Aε

Level of Satisfaction of Educational Services Consumers.
Impact and Consequences for the Responsibility of an Economics Faculty

LEVEL OF SATISFACTION OF EDUCATIONAL SERVICES CONSUMERS. IMPACT AND CONSEQUENCES FOR THE RESPONSIBILITY OF AN ECONOMICS FACULTY

Gheorghe Săvoiu[1*], Consuela Necşulescu[2], Marian Ţaicu[3],
Luminiţa Şerbănescu[4] and Emil Crişan[5]
[1) 2) 3) 4)] *University of Piteşti, Faculty of Economic Sciences, Romania*
[5)]*The Babeş-Bolyai University of Cluj-Napoca, Romania*

Abstract

The aims of this paper are to provide a conceptual delimitation of educational services and their main and secondary components, and to quantify the level of satisfaction of specific consumers in academic organizations specializing in economics, with a view to restructuring their responsibilities. The method of statistical investigation is the thorough investigation including the graduates of bachelor and master courses in the accounting economic field, based on a questionnaire assessing the opinions of 138 graduates from the Faculty of Economics of Pitesti, which covers the full spectrum of 93 distinct variables. The databases were analyzed from a descriptive statistical standpoint with the software package Eviews, focusing on the normality of distributions. The major assumptions concern identifying variables intensely associated with the level of satisfaction of educational services consumers, for the first three and six main service categories, defined by 36 variables marked by respondents, plus another three and respectively six categories in further 15 variables, which define secondary educational services (according to the correlation ratio). Educational organizations belonging to the academic area are naturally concerned with the requirements expressed in the complex concept of satisfaction of those trained through the programs and specializations of a faculty (in this case, an economic faculty), with the aim that the educational services provided in a sustainable manner should cover nearly all their expectations as consumers (students and MA trainees), and also the educational requirements for shaping and training skills that the graduates need in order to succeed in the labour market. The differentiated behaviours of the consumers of educational services can be found at the end of the paper, in a number of econometric models that allow a coherent strategy; they lend a much greater responsibility to the organization doing the job, namely by improving the reputation of an economics faculty, reflected in the vectors and the detailed rating and specific to such surveys. The impact of educational services and the responsibility of the academic organizations for these services to be, through accurate and complete information, conducive to providing satisfactory performance for graduates in the labour market, are the core of the last section of this paper. The conclusions round out the whole endeavour, completing and detailing some necessary upcoming projects.

[*] Corresponding author, **Gheorghe Săvoiu -** gsavoiu@yahoo.com

Introduction

Often considered much more important than the products, through their comparative share in modern economies, and the fact they generate the tertiary, quaternary, and even quinary (cf. Lat. *quīnārius*) sectors, services are defined dually, either based on their membership in a category of economic results completely different from goods, in the logic focusing solely on quantification and standard physical units of measurement in classical economics (Greenfield, 2002; Cojanu, 2007; Vargo and Lusch, 2008), and having unique features (Edvardsson et al., 2005; Moeller 2010), or judging through their extensive and permanent coexistence with the already mentioned goods, in most economic results that become products-services (Pilat and Wölfl, 2005; Săvoiu, 2012). The first category of conceptualizations, setting off from the first landmark paper on the significance and taxonomy of services, entitled *On Goods and Services* (Hill, 1977), include the new directions in defining, focusing on service features that clearly differentiate them from goods: a) the ability to resolve consumer problems and needs on an individual basis (Grönroos and Ojasalo, 2004; Grönroos, 2008); b) the *optimal* configuration of resources, from the classical natural ones or those relating to people, to information and technology (Spohrer, Maglio, Bailey and Gruhl, 2007; Spohrer and Maglio, 2008); c) accelerating innovation and prompt adequacy to technological change (Rubalcaba and Kox, 2007; Rubalcaba, Gallego and Hertog, 2010); d) usefulness in a pure, intangible, perishable, inseparable state, but certainly able to satisfy a desire or personal (individual) or social need (Săvoiu, Tăchiciu and Dinu, 2012). As part of the second category the trends are distinguished towards aggregating services and goods as a complex and dominant output in the contemporary economy: a) bringing them together, and even their joint development in contemporary trade (Deardorff, 2001; Kimura and Lee 2006; Ceglowski, 2006; Karmali and Sudarsanam, 2008; Lennon, 2008; Nordås, 2010; Broussolle, 2012), b) complexity of outputs in the modern services market tends to become permanent, which gradually leads to the disappearance of the product that in not accompanied by related services (Wölfl, 2005); c) changing a service into the equivalent intangible and immaterial of a good that summarizes even more clearly the modern integrated economy of services and products-services (Cudanov, Săvoiu and Jaško, 2012; Săvoiu, Tăchiciu and Dinu, 2013); d) international expansion and exchange of, and through services (Kayastha, 2011), etc.

The typology of services is being continuously restructured and amplified in increasingly diverse areas, successively generating different sectors. The quaternary sector of developed economies is centred on knowledge, in an intensive and essential manner, including services of generation, exchange and technology of information, services of consulting, education, research and development, financial planning, etc. Along with the expansion of the classic tertiary sector, new aggregative concepts appear, such as *knowledge-intensive business services*, which integrates the services described previously with business, or following their unfolding in a common universe that has gradually become the global economy. The quinary (*quīnārius*) sector includes, in the U.S. economy, the activity of

AE

Level of Satisfaction of Educational Services Consumers.
Impact and Consequences for the Responsibility of an Economics Faculty

high-level decision-makers in an economy, top executives or officials in the governmental, scientific, academic or university, non -profit, health, culture, media domains, or aggregate activities of the domestic type (e.g. the household sector of the Australian economy of the *stay-at-home parents* or *homemakers* type is the one that recognizes their major contribution).

Once the distinction between private and public, or collective services re-examined in light of the new sectors, and given practical application in areas such as education or health insurance, it often becomes irrelevant; the phenomenon of paid educational services in public academic organizations is only a relatively minor example of the above assertion, with increasingly important implications in the responsibility of universities and faculties in relation to the new type of consumer education. This phenomenon is first defined from a conceptual or paradigmatic standpoint in Section 2, then the assumptions of a necessary statistical investigation are presented in Section 3, a research whose methodology, questionnaire and database are described in Section 4, and the results of which, accompanied by enlightening discussions about that, are the subject of Section 5. Also, the approach above allows a rigorous and succinct final analysis to be conducted, in Section 6, of the impact of the satisfaction of the consumer of educational services modelled econometrically, according to the structure of educational services, both primary and secondary, in parallel to relevantly formulating a set of principles concerning the restructuring and reallocation of primary responsibilities in the University of Pitesti, in the Faculty of Economics. Some final remarks contribute to summarizing the importance of restructuring the responsibility or accountability of the educational organization, and of the feedback of the level of consumer satisfaction, also detailing some of the future projects of the authors in this field.

1. Services of academic education and the responsibility of an economics faculty today

In much the same way as structural services in general have the greatest capacity to reveal the state of an economy, so educational services best describe the quality of human capital and anticipate, along with the services of health, maybe most accurately, the economic, social and cultural evolution. A process similar to the existence of the space-time variable in generalized relativity physics, occurs in the domain of educational services, as contemporary economy is generating a genuine "continuum" that covers, in space and time, the academic space, which renders increasingly intangible the otherwise tangible educational area (Pilat and Wölfl, 2005), promoting harmonization of education, and thus the emergence of economies.

