Screening Field of Dissertation

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Summary: This article **(subject)** attempts to summarize a possible screening monitoring of structural-functional correlations (a particular necessary consistency) in the dissertation research in the field of economic and management sciences based on identified basic macro- (general basics, developed system of main, accompanying, special correlations, contributory and additional correlations) and micro-relations (a mix of micro- consistencies). The **methodology employed** covers first of all the experience gained by the author and a content analysis of the theoretical and practical procedures for development and defense of a dissertation work. The **main results** from the research are: a)a summarized most general philosophy of the dissertation research in economics and management, and b)identified main macro- and micro-consistencies. Two **main conclusions** have been drawn: a) the diagnostics (by the author on a current basis and final one by the reviewers) of each dissertation work is an important aspect of the quality of its performance and assessment; b)this question has been permanently underestimated which is an obstacle to writing and defense of interesting Ph.D. research that is useful for social practice and to the progress of young people in science.

Key words: screening, hypothesis, thesis, analysis, introduction, exposé, research, thesis abstract.

JEL: B41, C42, C82, O32.

Screening is a kind of monitoring of certain system by some defined identification indicators (sometimes standardized) of its functioning. As a concept it arose quite recently, firstly in the medical sciences for monitoring of certain disease in order to prevent it: the way it arises, stages and depth of development, condition and tendencies, etc.[1]

In the field of research, screening is **a means to diagnose the method of creation (research and exposé) and assessment of a scientific work**. In particular, in case of dissertation research the point is **observation of the technological unity of choices, firstly, of topic, secondly, of plotline, and thirdly, of scenarios for implementation of author's conceptual design.** In general lines, **the inconsistencies in the dissertation** are diagnosed on a current (by the PhD candidate) and final (by the examiners) basis **in order to remove them or to form an objective assessment of dissertation's current quality**. In terms of the assessment, the screening shows the width and depth of **the risk of inherent defects of a research**.

[1] Google search engine gives nearly 55 million results for "screening." Its definitions vary: editing; discovery of infectious and parasite diseases; investigation into the correspondence of the components of research architecture in order to find misbalances; innate defect risk assessment; a demonstration of abuse, an expression of excessive self-confidence, etc.

If considered in this aspect, it is evident that the sought harmony (consistence) between the components and the links of research process can be examined **on a preliminary and subsequent basis**. **The preliminary examination** relates to the planning of research process and the writing of a dissertation work and the **subsequent** one relates to the assessment thereof (current and final). Therefore the screening method must be mastered by both the Ph.D. candidate and the examiners of Ph.D. works. Its preliminary and subsequent stages are equally important for the writing and assessment of the dissertation thesis.

By means of the screening it is established the current and final **result (effect) of author's cooperation of components of subject's research, writing of the thesis and the overall assessment of the dissertation thesis, i.e. the alliance of scientific product's planning, contents and form**.

The subject of this article is the examination of the main points of the summarized screening of a dissertation which is mandatory for both the PhD candidate and the reviewers of the research. The most general formulations of the **philosophy of topic selection, research and writing of the dissertation thesis**.

Preliminary Remarks

In order to better understand the contents of a dissertation thesis' screening, one should rationalize some preliminary considerations.

The first one concerns **the most general philosophy of each dissertation. In terms of contents** this means: a) selection of a **current topic** of sufficient theoretical and practical potential; b) selection of **plot of development** and its preliminary presentation in the **hypothetical apparatus** (main hypothesis and working micro-hypotheses supporting it; c) development of a model **scenario (plotline)** for implementation of the conceptual design; d) fulfillment of the applied **research mastery** in the subsequent actions (investigation of the theory and practice of research, analysis and assessment of the state of such subject, summarization of problems arising in the functioning of the systems under research in the context of the research idea adopted by the author, outlining of possible ways to get a part of arising problems resolved, etc.); e) adjustment of the plot and scenario of the work in view of the identified **conflictogenity** in the analysis made so far; f) writing of the dissertation work, its discussion and submission to the examiners for assessment, and subsequently, for a successful defense.

In **another aspect**, the overall technology of each dissertation work **contains 4 components**: a) **body of research**: the object (field of research), subject (research problem) and predicate (research feature that is being identified and demonstrated in the research). The **scientific plot** (the main hypothesis and working hypotheses) to be developed in the contents of the dissertation is drawn from these three components. b) **Framework**, i.e. **the research framework**: conceptual apparatus, main idea and premises for the demonstration thereof, research methodology, methodology of exposé. c) **Research and information part**: statistics and working information, empirically-generated information, investigation of the research works accessible to the author, etc. d) **Research and analytical part**: theoretical and methodological basics, condition, tendencies and contradictions in the subject and predicate, demonstration of working hypotheses's validity (the main hypothesis's truth, respectively), overcoming

the contradictions by eliminating the factors that determine them, etc.

