of Klein, Ettenson, and Morris, (1998). Each item was measured on the five points Likert scale ranges from "1" strongly disagree to "5" strongly agree.

RESULTS

A total of 500 questionnaires were distributed among the target population, with a return rate of (56%) 280 questionnaires and among them the usable ones were (n = 214, 42.8%). To extract the opinions, this study is based on demographic categories/characteristics such as age, gender, and level of education of the respondents. In order to make sure that respondents understood the meaning of the term "counterfeit products", an elaborate definition was provided at the beginning of distributing the questionnaires. The remaining section focuses on the analysis of the data and the interpretation of the results obtained.

Sample characteristics

Personal characteristics were separated into gender, age, and education (See Table 1.0). For example, (n = 148, 69.2%) respondents are male, and (n = 66, 30.8%) is female. Respondents with secondary education are (n = 41, 19.2%), and the number of respondents with bachelor degree education are (n = 128, 59.8%), however, the master degree graduates are (n = 45, 21%). The majority of the respondents is of ages from 15 to 40 years (n = 204, 95.3%). Conversely, only 5% are belonging to the 30-39 years.

Table 1: The sample

Variable	Category	(n = 214)	Percentage (%)
Gender	Male	148	69.2
	Female	66	30.8
Age	15-30 years	204	95.3
	31-40 years	10	4.7
Education	Secondary	41	19.2
	Bachelor	128	59.8
	Masters	45	21.0

Reliability, Descriptive statistics, Inter-Correlation

Correlation analysis is a statistical technique to quantify the dependence of two or more variables. The correlation coefficient varies between -1.00 and + 1.00. The correlation between the variables is shown in Table 2.0 and falls on expected lines. In addition, Reliability (Cronbach's alpha) results, and Descriptive statistics such as Std. Mean, Std. Deviation is also shown. The purchase intention is significantly correlated to word-of-mouth given that word-of mouth is more about the acceptable term. Likewise, word-of-mouth, Perceived Risk and emotions are strongly associated with each other. However, the relationship between consumers' perceived risk and their purchase intention of counterfeits is negative.

Table 2: Cronbach's alpha, Descriptive statistics and Pearson correlation

Variables	Reliability	Std. Mean	Std. Deviation	PI	WOM	PR	EM
PI	.730	3.44	.983	1			
WOM	.895	3.25	.850	.579**	1		
PR	.777	3.01	.881	-.394**	.592**	1	
EM	.875	3.32	.840	.624**	.447**	.437**	1

** . Correlation is significant at the 0.01 level (2-tailed).

General Leaner Model (GLM)

Statistical analysis is done based on the data collected and received from the sample. Firstly, the data were subjected to GLM (General linear model). GLM is observed as an addition of linear multiple regression of a single dependent variable (Nelder and Baker, 1972). On the other hand, due to the existence of definite predictors along with scale predictors GLM was used. Furthermore, importance level was also checked. Importance level shows that the possibility of result being correct, i.e. the likelihood of the results to occur.

Table 3: Tests of Between-Subjects Effects. Dependent Variable: Purchase Intention (PI)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	98.262 ^a	7	14.037	26.788	.000
Intercept	3.826	1	3.826	7.301	.007
Gender	.017	1	.017	.033	.857
Education	.964	2	.482	.920	.400
Age	.310	1	.310	.591	.443
WOM	18.842	1	18.842	35.956	.000
PR	.441	1	.441	.841	.360
EM	31.199	1	31.199	59.539	.000
Error	105.852	202	.524		
Total	2376.972	210			
Corrected Total	204.114	209			

a. R Squared = 0.481 (Adjusted R Squared = 0.463)

After analyzing the significant value in table one, insignificant variables were removed using the backward method. Variables with significant value > 0.05 were removed one by one starting from the first that had maximum sig value, i.e. age (0.443), gender (0.857) and education (0.400) followed by Perceived Risk (0.360).

Table 4: Parameter estimates. Dependent Variable: Purchase Intention (PI)

Parameter	B	Std. Error	T	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	.842	.318	2.651	.009	.216	1.469
[Gender=1]	.020	.112	.181	.857	-.200	.241
[Gender=2]	0 ^a	.	.	.	.	.
[education=1]	-.084	.162	-.520	.604	-.403	.235
[education=2]	-.172	.131	-1.312	.191	-.431	.087
[education=3]	0 ^a	.	.	.	.	.
[age=1]	-.190	.247	-.769	.443	-.676	.297
[age=2]	0 ^a	.	.	.	.	.
WOM	.462	.077	5.996	.000	.310	.614
PR	-.071	.078	-.917	.360	-.225	.082
EM	.455	.059	7.716	.000	.339	.572

a. This parameter is set to zero because it is redundant.

Except, Emotions, and word of mouth, the above given table clearly indicates that β of four Independent variables (Gender, education, and age) including Perceived Risk (- 0.071) is negative, That shows Perceived Risk (independent variable) has an inverse relation to Purchase Intention (dependent variable).

Table 5: Tests of Between-Subjects Effects. Dependent Variable: Purchase Intention (PI)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	101.997 ^a	3	33.999	69.868	.000
Intercept	2.498	1	2.498	5.134	.025
WOM	19.231	1	19.231	39.519	.000
PR	.224	1	.224	.461	.498
EM	32.866	1	32.866	67.539	.000
Error	100.244	206	.487		
Total	2382.611	210			
Corrected Total	202.241	209			

a. R Squared = 0.504 (Adjusted R Squared = 0.497)

The above table shows the final result after eliminating all insignificant variables using the backward method. Out of the three independent variables (Word-of-Mouth, perceived Risk, emotions), two were found significant. These two include Word-of-mouth and emotions, with sig values 0.000, 0.000 respectively. This shows that chance of being true for Word-of-

mouth 100%, and Emotions 100%. However, Perceived Risk shows insignificant, 0.498 values. The value R square (0.504) gives us the percent of explaining variation independent variable due in the independent variables. (0.504) shows that the above stated factors play 50% role in consumers' purchase intention.

Table 6: Parameter Estimates. Dependent Variable: Purchase Intention (PI)

Parameter	β	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	.493	.217	2.266	.025	.064	.921
WOM	.461	.073	6.286	.000	.317	.606
PR	-.050	.074	-.679	.498	-.195	.095
EM	.458	.056	8.218	.000	.348	.568

The above given table shows β value of (- 0.050) which means that the influence of independent variable (Perceived Risk) on the dependent variable (Purchase Intention) is negative. According to the analysis the study of two hypotheses is significant and one hypothesis is rejected because our culture is dependent on financial risk (Nenova, Niang, & Ahmad, 2009). A consumer does not purchase costly products. They try to find an alternative original product, that's why they switch to buy the counterfeit products.

DISCUSSION AND CONCLUSION

The purpose of the study was to examine the consumers' intention and behavior to deliberately purchase counterfeit products. Analysis of data revealed that, out of the three independent variables (Word-of-Mouth, perceived Risk, emotions), two were found significant. These two included Word-of-mouth and emotions, with sig values 0.000, 0.000 respectively. This shows that chance of being true for Word-of-mouth is 100%, and of emotions is 100% (Mir, 2012; White & Yu, 2005). But one independent variable (Perceived Risk) shows an insignificant value of 0.498. The value R square (0.504) gives us the percent of explaining variation independent variable due in the independent variables. It shows that, except perceived risk, the other two stated factors play important role in consumer's counterfeits' purchase intention.

Consumers get attracted to counterfeit products because the communication and low price are very attractive to them. For example, WOM increases the tendency of consumers' purchase intention towards counterfeit products, for example most often friends or family asks advice about products, brand and things. People are also conscious about the high prices of original products that is why they move to purchase fake products (Dabija et. al, 2014). On the other hand, emotions enhance the consumers' purchase intention as they either cannot afford or do not feel motivated to buy high priced original products, therefore; they prefer to purchase fake products. However, they do not take risks and therefore fear to buy counterfeits over original products. They may fear waste of money, harmful or hazardous to health, or because of low quality features of counterfeits. Therefore, their perceived risk is negatively associated with their counterfeits purchase intention (Veloutsou & Bian, 2008).

Managerial implications

This study has several benefits for local consumers and original brand manufacturers and will assist the policy makers to combat against ever-increasing sales trend of imitating products, hampering the economic and safety conditions of the nation. In addition, this research may help anti-counterfeiting authorities to make effective policies to help genuine products manufacturers. Companies should raise awareness among their consumers who possess a greater tendency to choose fake products over the genuine ones. In addition, marketers should also launch campaigns to encourage positive word-of-mouth communication among consumers. Besides, an aggressive advertising campaign discouraging the purchase and use of counterfeits will also create a domino effect. People may be influenced by the opinions of others that purchasing counterfeits are immoral. Therefore, discounts or promotional campaigns and enhanced quality features of products by marketers of retailers would help reach potential customers. Because customers avoid buying counterfeits, therefore, quality features of authentic products must be improved to attract them. Once customers believe that the price and quality are reasonable and affordable, they will get used to purchasing original products and will surely be loyal to those brands (Furnham & Valgeirsson, 2007).

Though the demand for knockoff obviously maintains to increase the difficulty, however, the law enforcement should maintain its efforts to control the stream of unlawful products. Counterfeiting is a very serious problem affecting the world. Nowadays, the demand of counterfeit products has increased rapidly from the possibility, range, or density side. Therefore, to combat this problem the business leaders and government authorities, and lawmakers need to know about the channels involved in increased promotion and demand of counterfeit products specifically in the developing countries.

