

The External Evaluation Report of a Doctoral Study Domain

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I. Introduction¹

In this chapter, the following shall be summarized:

- the context in which this external evaluation report was drafted (**the type of evaluation, the period of the evaluation visit, the composition of the Experts Committee** etc.);
- details about the doctoral school(s) of which the doctoral domain under review is part (number of doctoral advisors, number of students, institutional context, short history etc.);
- details about the doctoral study domain under review (number of students, institutional context, short history etc.).

This evaluation was performed as a regular Periodical External Evaluation of the Institution Organising Doctoral Study Programs (IOSUD), respectively of the doctoral study domains (DD) Economics Informatics at the Bucharest University of Economic Studies. This study visit was performed in a hybrid form, mostly online with an on-site visit of the Panel Coordinator, period July 26th – 30th 2021. In Doctoral study, domain Business Administration Experts Committee worked as follows: Coordinator Prof.univ.dr. Dănciulescu Daniela, University of Craiova, International Expert Prof.univ.dr. Ivana Bilić, University of Split, and PhD Student Bogdan Cosmin, Universitatea „Babeş-Bolyai” din Cluj-Napoca.

This evaluation is performed for the Doctoral Programme in Economics Informatics, performed under the University’s Interdisciplinary Doctoral School (SDI) IOSUD – Bucharest University of Economic Studies – established as a higher education institution under the name of the Academy of Higher Commercial and Industrial Studies, based on the law promulgated by “Royal Decree no. 2.978 of April 6, 1913. During the time ASE changed the name and since 1967 is Bucharest University of Economic Studies. The academic year 2019-2020, consists of 12 faculties organized in undergraduate fields, specializations/university study programs approved by Government Decision – Annexes D-03, D-04 și D-05. In March 2020, a new faculty was established - the Faculty of Law, which has been operating since the 2020-2021 academic year. At the moment of this evaluation, the 10 doctoral programs are run by 11 doctoral schools organized

¹ Each time when applicable the information shall be presented gender-wise.



at the level of the faculties within the university. The doctoral activity within the doctoral schools is coordinated by the Council for Doctoral Studies - CSUD (see <http://doctorat.ase.ro>). The doctoral studies are carried out in the university in the form of full-time and part-time education, in Romanian or a language of international circulation (English, German, French). In the observed period 66 students are enrolled in the program Economic Informatics, out of them 3 are international students, who work under the supervision of 19 supervisors.

II. Methods used

This chapter will contain the methods and tools used in the external evaluation process, before and during the evaluation visit, including at least:

- The analysis of the internal evaluation report of the doctoral study domain under review and its Annexes;

- The analysis of documents made available by the IOSUD, in physical format, during the evaluation visit (if such documents have been requested);

- The analysis of documents, data and information available on the IOSUD/Doctoral School(s) website, in electronic format;

- Visiting the buildings included in the institution's property, comprising (indicative and non-exhaustive list, which shall be changed according to the context):

- classrooms;

- laboratories;

- the institution's library;

- research centers;

- the Career Counselling and Guidance Center;

- lecture halls for students;

- the student residences;

- the student cafeteria;

- sports ground etc.;

- Meeting/discussions with doctoral students in the doctoral study domain under review;

- Meeting/Discussions with the graduates of the doctoral study domain under review;

- Meeting/Discussions with employers of the graduates in the doctoral study domain under review;

- Meeting/Discussions with the school officials of the Doctoral School(s) in which the doctoral study domain under review is operating;

- Meeting/Discussions with the doctoral advisors in the doctoral study domain under review;

- Meeting/discussions with the representatives of the various structures of the IOSUD/Doctoral School(s) in which the doctoral study domain under review is operating:

- The Council of the Doctoral School, the University Senate, the Board of Directors, the Quality Assessment and Assurance Commission, the Quality Assurance Department, the Ethics Commission (including with the student representatives of these structures);

- the Career Counselling and Guidance Center;

- student organizations;

- secretariats;

- various departments/administrative offices (Social/Student residences-Cafeterias etc.);

- Application of questionnaires to doctoral students or academic staff in the doctoral study domain under review.



III. Analysis of ARACIS's performance indicators

Domain A. INSTITUTIONAL CAPACITY

Criterion A.1. The administrative, managerial institutional structures and the financial resources

Standard A.1.1. The institution organizing doctoral studies (IOSUD) has implemented the effective functioning mechanisms provided for in the specific legislation on the organization of doctoral studies.

All teaching, research, managerial and financial administrative activity within ASE complies with the relevant national legislation and internal regulations approved by the University's Senate.