The right to education is enshrined in all the constitutions of the world; the only thing that differs is the highest school grade completed, for which it is guaranteed. As early as 1952, in the European Union Article 2 of the First Protocol of the European Convention on Human Rights certified that right, and much later it was stipulated at a global level – namely in 1966, when the United Nations' International Covenant on Economic, Social and Cultural Rights, in Article 13, also guarantees it, in general terms as well, leaving it to the member countries to realize its level and quality.

Educational services are affected more and more by a relationship of the commercial type in the academic services market, and they require a continuous restructuring of the responsibility of the academic institution (university, college, etc.) towards the average

consumer, who pays for these services (as an undergraduate student, a MA student, or a PhD candidate). Educational services present quite a varied typology, in relation to: a) location / venue and official recognition in a curriculum or programme (be it formal, informal or non-formal), b) school level or specific age group of beneficiaries (primary, secondary school, high school, undergraduate and graduate, doctoral and postdoctoral, etc.); c) continuity (for those up to the recognized limit of school age, and throughout life, etc.); d) the importance of educational services category (primary and secondary, etc.).

Formal, informal and non-formal educational services are different in relation to the education is provided in an environment or space that is recognized or not, and in keeping with a curriculum or programme that enjoys legal recognition or not. Formal education benefits by the legality of the receiving space or environment, and also of the curriculum, non-formal education is done in an apparently formal learning environment, but which fails to qualify for an officially recognized curriculum, too (Livingstone, 2001), and informal education takes place in a variety of informal settings (ranging from home to work), being in fact a continuous process conducted in informal areas of great diversity, and involving experience, creativity, imagination and adaptation to a greater extent, along with spontaneity and holistic vision (Figure no. 1).
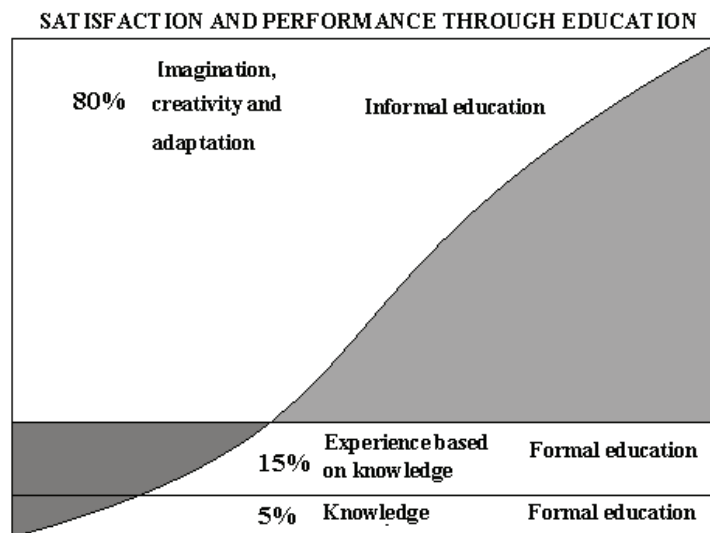

**Figure no. 1: Pareto Optimum between formal
and informal education in today's context**
*Source: Developed by the authors based on the typology of learning with Moore, S.-A.,
Time-to-Learning, Digital Equipment Corporation, 1998,
respecting the requirement of Pareto optimum 20/80.*

Some authors believe that there are no major differences between formal and informal education (Moore, 1998; Eaton, 2011), while others consider they are hardly distinguishable concepts (Colley et al., 2002), or even interchangeable concepts (Hodkinson et al., 2003). Formal or official education is limited in time, covering a relatively small proportion of life span in the current life expectancy context, which significantly exceeds seventy years, or even eighty years in developed countries benefiting

_AE_

Level of Satisfaction of Educational Services Consumers.
Impact and Consequences for the Responsibility of an Economics Faculty

from limited financial resources, while informal education occurs in a diverse spatial and temporal reality, both in youth programmes and in community centres, and even in the media. The difficulty of statistical investigation focused on the two categories of formal and informal educational services is evident in the duration of the research and its greatly diversified content. This requires focusing research on structuring services in relation to training and educating a number of academic skills required by the labour market, namely primary and secondary, the latter category contributing less in the training, while being strictly bound, by the defining variables, to the satisfaction of the consumers of such services.

In the category of the main educational services those activities or benefits were included, and later detailed, in the questionnaire of the investigation, which materialize in: admission criteria for students, the general mode of transmitting information by the teachers to the undergraduate students and MA students, the direct way of teaching and communication, the interactive and synthetic educational manner, the multi-, trans-, and interdisciplinary teaching mode, the initial information on the content of some disciplines and the scales of assessment, as well as their final observance, balancing learning and research in the laboratory and best use of software, the reputation and competence of teachers in courses and seminars, the balance between theory and practice, classical and modern teaching, amount of information in lectures and seminars, and also by types of disciplines (mandatory, optional, etc.), the integrative and innovative character of the disciplines, the quality of the course support and the seminar applications, lecture rooms, seminar rooms and labs, teaching materials and equipment, the balance between the written and oral examinations, and also between seminars, tests and examinations, the diversity of the practical / application examples, solving the examination appeals, coordination dissertation / graduation thesis, periodic counselling granted, selection criteria for research, participation of undergraduate students / MA students in teaching, library information and book borrowing, schedule preparation, teachers' ethics (rights and responsibilities), competition between undergraduate students or MA students (rights and responsibilities), ethics of undergraduate students or MA students (rights and responsibilities), criteria for selecting future assistant lecturers, training the way of being and of knowing that is specific to the academic environment for the rest of one's life, training of communication spirit and partnership capacity, building the capacity to manage and the ability to plan, etc.

In the category of the secondary educational services can be found, detailed in the same questionnaire of the investigation, benefits embodied in: principled granting of scholarships, incentives and sanctions or aid for undergraduate or MA students, practice activities, and practice tutoring activities, regular meetings with teachers from the faculty leadership, activities of teacher mentor of the year and / or group mentor, activities of a cultural type, sports or social activities, campus and accommodation activities, secretarial activities, activities of ensuring food through restaurants or cafeterias, counselling for interviews and employability, employment opportunities mediated by the faculty, readiness of response to various requests of the student or MA student, financial (cashier) services, personal security services (guard), general cleanliness, etc.

The quantification of these variables and their correlation with the overall degree of graduates' satisfaction, which is a positive factor in educational performance (Suhre, Jansen and Harskamp, 2007), but also through other supplementary questions addressed to a consumer of academic services, in an economic faculty in a particular department and study

programme, allow tracking and thus finishing the econometric modelling of the satisfaction of the consumer of academic services in the field of economics, so that the responsibility of the academic organizations mentioned may be restructured. The satisfaction of the consumer of academic education services (undergraduate students, MA students) represents an important criterion in the evaluation and ranking of academic institutions (universities, colleges, etc.), detailed up to the level of a study programme (De Souza and Reinert, 2010).