Limitations

Like other researches, this research study has also certain limitations. The demographics of the study are limited up to age, gender and education only. To include income and marital status, demographic variables in future studies, and then to test the purchase intention based on all the demographic factors can yield moderated and helpful results. No attempt was clearly made on consumers' lifestyle and personal values such as how they perceive the value of counterfeits compare to genuine products. Further research on specific views and values is of value to carry out in future studies. The sample was restricted to urban population that can be biased. Further research can be done on comparing counterfeit purchase intentions of both urban and rural with even larger samples. Moreover, another limitation is that to gather views of the uneducated consumer behavior towards counterfeit products, which can be incorporated in the future research for better results and implications. To test the data and interpret the results two tests are used, i.e. Pearson correlation and regression. It may be also helpful to apply different statistical tools and tests, such as Structural equation modeling (SEM), and thus to validate the model and extract best results and findings.

Future research recommendations

For example, China, India, and Pakistan are facing the severe threats of counterfeits and are famous for counterfeit production, manufacturing, and selling. Therefore, a cross country research can be useful in the future to investigate the most critical factors influencing consumers' counterfeit purchase intentions in these countries. In a current study only a general perception of consumers is investigated. Future studies can incorporate product specific research and thus can judge the purchase intentions of consumers based on quality,

price, and their ethical perceptions of a counterfeit and genuine product. Factors such as counterfeits product availability, peace of mind to purchase counterfeit product, hedonic, utilitarian and conspicuous values, and ethnocentrism in future research also needs to be investigated. For example, investigating these variables can be helpful to understand how the consumers' perceptions of counterfeit products vary with respect to their values, and patriotism. It will be helpful to manufacturers of original brands in developing marketing, pricing, and promotional strategies accordingly, in developing countries.

REFERENCES

- Ahuvia, A., Gistri, G., Romani, S., & Pace, S. (2013). What is the Harm in Fake Luxury Brands? Moving Beyond the Conventional Wisdom. *Luxury Marketing*, 279-293.
- Ajzen, I. (1991). The theory of planned behavior, *Organizational Behavior and Human Decision Processes*, 50, 179-211.
- Ang, S. H., Cheng, P. S., Lim, E. A. C., & Tambyah, S. K. (2001). Spot the difference: consumer responses towards counterfeits, *Journal of Consumer Marketing*, 18 (3), 219-35.
- Associate Press of Pakistan. (2012, Feb 29). Retrieved march friday, 2013, from http://www.app.com.pk/en_/index.php?option=com_content&task=view&id=30255.
- Bauer, R. A. (1960). Consumer behavior as risk-taking. In R. S. Hancock (Ed.), *Dynamic marketing for a changing world*. Chicago: American Marketing Association, 389-398. Cited from D. F. Cox (Ed.), *Risk-taking and information-handling in consumer behavior*. Boston: Harvard University Press, 1967, 23-33.
- Bian, X., & Moutinho, L. (2011). Counterfeits and branded products: effects of counterfeit ownership. *Journal of Product & Brand Management*, 20 (5), 379-393.
- Bigné, J. E., Andreu, L., & Gnoth, J. (2005). The theme park experience: An analysis of pleasure, arousal and satisfaction. *Journal of Tourism Management*, 26 (6), 833-844.
- Bughin, J., Doogan, J., & Vetvik, O. J. (2010). A new way to measure word-of-mouth marketing. *McKinsey Quarterly*, 3 (2), 113-116.
- Butt, F., Bhutto, N. A., & Siddiqui, N. A. (2011). Investigating the Ethical Beliefs of Pakistani Consumers: An Exploratory Approach. *International Review of Business Research Papers*, 7 (1), 350-363.
- Carpenter, J. M., & Lear, K. (2011). Consumer Attitudes toward Counterfeit Fashion Products: Does Gender Matter? *Journal of Textile and Apparel, Technology and Management*, 7 (1), 1-16.
- Chan, A., Wong, S., & Leung, P. (1998). Ethical beliefs of Chinese consumers in Hong Kong. *Journal of Business Ethics*, 17 (11), 1163-1170.
- Chaudhry, P. (2009). The Supply of Counterfeit Trade: The Problem Countries. In *The Economics of Counterfeit Trade* (27-44). Springer Berlin Heidelberg.
- Cheng, S. I., Fu, H. H., & Tu, L. C. (2011). Examining customer purchase intentions for counterfeit products based on a modified theory of planned behavior. *International Journal of Humanities and Social Science*, 1 (10), 278-284.
- Chiu, W., Lee, K. Y., & Won, D. (2014). Consumer behavior toward counterfeit sporting goods. *Social Behavior and Personality: an international journal*, 42 (4), 615-624.
- Dabija, D. C., Dinu, V., Tăchiciu, L., & Pop, C. M. (2014). Romanian Consumers' behavior towards counterfeit products, *Transformations in Business & Economics*, 13, 2 (32), 124-143.
- Dichter, E. (1966). {How word-of-mouth advertising works}. *Harvard business review*, 44 (6), 147-160.

- Dowling, G. R., & Staelin, R. (1994). A model of perceived risk and intended risk-handling activity. *Journal of Consumer Research*, 119-134.
- Featherman, M. S., & Pavlou, P. A. (2003). Predicting e-services adoption: a perceived risk facets perspective. *International Journal of human-computer studies*, 59 (4), 451-474.
- Frontier economics (2011). Estimating the global economic and social impacts of counterfeiting and piracy: A report commissioned by business action to stop counterfeiting and piracy (BASCAP).
- Furnham, A., & Valgeirsson, H. (2007). The effect of life values and materialism on buying counterfeit products. *Journal of Socio-Economics*, 36 (5), 677-685.
- Gino F, Norton M. I., & Ariely, D. (2010). The Counterfeit Self: The Deceptive Costs of Faking It. *Journal of Psychological Science*, 21 (5), 712-720.
- Hanzaee, K. H., & Farzaneh, S., (2012). The role of product involvement, product knowledge and image of counterfeits in explaining consumer purchase behavior, *Journal of Basic and Applied Scientific Research*, 2 (1), 821-831 .
- Hanzaee, K. H., & Taghipourian, M. J. (2012). Research Attitudes toward Counterfeit Products and Generation Differentia. *Journal of Applied Sciences, Engineering, and Technology*, 4 (9), 1147-1154.
- International Anti-counterfeiting Coalition: (2015), Facts on fakes (available at <http://www.iacc.org/counterfeiting-statistics>).
- Kafchinski, J., & Shelley, I. T. R. N. (2009). Global Counterfeit Trade. Professor Shelley ITRN, 701-009.
- Klein, J. G., Ettenson, R., & Morris, M. D. (1998). The animosity model of foreign product purchase: an empirical test in the People's Republic of China. *The Journal of Marketing*, 89-100.
- Kotler, P. (1974). Atmospherics as a Marketing Tool. *Journal of Retailing*, 49, 48-64.
- Lan, M. Y., Liu, F., Fang, C. H., & Lin, T. M. (2012). Understanding word-of-mouth in counterfeiting, *Psychology*, 3 (03), 289.
- Laros, F. J., & Steenkamp, J. B. E. (2005). Emotions in consumer behavior: a hierarchical approach. *Journal of business Research*, 58 (10), 1437-1445.
- Lee, S-H., & Workman, J. E. (2011). Attitudes toward Counterfeit Purchases and Ethical Beliefs among Korean and American University Students, *Family and Consumer Science Research Journal*, 39 (3), 289-305.
- Mangold, W. G., Miller, F., & Brockway, G. R. (1999). Word-of-mouth communication in the service market place, *Journal of Services Marketing*, 13 (1), 73-89.
- Mir, I. A. (2012). Impact of the ethical and legal sensitivities on consumers' attitude towards the Non-Deceptive Counterfeits. *Journal of World Applied Sciences*, 16 (3), 421-426.
- Mir, I. A., (2013). Examination of attitudinal and intentional drivers of non-deceptive counterfeiting in a South Asian context. *Journal of Business Economics and Management*, 14 (3), 601-615.
- Nelder, J. A., & Baker, R. J. (1972). Generalized linear models. John Wiley & Sons, Inc.
- Nenova, T., Niang, C. T., & Ahmad, A. (2009). Bringing finance to Pakistan's poor: access to finance for small enterprises and the underserved. *World Bank Publications*.
- Nia, A., & Zaichkowsky, J. L. (2000). Do counterfeits devalue the ownership of luxury brands? *Journal of Product & Brand Management*, 9 (7), 485-497.
- Norum, P. S., & Cuno, A. (2011). Analysis of the demand for counterfeit goods. *Journal of Fashion Marketing and Management*, 15 (1), 27-40.
- O'Mathuna, D. P., & McAuley, A. (2005). Counterfeit Drugs: Towards an Irish Response to a Global Crisis. *Dublin City University and the Irish Patient's Association*.