Performance Indicator A.1.1.1. *The existence of specific regulations and their application at the level of the Doctoral School of the respective university doctoral study domain:*

- (a) the internal regulations of the Doctoral School;*
- (b) the Methodology for conducting elections for the position of director of the Council of doctoral school (CSD), as well as elections by the students of their representative in CSD and the evidence of their conduct;*
- (c) the Methodologies for organizing and conducting doctoral studies (for the admission of doctoral students, for the completion of doctoral studies);*
- (d) the existence of mechanisms for recognizing the status of a Doctoral advisor and the equivalence of the doctoral degree obtained abroad;*
- (e) functional management structures (Council of the doctoral school), giving as well proof of the regularity of meetings;*
- (f) the contract for doctoral studies;*
- (g) internal procedures for the analysis and approval of proposals regarding the training for doctoral study programs based on advanced academic studies.*

To meet all necessary regulations and their application on the doctoral school ASE developed and got approval from the ASE Senate following documents and regulations:

- a) the internal regulations of the doctoral school 'Regulation for the organization and conduct of doctoral studies, for each academic year in the observed period. Furthermore, the doctoral studies in the field of Economic Informatics doctoral domain are carried out based on the legal regulations in place regarding doctoral studies, the internal regulations of the ASE, and the "Regulation on the organization and conduct of doctoral studies - Doctoral School of Economic Informatics".
- b) in the observed period ASE performs the organization and development of the election process at the level of CSUD and doctoral schools (Economic Informatics) is based on the Election, and the operational procedure PO_CSUD-08 Organization and conduct of the election process at the level of Doctoral Schools.
- c) ASE has developed its policy for the recruitment and admission of students, where all candidates passed the same steps, without any discrimination, all of which being specified in the "Methodology for



the organization and conduct of admission to doctoral studies" and updated annually. The admission contest is organized based on an admission methodology, developed by CSUD, endorsed by the Board of Directors, and approved by the ASE Senate. Admission involves a bunch of documents about research, elaboration what students want to do during 3 years of the study period, interview and defend of the research topic. All information regarding the admission contest is published on the university website six months in advance.

d) At the ASE level, the status of Ph.D. supervisor was acquired by order of the minister in compliance with the legal regulations in the field which were in place at the time of acquiring this status. Within the ASE, the organization and development of the process of obtaining the habilitation certificate are based on the "Methodology to organize and to carry out the habilitation process". In the case when is the Ph.D. issued by other countries, ASE applies the procedures of the National Centre for Recognition and Equivalence of Diplomas.

e) According to the ASE Charter, doctoral studies have, within the institutional framework of IOSUD – ASE, their own and specific systems for the management and administration of study and research programs, and the Council for Doctoral Studies of each doctoral school operates at the IOSUD level. All these structures operate following the provisions of the education law, of the code of doctoral studies and of the institutional regulation regarding the organization and conduct of doctoral degree programs, the decisions being made during the CSUD meetings and the Doctoral School Board meetings (at least three times a year).

f) Admitted candidates at the beginning of the academic year and sign a study contract with the ASE, which stipulates the rights and obligations of the parties.

g) The process of approving the number of seats is fully and internally regulated. SDIE board approves the number of places and the themes put out to competition by each Ph.D. supervisor and by the Council of the Faculty of Economic Cybernetics, Statistics and Informatics, endorsed by CSUD and by the Board of Trustees and approved by ASE Senate, for each academic year.

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator A.1.1.2. *The doctoral school' Regulation includes mandatory criteria, procedures and standards binding on the aspects specified in Article 17, paragraph (5) of the Government Decision No. 681/2011 on the approval of the Code of Doctoral Studies with subsequent amendments and additions.*

The regulation of the Doctoral School of Economic Informatics - Annex SDIE-01 includes all mandatory criteria, procedures, and standards for the aspects specified in art.17, par. 5 of GD no. 681/2011, with its subsequent amendments and completions.

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Standard A.1.2. *The IOSUD has the logistical resources necessary to carry out the doctoral studies' mission.*

Performance Indicator A.1.2.1. *The existence and effectiveness of an appropriate IT system to keep track of doctoral students and their academic background.*



The ASE has an IT system that facilitates the collection, processing, and analysis of the data and information relevant to the institutional quality assessment and assurance. The IT Department is in charge of database management, including the Information and Network Office. The processes covered with IT are the admission of students, the allocation of seats in the dormitory, the management of the scientific research activity, student record, school accounts, the completion of the diploma supplement, the granting of intercommunity scholarships, and mobilities.

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator A.1.2.2. *The existence and use of an appropriate software program and evidence of its use to verify the percentage of similarity in all doctoral theses.*

Since 2015 the ASE implemented the operational procedure Antiplagiarism Verification, which defines the use of the Sistemantiplagiat.ro, antiplagiarism system following the technical specifications of the platform. The procedure applies upon request to all doctoral theses and other ASE publications. In the observed period 17 Ph.D. students all theses were checked, and the average values of similarity coefficients for the theses defended at the Doctoral School of Economic Informatics were 2,55 % for C1 and 0,68 % for C2. Some professors at the Panel meetings noted they don't need antiplagiarism verification due to the fact they know if is plagiarism or not.

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Standard A.1.3. The IOSUD makes sure that financial resources are used optimally, and the revenues obtained from doctoral studies are supplemented through additional funding besides governmental funding.