The first evaluation of an educational organization was conducted at Harvard University at the beginning of the second decade of the last century (Remmers, 1926). This fact is acknowledged in a recent paper (Solinas *et al.*, 2011), in which the authors apply a questionnaire structured in three distinct parts: a section on the demographic characteristics of the student (consumer), a second section relative to his/her motivation in choosing that course, and the third following the measurement of *student satisfaction with the services offered*. The satisfaction or dissatisfaction of the consumer of academic services, as an endogenous variable, is analyzed with a view to modelling a number of strategies based on the learning environment provided by the educational organization in general, but also by a certain type of principal education service, like for example electronic services (Al Khattab and Fraij, 2011), in a Jordanian university (e-services).

A special range of researches are intended for the comparative analyzes of the satisfaction of the consumer of academic services, either from the type of education (Moro-Egido and Panadés, 2008), or from the public or private nature of the academic organisation (Mazmuder, 2013). An important statistical research within the approach of this paper is analyzing the satisfaction of the consumer of academic services hierarchically and sequentially, down from the university level to the college level (Enache, 2011), whose conclusions identify strong connections, and even origins, in the real market.

2. The assumptions of a statistical research on the consumers of academic educational services conducted in an economics faculty

In restructuring the responsibilities for undergraduate and MA studies of the faculty and the department as complex (hierarchical) educational organizations, and formulating a strategy and a set of priorities, prior to the statistical research, a set of working assumptions or hypotheses was provided. The main assumptions of the statistical research conducted at the Faculty of Economics in the University of Pitesti, in the accounting department for the undergraduate programme in the field of *Accounting and Management Information Systems* (AMIS), and the two MA programmes intended for the graduates of this specialization, were expressed with respect to:

I. the absence of a significant positive or negative association between the level of satisfaction of consumers of academic services related to the economic specializations graduated, or the level of satisfaction and the quality of *primary and secondary* educational services (in general, and in relation to individual expectations) and the final average mark or the chance of filling a place in the labour market for graduates of BA or MA programmes, in keeping with the heterogeneity of the opinions, but especially with the reality and characteristic features of the Romanian market economy;

II. identification of *the main exogenous variable* in keeping with the criterion of the intensity of the correlation with the level of satisfaction and the quality of the *primary and*

𝒜𝓔

Level of Satisfaction of Educational Services Consumers.
Impact and Consequences for the Responsibility of an Economics Faculty

secondary educational services, followed by one-factor econometric modelling for undergraduate studies;

III. identification of the *main exogenous variable* based on the intensity of the correlation with the satisfaction level and the quality of the *primary and secondary* educational services, seconded by one-factor econometric modelling for master studies;

IV. *selecting the first three and then six exogenous variables* conditional on the criterion of the intensity of their correlation with the level of satisfaction and the quality of *primary and secondary* educational services, completed by multifactor econometric modelling for the undergraduate studies (six variables, in this case, generating a correlation ratio close to 0.75 or exceeding it in most cases to certify a powerful link between the variable level of satisfaction and the major categories of *primary and secondary* services, without inducing the phenomenon of multicollinearity);

V. selecting *the first three and then six exogenous variables* conditional on the criterion of their correlation with the intensity of satisfaction and the quality of *primary* and *secondary* education services, which leads to a multi-factorial econometric modelling intended from MA studies (for the same purely statistical and econometric reasons detailed in hypothesis IV);

VI. the analysis of the realism of the assessment by consumers of educational services or the opportunity they allow themselves in the future to obtain a job through competition, promotion or winning a leading position based on knowledge gained from the programme specialization (field) and the faculty they graduated.

These six main working hypotheses, involving the determination of a set of prior correlation matrices and successive modelling and validations of the models, represent the essential components of the complex methodological approach of this paper from an exclusively econometric point of view.

3. The methodology of the research, the questionnaire and the databases

The *statistical* methodology of the research was defined by an iterative synthetic, which began by collecting data from the population, exhaustively recorded, of the consumers of academic educational services (all the 138 graduates of the Accounting Department in 2013, of whom 72 graduating from the undergraduate program, and 66 from the two MA programmes), and then capitalized on the data thus recorded, after a descriptive statistical analysis of the normality, homogeneity, asymmetry and moderate vaulting of the resulting data sets, and continued with a process of validation or invalidation of those landmark statistical distributions, and at the same time, formulated and checked the set of assumptions contained in the strategy and design of the organizational and social research (Bryman, 2012), formulating the final conclusions impacting on the responsibility of the faculty, department and economics programme (fields and specializations), etc.

For the final variables descriptive statistics were conducted, as illustrated in Figure 2, by the level, intensity or degree of satisfaction relative to the main educational services provided by the programme (field or area) and the specialization graduated by the student (consumer), analyzing the reliability of the modelling focused on these data distributions

(the variable generated by the answers to question 6 in Section C of the research questionnaire).
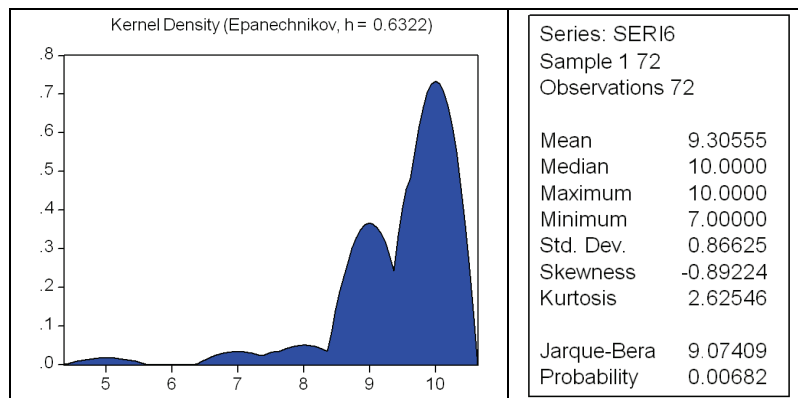
Note: The degree or level of satisfaction refers to the *general level of satisfaction of the graduate student, relative to the main educational services*. Software used Eviews.

Figure no. 2: Distribution of densities of frequencies and the descriptive statistics of the level of satisfaction of the consumer of main educational services offered by AMIS specialization

The data distributions resulted from processing the questionnaire of the investigation and were influenced by its quality. The questionnaire of the exhaustive research conducted is divided into four separate components, which are distinct and associated, mirroring the hierarchies and structure of the academic organisation: a) the first section covers, through 16 variables, the demographic features of the consumer (graduate of the undergraduate or MA programme): b) the second and third sections respectively, in sets of six and five variables (A and b), assess and evaluate the level of satisfaction and the quality of the information in the fields that the university and the faculty is associated with; c) the fourth section (C) details the information necessary at the level of the *department*, *programme* (field or area) and *specialization*, generating 66 other variables within 15 questions. In addition to the level of satisfaction of the consumer of academic educational services, in the final set of questions there also occur variables which allow to correlate by opportunities (expressed as a percentage) to the labour market, as a result of the provision of educational services by the organization that provides the educational services (i.e. university, college, department).

