Rethinking the Applicability of Hermeneutic Systems for Coding and Statistical Analysis of Authorial Intentions in Economics

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In this paper there is described the use of hermeneutic systems for scientific purposes in economics. Rethinking of hermeneutic systems allowed to transform them into economic information scientific collection methods and enabled to design the quantification procedure for collected qualitative data. The paper also deals with the quantitative coding of authorial intentions, which enables to convert the variables used in the narratives and qualitative research such as interviews into quantitative variables and compare them to the variables used in quantitative research or to make their analysis using the quantitative methods. This methodology is based on the combination of Romanticist, Phenomenological, Dialectical, Critical, and Post-structural hermeneutic systems of interpretation described by Demeterio III. These systems allowed describing the phenomena of knowledge producing which is important in selecting the right hermeneutical coding construct. In this methodology the hermeneutical coding consists of four structural elements: text, interpreter, reality and variables. In order to ensure the repeatability of coding results the special coding sequence was designed. It combines six stages of content processing and coding: reading the text and understanding its overall meaning (based on selection and use of hermeneutic systems), identification of text's logical structure (based on Wilkinson's Key and Hook technique), dividing the text into logical passages, comparative analysis of the logical passages and their conflation into coherent logical sequence, operationalization of the logical passages (based on operationalization technique of Merkys and Six unit coding sequence given by Weber), and dichotomous coding (based on Whicker & Lynn dichotomous coding).

Keywords: *Hermeneutic, coding, authorial, intentions, statistical analysis.*

Introduction

Narratives as a research object are important scientific information gathering source not only in social research praxis, but also in economics. It is because economic information needs explanation, which can be found in human thinking and behavior. All the facts from economic thinking and behavior can be accessed mostly through the narratives. Here the problem arises how to compare the narratives and the quantitative economic data. The scientists tried to make it on the qualitative level. Usually, firstly they conducted quantitative research and then explained quantitative data results comparing them to qualitative data results. Sometimes the researchers combined the quantitative and qualitative research methods in order to relate the research findings from different perspectives. Historically, methodological series were created based on content analysis, which allowed researchers to quantify narratives (Whicker & Lynn, 1998). Such a methodological series was used to create variables designed statistically to explain the change in the content of the quantitative variables, but it has a weakness. Such a methodological series does not explain a full variety of possible authorial intentions that have to be understood in order to explain economic phenomena. Such perception comes from the understanding of hermeneutics. Historically, hermeneutics was used in the coding process of narratives but it was not linked to the quantification of narratives. Hermeneutics was used rather as a method for exploration of the text meaning than as a tool for coding.

Today hermeneutics represents an approach to research that posits that all understanding is interpretation, and interpretation is constructed in language. Hermeneutics has been defined as the science, art, and philosophy of interpretation (Small & Mannion, 2005). Hermeneutic inquiry produces multiple meanings; multiple interpretations may result from different perspectives on texts (Chang & Psych, 2010). Traditional hermeneutics involves interpretation theories that concern the meaning of written texts. These theories focus on the relationships found between the author, the reader, and the text. For example, Hirsch (1976) argued that the meaning of text is determined by the author's intent, while Ricoeur (1976) argued that text is independent of the author's intent and original audience, and therefore the reader determines the meaning of the text. Two decades later Gadamer (1994) argued that the meaning of text goes beyond the author, and therefore the subject matter is what determines the meaning. These examples show that many meanings can be hidden in the same text. Here it should be noted that historically there were more than these three perspectives given as an example to interpret the author's intent. The typology of them is given in Demeterio III (2001) work.

Classical hermeneutics focuses on how persons interpret some phenomenon; the researcher is an interpreting subject engaging in the participants' accounts (Chang & Psych, 2010; Craig, 2007; Lindh *et al.*, 2009). Referring to a "body of knowledge" or a "data set" distinct from the interpreting subject would be meaningless. There can be no knowing, and in fact no knowledge, outside the

interaction between the knower and what has to be understood (Chang & Psych, 2010).

Hermeneutics as a tool designed to perceive text's intention (Woodside, 2010; Lawrence, 2006; Smith *et al.*, 2006; Michael, 2002; Demeterio III, 2001; Thompson *et al.,* 1994; Kurt, 1988) is too complex for simple coding procedures and needs special coding design, which would allow readers to explore the advantages of hermeneutic systems. This paper focuses on rethinking hermeneutic interpretation systems in order to relate hermeneutics to the scientific information gathering and coding process, making it more sophisticated, reliable, and applicable to the economic research. *The aim of this paper* is to rethink the hermeneutic systems and to relate them to the coding and statistical analysis of authorial intentions.