Performance Indicator A.1.3.1. *Existence of at least one research or institutional / human resources development grant under implementation at the time of submission of the internal evaluation file, per doctoral study domain under evaluation, or existence of at least 2 research or institutional development / human resources grant for the doctoral study domain, obtained by doctoral thesis advisors operating in the evaluated domain within the past 5 years. The grants address relevant themes for the respective domain and, as a rule, are engaging doctoral students.*

In the observed period at the Doctoral School of Economic Informatics, 7 research grants, representing institutional development, have been performed by Ph.D. supervisors in the field of Economic Informatics. In the field of Economic Informatics, research or institutional development / human resources grant is underway at the time of submitting self-assessment documentation (Annex SDIE-08).

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*



Performance Indicator *A.1.3.2. *The percentage of doctoral students active at the time of the evaluation, who for at least six months receive additional funding sources besides government funding, through scholarships awarded by individual persons or by legal entities, or who are financially supported through research or institutional / human resources development grants is not less than 20%.*

In the observed period within doctoral studies Economic Informatics, out of 66 registered students, 43 Ph.D. students completed doctoral training, 5 Ph.D. students are under extension and 18 Ph.D. students are in the grace period. Among the currently registered Ph.D. students, a number of 39 Ph.D. students are funded/have been funded from the state budget. Within the Ph.D. field of Economic Informatics, 16 Ph.D. students benefited from other sources of funding, for at least 6 months, during their studies, which represents 24.24% of all existing Ph.D. students at the time of evaluation. (Annex SDIE-09, Annex SDIE-10).

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator *A.1.3.3.² *At least 10% of the total amount of doctoral grants obtained by the university through institutional contracts and of tuition fees collected from the doctoral students enrolled in the paid tuition system is used to reimburse professional training expenses of doctoral students (attending conferences, summer schools, training, programs abroad, publication of specialty papers or other specific forms of dissemination etc.).*

In the observed period at the Doctoral School of Economic Informatics, the doctoral field of Economic Informatics, total revenues from the annual budget allowance / Ph.D. student, respectively tuition fee for paying doctoral students, were 3,678,900 lei (Annex SDIE-11). Out of this income, training expenses amounting to 18,534.38 lei were reimbursed for doctoral students of the Doctoral School of Economics Informatics, for the purpose of participation in conferences, summer schools, courses, abroad internships, publishing specific articles, etc. That amount represents 0.55% of total revenues in the observed period.

Recommendations: Put additional efforts to reach the minimum of 10%

*The indicator is fulfilled/**partially fulfilled**/not fulfilled.*

Criterion A.2. Research infrastructure

Standard A.2.1. The IOSUD has a modern research infrastructure to support the conduct of doctoral studies' specific activities.

Performance Indicator A.2.1.1. *The venues and the material equipment available to the doctoral school enable the research activities in the evaluated domain to be carried out, in line with the assumed mission and objectives (computers, specific software, equipment, laboratory equipment, library, access to international databases etc.). The research infrastructure and the provision of research services are*

² The indicators marked with an asterisk (*) hold a special status, referring exclusively to the evaluation of doctoral studies domains, as per Article 12 from the annex No.1 of the Order of the minister of education No. 3651/12.04.2021 approving the Methodology for evaluating university doctoral studies and the system of criteria, standards and performance indicators used in the evaluation. In case they are not met, the Agency extends a period of maximum 3 years to IOSUD to correct the respective deficiencies.



presented to the public through a specific platform. The research infrastructure described above, which was purchased and developed within the past 5 years will be presented distinctly.

At the ASE level, the scientific research activity is coordinated by the Directorate of Research and Innovation Management which provides logistics and consultancy to stimulate the involvement in research programs and the collaboration of specialists from different fields. The Ph.D. programs of the doctoral schools within the ASE include training programs based on advanced studies and individual scientific research programs and involve the Ph.D. student in scientific projects established by the Ph.D. supervisor. The ASE has material resources such as classrooms, amphitheatres, seminar rooms, laboratories, online platforms, computer technology, wireless Internet access, multimedia systems (video and overhead projectors, screens projection, flipcharts, etc.). The ASE owned licenses for basic software (operating systems, antivirus programs), specialized software (SPSS, CIEL, EVIEWS, SAS/R), and application software (Microsoft Office suite, MS Sharepoint, MS SQL Server, other dedicated programs: Eviews, State, etc).

Ph.D. students of the Doctoral School of Economic Informatics, have access to the infrastructure related to the IOSUD-ASE material base, for carrying out the research activity, and to the halls and laboratories of the departments within the Faculty of Economic Cybernetics, Statistics and Informatics and the Department of Economic Informatics and Cybernetics, where scientific seminars and meetings with the advisory boards take place. (Annex SDIE-12).

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Criterion A.3. Quality of Human Resources

Standard A.3.1. At the level of each domain there are sufficient qualified staff to ensure the conduct of doctoral study program.