- Penz, E., & Stöttinger, B. (2008). Corporate image and product similarity-Assessing major demand drivers for counterfeit in a multi-country study. *Psychology & Marketing*, 25 (4), 352-381.
- Phau, I., & Teah, M. (2009). Devil wears (counterfeit) Prada: a study of antecedents and outcomes of attitudes towards counterfeits of luxury brands. *Journal of Consumer Marketing*, 26 (1), 15-27.
- Phau, I., Sequeira, M., & Dix, S. (2009). Consumers' willingness to knowingly purchase counterfeit products. *Direct Marketing: An International Journal*, 3 (4), 262-281.
- Quintal, V., & Phau, I. (2014). Examining Consumer Risk Perceptions of Prototypical Brands versus Me-Too Brands. *Journal of Promotion Management*, 20 (2), 115-135.
- Rahman, S. U., & Khan, M. B. (2012). Ethnocentrism tendencies of consumers: Evidence from Pakistan. *Actual Problems of Economics*, (129), 436-445.
- Riquelme, H. E., Abbas, E. M. S., & Rios, R. E. (2012). Intention to purchase fake products in an Islamic country. *Education, Business and Society: Contemporary Middle Eastern Issues*, 5 (1), 6-22.
- San, A. N. C., & Yee, C. J. (2012). Behavioral Loyalty and Attitudinal Loyalty: Malaysian's Intention on Counterfeit Clothing and Footwear. *Journal of Public Administration and Governance*, 2 (1), 106-122.
- Slocum, J. T., & Collen, J. M. (2011). Evolving Threat and Enforcement of Replica Goods, *The. W. New Eng. L. Rev.*, 33, 789.
- Spink, J. (2011). The Challenge of Intellectual Property Enforcement for Agriculture Technology Transfers, Additives, Raw Materials, and Finished Goods against Product Fraud and Counterfeiters. *Journal of Intellectual Property Rights*. 16, 183-193.
- Tan, B. (2002). Understanding consumer ethical decision making with respect to purchase of pirated software. *Journal of consumer marketing*, 19 (2), 96-111.
- The nation <http://www.nation.com.pk/karachi/30-Sep-2012/combating-counterfeit-products> Accessed on August 24, 2014.
- Theng, Y. L., Tan, W. T., Lwin, M. O., & Shou-Boon, S. F. (2010). An Exploratory Study of Determinants and Corrective Measures for Software Piracy and Counterfeiting in the Digital Age. *Computer and Information Science*, 3 (3), 30-49.
- Tribune <http://tribune.com.pk/story/443104/from-biscuits-to-drips-original-makers-battle-counterfeit-across-sindh/> Accessed on August 24, 2014.
- Tsai, S. P. (2005). Utility, cultural symbolism and emotion: a comprehensive model of brand purchase value. *International journal of Research in Marketing*, 22 (3), 277-291.
- Turunen, L. L. M., & Laaksonen, P. (2011). Diffusing the boundaries between luxury and counterfeits. *Journal of Product & Brand Management*, 20 (6), 468-474.
- Velcovská, Š., & Sadílek, T. (2014). The System of the Geographical Indication-Important Component of the Politics of the Consumers Protection in European Union. *The AMFITEATRU ECONOMIC Journal*, 16 (35), 228-242.
- Veloutsou, C., & Bian, X. (2008). A cross-national examination of consumer perceived risk in the context of non-deceptive counterfeit brands. *Journal of Consumer Behavior*, 7 (1), 3-20.
- Viot, C., Le Roux, A., & Krémer, F. (2014). Attitude towards the purchase of counterfeits: Antecedents and effect on intention to purchase. *Recherche et Applications en Marketing* (English Edition), 29 (2), 3-31.
- Vrontis, D., & Thrassou, A. (2007). A new conceptual framework for business-consumer relationships. *Journal of Marketing Intelligence & Planning*, 25 (7), 789-806.
- Waziri, K. M. (2011). Intellectual Property Piracy and Counterfeiting in Nigeria: The Impending Economic and Social Conundrum. *Journal of Politics and Law*, 4 (2), 196-202.

- Wee, C. H., Ta, S. J., & Cheok, K. H. (1995). Non-price determinants of intention to purchase counterfeit goods: an exploratory study. *International Marketing Review*, 12 (6), 19-46.
- Wiedmann, K. P., Hennigs, N., & Klarmann, C. (2012). Luxury consumption in the trade-off between genuine and counterfeit goods: What are the consumers' underlying motives and value-based drivers? *Journal of Brand Management*, 19, 544-566.



ISSN 1855-931X

EU GROWTH STRATEGY INDICATORS 2020 AND ECONOMIC GROWTH: AN EMPIRICAL INVESTIGATION FOR EU-27 COUNTRIES

Aynur Pala, Ph.D., Assistant Professor

Okan University, Department of Foreign Trade

Turkey

aynur.pala@okan.edu.tr

Abstract

The study aims to analyze whether economic growth of EU15 and newly EU12 countries have different sensitivity to "EU Growth Strategy Indicators 2020" for the 2004-2011 periods. Twelve highlight indicators are reduced to four factor indexes, namely; poverty, energy, climate and education using by factor analysis. Variables' stationarity have been checked using by panel unit root tests proved by Breitung (2000), Levin et al. (2002), and Im et al. (2003). For the estimation has been used static panel regression model. Hausman identification test has been used to choose between random effect model vs. fixed effect model. Static panel model estimation results show that EU15 and newly EU12 countries have different sensitivity to the indicators. As a result of the study, growth strategy 2020 is in favour of newly accessed EU-12 countries.

Keywords: growth, education, energy consumption, greenhouse gas emission, poverty, static panel regression.

Topic Groups: Economic growth

JEL Classification: O47, O40, O52

INTRODUCTION

Economic growth is an increase in the production and consumption of goods and services and is generally indicated by increasing real gross domestic product (GDP). A growth model helps to clarify how growth has occurred and how it will occur in the future, namely, determines factors affected on GDP. A growth model is not growth strategy. Growth strategy is a government prove to renew the result suggested by the model. There are many factors that impact on economic growth. Exogenous growth model known as the neoclassical growth model or the Solow growth model. Solow (1956), neoclassical growth model, capital accumulation was subject to diminishing returns, and eventually, the economy would come

to rest in a zero-growth steady-state. This growth model shows that if technology makes labor and capital twice as productive, then output doubles. Exogenous growth models explained long run economic growth using population growth, technology, capital savings, and productivity. Exogenous growth theory holds that technology is the main factor of long term economic growth. Economists have began working on endogenous growth models, in the late 1980's. Romer (1986) represents that growth arises from increased variety of goods. Endogenous growth theory holds that economic growth determined by endogenous force and examined on population growth and human capital stock. According to Lucas model, the economic growth rate is related to the share of individuals that a society devotes to human capital development.

The second wave of the endogeneous theory tried to model technical change explicitly. It turns out that this requires a whole new modelling addition: imperfect competition, increasing returns to scale at the local level, and other "non-neoclassical" elements. The main three papers in this line were Romer (1990), Grossman and Helpman (1991), and Aghion and Howitt (1992). Romer's approach was that firms could invest in R&D that would expand the sorts of "knowledge" or "blueprints" that they could employ. Grossman and Helpman's approach shows that firms could invest in R&D that allows them to bring new products to the market. New Growth Theory is often called "endogenous" growth theory, because it internalizes technology into a model of how markets function. The essential point of New Growth Theory is that knowledge drives growth. Hulten (2000) says that the new growth theories advocated that the marginal product of capital is constant rather than in diminishing as in the neoclassical theories of growth. Capital often in the new growth models includes investments in knowledge, research and development of products, and human capital.

The aim of the Europe 2020 strategy is that EU to promote the conditions for a more competitive economy, based on a model of growth that is smart, sustainable and inclusive. "Beyond creating financial stability, we can and must go further to put us back on track to growth. Growth is the key, growth is the answer. So the question is how we can promote growth. And in fact I believe it is important to remind people that we have a strategy for growth, it is Europe 2020" (Manuel Barosso, April 2012). There are five major goals to be achieved; employment, innovation, education, social exclusion/poverty reduction and climate/energy. The components of strategy are smart growth which improves EU performances in education, research and innovation and digital society. Sustainable growth which builds a low-carbon economy, protecting the environment, developing new green technologies, harnessing EU-scale network, improving the business environment and helping consumers make well informed choices. Inclusive growth which raises Europe employment rate, investing in skills and training. Inclusive growth targets: 75% of the population aged 20-64, the share of early school leaving below 10%, and at least 40% of 30-34 years old should have completed a tertiary/higher education, and least 20 million fewer people to be at risk of poverty and social exclusion. The quality of education and training is very important to create smart growth, providing a efficient workforce. Targets included in sustainable growth are reducing the greenhouse gas emissions 20% lower than 1990, providing 20% of energy from renewables, increasing in energy efficiency by 20%. Target included in smart growth is 3% of the EU's GDP to be invested in research and development.

The study aims to research that whether economic growth for EU15 and newly EU12 countries has different sensitivity to "EU Growth Strategy Indicators 2020". And another aim of the study is to analyze that whether 2008 sub-prime mortgage crisis have cause to

structural break at the growth model. For this purpose, the study is to produce the effect of economic growth for European Union (27) countries, over the period 2004-2011.

Literature Review

The studies defined by Mansfield (1972), Fagerberg (1994), Grossman and Helpman (1991), Jones (1995), and Stokey (1995) have shown that research and development contributes to economic growth. Mansfield (1972) concluded that R&D expenditures contributed to output growth in a variety of industries in the USA and Japan. Nadiri (1993) and Link and Siegel (2003) provided that investigated the effect of R&D investment on productivity, at the firm and industry levels in advanced countries. Output is treated as a function of conventional labor and capital inputs plus the stock of R&D. Bernstein and Nadiri (1989) concluded that changes in R&D affect demand for labor, energy and physical inputs, with the pattern of substitutions and complementarities differing by industry. R&D investment increases demand for capital but decreases demand for labor and materials. More recently, researchers have begun to examine growth that is endogenously determined by technical change resulting from R&D decisions of profit-maximizing agents. Verspagen (1992) and Ruttan (1997) provide surveys of such innovation and R&D based endogenous growth models. The latest class of models developed in this tradition has arisen from the works of Romer (1990), Grossman and Helpman (1991) and Aghion and Howitt (1992). Birdsall and Rhee (1993) used cross-country regressions of data from both OECD and developing countries. They found that R&D expenditure and economic growth are positively correlated only for countries in the OECD while there was no significant relationship in the case of developing countries. Even for OECD countries, the study found no evidence that R&D activity causes growth. These findings suggest that R&D activities contribute to productivity only once a country attains a threshold level of economic prosperity. Fraumeni and Okubo (2004) found that the contribution of R&D to economic growth is significant, using US time-series data from 1960 to 2000.

Mendelsohn et al. (2000), Nordhaus and Boyer (2000), and Tol (2002) investigated to produce the total economic effects of climate harnesses. The study of Dell et al. (2008) aims to investigate the fluctuation in temperature on national income. As a result of the study, higher temperatures have negative effects on economic growth, in poor countries. In rich countries, fluctuation in in temperature had no impact on economic growth. Dell et al. (2009) concluded that national income per-capita falls 8.5% on average per degree Celsius rise in temperature.