Knowledge creation: the methodological background

The idea of this methodology comes from the understanding that there are two general stages of knowledge creation process during the scientific research in the field of economics. These are:

– *Knowledge producing* - where knowledge producing presents a way or creative processes how the new knowledge about economics evolves in the investigator's mind and how the investigator perceives it, and

– *Knowledge proceeding* - where knowledge proceeding covers the set of tools and ways of their use in order to extract the new knowledge about economics from the existing ones.

In general, both of them create new knowledge about economics, but each of them in its own way.

Knowledge proceeding

The idea of *knowledge proceeding* can be best represented by the description of six unit coding sequence: coding a word, a word dense, a sentence, a theme, a paragraph, and the whole text (Weber, 1985), designed for quantification of narratives. The six coding units mean the following: 1) *word* - simply recording of every word, then 2) coding of *word dense* means the coding of a semantic unit such as idioms or proper nouns, 3) coding *sentence* - recording the meaning of the entire sentence, 4) coding *theme* as a unit of text means coding each of the following elements: the perceiver, the agent of the action, the action, the target of the action and the situation, 5) *paragraph* means recording the meaning of the whole paragraph text as a single unit, and 6) the *whole* text – same as previous just for the whole text.

Such a system of coding represents the idea of content analysis, which is widely used in the computer softs such as T-lab, NVivo, TALTAC, *Kokybis,* and others designed to perform automated coding. An advantage of these coding steps is in their structure, which enables to create algorithms designed for automated coding of text. However, according to Whicker & Lynn (1998), it can be applied when: a) the investigator has identified relevant theories (including the economic theories explaining the organizational or personal behavior), b) he/she has found the important questions, and c) has made sampling decisions.

Knowledge producing

The disadvantage of the coding scheme given above is the lack of possibilities to explore a full range of possible authorial intentions. There are at least two situations when the given coding scheme is not enough to explore all research possibilities:

• *First.* It sometimes happens that while reading a text the reader creates his/her own representation of the research object, which differs from the original author's idea. It can be interpreted as misunderstanding of the real authorial intention, or it can represent the idea of knowledge creation. Of course, some scientists argue that exploration of such intentions is not useful for scientific cognition, but the possibility of studying them would allow to better cognize the new knowledge formation process and evolvement of interpretation biases.

The possibility of studying the content and its studying environment, which mostly represent the reader's features such as thinking model, followed philosophy and many more, enables the investigator to understand the interpretation biases and help to cognize the processes which cause the knowledge producing. Of course, in lots of cases, it will be only one person's case, but it can be also important in scientific cognition process, especially looking from phenomenological point of view when the description of phenomena (phenomenology) is also highly valuable. It can be particularly valuable if methodology that would allow coding all the descriptions of all such phenomena in the same way in order to connect them into one complex research later would be created.

• *Second.* There are the situations when the original text meaning is hidden not in semantics, but in semasiology where the same word, a semantic unit, even a sentence in different situations can have different meanings. Such situations reveal the infinity and plentitude of authorial intentions. They usually, because of the lack of methodology to explore them, are called interpretation biases of original authorial intention, but at the same time it can be the new knowledge or readers authorial intentions.

Knowledge producing: meaning of hermeneutics

For cognition of the infinity and plentitude of authorial intentions, philosophy designed hermeneutics, which was successfully integrated by social scientists into their studies as a method for identification of authorial intention (Schuback, 2011; Chang & Psych, 2010; Na den, 2010; Kinsella, 2006). Till now, hermeneutics has not been associated to the text quantification and has been mostly used as a philosophical tool for the creation of new paradigms. This happened probably because hermeneutics, as a method of text analysis, considers both:

• *Langue* (that is the semiotic-structural characteristics of text considering syntactic and semantic text elements (Arnold & Fischer, 1994; Thompson, 1997)), which is easy to code, and

• *Content of a text* as potential loci of meaning (Arnold & Fischer, 1994; Thompson, 1997), which quite often appears as a conditionally exclusive construct, and the authenticity of which seems not to let unify meanings; therefore numerical coding becomes inexpedient.

Besides, hermeneutics as a tool is designed to perceive text meaning, which reveals through conception that the parts can only be understood from understanding of the whole and that the whole can only be understood from understanding of the parts (Woodside, 2010; Lawrence, 2006; Smith et al., 2006; Michael, 2002; Demeterio III, 2001; Thompson et al. 1994; Kurt, 1988). Lawrence (2006) gives an example of this relationship. "*It is where the parts are the words of a sentence and the whole is the sentence itself. Certainly if you do not understand an important word in a sentence you will not understand the sentence. Conversely, if you did not understand the whole sentence, as in the Hamlet example, then you would not have understood the word "unfold" correctly*".