Performance Indicator A.3.1.1. *Minimum three doctoral thesis advisors within that doctoral domain, and at least 50% of them (but no less than three) meet the minimum standards of the National Council for Attestation of University Degrees, Diplomas and Certificates (CNATDCU) in force at the time when the evaluation is carried out, which standards are required and mandatory for obtaining the enabling certification.*

In the observed period ASE within the domain of Economic Informatics in the period of evaluation, 89,47% of Ph.D. supervisors, meet the minimum CNATDCU standards, necessary and mandatory for obtaining the habilitation certificate.

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator *A.3.1.2. *At least 50% of all doctoral advisors have a full-time employment contract for an indefinite period with the IOSUD.*



At this moment of evaluation 208 within the Doctoral School of Economic Informatics, the share of tenured Ph.D. supervisors within IOSUD is 84.21% (Annex SDIE-13).

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator A.3.1.3. *The study subjects in the education program based on advanced higher education studies pertaining to the doctoral domain are taught by teaching staff or researchers who are doctoral thesis advisors / certified doctoral thesis advisors, professors / CS I or lecturer / CS II, with proved expertise in the field of the study subjects they teach, or other specialists in the field who meet the standards established by the institution in relation with the aforementioned teaching and research functions, as provided by the law.*

In the moment of evaluation academics engaged as Ph.D. supervisors or professors for the doctoral domain, Economic Informatics are teaching staff or researchers with proven expertise in the field of the study subjects they teach, or other specialists in the field who meet the standards established by the institution, as provided by the law (Annex SDIE- 15).

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator *A.3.1.4. *The percentage of doctoral thesis advisors who concomitantly coordinate more than 8 doctoral students, but no more than 12, who are themselves studying in doctoral programs³ does not exceed 20%.*

At the moment of this evaluation at the Doctoral School of Economic Informatics, most of all Ph.D. supervisors coordinated simultaneously up to 8 doctoral students during the doctoral studies (internship and extension of internship). Three of the Ph.D. supervisors coordinated more than 8 Ph.D. students, and there is no Ph.D. supervisor who coordinates over 12 Ph.D. students. (Annex SDIE-16 and Annex SDIE-17).

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Standard A.3.2. *The Doctoral advisors within the domain are carrying out a scientific activity visible at international level.*

Performance Indicator A.3.2.1. *At least 50% of the doctoral thesis advisors in the evaluated domain have at least 5 Web of Science - or ERIH-indexed publications in magazines of impact, or other achievements of relevant significance for that domain, including international-level contributions that indicate progress in scientific research - development - innovation for the evaluated domain. The aforementioned doctoral thesis advisors enjoy international awareness within the past five years,*

³ 3 years for the doctoral university studies with the duration stipulated at Article 159, paragraph (3), respectively 4 years for the doctoral university studies with the duration stipulated at Article 174, paragraph (3) of the Law of national education No.1/2011 with subsequent amendments and additions, with additional extension periods approved as per Article 39, paragraph (3) of the Code of doctoral studies approved by the GD No. 681/2011 with subsequent amendments and additions.



consisting of: membership on scientific boards of international publications and conferences; membership on boards of international professional associations; guests in conferences or expert groups working abroad, or membership on doctoral defense commissions at universities abroad or co-leading with universities abroad. For Arts and Sports and Physical Education Sciences, doctoral thesis advisors shall prove their international visibility within the past five years by their membership on the boards of professional associations, membership in organizing committees of arts events and international competitions, membership on juries or umpire teams in artistic events or international competitions.

At the level of the Doctoral School of Economic Informatics, 17 Ph.D. supervisors (89.47%) have at least 5 publications indexed Web of Science or ERIH and other achievements of relevant significance for the field, which include international contributions revealing progress in scientific research-development-innovation (Annex SDIE-18).

Furthermore, all Ph.D. supervisors at the doctoral domain of Economic Informatics have international visibility, consisted of at least one of the following qualities: a member of the scientific commissions of international publications and conferences; member of the boards of international professional associations; guest of expert groups or conferences held abroad, member of commissions for the defense of the doctoral thesis at foreign universities, and co-supervised Ph.D. supervisors at foreign universities (SDIE-18 Annex).

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator *A.3.2.2. *At least 50% of the doctoral thesis advisors in a specific doctoral study domain continue to be active in their scientific field, and acquire at least 25% of the score requested by the minimal CNATDCU standards in force at the time of the evaluation, which are required and mandatory for acquiring their enabling certificate, based on their scientific results within the past five years.*

Almost all of the Ph.D. supervisors of the Economic Informatic doctoral domain carry out an active research activity, precisely 18 (94.73%) of them obtained at least 25 % of the score required by the minimum CNATDCU standards in force at the time of the evaluation, necessary and mandatory for obtaining the habilitation certificate, based on their scientific results of the last five years (Annex SDIE-19).

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Domain B. EDUCATIONAL EFFECTIVENESS

Criterion B.1. The number, quality and diversity of candidates enrolled for the admission contest

Standard B.1.1. The institution organizing doctoral studies has the capacity to attract candidates from outside the higher education institution or a number of candidates exceeding the number of seats available.