In the last decades, studies on the relation between economic growth and energy consumption has increased. Roegen (1971) combined the concept of economic growth with the natural environment. Shahid (2006) represents that an economy recognizes the importance of the energy. Cuevas and Quilis (2011) estimates and forecasts the rate of growth with focus on the Spanish economy. They include energy consumption in the model. That energy consumption affects economic growth can be found at Paul and Bhattacharya (2004). Ciarreta and Zarraga (2008) conducted their causality analysis on panel data for 12 European countries. Their findings suggest that changes in energy consumption induce changes of different intensities in GDP on long-run for each country studied. Erdal et al. (2008) and Bowden and Payne (2009), Payne (2009) focused on US data for 57 years, accepting the growth hypothesis between renewable and non-renewable energy consumption and real GDP. Sharma (2010) in countries from Europe and Central Asia, energy strongly affects economic growth as shown in a study that uses a growth framework.

Recent studies on economic growth have concentrated on labor skills and experience. Human investment has a permanent impact on economic growth. Lucas (1988) contends that human capital has an important role in economic growth. Rosenzweig (1987) and Becker et al. (1990) is among the studies defined human capital as an endogenous variable. The recent studies proved by Topel (1999), Krueger and Lindahl (2001), Temple (2001), and Sianesi and Reenen (2003) found a significant and positive relation between quantitative measures of schooling and economic growth. Sala-i-Martin et al. (2004) found that primary schooling was the most robust impact factor on growth in GDP per capita in 1960-1996, using sixty-seven explanatory variables in growth regressions on a sample of 88 countries. Cohen and Soto (2007) and Barro and Lee (2010) show that is positive growth effects of years of schooling.

Galor and Zeira (1993) and Aghion et al. (1999) found that inequality would reduce growth rate. Becker et al. (1990) advocated that "endogenous fertility approach," income inequality noticeably reduces the future growth rate because of the positive effect of inequality on the overall rate of fertility. Ehrhart (2009) examined that relation between inequality and growth. Amendola and Dell'anno (2013) represent taht negative relationship between level of social exclusion and economic growth.

Data and Methodology

Data

This study obtained EU-27 countries, and the sample period is from 2004 to 2011. Data have been collected from World Bank and EUROSTAT database. Investigated variables are employment rate (age group 20-64), gross domestic expenditure on R&D (GERD) to GDP (%), greenhouse gas emissions, share of renewable energy in gross final energy consumption, primary energy consumption, final energy consumption, early leavers from education and training, tertiary educational attainment (age group 30-34), people at risk of poverty or social exclusion (percentage of total population), people living in households with very low work intensity (percentage of total population), people at risk of poverty after social transfers, severely materially deprived people. GDP growth is proxy for economic growth. We created a dummy variable EU-15, where a value of 1 identifies for EU-15 countries, and 0 identifies for twelve newly accessed EU countries. Because, each country has specific characteristics and historical experiences that must be reflected in its growth strategy. And, we generate a dummy variable 2008 crisis, where a value of 0 identifies until 2009, and 1 all other years. The STATA software was used to implicate econometric analysis. Most important limitation of study is sample period, from 2004 to 2011. Because, these variables has been calculated since 2004 by EUROSTAT.

Table 1: Variables Description

Variables	EU-15	EU-12	PIGS
Employment Rate (age group 20-64)	+	-	
Gross Domestic Expenditure on R&D to GDP (%)	+	-	
People at Risk of Poverty or Social Exclusion (percentage of total population)	-	+	
People at Risk of Poverty after Social Transfers	-	+	
Severely Materially Deprived People	-	/	
Primary Energy Consumption (tone)	+	+	

Final Energy Consumption (tone)	+	+	
Greenhouse Gas Emission	+	+	+
Renewable Energy/Gross Final Energy Consumption (%)	-	+	
Early Leavers from Education and Training	/	-	+
Tertiary/Higher Educational Attainment (age group 30-	+	-	
People Living in Households with Very Low Work Intensity (percentage of total population)	/	+	

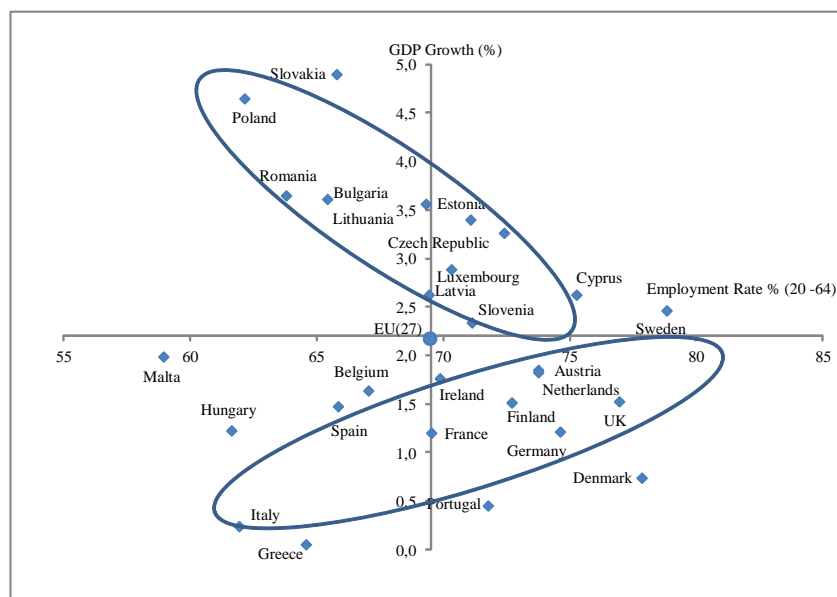
The hypothesis to be tested in this study are presented below;

H_0 : Economic growth of EU15 and newly EU12 countries have different sensitivity to "EU Growth Strategy Indicators 2020"

H_A : Economic growth of EU15 and newly EU12 countries have similar sensitivity to "EU Growth Strategy Indicators 2020"

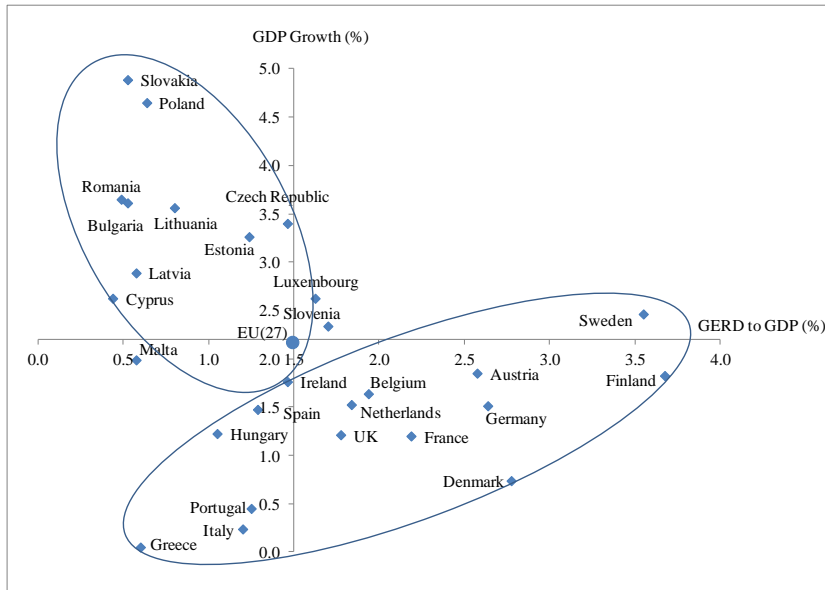
In figure 1, the Employment Rate (age group 20-64) is plotted against the GDP growth rate for EU(27) countries. Average values of the variables calculated from 2004 to 2011. For EU(15) countries, the linear model is often empirically supported on the positive correlation between two variables. However, for other newly accessed twelve EU countries, there is negative correlation between Employment rate and GDP.

Figure 1: Employment Rate (age group 20-64) and GDP



In figure 2, the R&D intensity measured by GERD to GDP rate is plotted against the GDP growth rate for EU(27) countries. Average values of the variables calculated from 2004 to 2011. For EU(15) countries, the linear model is often empirically supported on the positive correlation between Gross Domestic Expenditure on Research and Development (GERD) and GDP. These countries are Sweden, Finland, Austria, Germany, Denmark, France, Belgium, Netherlands, UK, Ireland, Spain, Hungary, Portugal, Italy and Greece. Although there is a positive relationship between the economic growth and R&D intensity, the low correlation indicates that there are other factors affecting on economic growth. However, for other newly accessed twelve EU countries, there is no relation between GERD and GDP.

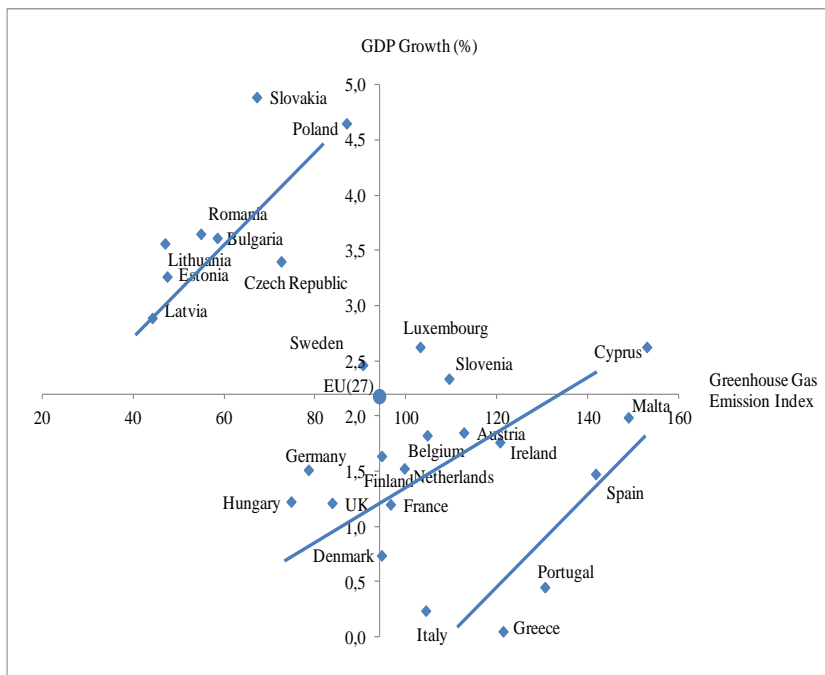
Figure 2: The Relation between Gross Domestic Expenditure on R&D to GDP and GDP Growth Variables



Source: Author's calculation based on EUROSTAT database.