This can be the reason why up to now complex interpretation system has not been used for coding and statistical analysis. However, the possibility of such connection was mentioned in the literature (Åge, 2011).

Hermeneutic system and its features enabling coding and statistical analysis of authorial intentions

Hermeneutical coding is based on Demeterio III (2001) typology of hermeneutic interpretation system, which is divided according to the essential authorial intention identification features into the five groups: Romantic hermeneutic system, Dialectical hermeneutic system, Phenomenological hermeneutic system, Critical hermeneutic system and Post-structural hermeneutic system. Because *these five systems* **explain** *the sequence of text interpretation and the logic of thinking, but* **NOT** *the coherence with a scientific* **research process,** in this part of the paper, the possible linkage between the hermeneutic interpretation systems and scientific cognition objectives in economics is rethought. It was useful to explain the intention emergence in economics.

Hermeneutical coding: structure of construct

Hermeneutical coding is based on four main structural elements, which are needed for correct intention interpretation:

▪ *Text.* Can be one or several narratives written by the same or different authors and used for exploring the real authorial intention, where, for example, one narrative is usually used for exploration of the one single economical phenomenon and its description; several narratives of the same author are typically used to identify the changes in the author's economical thinking (if it is the longitudinal study), for wider description of the author's economical thinking logic (if there is a need to better understand the authorial phenomena) or one's economical behavior (when studying the motives of somebody's behavior in particular situations etc.); narratives of different authors are typically used when there is a need to find the differences and similarities between real authorial intentions in different authors' narratives in order to compare, to group or to make the analysis of them.

Text in hermeneutical coding can act as: an *object* (when it is being studied) or a *stimulus* (when it helps the reader to create his/her own images or associate his/her own knowledge into one single structure).

▪ *Interpreter.* An investigator who extracts the original authorial intention (when the process is cognitive, there is a need to cognize the economic phenomena and understand the existing knowledge) or creates a new authorial intention (when the process is creative, the new knowledge can be created) while reading the text.

▪ *Reality.* Plays different roles in extraction of the intention. Reality can act as: *a frame of reference* (history and culture); *a thinking model* (when present reality and knowledge cause the design of thinking logic, which becomes conditional thinking filter helping to structure the past knowledge); *an object* (typical in the creative processes where reality means a constantly changing of being or movement from a current state into a new one); *a layers interconnection system* (when reality represents the current classification or sets the logic structure of thinking); *an exogenous moderator* (reality operates as an interpretation model for the *text*, a thinking model for *interpreter* and the interpretation system for studying the context).

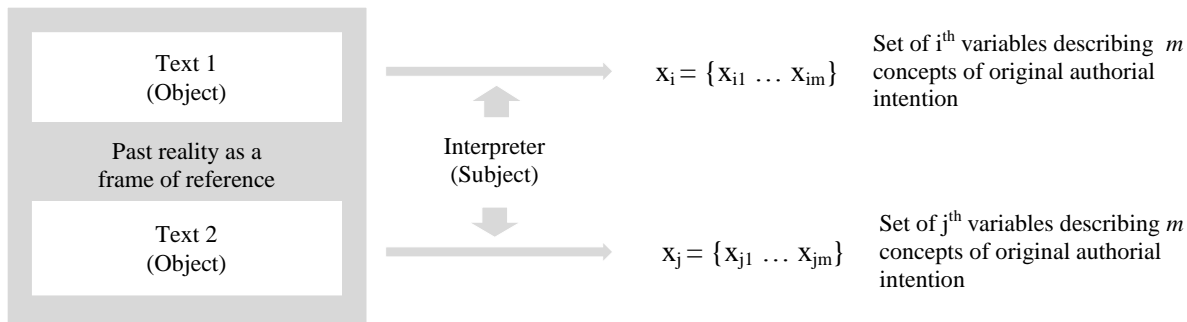▪ *Variables.* Can be created from 1 to *n* variables describing the authorial intention.

Encoding the Real Authorial Intention Using the Romantic Hermeneutic System

In economic research, investigating an individual's or a group's attitudes, often a researcher needs to understand the real intention of the individual's or group's attitudes. This is the aim of application of the Romantic hermeneutics. This type of hermeneutic system is especially valued in intercultural and economic research as a tool, which allows to cognize the true expressed meaning of the text, the action, and the being itself. Also, this method is useful in economic review studies when there is a need to clearly understand an original authorial intention and to compare one author attitude with others.