The second consideration (which is a specification of the first one) relates to the inherited characteristics of the idea that is fixed into the **hypothetical apparatus** of the work: the main hypothesis and the working hypotheses supporting it, or a generally formulated hypothesis[2] (claims, assertions, original idea and premises for the demonstration/rejection thereof). The analysis in the dissertation work is constituted based on the title, the main hypothesis and the working hypotheses. That all makes up the **dissertation's plotline**. It is a system-forming and depends on the capacity of the PhD candidate and his/her consulting team (section, chair, consulting companies, etc.), whom (s)he trusts.

The third consideration relates to the adopted **scenario for development of the dissertation**, i.e. to its **contents:** what is **inevitable and to certain extent axiomatic** in it?

a) **Each research builds on** theory and experience (practice) to date. At the same time, no problem can be elaborated on without a **well-defined conceptual apparatus**. No one imposes on and no one prevents (and this must be even encouraged) the PhD candidate from choosing the concepts used by him/her (**author's absolute**), i.e. they must not be necessarily the author's own but their substance must be explained. These are the **theoretical and methodological fundamentals** of each research.

b) The subject of the work (**axial relation**) must be well-grounded in view of the adopted **language of the research**. Thus, the following is institutionalized: **firstly**, the predicate of the dissertation and **secondly,** the focus of analysis and exposé. The Ph.D. candidate can look for a static or dynamical indicator, work out a model, generate a methodological solution, etc. In any case, (s)he must well present his/her **target orientation towards the investigation of a relation**.

c) In order to get the scenario well-grounded, the author must work out **his/her conceptual design**, which includes **the main hypotheses and the working hypotheses supporting it, the logic of the exposé** (plot outline – plotline) and **the indicative framework** of author's vision (the "predicate"-"indicator" relation to be demonstrated in the exposé) shown in dissertation's title. Thus one gets to **two kinds of metrics** in the dissertation: a **research one**: outlining the future logic of the research, and a **topical one**: the measuring apparatus of the phenomenon being researched (system, condition, relation, tendencies, etc.).

The points specified so far characterize the dissertation as **staging content (dialysis, inception)** where the questions concerning the conceptual apparatus are resolved, **solutions of the starting control question to date** and the **author's innovative intuitive idea** of the problem's nature is formulated (the main hypothesis and the working hypotheses to be checked in the future exposé), which is a requisite of each dissertation work in economic and management sciences. In the

[2] The author finds it more appropriate to work with a developed system of hypotheses in the dissertation work: a main hypothesis and micro-theses. The main hypothesis shows in the most general lines they Ph.D. candidate's prognosis, what is the main thing in his/her idea of a dissertation work. The main micro-theses outline the conditions under which the hypothesis is verified into a thesis. The evidence for the validity of micro-theses are simultaneously a validation of the hypothesis.

literature on research mastery all these points are presented as a solution to the question **"What is this?"**.

d) The two remaining questions of the dissertation research are: "**So what?" and "What then?"** They both characterize **the second aspect of** dissertation's **content** (**the subject-predicate one**). In it the author shown his/her abilities not only of an armchair scientist but also his/her skills to search for and analyze empirical data on dissertation's subject. There are **three components** of the subject-predicate content: specific assessment of the condition of the research subject, summarization of the problems arising out of the functioning of such subject and generation of possible ways to overcome the difficulties arising in the context of the axial relation and the work's hypothesis.

In terms of the content, in the scope of the question "So what?" (the **analysis, culmination of the work**) the author identifies the contradictions in the subject in the context of the proposed hypothesis(es) and examines the facts supporting it/them.

In terms of the content, in the scope of the question "What then?" (**catalysis, the unraveling**) the author identifies the tendencies for resolving the arising contradictions (what is to be done, how and who is to do it, when is it to be done, etc.), the manner of modification of the direction and speed of functioning of certain process, phenomenon or item by changing the factors that determine it.

e) The peak of each dissertation (**scientific game**) is **its thesis** as a symbiosis of the internal *a priori* anticipation of the PhD candidate (outlined tendencies and possibilities for their fulfillment) and its corroboration by proof in the dissertation. This is a kind of **PhD candidate's "facing" with the problem and himself/herself.** The hypothesis **(conceptual compass of research and its visionary stages)** is transformed into a thesis (and thus, a main theoretical contribution to the research) when the author's hypotheses (supporting it) are demonstrated/are not demonstrated in full or in part. The thesis of the work is ultimately the vital confirmation of the adopted title (topic), content, the work done and a confirmation of all of that by the practice, this to include, subsequently also by the reviewers.