As it is apparent from the Figure 2, among eleven countries that experienced R&D intensity above the EU(27) average, eleven countries show a GDP growth rate higher than the EU(27) average. Finland (Celtic Tiger) and Sweden (Swedish Paradox) reach the highest share of R&D expenditures respectively 3.7% and 3.6%. Other EU-15 countries report higher share as well, such as Denmark (2.8%) and Germany (2.6%).

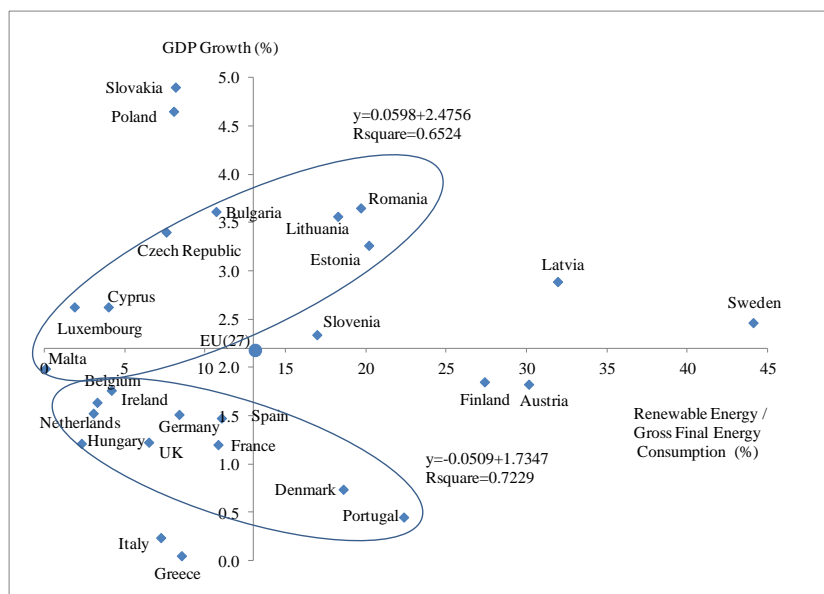
Figure 3: Greenhouse Gas Emission Index and GDP Growth



Source: Author's calculation based on EUROSTAT database.

In the Figure 3, the Greenhouse Gas Emission Index (GHGEI) is plotted against the GDP growth for EU-27 countries. Average values of the variables calculated from 2004 to 2011. For EU-27 countries, the linear model is supported on the negative correlation between GHGEI and GDP. These countries are Sweden, Finland, Austria, Germany, Denmark, France, Belgium, Netherlands, UK, Ireland, Spain, Hungary, Portugal, Italy and Greece. Although there is a positive relationship between the economic growth and R&D intensity, the low correlation indicates that there are other factors affecting on economic growth. However, for other newly accessed twelve EU countries, there is no relation between GERD and GDP. The energy consumption is one of the indicators that define the economic development of a country. Energy is the new driver of the economic growth which was not included in the early growth models; of Solow, AK, and Schumpeter.

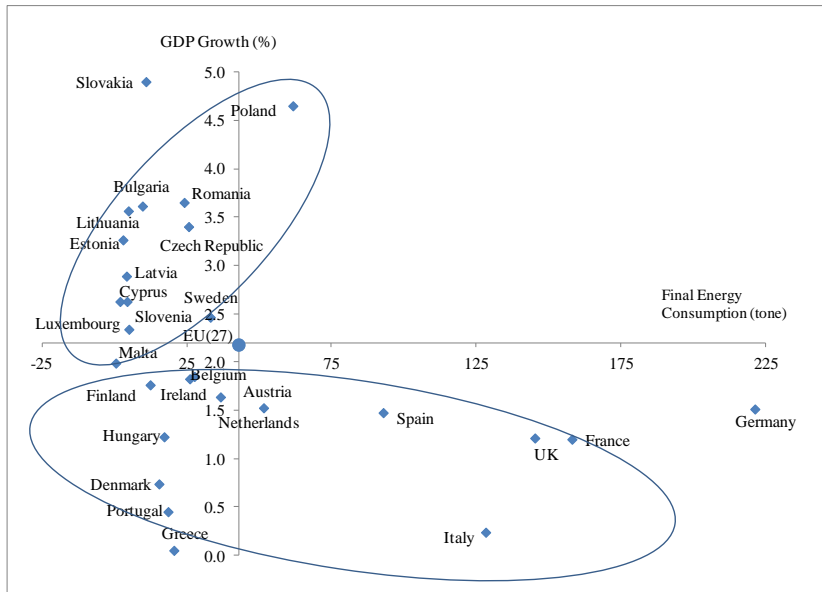
Figure 4: Share of Renewable Energy in Gross Final Energy Consumption and GDP Growth



Source: Author's calculation based on EUROSTAT database.

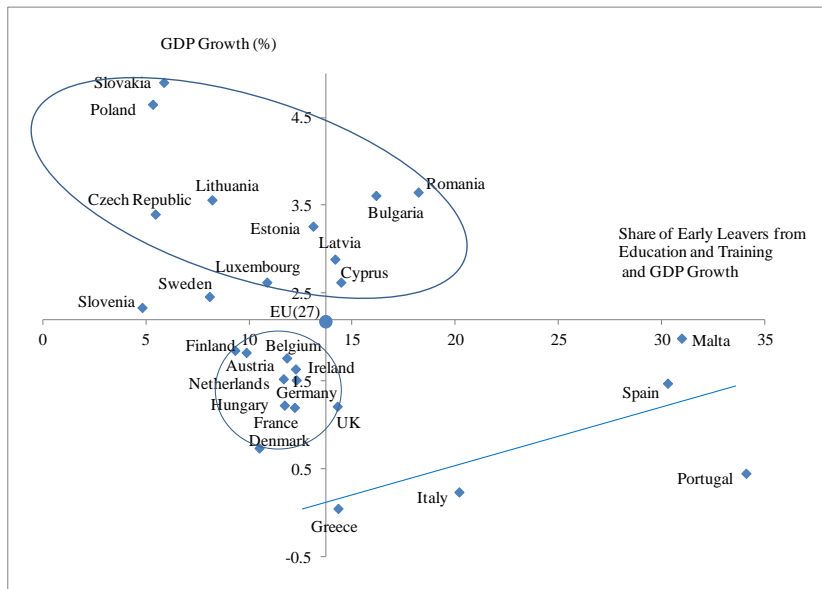
In the Figure 4, the share of renewable energy in gross final energy consumption is plotted against the GDP growth for EU-27 countries. Average values of the variables calculated from 2004 to 2011. For EU-27 countries, the linear model is supported that there is no correlation between share of renewable energy in gross final energy consumption and GDP growth. For EU-15 exluded Italy, Greece, Finland, Austria, Sweden, there is positive relationship between share of renewable energy in gross final energy consumption and GDP growth. For newly accessed EU-12 countries exluded Slovakia, Poland, Slovenia, Latvia, there is negative relationship between share of renewable energy in gross final energy consumption and GDP growth.

Figure 5: Final Energy Consumption (tone) and GDP Growth



In the Figure 5, the Final Energy Consumption (tone) is plotted against the GDP growth for EU-27 countries. For EU-15 countries, there is negative relationship between this two variables. For newly accessed EU-12 countries, there is positive relationship between that variables

Figure 6: Share of Early Leavers from Education and Training and GDP Growth

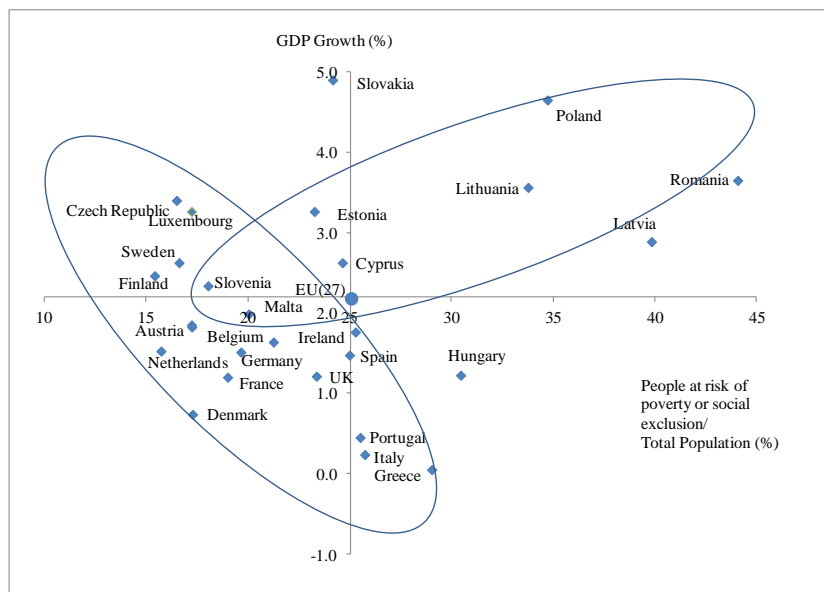


Source: Author's calculation based on EUROSTAT database.