Performance Indicator *B.1.1.1. *The ratio between the number of graduates of masters' programs of other higher education institutions, national or foreign, who have enrolled for the doctoral admission contest within the past five years and the number of seats funded by the state budget, put out through contest within the doctoral domain is at least 0.2 or the ratio between the number of candidates within the past five years and the number of seats funded by the state budget put out through contest within the doctoral studies domain is at least 1,2.*

At the ASE level, an important portion of candidates is those who graduated from master's programs organized by other universities. In the observed period at the level of the doctoral domain of Economic Informatics, the ratio between the number of students financed from the budget and master's graduates from other higher education institutions, outside the IOSUD-ASE, is 0.47, above the required level of 0.2. Furthermore, the number of candidates financed by the state budget is 49, while the number of graduates from other master's programs is 23, which represents a ratio of 2.13. Also, some students from other Master's study programs decided to enroll in this study intending to work on the Ph.D. thesis with a certain professor from ASE.

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Standard B.1.2 Candidates admitted to doctoral studies demonstrate academic, research and professional performance.

Performance Indicator *B.1.2.1. *Admission to doctoral study programs is based on selection criteria including: previous academic, research and professional performance, their interest for scientific or arts/sports research, publications in the domain and a proposal for a research subject. Interviewing the candidate is compulsory, as part of the admission procedure.*

For admission criteria, Ph.D. candidates need to collect all relevant documents, prepare a research topic and defend it on interview. Selection criteria are establishing for each academic year.

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator B.1.2.2. *The expelling rate, including renouncement / dropping out of doctoral students 3, respectively 4, years after admission⁴ does not exceed 30%.*

At the level of the doctoral domain Economic Informatics, the dropout rate of Ph.D. students of the 2nd year after admission to the Doctoral School of Business is at the level of 20% in the observed period, with an evident decrease since 2017 (SAR Table 7).

⁴ 3 years for the doctoral university studies with the duration stipulated at Article 159, paragraph (3), respectively 4 years for the doctoral university studies with the duration stipulated at Article 174, paragraph (3) of the Law of national education No. 1/2011 with subsequent amendments and additions.



Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Criterion B.2. The content of doctoral programs

Standard B.2.1. The training program based on advanced university studies is appropriate to improve doctoral students' research skills and to strengthen ethical behavior in science.

Performance Indicator B.2.1.1. *The training program based on advanced academic studies includes at least 3 disciplines relevant to the scientific research training of doctoral students; at least one of these disciplines is intended to study in-depth the research methodology and/or the statistical data processing.*

The training program based on advanced university studies comprises, at the ASE level, 22 disciplines relevant for the preparation in scientific research of Ph.D. students. At the level of the doctoral field of Economic Informatics, the advanced doctoral training plan includes four disciplines (SAR Table 8.): 1) Ethics and academic integrity; 2) Applying quantitative and qualitative methods in scientific research; 3) Data Science, and 4) Business Intelligence. The first two disciplines are organized at the IOSUD level, by CSUD, the other 2 disciplines being organized within the Doctoral School of Economic Informatics.

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator B.2.1.2. *At least one discipline is dedicated to Ethics and Intellectual Property in scientific research or there are well-defined topics on these subjects within a discipline taught in the doctoral program.*

'Ethics and academic integrity is integrated into the annual curricula of the doctoral school of Economic Informatics.

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator B.2.1.3. *The IOSUD has mechanisms to ensure that the academic training program based on advanced university studies addresses „the learning outcomes”, specifying the knowledge, skills, responsibility and autonomy that doctoral students should acquire after completing each discipline or through the research activities⁵.*

At the level of Doctoral study domain Economic Informatics, learning outcomes are presented, and specify the knowledge, skills, responsibility, and autonomy that doctoral students should acquire after completing the course. What is also observed is the level of the proposed learning outcomes at some point is not at

⁵ Or by what the graduate should know, understand and to be able to do, according to the provisions of the Methodology of 17 March 2017 regarding inscription and registration of higher education qualifications in the National Register of Qualifications in Higher Education (RNCIS) approved by the Order No.3475/2017 with subsequent amendments and additions.



the European level 8, as it should be for the level of doctoral study. Outcomes as 'be familiar'; 'understand' and 'will be able to use' are not equivalent for European Union level for Ph.D. learning outcomes.

Recommendations: Check out the level of proposed learning outcomes and align it with the European level for the Doctoral Study.

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator B.2.1.4. *All along the duration of the doctoral training, doctoral students in the domain receive counselling/guidance from functional guidance commissions, which is reflected in written guidance and feedback or regular meeting.*

In observed period throughout the whole doctoral training period, Ph.D. students in the field of Economic Informatics benefit from the coordination provided by the scientific supervisor, from the advice/guidance of some functional guidance commissions, commissions established with the Ph.D. supervisor from the time of registration. The involvement of the guidance commission in advising Ph.D. students is reflected in the written feedback or in the regular meetings, which are activities complementary to those offered by the scientific Ph.D. supervisor. Students who participated in the Panel meetings expressed satisfaction with the provided guidance.