Analytically, the final econometric modelling was conducted by stages and sometimes sub stages, from the initial formulation of the hypotheses of possible statistical models, focusing on initial correlation matrices, up to the statistical testing and the final formulation of some of the advanced models, which passed the standard tests (Săvoiu and Necşulescu 2009; Săvoiu, 2013), also explaining the random mechanisms that generated the statistical data, but also restructuring, based on those models, the responsibility of the organizations providing academic education services. The detail level by sub-stage in the concrete econometric modelling of the research is illustrated in Table 1, describing those stages strictly related to ensuring data sets/series or data distributions able to generate a reliable, valid and efficient model.

**Table no. 1: Sub-stages in ensuring the data series or databases needed
for econometric modelling**

1. Selection and operationalization of variables investigated	4. Delimitation of distinctly investigated subpopulations (BA and MA)	7. Final validation of the questionnaire
2. Selection of appropriate measurement scales (grading)	5. Constructing the questionnaire	8. Actual self-registration per questionnaire at the consumer level
3. Defining the statistical population (graduates)	6. Pilot testing and correcting errors	9. Analysis and conclusions based on the final data

Source: Săvoiu and Necşulescu, 2009, p. 50.

The restrictive dimensions of the paper allowed for a synthesis focusing on the range of topics concerning the level of satisfaction of the consumer of academic education services, although not a full presentation of the research results.

4. Results and discussion

An initial set of results refer to the combination of the final mean values of undergraduate or MA consumers of educational services, and their level of satisfaction with the graduation specialization. A classical and rapid procedure for calculating them involves the Yule coefficient of association, the famous secular computational tool *tetrachoric* "r", determined by the simple calculation relation (ad – bc) : (ad + bc), with values a, c, b and d resulting from structuring the population in keeping with two numerical attributive variables transformed into alternatives relative to the values below and above the average of each variable; the result can be interpreted as a simple correlation coefficient (Yule, 1919).

By calculating the Yule coefficients for the consumers of educational services in the undergraduate programme for the specialization AMIS, it is found that the values obtained confirm the absence of an association between the final average and consumer opinion about employment opportunities in the labour market ($r_1 = 0.187097$), and the reverse association between the final average and the level of satisfaction of the consumer of educational services in the undergraduate programme for the same specialization, and separately for primary and secondary educational services, reveals a normal state ($r_2 = -0.318182$; $r_3 = -0.358491$; $r_4 = -0.062069$), relations must be tested, especially the first two variables; all values show credible a state of heterogeneity of the respondents, in keeping with the reality or the labour market in Romania.

Besides, the construction of an econometric model able to allow predictions of consumer perception of their chance of being integrated into the labour market, starting from academic education services completed by undergraduate or MA studies, is difficult and there are few types of modelling that pass the final test of an R greater than 0.5 (ensuring at least average intensity). As an illustration of the difficulty of assessing, and also improving the perception of the **BA** graduates concerning their chances of entering the labour market, as in question I14 in Section C (the only consumers of academic educational services who are closer to the requirement R> 0.5 and who give a little more stability and intensity to the correlations in the model), where such an econometric model is presented in which the

exogenous variables or explanatory factors are I1 in section B = overall level of satisfaction with the college graduated, I1 of Section C = final level of satisfaction with the specialization, I6 in Section C = overall level of satisfaction with services in general, and I8 in Section C = satisfaction level with the services, relative to the expectations, I9 in section C = satisfaction with secondary services in general, and I11 in Section C = level of satisfaction with secondary services compared to the expectations, as well as I4 in the preliminary demographic information section = final average grade of the student at the graduation (Table 2).

Table no. 2: A multi-factorial model of the perception of the consumer of BA education services as a graduate, concerning their entry into the labour market

Dependent Variable : I14		OLS	Observations: 72
Log(I14i) = α + β×(1/SERBI1i) + γ×(1/SERCI1i) +δ×SERCI6i +λ× Log(SERCI8i)+μ× Log(SERCI9i)+ ρ× (1/SERCI11i) + τ× (SERI4i)+ εi			
@LOG(Y4) = 5,480 – 3,874*(1/(SERBI1)) - 4,008*(1/(SERCI1)) - 0,088*SERCI6 + 0,426*(@LOG(SERCI8)) - 0,992*(@LOG(SERCI9)) - 5,424*(1/(SERCI11)) + 0,013*(SERI4) + εi			
Variable	Coefficient	t-Statistic	Prob
A	5,479786	4,638333	0,0000
SERBI1	- 3,873987	-1,071526	0,2880
SERCI1	- 4,007808	-1,058242	0,2939
SERCI6	- 0,087750	-1,575831	0,1200
SERCI8	0,425970	0,594002	0,5546
SERCI9	- 0,991976	-1,544276	0,1275
SERCI11	- 5,423966	-1,831507	0,0717
SERI4	0,013048	0,650057	0,5180
R-squared	0,277923	Mean dependent var	7,9
Multiple R	0,527257	F-statistic	3,519029
Durbin – Watson stat	1,809003	Prob	0,002950

A second association analyzed concerns the relation between the average or level of satisfaction of the MA students and the self-awarded chance, as future graduates, to get a job through competition, to promote or gain a leading position based on the new knowledge and skills acquired through consumption of educational services. Based on calculating the Yule coefficients for the consumers of educational services in MA programmes it was found that the level of satisfaction of the consumers of these academic services in relation to their individual expectations and the final average of the MA graduate consumers are not strongly associated, and even non - associated practically ($r_{2master}$ = - 0,062619; $r_{3master}$ = - 0,240876; $r_{4master}$ = - 0,126437), the same is true in terms of the relationship with the self-awarded chance to gain salary increases or competitively gaining management positions in accounting and general management (r_1 master = 0,060773).

To do the modelling, a preliminary correlation matrix allowed identifying, to begin with, the efficient unifactorial patterns, in keeping with research hypotheses II and III. Based on the research questionnaire, for the 36 variables that virtually define as many activities of main services within the scope of question 7 in the fourth section (C), which details them, at the level of consumer satisfaction in question 6, the values of the correlation ratio are shown in Table 3, which also ranks them in point of intensity, and allows selecting the most highly correlated variable, in hypotheses II and III.