There are six countries where the share of early leavers from education and training was above 13.7%, (average of European-27 countries): Bulgaria (16%), Romania (18%), Italy (20%), Spain (30%), Malta (31%), and Portugal (34%). Europe's growth strategy, Europe 2020, has set an EU-27 target for the proportion of early leavers from education and training to be below 10% by 2020; there are individual targets for each of the Member States that

range from 5% to 29%. There were six countries where the share of early leavers from education and training was equal or below 10%, EU-27 target, they were: Austria (9%), Czech Republic (5%), Denmark (10%), Finland (10%), Lithuania (8%), Poland (5%), Slovakia (6%), Slovenia (5%), and Sweden (8%). In the Figure 4, the share of early leavers from education and training is plotted against the GDP growth for EU-27 countries. Average values of the variables calculated from 2004 to 2011. For EU-27 countries, excluded six higher rate countries, the linear model is supported that there is negative correlation between share of early leavers from education and training and GDP growth.

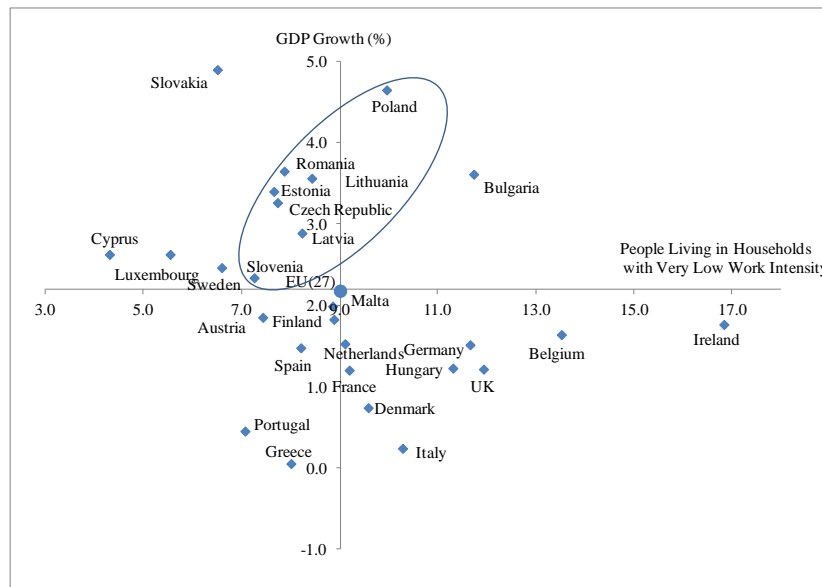
Figure 7: People at Risk of Poverty or Social Exclusion and GDP Growth



Source: Author's calculation based on EUROSTAT database.

Poverty and social exclusion are the challenges in achieving the Europe 2020 targets for inclusive growth. In the Figure 7, people at risk of poverty or social exclusion is plotted against the GDP growth for EU-27 countries. Average values of the variables calculated from 2004 to 2011. While there is negative correlation between that variables at EU-15 countries, there is positive relation between EU-12 countries' variables.

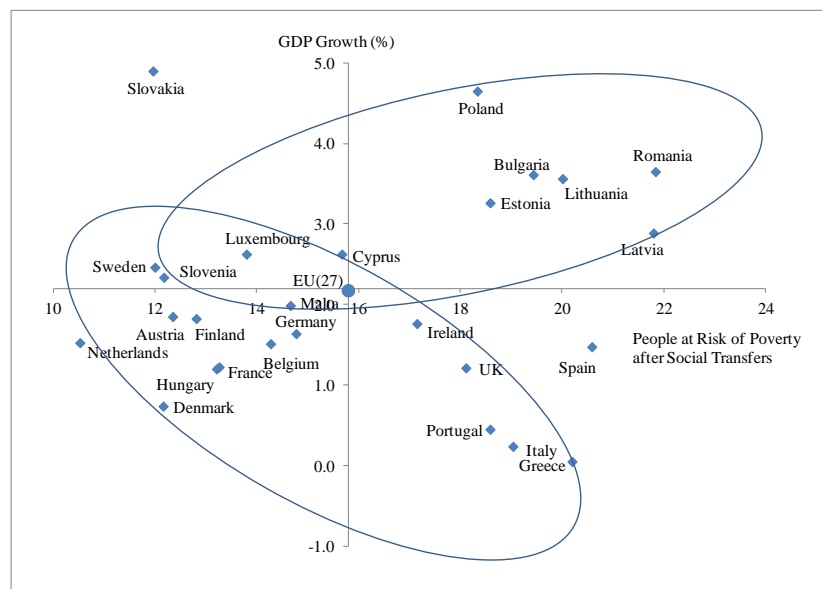
Figure 8: People Living in Households with Very Low Work Intensity and GDP Growth



Source: Author's calculation based on EUROSTAT database.

In the Figure 8, people living in households with very low work intensity is plotted against the GDP growth for EU-27 countries. Average values of the variables calculated from 2004 to 2011. The linear model is shown that there is no correlation between people living in households with very low work intensity and GDP growth.

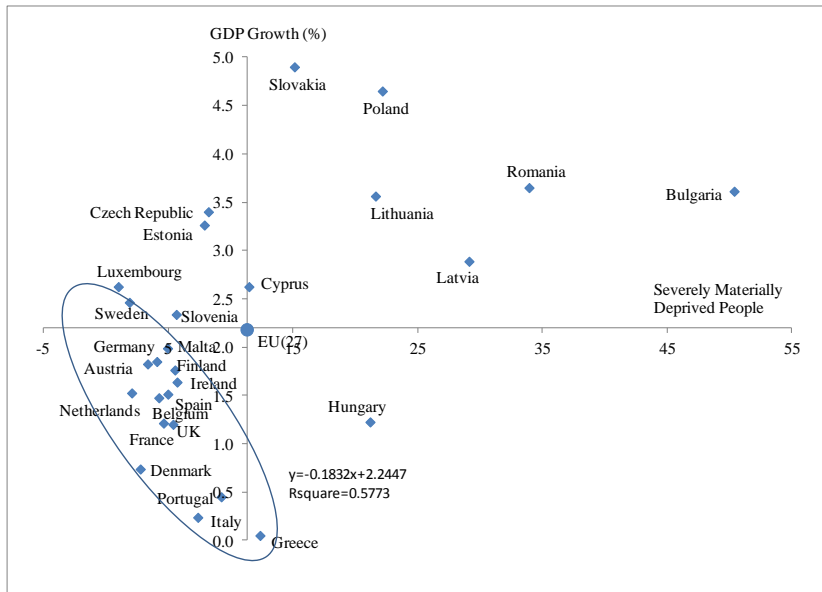
Figure 9: People at risk of poverty after social transfers



Source: Author's calculation based on EUROSTAT database.

In the Figure 9, people at risk of poverty after social transfers is plotted against the GDP growth for EU-27 countries. Average values of the variables calculated from 2004 to 2011. While there is negative correlation between that variables at EU-15 countries, there is positive relation between EU-12 countries' variables.

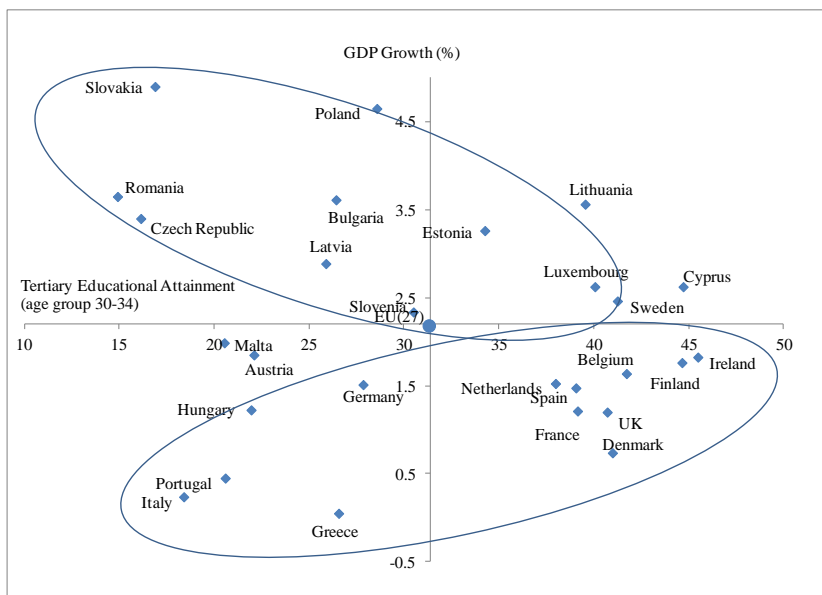
Figure 10: Severely materially deprived people and GDP Growth



Source: Author's calculation based on EUROSTAT database.

In the Figure 10, severely materially deprived people is plotted against the GDP growth for EU-27 countries. Average values of the variables calculated from 2004 to 2011. For EU-27 countries, the linear model is supported that there is no correlation between this series. For EU-15 excluded Hungary, there is negative relationship between severely materially deprived people and GDP growth. For newly accessed EU-12 countries, there is no relation between the series.

Figure 11: Tertiary Educational Attainment and GDP Growth



Source: Author's calculation based on EUROSTAT database.

In the Figure 10, Tertiary Educational Attainment is plotted against the GDP growth for EU-27 countries. For EU-27 countries, the linear model is supported that there is no correlation

between this series. For EU-15, there is positive relationship between Tertiary Educational Attainment and GDP growth. For EU-12, there is negative relationship between Tertiary Educational Attainment and GDP growth.

Factor Analysis

Europe 2020 strategy based on a model of growth that is smart, sustainable and inclusive. There are five major goals to be achieved: employment, innovation, education, social exclusion/poverty reduction and climate/energy.

Table 2: Three priorities and related five targets of EU Growth Strategy

Smart	Sustainable	Inclusive
Knowledge and Innovation	Greener and More Competitive Economy	High-Employment
R&D	Climate/Energy	Employment, Poverty, Education
Gross Domestic Expenditure on R&D to GDP (%)	Primary Energy Consumption (tone)	Employment Rate (age group 20-64)
	Final Energy Consumption (tone)	People at Risk of Poverty or Social Exclusion (percentage of total population)
	Greenhouse Gas Emission	People at Risk of Poverty after Social Transfers
	Share of Renewable Energy in Gross Final Energy Consumption	Severely Materially Deprived People
		Early Leavers from Education and Training
		Tertiary (higher) Educational Attainment (age group 30-34)
		People Living in Households with Very Low Work Intensity (percentage of total population)

Total twelve indicators have been classified using factor analysis method. Table 3 presents the factor results.