Evidently, in the course of writing of a dissertation the specified points must be **"fitted together" in advance**: both in the course of research and in the course of the exposé. These points are in some **consistence,** which makes the research harmonious in terms of content and form, on the one hand, and, on the other, in terms of **vision, plan and performance**.

The spectrum of possible consistencies in a dissertation is **quite wide**. Here **we confine ourselves only to those of them that are the subject of critical judgment of research's examiners**. In another aspect, a specific subject of the article are parts of the following two groups of relations. The **first** one deals with the three relations: researcher – object, cognitive image – object and reduced (author's) image – object. The **second** one deals with **the general outline of functional interaction** in three directions: a) substance and content (in particular: substance and nature, substance and components, substance and classification of the components, substance and mechanism of functioning, substance and firms of manifestation, i.e. the things are reduced to the relations of etymology, genetics, internal life and conjunctions of the system being researched); b) internal

and external interactions: causal, conditions for functioning and development, structural, functional and other relations, and c) expected effects: internal (what is actually being generated for the subject?), and external (what about the others, what is the reflection of author's solutions on external systems interrelated to subject?).

The subject of research is the second group of interaction in terms of the positions of the necessary consistence between them.

Latently, **outside the subject** there are also correlations (consistencies, respectively) in the following objects: **firstly**, Ph.D. candidate's type of thinking (conceptual and categorical), **secondly**, the exposé's parallel functions arising out of that thinking (conceptual thinking: description and explanation and categorical thinking: explanation and summarization), **thirdly**: exposé's main subject functions (description: collection of information and understanding of information; explanation: understanding and assessment of information and summarization: assessment and verification of information). The **group of paradigm solutions** is not subject of research: consistency of author's thinking and the effective paradigm, conceptual and explanatory schemes, observance of scientific ethos in the research, etc.

Main Consistencies

Macro-consistencies

Macro-consistencies express the most general structural and functional relations in the dissertation work. These are consistencies in the relation of **topic, hypothesis, content and thesis**.

Three groups of macro-consistencies are formed.

The first group relates to the **main macro-consistencies**, i.e. title, content (**staging and subject-and-predicate**) and **main, including working hypothesis(es).** The sought correlations of consistencies are shown in Table 1.

The second group of macro-consistencies relates to the subject-functional relations and is an **developed system of the main macro-consistencies**. The chain of relations is as follows: subject – staging content (with the conceptual project as its core: main hypothesis and working hypotheses, i.e. – hypothetical apparatus), subject-and-predicate content (with the proof of the working hypotheses as its core) and main thesis of the dissertation.

The sought consistencies are shown in Table 2.

The third group of macro-consistencies is the accompanying one and is based on the relations shown in Fgure 1.

In differentiated form these correlations are shown in Table 3.

A specific kind of macro-consistencies is the one of the **components of dissertation's introduction.** Usually the introduction gets fully "incorporated" into the thesis abstract and thus the Ph.D. candidates should pay increased attention to the introduction.

There are several **points of support of the introduction**.

a) **The necessity and possibility to develop the topic**, on the one hand, and on the other, the **currency of the dissertation's subject**, on the third, **the**

indefiniteness of the title should be reduced to the possible minimum, on the fourth, **the solutions should enable the satisfaction of the needs of the entire class of objects**. In this point, some serious proof should be looked for in the "business card" (the thesis abstract) of the dissertation work.

b) Purpose and tasks whose resolving predetermines the attainment thereof.
c) Object and subject of the work.
d) Main thesis and (possible) sub-theses.
e) Research methodology.
f) Information availability.
g) Restrictive conditions.
h) Content of research.

Table 1. Main macro-consistencies in dissertation work

No.	Components	Main Consistence	Additional Consistence
1.	Title – content	The content is a direct function of title's realization.	The staging serves the subject-and-predicate content.
2.	Content – main hypothesis main hypothesis (vision of research)	The main hypothesis is a function of the staging content, it is differentiated into working hypotheses supporting it and determining the subject-and-predicate content.	The main hypotheses is correct/ wrong if the working hypotheses are demonstrated/rejected (if negatively stated) in the necessary extent of sufficiency, i.e. if plausible.