𝒜𝓔

*Level of Satisfaction of Educational Services Consumers.
Impact and Consequences for the Responsibility of an Economics Faculty*

**Table no. 3: Correlation matrix superimposed on the structure of question 7 in section
C (CI7) of the questionnaire, defining the correlation ratio between the categories
of main / basic services and the level of consumer satisfaction for the AMIS
undergraduate programme and specialization**

Correlation	Value of R	Correlation	Value of R	Correlation	Value of R
I7.1– I.6	0.649300	I7.2– I.6	0.629847	I7.3– I.6	0.633697
I7.4– I.6	0.592556	I7.5– I.6	0.675686	I7.6– I.6	**0.807029**
I7.7– I.6	0.438083	I7.8– I.6	0.462953	I7.9– I.6	0.522999
I7.10– I.6	0.551371	I7.10– I.6	0.476341	I7.12– I.6	0.516068
I7.13– I.6	0.444447	I7.14– I.6	0.422672	I7.15– I.6	0.465903
I7.16– I.6	0.717039	I7.17– I.6	0.786516	I7.18– I.6	0.710614
I7.19– I.6	0.566101	I7.20– I.6	0.651272	I7.21– I.6	0.659282
I7.22– I.6	0.413569	I7.23– I.6	0.339441	I7.24– I.6	0.381599
I7.25– I.6	0.428406	I7.26– I.6	0.325411	I7.27– I.6	0.617031
I7.28– I.6	0.525098	I7.29– I.6	0.545642	I7.30– I.6	0.575067
I7.31– I.6	0.314312	I7.32– I.6	0.581002	I7.33– I.6	0.395129
I7.34– I.6	0.667121	I7.35– I.6	0.783942	I7.36– I.6	0.621864

Software used: Eviews

According to the values in the table, the most powerful econometric model of the correlation was selected and set up for parameters, in order to validate hypothesis II; *the level of satisfaction of the consumer of the AMIS programme (field/area) and the undergraduate degree and specialization* is the endogenous variable, and the *multi-, trans- and interdisciplinary teaching methods* becomes the exogenous variables with the highest correlation ratio (Multiple R), detailed in Table 4.

**Table no. 4: Unifactorial model of the level of satisfaction of the consumer
of the AMIS programme (field) and of the undergraduate degree and specialization,
in keeping with the multi-, trans- and interdisciplinary mode of teaching**

Dependent variable SER I6	OLS	Observations: 72	
$SERI6 = \alpha + \beta \times SERI7.6i + \varepsilon i \Rightarrow SERI6 = 2.18 + 0.766 \times SERI7.6i + \varepsilon i$			
Variable	Coefficient	t-Statistic	Prob
α	2.180108	3.408784	0.0011
SER I7.6	0.766129	11.43429	0.0000
R-squared	0.651295	Mean dependent var	9.458333
Multiple R	0.807029	F-statistic	130.7430
Durbin – Watson stat	1.716190	Prob	0.0000

An advanced multi-factorial model according to hypothesis IV, where the first three significant factors were selected, which are correlated with the level of satisfaction of the educational services consumer of the programme (field) and BA specialization (CIC), is intended to rank, in addition to *the multi-, trans- and interdisciplinary teaching methods*, *providing an integrative character of disciplines* and *shaping a community spirit and partnership capacity*, and provides a solution for restructuring the responsibility of the faculty and, especially, the department, which focuses on these three criteria for the construction of the future curriculum (Table 5).

Table no. 5: A three-factor model with maximum determination of the level of satisfaction of the educational services consumer with the BA specialization AMIS

Dependent Variable: SER CI6	OLS	Observations : 72	
SERCI6= α+ β × SERCI7.6i + γ×(SERCI7.17i) + δ×SERCI7.35 i + εi			
⇒ SERCI6= - 8,29 + 0,16 × SERCI7.6i +4,21γ× Log(SERCI7.17i) + 2,99× Log(SERCI7.35 i) + εi			
Variable	Coefficient	t-Statistic	Prob
A	-8,291714	-2,305988	0,0242
SERCI7.6	0,160072	0,723963	0,4716
SERCI7.17	4,207239	2,907728	0,0049
SERCI7.35	2,993127	1,633124	0,1071
R-squared	0,696620	Mean dependent var	9,458333
Multiple R	0,834638	F-statistic	52,04701
Durbin – Watson stat	1,683962	Prob	0,0000

Extending the level of educational services consumer's satisfaction with the BA specialization CIG to the first six significant factors leads to a maximum intensity exceeding 0.85, but the multicollinearity phenomenon should be noted, which occurs inevitably among the new categories of main educational services defined by *the main services relating to teaching materials and equipment, which induce the innovative character of teaching and provide an interactive, synthetic type of training and education*, and the three previous variables. They all have major significance and provide alternatives to the faculty and department, enabling them to ensure a greater satisfaction for the consumers of academic services in future, and increase their chances of entry into the labour market.

Based on the same research questionnaire, for the same 36 variables that define the activities of main services of the MA programmes, Table 6 presents the values of the correlation ratio, which also ranks them in point of intensity, and allows selecting, in hypotheses II and III, the most intensely correlated variable, noting from the very beginning a reduction in the level of values and a decrease in the number of those that show correlations of a level which is at least average, to only 10:

Table no. 6: Correlation matrix structure superimposed on the structure of question 7 in Section C (CI7) of the questionnaire, defining the correlation ratio between the categories of main services and the level of satisfaction of the customer of MA programmes

Correlation	R	Correlation	R	Correlation	R
CI7.1– I.6	<u>0,619095</u>	C7.2– I.6	0,498209	CI7.3– I.6	0,417702
CI7.4– I.6	<u>0,537170</u>	CI7.5– I.6	*0,517074*	CI7.6– I.6	0,410259
CI7.7– I.6	0,493569	CI7.8– I.6	0,258404	CI7.9– I.6	*0,503546*
CI7.10– I.6	*0,521676*	CI7.10– I.6	0,420073	CI7.12– I.6	0,422487
CI7.13– I.6	0,373328	CI7.14– I.6	0,365610	CI7.15– I.6	**0,630129**
CI7.16– I.6	0,452029	CI7.17– I.6	0,471406	CI7.18– I.6	<u>0,555361</u>
CI7.19– I.6	0,406096	CI7.20– I.6	0,262676	CI7.21– I.6	0,491248
CI7.22– I.6	0,280289	CI7.23– I.6	0,290046	CI7.24– I.6	0,426033
CI7.25– I.6	*0,510599*	CI7.26– I.6	0,423169	CI7.27– I.6	0,481878
CI7.28– I.6	0,356728	CI7.29– I.6	0,294048	CI7.30– I.6	0,348604
CI7.31– I.6	0,438155	CI7.32– I.6	<u>0,537467</u>	CI7.33– I.6	<u>0,537006</u>
CI7.34– I.6	0,472168	CI7.35– I.6	0,462840	CI7.36– I.6	0,495803

Software used: Eviews

For the 66 MA graduates, the level of satisfaction, modelled unifactorially, becomes strictly dependent on the services having to do with the *quality and adequacy in terms of up-to-datedness of the classrooms, seminar rooms and laboratories*, as shown in Table 6, and generates the one-factor model in Table 7, much weaker in point of intensity and determination than the model in Table 4.