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator B.2.1.5. *For a doctoral study domain, the ratio between the number of doctoral students and the number of teaching staff/researchers providing doctoral guidance must not exceed 3:1.*

At the time of this evaluation, in the doctoral field of Economic Informatics, the ratio between the number of doctoral students (66) and the number of teachers/researchers providing support (40) is 1.65 (Annex SDIE-30).

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Criterion B.3. The results of doctoral studies and procedures for their evaluation.

Standard B.3.1. Doctoral students capitalize on the research through presentations at scientific conferences, scientific publications, technological transfer, patents, products and service orders.

Performance Indicator B.3.1.1. *For the evaluated domain, the evaluation commission will be provided with at least one paper or some other relevant contribution per doctoral student who has obtained a doctor's title within the past 5 years. From this list, the members of the evaluation commission shall randomly select 5 such papers / relevant contributions per doctoral study domain for review. At least 3 selected papers must contain significant original contributions in the respective domain.*



In the observed period students in the doctoral field of Economic Informatics, have published articles with relevant scientific content, over 17 articles in scientific journals indexed in international databases. A number of 17 published papers reflect Ph.D. graduates' work in the observed period during the study process (Annex SDIE-31).

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator *B.3.1.2. *The ratio between the number of presentations of doctoral students who completed their doctoral studies within the evaluated period (past 5 years), including posters, exhibitions made at prestigious international events (organized in the country or abroad) and the number of doctoral students who have completed their doctoral studies within the evaluated period (past 5 years) is at least 1.*

All 17 Ph.D. students who have completed their doctoral studies in the last five years in the field of Economic Informatics, and whose title was validated by CNATDCU until 30.09.2020, participated in at least one international scientific event, as a prerequisite for defending a thesis (held in the country or abroad). A total of 121 conferences were registered (Annex SDIE-32). The share between the number of participations in prestigious international events and the number of Ph.D. students who obtained the title of doctor validated by CNATDCU until 30.09.2020, is 7.11.

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Standard B.3.2. *The Doctoral School engages a significant number of external scientific specialists in the commissions for public defense of doctoral theses in the analyzed domain.*

Performance Indicator *B.3.2.1. *The number of doctoral theses allocated to one specialist coming from a higher education institution, other than the evaluated IOSUD should not exceed two (2) in a year for the theses coordinated by the same doctoral thesis advisor.*

During the observed period, 21 external scientific reviewers were engaged for the 17 doctoral theses defended in the field of Economic Informatics. Thus, the number of doctoral theses assigned to an external reviewer, coordinated by the same Ph.D. supervisor did not exceed the maximal number of 2.

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator *B.3.2.2. *The ratio between the doctoral theses allocated to one scientific specialist coming from a higher education institution, other than the institution where the defense on the doctoral thesis is organized, and the number of doctoral theses presented in the same doctoral study domain in the doctoral school should not exceed 0.3, considering the past five years. Only those doctoral study domains in which minimum ten doctoral theses have been presented within the past five years should be analyzed.*



The ratio between the doctoral theses allocated to one scientific specialist coming from a higher education institution, other than the institution where the defense on the doctoral thesis is organized, and the number of doctoral theses presented in the same doctoral study domain in the doctoral school varied between 0.05 and 0.23, what is in line with the required level below 0.3 (Annex SDIE - 34).

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Domain C. QUALITY MANAGEMENT

Criterion C.1. Existence and periodic implementation of the internal quality assurance system

Standard C.1.1. There are an institutional framework and procedures in place and relevant internal quality assurance policies, applied for monitoring the internal quality assurance.

Performance Indicator C.1.1.1. *The Doctoral school in the respective university study domain shall demonstrate the continuous development of the evaluation process and its internal quality assurance following a procedure developed and applied at the level of the IOSUD, the following assessed criteria being mandatory:*

- (a) the scientific work of Doctoral advisors;*
- (b) the infrastructure and logistics necessary to carry out the research activity;*
- (c) the procedures and subsequent rules based on which doctoral studies are organized;*
- d) the scientific activity of doctoral students;*
- e) the training program based on advanced academic studies of doctoral students;*
- f) social and academic services (including for participation at different events, publishing papers etc.) and counselling made available to doctoral students.*

At the IOSUD-ASE level, all internal evaluation and monitoring procedures and regulations for assessing and monitoring the evolution of doctoral schools are developed and applied regularly. All those procedures and regulations are applying to the Doctoral Study domain of Economic Informatics. Furthermore, that includes the scientific work of Ph.D. supervisors, the infrastructure and logistics necessary to carry out the research activity, and the procedures and rules based on which doctoral studies are organized (Annex CSUD-68).

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator *C.1.1.2. *Mechanisms are implemented during the stage of the doctoral study program to enable feedback from doctoral students allowing to identify their needs, as well as their overall level of satisfaction with the doctoral study program in order to ensure continuous improvement of the academic and administrative processes. Following the analysis of the results, there is evidence that an action plan was drafted and implemented.*



During the doctoral study program at the doctoral school of Economic Informatics, mechanisms for collecting feedback from Ph.D. students have been performed (Annex SDIE - 35). As a follow-up of the survey, a plan of measures that addressed the reported deficiencies and stimulate the scientific and academic performance of the doctoral school of Economic Informatics is also developed (Annex SDIE - 36).