Table 2. Developed system of main macro-consistencies

No.	Components	Main Consistence	Additional Consistence
1.	Topic – conceptual design	The conceptual design is a **function of the objective being of the topic** (subject and predicate).	The conceptual design is a bridge between the topic and the subject-and-predicate content of the research
2.	Conceptual design – subject-and-predicate content	The subject-and-predicate content is a **reincarnation of the conceptual design** (assessment of predicate's condition, summarization of the arising problems and generation of possible solutions supporting the axial relation), field for verification of research's main hypothesis by demonstrating/ rejecting the working hypotheses supporting it.	The subject-and-predicate content is functional build-on atop of staging content.
3.	Main hypothesis – thesis	The research's thesis is the verified main hypothesis.	The research's thesis is a manifestation of the visible necessity of urgent changes to the subject and object.

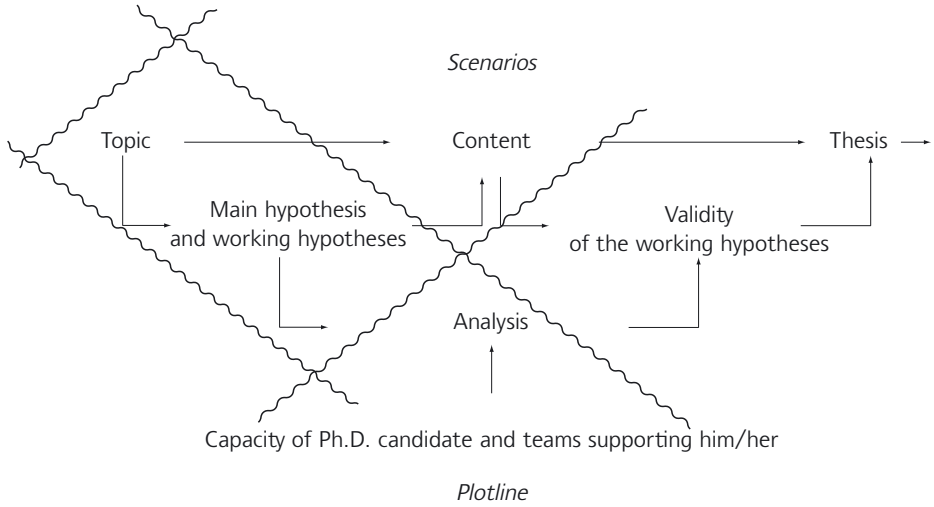

Figure 1. Accompanying macro-consistencies

The main correlations in this part of the dissertation (which is rightly called its **passport**) are shown in developed form in Table 4.

The **contributory relations** should be considered a separate component.

In this relation, there are several points of significant importance:

a) **Contributions** must be **correlative – firstly,** to the dissertation's main axial line – the main thesis and the micro-theses supporting it. If seen in depth this is the bearing structure of the "added value" of each dissertation. If the reader does not get an "insight" of the theoretical contribution contained in the thesis, then the tasks of research have not been not fulfilled. Even if the main hypotheses are

Table 3. Differentiated form of accompanying macro-consistencies

No.	Components	Main Consistence	Additional Consistence
1.	Topic – main hypothesis, and working hypotheses – analysis	Balance of topic, hypothetical apparatus and analysis, i.e. in the research's plotline.	The hypothetical apparatus evolves from the intention of the title (selection of topic) and reincarnates into the subject-and-predicate analysis.
2.	Dissertation's plot – content	The content serves the dissertation's plot.	The analysis's purpose is to search for proof of the degree of validity of the working hypotheses. The content must conform to the topic in the context of the proposed main hypothesis.

denied, this is also a contribution: this means that such question should not be placed on the table for academic debate anymore.

b) Contributions must be further **correlative to the topic** (subject), the purpose and the tasks of the research. A contribution that is outside the subject of the research is not accepted as serious one although it should be recognized if it touches the tangent thereof. It is common for the members of scientific councils (now: juries) to remark during