Table no. 7: Unifactorial model of the level of satisfaction of the consumer of educational services, in keeping with the services related to classrooms, seminar rooms and laboratories

Dependent Variable: SER CI6		OLS	Observations : 66	
SERCI6i= α+ β × SERCI7.15i +εi ⇒ SERCI6 = 5.76 + 0.385 × SERCI7.15i+εi				
Variable	Coefficient	t-Statistic		Prob
α	5,761771	10,65168		0.0000
SERC I7.15	0,384796	6,492076		0.0000
R-squared	0,397063	Mean dependent var		9,242424
Multiple R	0,630129	F-statistic		42,14705
		Prob		0,0000
Durbin – Watson stat	1,716190			

An advanced multi-factorial model in keeping with assumption V (as shown in Table 8), where the first three significant factors were selected, which are correlated with the level of satisfaction of the consumer of educational services of the Ma specialization, brings together, as exogenous variables, the services having to do with the *quality and adequacy in terms of up-to-datedness of the classrooms, seminar rooms and laboratories, the services of information about the courses of lectures and seminars for the compulsory disciplines, as well as the innovative character of teaching*, motivating new department priorities for the immediate future:

Table no. 8: A three-factor, maximum determination model of the level of satisfaction level of the consumer of educational services with the MA specialization

Dependent Variable: SER CI6		OLS	Observations : 66	
SERCI6= α+ β × SERCI7.15i + γ×(SERCI7.1i) + δ×SERCI7.18 i + εi				
⇒ SERCI6= 2,00 + 1,585 × log(SERCI7.15i) +0,258 × SERCI7.1i) + 0,149× SERCI7.18 i + εi				
Variable	Coefficient	t-Statistic		Prob
A	2,000018	2,066054		0,0430
SERCI7.15	1,585094	3,026273		0,0036
SERCI7.1	0,257550	2,007442		0,0491
SERCI7.18	0,149034	1,782245		0,0796
R-squared	0,495204	Mean dependent var		9,242424
Multiple R	0,703707	F-statistic		20,27395
		Prob		0,0000
Durbin – Watson stat	1,949706			

A more extended, multifactor model, focused on the first six exogenous variables, fails to reach a very strong intensity threshold, not exceeding 0.75, although it adds to the three previously modelled variables *the services related to the manner of making the schedule, the services related to regular consultations provided, and those having to do with the solving of examination appeals*. A tendency towards more pragmatic correlation is noted in the level of satisfaction of the MA students in the training process, in the specific environment, according to a characteristic work schedule.

As far as modelling the level of satisfaction of the consumers of secondary educational services (BA and MA) is concerned, in keeping with assumptions IV and V, the main findings are shown in Table 9, by confrontation: the main secondary service for the BA graduate is related to the *periodic meetings with teachers of faculty leadership*, and for the consumer of MA services, the *employment opportunities intermediated by the faculty for MA students*.

Table no. 9: Correlation matrix superimposed on the structure of question 10 in Section C (CI10), defining the correlation ratio (R) between secondary services and the satisfaction level of the consumer of BA and MA programmes

Correlation	R	Correlation	R	Correlation	R	Correlation	R
Exogenous variable defining a category of secondary services in the BA programme							
I10.1– I9	0,477022	I10.2– I9	0,572279	I10.3– I9	0,076706	I10.4– I9	**0,726736**
I10.5– I9	0,157518	I10.6– I9	0,341779	I10.7– I9	0,564784	I10.8– I9	0,392443
I10.9– I9	0,613748	I10.10– I9	0,228318	I10.11– I9	0,633294	I10.12– I9	0,480273
I10.13– I9	0,560251	I10.14– I9	0,626736	I10.15– I9	0,359608	-	-
Exogenous variable defining a category of secondary services in the MA programme							
I10.1– I9	0,392809	I10.2– I9	0,651616	I10.3– I9	0,474737	I10.4– I9	0,576172
I10.5– I9	0,634603	I10.6– I9	0,356823	I10.7– I9	0,616187	I10.8– I9	0,557281
I10.9– I9	0,489910	I10.10– I9	0,438757	I10.11– I9	**0,705215**	I10.12– I9	0,596356
I10.13– I9	0,397289	I10.14– I9	0,608561	I10.15– I9	0,561849	-	-

Software used: Eviews

Two unifactorial econometric models are thus generated, characteristic of the two programmes – BA (Table 10) and MA (Table 11):

Table no.10: One-factor model of the level of satisfaction of the consumer of secondary educational services of BA, in keeping with the services related to the regular meetings with teachers in the faculty leadership

Dependent Variable: SER CI9	OLS	Observations : 72	
SERCI9i= α+ β × log(SERC I10.4i) +εi $\Rightarrow$ SERCI6 = 4,995 + 6,413 × log(SERCI10.4i) +εi			
Variable	Coefficient	t-Statistic	Prob
α	- 4,995331	-3,127120	0,0026
SERC I10.4	6,412556	8,986729	0,0000
R-squared	0,535690	Mean dependent var	9,347222
Multiple R	0,726736	F-statistic	80,76129
Durbin – Watson stat	2,131954	Prob	0,0000

**Table no. 11: One-factor model of the level of satisfaction of the consumer
of secondary educational services of MA, in keeping with the services related
to the employment opportunities intermediated by the faculty**

Dependent Variable: SER CI9	OLS	Observations : 66	
SERCI9i= α+ β ×(1/SERC I10.11i) +εi ⇒ SERCI6 = 12,181 − 25, 350 × (1/SERCI10.11i) +εi			
Variable	Coefficient	t-Statistic	Prob
α	12,181488	33,51977	0,0000
SERC I10.4	- 25,350732	-8,411097	0,0000
R-squared	0,525034	Mean dependent var	9,204545
Multiple R	0,728011	F-statistic	70,74656
Durbin – Watson stat	1,868927	Prob	0,0000

When comparing the first six educational services, ranked as exogenous variables, considering the intensity of their correlation with the level of satisfaction of the customer of secondary BA and MA services, the findings are that only three of them coincide, and the rest create a distinct profile for each separate type of consumer (Table 12).

**Table no. 12: The first six exogenous variables, defining categories
of secondary services in the BA programme and MA programme**

The first six exogenous variables, defining categories of secondary services in the BA programme					
I10.4 Regular meetings with teachers in the leadership of the faculty	**I10.11** Employment opportunities intermediated by the faculty	**I10.14** Services of personal security assurance (guards, etc.)	I10.9 Activities of food catering via restaurant /canteen	**I10.2** Incentives or aids and sanctions for BA students	I10.7 Activities of accommo-dation / university campus
The first six exogenous variables, defining categories of secondary services in the MA programme					
I10.11 Employment opportunities intermediated by the faculty	**I10.2** Incentives or aids and sanctions for MA students	I10.5 Guidance and orientation for the 1st year	I10.7 Activities of accommo-dation / university campus	**I10.14** Services of personal security assurance (guards, etc.)	I10.12 Promptness of response to various demands by MA students

These variables, which define secondary services, significantly influence restructuring the responsibilities of the educational organization (university, faculty or college, department), and can ensure greater satisfaction for the consumers of academic services in the future, and at the same time increase their chances of entering the labour market.

The realism of the opinion of the awareness of the consumer of educational services, in keeping with the hypothesis VI, relating to their chances of entering the labour market, is difficult to model, as shown in hypothesis 1 and Table 2, and at the same time it differs with respect to the typology of the graduates. The consumer of educational BA services is placed within the range of a moderate optimism with an average probability of 79% (about

2.8 % of the graduates of Accountancy and Information Management Systems do not think they will find a job), while the MA consumer believes in a best personal placement in the labour market, as a result of master graduation, with an average probability of 86% (the percentage of those who do not believe that drops to 1.5%). As a general conclusion, the young consumer of economics educational services (23 year-old, on the average) is more pessimistic in comparison to the MA consumer, who is slightly older (a mean value of 25.2 years), although, in comparison to the degree of openness of the Romanian post-recession labour market, both groups of consumers are certainly very optimistic.