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Criterion C.2. Transparency of information and accessibility of learning resources

Standard C.2.1. Information of interest to doctoral students, future candidates and public interest information is available for electronic format consultation.

Performance Indicator C.2.1.1. *The IOSUD publishes on the website of the organizing institution, in compliance with the general regulations on data protection, information such as:*

- (a) the Doctoral School regulation;*
- (b) the admission regulation;*
- (c) the doctoral studies contract;*
- (d) the study completion regulation including the procedure for the public presentation of the thesis;*
- (e) the content of training program based on advanced academic studies;*
- (f) the academic and scientific profile, thematic areas/research themes of the Doctoral advisors within the domain, as well as their institutional contact data;*
- (g) the list of doctoral students within the domain with necessary information (year of registration; advisor);*
- (h) information on the standards for developing the doctoral thesis;*
- (i) links to the doctoral theses' summaries to be publicly presented and the date, time, place where they will be presented; this information will be communicated at least twenty days before the presentation.*

All methodologies and regulations for the organization and conduct of admission competitions are public, along with the other information of the public interest on the website (<http://doctorat.ase.ro/informatica>), on the SDIE site (<https://sdie.ase.ro>) and the website of the Faculty of Economic Cybernetics, Statistics and Informatics (<https://csie.ase.ro/programe/programe-de-doctorat/>), in compliance with the general regulations on data protection. The listed links are presented in the Self-evaluation report (Table 9).

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Standard C.2.2. The IOSUD/The Doctoral School provides doctoral students with access to the resources needed for conducting doctoral studies.

Performance Indicator C.2.2.1. *All doctoral students have free access to one platform providing academic databases relevant to the doctoral studies domain of their thesis.*



Through its libraries, ASE provides students with the classical and electronic format of learning and research resources, free of charge, in both for each organized study program, for all study levels (see www.biblioteca.ase.ro). The ASE Library itself has its book fund, a loan service, the FAO Centre, the European Documentation Centre corresponding to the economic field, and a network of computers connected to the Internet. The ASE Library, with a total of 733 places in the reading rooms (central unit, branches, and campus, as well as branch departments). The library provides access to the relevant database's collections of eBooks purchased with continuous access by the institution for all study All ASE students, including students of the Doctoral School Economics Informatics, have free access to these platforms to aforementioned databases, but need to be presented at ASE physically.

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator C.2.2.2. *Each doctoral student shall have access, upon request, to an electronic system for verifying the degree of similarity with other existing scientific or artistic works.*

At the ASE level, each Ph.D. student upon request has access to verify the similarity of the written scientific papers. At the ASE level access is available at <http://dmci.ase.ro/index.php/antiplagiat>. At the panel meetings, some professors noted they don't need to use it since they feel confident to judge plagiarism when reading.

Recommendations: Assure that all supervisors use antiplagiarism verification.

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator C.2.2.3. *All doctoral students have access to scientific research laboratories or other facilities depending on the specific domain/domains within the Doctoral School, according to internal order procedures.*

Permanent access to the halls and laboratories of the Faculty of Economic Cybernetics, Statistic and Informatics, and the scientific research laboratories of the departments is assured for Ph.D. students from the doctoral school of Economic Informatics.

Recommendations:

*The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Criterion C.3. Internationalization

Standard C.3.1. There is a strategy in place and it is applied to enhance the internationalization of doctoral studies.

Performance Indicator *C.3.1.1. *IOSUD, for every evaluated domain, has concluded mobility agreements with universities abroad, with research institutes, with companies working in the field of study, aimed at the mobility of doctoral students and academic staff (e.g., ERASMUS agreements for the doctoral studies). At least 35% of the doctoral students have completed a training course abroad or other mobility forms such as attending international scientific conferences. IOSUD drafts and applies policies*



and measures aiming at increasing the number of doctoral students participating at mobility periods abroad, up to at least 20%, which is the target at the level of the European Higher Education Area.

In the observed period at the ASE level, an internationalization strategy is developed for the period 2016-2027, the strategy included all study levels, including doctoral studies. ASE has concluded mobility agreements with international universities which allow doctoral students and teachers to participate in mobility internships. Furthermore, 10 Ph.D. graduates participated with papers at international conferences held abroad, which represents a percentage of 58.82%. Also, out of the total of 83 doctoral students from 2015-2020, 30 participated with papers at international conferences held abroad, which represents a percentage of 36.14% (Annex SDIE-39).

In the observed period 2 longer international mobilities were performed: Liviu-Adrian Coffas (17/10/2019 - 31/12/2019) has been a visiting fellow at the University of Naples Federico II (Naples, Italy), and Mihai Gheorghe (08/04/2015 - 23/05/2015) has participated in a doctoral mobility program at Sapienza University in Rome, within the Department of Legal and Economic Sciences. What is missing is the long-term international mobility of Ph.D. students and staff.