Table 3: Factor Analysis Results

Variables that Significantly Load on the Factor	Factor Loading	Factors Loaded Variables	Eigen Value	Prop.	Cum.
Employment Rate (age group 20-64)	0.601	Factor 1			
Gross Domestic Expenditure on R&D to GDP (%)	0.816	Factor 1	3.748	0.397	0.397
People at Risk of Poverty or Social Exclusion (percentage of total	-0.927	Factor 1			

People at Risk of Poverty after Social Transfers	-0.651	Factor 1			
Severely Materially Deprived People	-0.889	Factor 1			
Primary Energy Consumption (tone)	0.8872	Factor 2	2.201	0.231	0.629
Final Energy Consumption (tone)	0.8899	Factor 2			
Greenhouse Gas Emission	-0.691	Factor 3			
Share of Renewable Energy in Gross Final Energy Consumption	0.500	Factor 3	1.545	0.163	0.793
-	-	Factor 4	0.937	0.099	0.892
Early Leavers from Education and Training	-0.483	Factor 5			
Tertiary (higher) Educational Attainment (age group 30-34)	0.559	Factor 5	0.741	0.078	0.970
People Living in Households with Very Low Work Intensity (percentage of total population)	0.499	Factor 5			

Twelve growth strategy indicators have been reduced to five factor using factor analysis method. Only ten indicators have significant factor loading bigger than 0.5. Factor 1 has five variables with significant loadings. These variables are employment rate (age group 20-64), gross domestic expenditure on R&D (GERD) to GDP (%), and people at risk of poverty or social exclusion (percentage of total population), people at risk of poverty after social transfers, severely materially deprived people. Factor 1 is labelled "Poverty". Factor 2 has two variables with significant loadings. These variables are primary energy consumption (tone), final energy consumption (tone). Factor 2 is labeled "Energy". Factor 3 has two variables with significant loadings. These variables are greenhouse gas emissions and share of renewable energy in gross final energy consumption. Factor 3 is labeled "Climate". Factor 5 has one variables with significant loadings higher more than 0,5. This variable is tertiary (higher) educational attainment (age group 30-34). Factor 5 is labeled "Education". The factor analysis reveals that "Poverty" accounts for 39% of the total change, whereas "Energy" accounts for 23%, "Climate" accounts for 16%, "Education" accounts for 7.8%, Factor 4 accounts for %9.9, adding up to a total of 97%. Factor 4 has any variables.

Table 4: Proxy Variables for Five EU Targets.

Smart and Inclusive	Sustainable_1	Sustainable_2	Inclusive
R&D, Employment, and Poverty	Competitive Economy Energy	Greener Economy Climate	Education
Factor 1	Factor 2	Factor 3	Factor 5
Gross Domestic Expenditure on R&D to GDP (%)	Primary Energy Consumption (tone)	Greenhouse Gas Emission	Tertiary (higher) Educational Attainment (age

			group 30-34)
Employment Rate (age group 20-64)	Final Energy Consumption (tone)	Share of Renewable Energy in Gross Final Energy Consumption	
People at Risk of Poverty or Social Exclusion (percentage of total population)			
People at Risk of Poverty after Social Transfers			
Severely Materially Deprived People			

While twelve variables reduced to four factors. We have predicted four factor indexes which have utilized as explanatory variables. We use this separation proxy for five EU targets. Because, factor analysis result has not approved five EU target.

Methodology

Panel data refers to multi-dimensional data. Panel data contains time series observations of a number of individuals. (Hsiao, 2007) Observations in panel data has two dimensions; cross-sectional dimension and and a time series dimension. Cross-section and time series dimensions have been indicated by subscript *i* and *t* respectively. Panel data have several advantages over cross-sectional and time-series data. Panel data generally contain higher degrees of freedom and higher sample variability than cross-sectional data. The standard cross-section methods set forward to biased results depending on heterogeneity. Panel regression model has been larger capacity to deal with the complexity of human behavior than a single cross-section or time series data. Panel data simplifies computation and inference. I have used static panel regression model for the analysis.

First question is that whether EU15 and newly EU12 have different sensitivity to highlight indicators. Second question is that whether 2008 sub-prime mortgage crisis cause to structurak break on growth model. The econometric model takes the following form:

$$\begin{aligned}
 GDP_{it} = & \alpha_{it} + \beta_{0i}F1_{it} + \beta_{1i}F2_{it} + \beta_{2i}F3_{it} + \beta_{3i}F5_{it} \\
 & + \beta_{4i}EU15DUMMY * F1_{it} + \beta_{5i}EU15DUMMY * F2_{it} + \beta_{6i}EU15DUMMY_{sit} * F3_{it} \\
 & + \beta_{7i}EU15DUMMY * F5_{it} \\
 & + \beta_{8i}2008CRISIS_{it} + \beta_{9i}2008DUMMY * F1_{it} + \beta_{10i}2008DUMMY * F2_{it} + \\
 & \beta_{11i}EU15DUMMY * F3_{it} + \beta_{12i}2008DUMMY * F5_{it} + e_{it}
 \end{aligned}$$

i, represent cross-section dimension, *t* represent time dimension, GDP_{it} represent Gross Domestic Product Growth (%) of *i*th country at the *t*th period. $F1_{it}$ represent Factor 1 (Poverty) index of *i*th country at the *t*th period, $F2_{it}$ represent Factor 2 (Energy) index of *i*th country at the *t*th period, $F3_{it}$ represent Factor 3 (Climate) index *i*th country at the *t*th period, $F5_{it}$ represent Factor 5 (Education) index of *i*th country at the *t*th period, EU15DUMMY represent which value of 1 for EU-15, 0 value for others, 2008DUMMY represent which value

of 1 post-2008, value of 0 for other time periods. B represents slope, and ϵ represents error term.

RESULTS

In our study, it has been investigated stationarity using panel unit-root tests proved by Breitung (2000), LLC test by Levin et al. (2002) and IPS test by Im et al. (2003). The results of test have been demonstrated in Table 4. The results indicate that the null hypothesis of a unit root is rejected, namely all variables are stationary, in level. It has no necessary to apply panel cointegration approach.

Table 5: Panel Unit Root Tests

	Breitung (2000)	LLC (2002)	IPS (2003)
GDP Growth (%)	-5.292*(0.000)	-9.694* (0.000) ^b	-2.046* (0.020)
Poverty	-1.9179* (0.000) ^a	-15.969* (0.000) ^b	-3.1293* (0.001) ^b
Energy	-3.403* (0.000) ^a	-10.423* (0.000) ^b	-2.586* (0.005) ^b
Climate	-2.241* (0.000) ^{a,c}	-11.897* (0.000) ^b	-3.174* (0.000) ^{b,d}
Education	-1.402 (0.080) ^a	-6.6413* (0.000) ^b	-2.101* (0.000) ^c

Note: Probability values are in brackets. *denotes statistical significance at the 1% level, ^a, represents 2 lags, ^b, represents ADF regressions 1 lag, ^c, represent included time trend, ^d, represent included panel mean.

In the estimation of model was used the linear static panel regression. Hausman (1978) test was used to select from among fixed effect model and random effect model. Table 3 represents that the estimation result of random and fixed effect model. Table 3 contains that parameters coefficient, standard error. F test and Hausman Chi-Square test statistics. The result of Hausman test null of "random and fixed effect model coefficient is equal and random effect model is valid" is rejected. Namely, fixed effect model is valid.

As a result of fixed effect model estimation, while the coefficient of the Poverty, Energy and Climate indexes are positive and statistical significant, Poverty, Energy and Climate indexes multiplied by EU15 dummy variables are negative and statistical significant. It means that the effect of these factors on economic growth differs among EU-15 and twelve newly accessed EU countries. At the EU-15 countries, the impact level of these factors on economic growth less than newly accessed EU countries. Education index coefficient is negative and statistically significant. The Education index multiplied by EU15 dummy variable is statistical insignificant. Education index has explained economic growth for only twelve newly accessed EU countries. Constant is positive and statistically significant. Coefficient of 2008 crisis dummy variable is negative and statistically significant. It shows that average growth rate reduced after the 2008 crisis. Moreover, Poverty and Energy indexes multiplied by 2008 crisis dummy variable are positive and statistically significant. It represents that the effect level of these factors on economic growth have increased after the 2008 crisis for all of EU-27 countries. The impact of EU growth strategy indicators on economic growth has different effects for EU-15 countries and newly accessed EU-12 countries. Growth strategy 2020 is in favour of newly accessed EU-12 countries. Results supported H_0 hypothesis namely economic growth of EU15 and newly EU12 countries have different sensitivity to "EU Growth Strategy Indicators 2020.