5. The impact of the level of satisfaction of the consumer of educational services, in the responsibility of the economic organization working in the field of academic education

As pointed out by other papers in this type of analysis of consumer satisfaction with educational services, since the end of the last century (Bowen and Bok, 1998), there is an aura of pretty high expectations of the consumers of educational services, the emphasis being placed on intellectual challenges (integrativity, multi-, trans- and interdisciplinarity, etc.), and also on the dilating tendency of the role of minimum standards in relation to the market, where real scarcity is found, and even lack of paid education / training summer courses, generating the necessary experience, be it formal or informal, but endowed with major educational impact (Moore, 1998), together with the need for consultation or advice and the requirements to form partnerships. All the above are perceived differently by the two types of consumers (i.e. bachelor and master programmes). The demand for selectivity and ranking specific to the academic educational organization faces an avid consumer of minimum standards of information and experience, intended to ensure access to the labour market. Thematic diversity and the fundamental/central disciplines of the services provided by the academic organizations are opposed the limitations in the current reality, and minimum standards conflict with local opportunities, or at most regional, of the consumers of BA or MA educational services, and so on. The impact of this analysis (much more extensive than could be synthesized and modelled in the present paper), affecting the responsibility of the organization with educational activity, is a restructuring one, both on a short and long term.

The four main criteria of organizational restructuring for both the primary and secondary educational services, based on consumer satisfaction, and also from their chance to integrate into the labour market, are:

a) accurately identifying and carefully assessing the consumers having real potential for this integration;

b) extending informal educational services into the campus of the organization;

c) greater diversification and coverage of local and regional realities in the educational services provided;

d) a short-term approach, which is however focused on a coherent long-term strategy to the academic organization.

Over the past two decades, relatively few studies, except perhaps those in the area of special education (Samdal et.al, 1998), have systematically examined the importance of structured assessment of consumer satisfaction with educational services, and even fewer have modelled these phenomena on the principles of complex statistical causality, in a multi-factorial manner, mainly as compared to others, which relate to the graduate consumer, also in terms of the educational organization's responsibility to permanently restructure its offer. In nearly all countries, especially in Europe (except perhaps Finland,

AE

Level of Satisfaction of Educational Services Consumers.
Impact and Consequences for the Responsibility of an Economics Faculty

Norway, Germany, and a few others), which are anyway very few, ranging high in point of economic and social development, as well as community cohesion, and in almost all studies of satisfaction with consumption of educational services, it is inversely proportional to age, under the impact of the graduates' integration with the labour market, and the inadequacy of some of the educational services to the same labour market...

Educational services, as competitive as they may be, can never fully replace individual adaptability and resilience, and their excessive multiplication leads to a reduction in the cycle of survival and the development of the academic education organization, following the example of natural selection among living organisms (Gadgil and Bossert, 1970).

Conclusions

From the scientific literature devoted to customer satisfaction (including higher education graduates, MA graduates, and even PhD diploma holders) and to the accountability of the organizations as far as the quality and structure of the services provided for the market are concerned (also including the market of educational services of all kinds), the conceptual terminology basis was insufficiently treated in the domain, and many authors still fail to make a clear distinction between certain types of services (the example of formal and informal education was comparatively detailed in the text). Moreover, the paper enriches the literature published so far, relatively poor at the moment, with a few original statistical and mathematical models focusing on consumer satisfaction and the responsibility of educational organizations. This is probably the major original contribution of the paper, through its attempt based on exhaustive research of a generation of BA and MA graduates, completely and smoothly, after a rigorous methodological research conducted in the area of Romanian academic education, i.e. higher education in Economics, at a faculty of the University of Pitesti.

The most important, strongly predictive variables of consumer satisfaction with educational services, which were identified in this paper refer to a higher degree of safety and a deeper simplification of access to the educational process, in specific areas, and its specific materials and information, including the organizational issues (combining the integration of disciplines with forming a deeper sense of academic community, requiring innovative teaching as well as modernity in the educational area, in the types of equipment and teaching materials, but also in the information sources, requiring schedules and programmes that are above all flexible, and so on). Similarly, counselling educational services and services of employment opportunities intermediated by the educational organization rank among the top places, strongly correlated with the level of satisfaction of the consumers of economics educational services. Standardization is the feature that must restructure the educational organization's responsibility for BA services, and pragmatism and economic incentives for the MA services.

References

Bowen, W. G., and Bok, D., 1998. *The shape of the river*. Princeton, NJ: Princeton University Press.

Broussolle, D., 2012. A note on the links between manufacturing, goods and services exports. Amfiteatru Economic, XIV(Special No. 6), pp. 600-620.

Bryman, A., 2012. *Social research methods*. Oxford: Oxford University Press.

Cojanu, V., 2007. Competitiveness of trade in services: some problems of measurement. Amfiteatru Economic, IX(22), pp. 147-152.

Ceglowski, J., 2006. Does gravity matter in a service economy? *The Review of World Economics*, 142(2), pp. 307-328.

Colley, H., Hodkinson, P. and Malcolm J., 2002. Non-formal learning: mapping the conceptual terrain. *Leeds: University of Leeds, Lifelong Learning Institute*. [online] Available at: <http://www.infed.org/archives/e-texts/colley_informal_learning.htm> [Accessed 10 September 2013].

Cudanov, M., Săvoiu, G. and Jaško, O., 2012. New Link in Bioinformatics Services Value Chain: Position, Organization and Business Model. Amfiteatru Economic, XIV(Special No. 6), pp. 680-697.

Deardorff, A.V., 2001. International Provision of Trade Services, Trade, and Fragmentation. *Review of International Economics*, 9(2), pp. 233-248.

Eaton, S.E., 2011. *Formal, Non-Formal and Informal Learning.* [online] Available at: <http://www.infed.org/archives/e-texts/eaton_formal_nonformal_informal_ learning.htm]> Archived 22 May 2011 at WebCite, [Accessed 8 September 2013].

Edvardsson, B., Gustafsson, A. and Roos, I., 2005. Service Portraits in Service Research: A Critical Review. *International Journal of Service Industry Management*, 16(1), pp. 107-121.

Enache, I.C., 2011. *Costumer behaviour and student satisfaction*. Bulletin of the Transilvania University of Braşov, vol. 4(53), No. 2, Series V: Economic Sciences, pp. 41-46. [online] Available at: <http://webbut.unitbv.ro/BU2011/Series%20V/BULETIN %20V/07%20enache%20BUT%202011%202.pdf> [Accessed 8 September 2013].

Gadgil, M. and Bossert, W.H., 1970. Life historical consequences of natural selection. *American Naturalist*, 104(935), pp. 1-24.

Greenfield, H.I., 2002. A Note on the Goods / Services Dichotomy. *The Service Industries Journal,* 22(4), pp. 19-21.

Grönroos, C. and Ojasalo, K., 2004. Service productivity. Towards a conceptualization of the transformation of inputs into economic results in services. *Journal of Business Research,* 57 (4), pp. 414-423.

Grönroos, C., 2008. Service logic revisited: who creates value? And who co-creates? *European Business Review,* 20(4), pp. 298-314.