*Recommendations: More longer international mobility for Ph.D. students and staff.
The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator C.3.1.2. *In the evaluated doctoral study domain, support is granted, including financial support, to the organization of doctoral studies in international co-tutelage or invitation of leading experts to deliver courses/lectures for doctoral students.*

During the reported period, international experts were invited to lecture for doctoral students at SDIE were international experts co-opted for the courses Research ethics and writing of scientific articles (2018-2019) and Ethics and academic integrity (2019- 2020) (Annex CSUD-73).

*Recommendations:
The indicator is **fulfilled**/partially fulfilled/not fulfilled.*

Performance Indicator C.3.1.3. *The internationalization of activities carried out during the doctoral studies is supported by IOSUD through concrete measures (e.g., by participating in educational fairs to attract international doctoral students; by including international experts in guidance committees or doctoral committees etc.).*

ASE performed the internationalization of the activities within the SDAA supported by the IOSUD and participated in educational fairs to attract international Ph.D. students, and for the purpose of concluding partnerships and collaborations with prestigious universities. Even having good collaboration with German and international students, now the interest for that cooperation is decreasing. Also, there is one case at the Doctoral School of Economic Informatics where Ph.D. Professor CAMILLE SALINESI, from the University of Paris 1 Panthéon-Sorbonne joined the advisory board of Ph.D. student RAICU FIRINA.

Recommendations:



The indicator is **fulfilled**/partially fulfilled/not fulfilled.

IV. SWOT Analysis

<p><u>Strengths:</u></p> <ul style="list-style-type: none"> - high scientific productivity - good cooperation with industry - good relationships with doctoral domain alumni - good library - long tradition 	<p><u>Weaknesses:</u></p> <ul style="list-style-type: none"> - lack of financing for international mobility - reimbursement policy - low international mobility - lack of student office as support
<p><u>Opportunities:</u></p> <ul style="list-style-type: none"> - the base of Ph.D. study programs for Romanian language speakers - good international network - good connection with industry - proved cooperation with Germany 	<p><u>Threats:</u></p> <ul style="list-style-type: none"> - global competition and decreasing number of candidates - internationalization of HE in the EU - national legislation and the short period of studying of 3 years

V. Overview of judgments awarded and of the recommendations

No.	Type of indicator (*, C)	Performance indicator	Judgment	Recommendations
1.	*	*A.1.3.3.	Partially fulfilled	<i>Put additional efforts to reach minimum of 10%</i>
2.		B.2.1.3.	Fulfilled	<i>Check out the level of proposed learning outcomes and align it with the European level for the Doctoral Study.</i>
3.		C.2.2.2.	Fulfilled	<i>Assure that all supervisors use antiplagiarism verification.</i>
4.	*	*C.3.1.1.	Fulfilled	<i>More longer international mobility for Ph.D. students and staff.</i>

VI. Conclusions and general recommendations



Even the ASE and along with that doctoral school of Economic Informatics have fulfilled almost all indicators in line with the national criteria there are some conclusions and recommendations which can be mentioned in this section.

First of all, the need to enabling and promoting support for Ph.D. students for international mobility, particularly the longest one. The current situation is a bit new if it is considered the situation that candidates who are not budget funded three years ago got the possibility to use mobility and conference funds. Post payment for international conference participation or other forms of mobility is also quite complicated with reimbursement procedure and the need for having a personal fund to overcome the time gap. Also, long-term mobility is more efficient for developing co-operations and international experience, along with the development of new language and cross-cultural skills, important for future Ph.D. graduates wherever they continue work, at university or in industry. Furthermore, the level of the total amount of doctoral grants obtained by the university through institutional contracts and of use for students development such as attending conferences, summer schools, training, programs abroad, publication of specialty papers or other specific forms of dissemination, etc. should be increased at least to the minimum of 10%.

Most of the professors presented at the meetings didn't feel comfortable speaking English, so international mobility will be more than welcome for them also. There is also an observation regarding the proposed learning outcomes, at the European level, following the proposed guidelines for the level 8 – doctoral study, some of the learning outcomes not showed that level, which can be improved in the future.

External Evaluator

Ivana Bilić, Ph.D.

VII. Annexes

The following types of documents shall be attached:

- *The detailed schedule of the evaluation visit – MANDATORY.*
- *The survey questionnaire applied to doctoral students or academic staff in the doctoral study domain under review, the results - optional (e.g., in graphic form) and their interpretation - if applicable.*
- *Scanned documents – any document requested from the IOSUD during the evaluation visit and received, which is not found in the internal evaluation file received before the visit and referred to in the report.*
- *Pictures – if relevant issues are raised regarding the condition of the student residences, cafeterias, premises for teaching and learning activities, library etc.*
- *Screenshots/Print screens of the Doctoral School/IOSUD website proving specific claims in the report, accompanied by the date when they were accessed and saved.*
- *Any other documents relevant to the evaluation process referred to in the report.*