Table 4. "Introductory" consistencies

No.	Components	Main Consistence	Additional Consistence
1.	Topic – purpose	The purpose must conform to the designed function, system, model, methodology, etc. as woven into the title.	The purpose must be placed in the context of the sought solution.
2.	Purpose – tasks	The tasks must be a means to attain the purpose (neither more, nor less)	The tasks detail the future content of research
3.	Topic – object – subject	The topic must be within the framework of the research's object	The research's subject must be correlative to the topic
4.	Purpose – main thesis – sub-theses	The main thesis must be in the field of the research's purpose	The sub-theses must be correlative to the main thesis and adequate to the demonstrated validity of the working hypotheses.
5.	Purpose – methodology of research – information availability for the research	The methodology of research must conform to the purpose and nature of the sought axial relation (research's predicate)	The information availability must be correlative to the adopted methods of research and the possibility to ensure their application by means of operating, empirical and other information.
6.	Topic – restrictive conditions	The restrictive conditions focus the analysis and correct the possible deficiencies in the research.	The restrictive conditions are a means for fine tuning of the topic by not repealing it (the latter takes place as per the established procedure)
7.	Topic – (purpose and tasks) – (object and subject) – (main thesis and sub-theses) – information availability – restrictive conditions – content	The content must conform to the topic, purpose and tasks, the object and subject, the main thesis and the sub-theses, the information availability and the adopted restrictive conditions.	The contents must, by all means, be developed into modules corresponding to the three questions of each dissertation: what is this?, so what?, and what then?

the defense that the contributions do not correspond to the above components. In any case the purpose (determined thus: "while researching..., it should be...") in its second part must contain the practical contribution, something that quite often "escapes" even the reviewers' notice.

c) Contributions must be clearly outlined **not as work done but as result of such work**. One may not point out as a contribution things such as "there have been analyzed (even if for the first time)...": after all what else one does in their research if not analyses and assessments?

An **additional kind** of macro-consistencies are the ones of **structural nature.** There are a several more important aspects of these relations.

The first one relates to **exposé's volume**. It is the personal opinion of the author of this article that this is a relative question but yet the practice has set some limits estimated by sight. As a rule the dissertation work should not be less than 130-140 pages and not bigger than 180 pages of body text. There is an established yet unwritten practice that the examiners have "concerns" if presented less or greater volume of the body text of a first Ph.D. dissertation. This means an introduction within the limits of about ten pages, a couple of chapters of 30-40 pages each, and a conclusion of about 5-6 pages. At the same time, the volume of individual chapters should not vary by more than 10-15 pages. If the dissertation presumes a lot of laboratory information material, the latter should be bound as an **additional text separately from the main body of the dissertation.**

Secondly, there is a great difference in the approaches regarding the location of the question concerning **the hypotheses and the main thesis** (probably with sub-theses) in the dissertation. The question is quite important, its solutions vary in a wide range of alternatives and therefore it deserves special attention. At this stage and in the context of this article, we would venture into just a couple of considerations of a more general nature.

a) The first consideration relates to the **introduction** and subsequently to the **passport (thesis abstract**) of the dissertation. Both components are **the last to be written**: the introduction is written after the conclusion is finished and the thesis abstract is written after the entire dissertation is written down. Thus **only solutions confirmed by the research and not some hypothetical ones** should be stated therein.

b) The second one relates to **the correct use and dislocation of hypothesis and thesis**. There are several points of axiomatic importance in this relation.

- If the introduction is to interpret only proven facts in it (respectively, in the thesis abstract – introduction) must be written down **the main thesis and the sub-theses supporting it.**
- For in the research the theoretical and methodological aspects of the dissertation's subject are the first to be solved (conceptual apparatus, main (axial) relation, problems (visible need of the growing contradictions and the ones for which adequate solutions need to be found) of that relation) it follows that in the first chapter (this can probably, if necessary, be done in the first paragraph of the second chapter) the research framework must be rationalized in the form of a conceptual design. Here, based on the axial relation and as a reflection of the subject, there must be drawn the main hypothesis (prognosis, author's feel-

ing, main suggestion-vision) and the working hypotheses determining it. The logic is to verify the main hypothesis by demonstrating the validity of the working hypotheses, and thus to automatically transform the main hypothesis into a thesis (which is written down in the introduction together with the sub-theses supporting it). The **recapitulation** regarding the degree of validity (full, partial or missing) is made in **the conclusion of the work.**