Hill, T.P., 1977. On Goods and Services. *Review of Income and Wealth*, 23, pp. 315-338.

Hodkinson, P., Colley, H. and Malcolm, J., 2003. The Interrelationships between Informal and Formal Learning. *Journal of Workplace Learning*, 15, pp. 313-318.

Kimura, F. and Lee, H-H., 2006. The Gravity Equation in International Trade in Services. *Review of World Economics*, 142(1), pp. 92-121.

Karmali, D.P. and Sudarsan, P.K., 2008. Impact of trade in goods on trade in services: a country level panel data analysis. *Indian Journal of Economics and Business*, 7(1), pp. 145-154.

𝒜ℰ

Level of Satisfaction of Educational Services Consumers.
Impact and Consequences for the Responsibility of an Economics Faculty

Khattab Al, S. and Fares, F., 2011. Assessing Students' Satisfaction With Quality of Service of Students Information System, *Management and Marketing Journal*. [online] Available at: <http://www.mnmk.ro/documents/2011/10_Iordania%20FFF.pdf> [Accessed 7 September 2013].

Kayastha, S., 2011. Defining Service and Non-Service Exchanges. *Service Science* 3(4), pp. 313-324.

Lennon, C., 2008. Trade in Services and Trade in Goods: Differences and Complementarities. *PSE Working Papers* 2008-52, PSE.

Livingstone, D.W., 2001. Adults' Informal Learning: Definitions, Findings, Gaps and Future Research. *Toronto: OISE/UT (NALL Working Paper No.21).* [online] Available at: <http://www.oise.utoronto.ca/depts/sese/csew/nall/res/21adultsifnormallearning.htm > [Accessed 9 September 2013].

Mazumder, Q.H., 2013. Student Satisfaction in Private and Public Universities in Bangladesh. *International Journal of Evaluation and Research in Education (IJERE),* Vol.2, No.2, June 2013, pp. 78-84.

Moeller, S., 2010. Characteristics of Services – A New Approach Uncovers their Value. *Journal of Services Marketing*, 24(5), pp. 359-368.

Moore, S.-A., 1998. Time-to-Learning, *Digital Equipment Corporation*.

Moro-Egido, A. and Panadés, J., 2008. *An Analysis of Student Satisfaction: Full-Time versus Part-Time Students*. [online] Available at: <http://www.ugr.es/~teoriahe /RePEc/gra/wpaper/thepapers08_03.pdf> [Accessed 9 September 2013].

Nordås, H.K., 2010. Trade in goods and services: Two sides of the same coin? *Economic Modelling*, 27(2), pp. 496-506.

Pilat, D. and Wölfl, A., 2005. Measuring the Interaction between Manufacturing and Services. *OECD Science, Technology and Industry Working Papers,* 2005/5, OECD Publishing. [online] Available at: <http://www.oecd-ilibrary.org/docserver/download/ 5lgqqh94p7mt.pdf?expires=1387318108&id=id&accname=guest&checksum=F944F87 5FB4BFAB2C683A1081CBD4396> [Accessed 9 September 2013].

Remmers, H. H. and Remmers, E. H., 1926. The negative suggestion effect of true-false examination questions. *Journal of Educational Psychology, 17,* pp. 52-56.

Rubalcaba, L. and Kox, H., 2007. *Business Services in European Economic Growth*, Basingstoke: Palgrave Macmillan.

Rubalcaba, L., Gallego, J. and Hertog, P.D., 2010. The case of market and system failures in services innovation. *The Service Industries Journal*, 30(4), pp. 549-566.

Samdal, O., Nutbeam, D., Wold, B. and Kannas, L. 1998. Achieving health and educational goals through schools - a study of the importance of the school climate and the students' satisfaction with school. *Health education research*, 13(3), pp. 383-397.

Săvoiu, G., Tăchiciu, L. şi Dinu, V., 2012. Inflation and the Impact of Recession of Services in Romania's Economy. În: RESER - European Association for Research on Services, *22nd RESER International Conference „Services and Economc development Local and Global Challenges"*. Bucharest, Romania, 20-22 septembrie 2012, pp. 20-21.

Săvoiu, G., 2012. Riscul economic al subdezvoltării serviciilor în România: limite teoretice – cuantificare şi analiză statistică. În: Institutul de Cercetări Economice şi Sociale „Gh. Zane" - Filiala Iaşi a Academiei Române, *Conferinţa Ştiinţifică Internaţională „Progrese in teoria deciziilor economice in condiţii de risc şi incertitudine: sisteme fuzzy în economie"*. Iaşi, România, Ed. Iasi:Tehnopress, vol. XIX, pp. 42-48.

Săvoiu, G., Tăchiciu, L. and Dinu, V., 2013. Statistical Evaluation of Services in Romania. *Actual Problems of Economics*, 1(2), pg. 292-302.

Săvoiu, G. and Necşulescu, C., 2009. *Econometrie*. Bucharest: Universitară Publishing House.

Săvoiu, G., 2013. *Modelarea Economico – Financiară: Gândirea econometrică aplicată în domeniul financiar* . Bucharest: Universitară Publishing House.

Spohrer, J., Maglio, P.P., Bailey, J. and Gruhl, D., 2007. Steps toward a science of service systems. *Computer*, 40(1), pp. 71-77.

Spohrer, J.C. and Maglio, P.P., 2008. The Emergence of Service Science: Toward Systematic Service Innovations to Accelerate Co-Creation of Value. *Production and Operations Management*, 17(3), pp. 238-246.

Solinas G., Masia M.D., Maida G. and Muresu E., 2012. What Really Affects Student Satisfaction? An Assessment of Quality through a University-Wide Student Survey. *Creative Education,* 3(1), pp. 37-40, [online] Available at: <http://www.scirp.org/journal/ce/> [Accessed 12 September 2013].

de Souza Saulo, A. and Nilson, R.J., 2010. Avaliação de um curso de ensino superior através da satisfação/insatisfação discente /Evaluation of a higher education program through student satisfaction/dissatisfaction. *Avaliação: Revista da Avaliação da Educação Superior (Campinas)*, 15(1), pp. 159-176. [online] Available at:<http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1414-407720100001000 09> [Accessed 12 September 2013].

Suhre, C.J., Jansen, E.P. and Harskamp, E.G., 2007. Impact of degree program satisfaction on the persistence of college students. *Higher Education*, 54(2), pp. 207-226.

Vargo, S.L and Lusch, R.F., 2008. From Goods to Service(s): Divergences and Convergences of Logics. *Industrial Marketing Management,* 37(3), pp. 254-259.

Wölfl, A., 2005. The Service Economy in OECD Countries: OECD/Centre d'études prospectives et d'informations internationales (CEPII), *OECD Science, Technology and Industry Working Papers,* 2005/3, OECD Publishing. [online] Available at: <http://www.oecd-ilibrary.org/docserver/download/5lgsjhvj74tk.pdf?expires=13873184 31&id=id&accname=guest&checksum=8C9F576F95099F1CD85DB2785EEDDDDE> [Accessed 9 September 2013].

Yule, G.U., 1919. *An Introduction to the Theory of Statistics*. London: Charles Griffin.