Table 4: Static Panel Regression Model (Dep. Var: Gross Domestic Product Growth (%))

Explanatory Variables	Fixed Effect	Random Effect
Social Exclusion	10.452*(0.000)	-1.450*(0.000)
Energy Consumption	19.325*(0.000)	-0.950 (0.202)
Gas Emission	13.245*(0.000)	0.481 (0.298)
Education	-4.525*(0.000)	-0.925*(0.000)
Social Exclusion *EU15 Dummy Variable	-13.069*(0.004)	0.077 (0.934)
Energy Consumption*EU15 Dummy Variable	-11.780*(0.046)	0.400 (0.626)
Gas Emission*EU15 Dummy Variable	-6.764*(0.017)	0.484 (0.489)
Education*EU15 Dummy Variable	2.164 (0.198)	0.954 (0.083)
2008 Crisis Dummy Variables	-6.051*(0.000)	-4.769*(0.000)
Social Exclusion *2008 Crisis Dummy Variable	2.545*(0.000)	2.249*(0.000)
Energy Consumption*2008 Crisis Dummy Variable	2.050*(0.000)	0.927 (0.066)
Gas Emission*2008 Crisis Dummy Variable	0.226 (0.681)	-0.390 (0.473)
Education *2008 Crisis Dummy variable	0.017 (0.974)	0.037 (0.940)
Constant	9.717*(0.000)	3.687*(0.000)
R2 (within)	0.508	0.3748
R2 (between)	0.092	0.5389
R2 (overall)	0.003	0.3886
F (13, 176)	14.010* (0.000)	-
Wald(6)	-	128.410* (0.000)
Hausman – Ki-Kare (6)	49.040* (0.000)	

Note: *, represent statistical significancy at 1% level.

CONCLUSION

European Commission supports the EU to become a smart, sustainable and inclusive economy. These three priorities include in employment, innovation, education, social inclusion and climate/energy targets to be reached by 2020. This paper presents a framework that identifies the determination of the impact of the European growth strategy indicators 2020 on economic growth, from an econometric analysis of EU-27 for 2004-2011 periods. It has been used static panel regression model to analyse. The impact of Poverty, Energy and Climate factor indexes on economic growth differs among EU-15 and twelve newly accessed EU countries. These factor indexes make a higher positive effect on economic growth for twelve newly accessed EU countries than EU-15 countries. The estimation result shows that Education index has explained to economic growth for only newly accessed EU countries.

As a result of the study, the average growth rate of EU-27 countries reduced to 3,7% from 9.7% before the 2008 crisis level. Additionally, the effect of poverty and energy on economic growth increased after the 2008 crisis. As a result of the study, growth strategy 2020 is in favour of newly accessed EU-12 countries. The impact of growth strategy indicators 2020 on economic growth for the EU-27 can bring economic benefits. But, the question is "Which

method leads all EU-27 countries to real growth path together? Because, each country has specific characteristics and historical experiences that must be reflected in its growth strategy. The effects of growth strategy indicators 2020 on EU27 countries' economy can be investigated country by country. Because each country has specific characteristics and historical experiences that must be reflected in its growth strategy. In practice, the model should be developed a new strategy to cover all EU countries. In future studies, EU 2020 growth strategy of the effects on the economy can be studied separately for each country.

REFERENCES

- Aghion, P., & Howitt, P. (1992). A Model of Growth Through Creative Destruction. *Econometrica*, 60 (2), 323-351.
- Aghion, P., Caroli, E., & García-Peñalosa, C. (1999). Inequality and Economic Growth: The Perspective of the New Growth Theories. *Journal of Economic Literature*, 37, 1615-1660.
- Amendola, A., & Dell'anno, R. (2013). Social Exclusion and Economic Growth: An Empirical Investigation in European Economies, *Università degli Studi di Salerno-CELPE*, Discussion Paper 126.
- Barro, R., & Lee, J-W. (2010). A New Data Set of Educational Attainment in the World, 1950-2010, *NBER Working Paper No. 15902*.
- Barro, R. J. (1997). *Determinant of Economic Growth*. MIT press. Cambridge, MA.
- Becker, G. S., Murphy, K. M., & Tamura, R. (1990). Human Capital, Fertility, and Economic Growth. *Journal of Political Economy*, 98 (5), 12-37.
- Benhabib, J., & Spiegel, M. M. (1994). The Role of Human Capital in Economic Development. *Journal of Monetary Economics*, 34, 143-173.
- Bernstein, J. I., & Nadiri, M. I. (1989). Research and Development and Intraindustry Spillovers: An Empirical Application of Dynamic Duality. NBER Working Papers 2002, National Bureau of Economic Research, Inc.
- Birdsall, N., & Rhee, C. (1993). Does results and development (R&D) contribute to economic growth in developing countries? Policy Research Working Paper Series 1221, The World Bank.
- Bowden, N., & Payne, J. E. (2009). The causal relationship between U.S. energy consumption and real output: A disaggregated analysis. *Journal of Policy Modeling*, 31 (2), 180-188.
- Ciarreta, A. A., & Zárraga, A. A. (2008). Economic Growth and Electricity Consumption in 12 European Countries: A Causality Analysis Using Panel Data. *BILTOKI 2008-04, Universidad del País Vasco - Departamento de Economía Aplicada III (Econometría y Estadística)*.
- Cohen, D., & Soto, M. (2007). Growth and human capital: good data, good results. *Journal of Economic Growth*, 12 (1), 51-76.
- Cuevas, A., & Quilis, E. M. (2011). A factor analysis for the Spanish economy. *Series*, 3, 311-338.
- Dell, M., Jones, B. F., & Olken, B. A. (2008). Climate Shocks and Economic Growth: Evidence from the Last Half Century, *NBER Working Paper 14132*.
- Dell, M., Jones, B. F., & Olken, B. A. (2009), Temperature and Income: Reconciling New Cross-Sectional and Panel Estimates. *American Economic Review Papers and Proceedings*.
- Ehrhart, H., (2009). The effects of inequality on growth: a survey of the theoretical and empirical literature. *ECINEQ Working Paper 107*.

- Erdal, G., Erdal, H., & Esengun, K. (2008). The causality between energy consumption and economic growth in Turkey. *Energy Policy*, 36 (10), 3838-3842.
- Fagerberg, J. (1994). Technology and International Differences in Growth Rates, *Journal of Economic Literature*, 32 (3), 1147-1175.
- Fraumeni, B. M., & Okubo, S. (2004). R&D in the National Income and Product Accounts, A First Look at its Effect on GDP. Presented at the NBER Conference on Research in Income and Wealth, April 26-27, 2002.
- Galor, O., & Zeira, J. (1993). Income Distribution and Macroeconomics. *Review of Economic Studies*, 60, 35-52.
- Georgescu-Roegen, Nicholas. (1971). *The Entropy Law and the Economic Problem*. Distinguished Lecture Series no. 1, Department of Economics, University of Alabama.
- Grossman, G., & Helpman, E. (1991). *Innovation and Growth in the Global Economy*, Cambridge: MIT Press.
- Hausman, J. A. (1978). Specification Tests in Econometrics, *Econometrica*, 46 (6), 1251-1271.
- Jones, C. I. (1995). R&D-Based Models of Economic Growth. *Journal of Political Economy*, 103, 759-784.
- Krueger, A. B., & M. Lindahl (2001). Education for Growth: Why and For Whom? *Journal of Economic Literature*, 39, 1101-1136.
- Link, A. N., & Siegel, D. S. (2003). *Technological Change and Economic Performance*, London and New York: Routledge.
- Lucas, R. E. (1988). On the Mechanism of Economic Development. *Journal of Monetary Economics*, 22, 3-42.
- Mansfield, E. (1972). Contribution of R&D to economic growth in the United States. *Science* 175(4021), 477-486.
- Mendelsohn, R., Morrison, W., Schlesinger, M. E., & Andronova, N. G. (2000b). Country specific market impacts from climate change, *Climatic Change*, 45, 553-69.
- Nadiri, M. I. (1993). Innovations and Technological Spillovers, NBER Working Paper, 4423.
- Nordhaus, W. D., & Boyer, J. (2000). *Warming the World: Economic Models of Global Warming*. Cambridge, MA: The MIT Press.
- Paul, S., & Bhattacharya, R. N. (2004). Causality between Energy Consumption and Economic Growth in India: A Note on Conflicting Results, *Energy Economics* 26, 977-983.
- Pesaran, H. (2003). A Simple Panel Unit Root Test in the Presence of Cross Section Dependence. *Cambridge Working Papers in Economics 0346*, Faculty of Economics (DAE), University of Cambridge.
- Romer, Paul M. (1990). Endogenous Technological Change. *Journal of Political Economy*, 98, 71-102.
- Rosenzweig, M. R. (1987). Human Capital, Population Growth and Economic Development: Beyond Correlations. *Bulletins 7520*, University of Minnesota, Economic Development Center.
- Ruttan, V. W. (1997). Induced innovation, evolutionary theory and path dependence: Sources of changes. *The Economic Journal*, 107(444), 1520-1529.
- Sala-i-Martin, X., Doppelhofer, G., & Miller, R. I. (2004). Determinants of long-term growth: A Bayesian averaging of classical estimates (BACE) approach. *American Economic Review*, 94, 813-835.
- Shahid, A. M. (2006). Economic Growth with Energy, *MPRA Working Paper 1260*.
- Sharma, S. S. (2010). The relationship between energy and economic growth: Empirical evidence from 66 countries. *Applied Energy*, 87(11), 3565-3574.

- Sianesi, B., & Reenen, J. V. (2003). The Returns to Education: Macroeconomics. *Journal of Economic Surveys*, 17(2), 157-200.
- Simon, C., & Nardinell, C. (1996). The Talk of the Town: Human Capital, Information, and the Growth of English Cities, 1861 to 1961. *Explorations in Economic History*, 33(3), 384-413.
- Solow, R. M. (1956). A Contribution to the Theory of Economic Growth. *Quarterly Journal of Economics*, 70, 65-94.
- Stokey, N. L. (1995). R&D and Economic Growth, *Review of Economic Studies*, 62, 469-489.
- Temple, J. (2001). Growth effects of education and social capital in the OECD countries. *OECD Economic Studies*, OECD Publishing, 2001(2), 57-101.
- Tol, R. S. J. (2002). Welfare specifications and optimal control of climate change: an application of fund. *Energy Economics*, 24(4), 367-376.
- Topel, R. (1999). Labor markets and economic growth. *Handbook of Labor Economics*, in: Ashenfelter, O., & Card, D. (ed.), *Handbook of Labor Economics*, 3(44), 2943-2984.
- Verspagen, B. (1992). Endogenous Innovation in Neo-Classical Growth Models: A Survey. *Maastricht University*.