Table 5. Mix of main micro-consistencies in the dissertation work

No.	Component	Contents of Consistency	Identified Result	Scope of Screening
1.	Topic	Need to develop the topic	Level of defined title's usefulness for practice and theory	Currency of the topic
2.	Conceptual apparatus	Classical definition – author's definition	New/supplemented definition/ definition borrowed from the literature	Staging content (what is this?: initial concepts, relations and research ideas)
3.	Axial relation	Known/unknown relation	New (additional) relation borrowed from literature	
4.	Conceptual design	Axial relation – main hypothesis – working hypotheses – scenarios – indicative framework	Consistency/inconsistency between: axial relation – main hypothesis; hypothesis – working hypotheses; working hypotheses – scenarios; scenarios – indicative framework	
5.	Assessment of the predicate's condition	Indicative framework – condition's analysis and assessment	Completeness of the generated information. Use of appropriate methods and means of analysis and assessment	Subject-and-predicate content (so what and what then?)
6.	Summarization of the arising problems	Assessment of the predicate – problems having arisen, including ones to be solved with priority	Problems identified, classified, and ranked by priority	
7.	Generated possible solutions supporting the axial relations	Arisen priority problems – proposals for solution	Proposed solutions' usefulness for theory and practice	
8.	Main hypothesis	Demonstration/failure to demonstrate the plausibility of the of the working hypotheses as functional indicators of the defined main hypothesis	Veracity of the main thesis	Final formulation of the main thesis
9.	Working hypotheses –tools for their validation	Indicators and the indices identifying them must conform to the nature and content of the working hypotheses	Validity/invalidity of the working hypotheses	Assessment of the formulation of the working hypotheses in order to cover all aspects of the possible conditions of plausibility.

No.	Component	Contents of Consistency	Identified Result	Scope of Screening
10.	Tools for validation of the working hypotheses – main hypothesis-thesis	Correlation of thesis, main hypothesis and working hypotheses	The main hypotheses is true (i.e. is transformed into a thesis) if the plausibility of the working hypotheses is demonstrated	Dependency of main hypothesis and working hypotheses
11.	Arguments (grounds) for plausibility of the working hypotheses	Elation between arguments and working hypotheses	Reliability of arguments: facts that make the working hypotheses valid, and the main hypotheses true	Reliability of arguments in the dissertation work

Further in that conceptual design one should point out the logic of the future exposé (predicate-and-subject content) and the used metrical system (indicative framework).

c) The third consideration relates to **the macro-logic of the exposé.** Here one should take into consideration **the type of dissertation work**: methodological or theoretical.

If a **methodology** is being developed, the dissertation (as a rule) should be composed in four chapters: theory of the question, author's methodology (method, model, etc.), approbation of that methodology and correction of the methodology taking account of the indications thereof when applied.

If a **theoretical problem** is being elaborated on, a three-chapter research is acceptable (as a rule): theoretical and methodological fundamentals, condition and problems of the researched subject (and a predicated specifying it) and solutions in relation to the arising problems.

In both cases there must be a logical bind in the consecutive solutions as at the same time the introduction and the conclusion are mandatory.

d) The fourth consideration relates to the **thesis abstract**. It volume should be about 40 standard typewritten pages (in case of dissertations in medicine, the thesis abstract is far bigger in volume for it presents conclusions from quite many, sometimes thousands, of observations of situations). The "contraction" of the thesis abstract to just 20-25 pages seems not serious. It must keep certain balance of presentation of the individual parts.

Micro-consistencies

In a more specific from, there are **internal dissertation consistencies**, which are just a form of differentiated manifestation of the aforesaid macro-consistencies. The content of the main micro-consistencies is shown in Table 5.

To write a dissertation is a difficult and quite responsible task. It has its own technological requirements and time to perceive certain topic and its inherent requisites upon the future research and exposé. These points have gained currency at the stage of assessment of the dissertation, but theoretically they are still underdeveloped and are raised at Ph.D. forums. And, on the other hand, they are **starting points in the young researchers' journey towards the truth**.

Against the background of the aforesaid, and based on the experience gained by the author in the assessment of dissertations, it can be concluded that – we are **still far from the adoption of a reliable model of writing, defense and assessment of a dissertation work**. A number of compromises make their way into the assessment field and thus discredit in the long run not only the reviewer and the council (jury) members but also the Ph.D. candidate, and ultimately: **the development of science as a leading practical platform of vital activities**.

In order to write a dissertation the Ph.D. candidate must not only be willing but able, this also to include theoretical preparation in **research mastery**. Thus especially valuable and out of reach (closed due to financial reasons) for the mass public in the world are the so-called **Ph.D. [post-graduate] universities** where the training of young researchers is linked to the entry into the "deep waters" of research and exposé, of the methodology and methods of creative process. At the same time, **the quite little attention paid to the doctorates in Bulgaria** is increasingly becoming an object of [business] consulting companies which is just a social adjustment of the affirmation of nation's creative potential. ИА