According to this system, each text has to be coded according to its original authorial intention given by the author of the text. The result of such coding is a set of variables for each text (Figure 1). Possible coincidence of the variables between the sets is probabilistic and depends on how much authors wrote about the same things. In the Romantic hermeneutic encoding system, the information set is the text and the set of variables for one text representing the author's original intention. According to Romantic hermeneutic phenomenological features, this system allows the manual or semi-automatic coding. It is because the coding algorithm lies in the coded text, and because the real authorial intention authenticity cannot be foreseen in advance in the typical coding sequence.
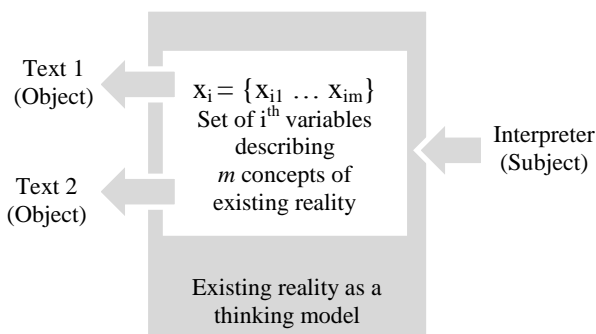
Encoding the Real Authorial Intention Using the Dialectical Hermeneutic System

There are situations when the researcher needs to understand respondent's or their group's attitudes in economic research context. Then the right choice is Dialectical hermeneutics. This methodology allows comparing how much real authorial intention matches the investigated theoretical or empirical economic model of the existing reality.

Text 1
(Object)

Past reality as a
frame of reference

Interpreter
(Subject)

Text 2
(Object)

$x_i = \{ x_{i1} \ldots x_{im} \}$

Set of ith variables describing m concepts of original authorial intention

$x_j = \{ x_{j1} \ldots x_{jm} \}$

Set of jth variables describing m concepts of original authorial intention

Figure 1. Encoding the real authorial intention using the romantic hermeneutic system

It is the transformation of the real author's intention so that it remains meaningful in the target reality. It is related to dialectical hermeneutics and especially useful in confirmative research, especially in that directed to the confirmation how previous or old economical truth or law fits into the current or new economic reality. It is widely spread in economics and management dissertations, which are usually based on the reconstruction of already known economic or management theories into a new derivative economic or management theory that better explains the change of a research object. In this case the authorial intention is coded in accordance with current economic reality, which acts as a sort of structural model for coding the text (Figure 2). This interpretation sequence allows comparing the already known real authorial intention to the newly designed theoretical or newly found empirical model of existing economic reality. In general, the main research idea explains how well current economic reality is represented in the earlier economic or non-economic[1] texts.

Text 1
(Object)

Text 2
(Object)

$x_i = \{ x_{i1} \ldots x_{im} \}$
Set of ith variables describing m concepts of existing reality

Interpreter
(Subject)

Existing reality as a
thinking model

Figure 2. Encoding the real authorial intention using the dialectical hermeneutic system

In the Dialectical Hermeneutic encoding system, the information set consists of a text and current economic reality or economic theory; variables represent the projection model of the economic reality in the text. Because of coding sequence (first, the typological model of the economic reality, which represents the coding system, is created; then, according to it, every single text is coded), the Dialectical Hermeneutic encoding system allows manual, semi-automatic, and automatic coding.

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[1] For example, non-economic texts can be read in order to describe a person's or a group's economic behavior, which can explain why people acted in a particular way during the economic crisis, under a certain political situation etc.

Encoding the Real Authorial Intention Using the Phenomenological Hermeneutic System

The third group of authorial intentions involves understanding the interaction of opinions that forms the images in the researcher's sub-consciousness. It is related to Phenomenological hermeneutics, which is useful in exploratory economic research. In this case text becomes a cognition stimulus which helps an interpreter in original ways to comprehend the reality (Figure 3). Here at least two thinking scenarios are possible:

- *First.* The interpreter takes the thinking model, but not the original authorial intention, from the text. In other words, the text reflects the way of thinking and decision-making process, but not the real authorial intention itself.
- *Second.* The text becomes some sort of connector linking different information fragments of the total reader's knowledge into a common logical sequence. This stimulates the emergence of a new reader's intention not related to the original authorial writer's intention.

In the Phenomenological hermeneutic system, an information set consists of text and the interpreter's entirety of knowledge; variables represent the model of the economic reality created by the interpreter. This system allows only manual coding, because the variables lie in the interpreter's mind and the text is just a tool to extract it.

Encoding the Real Authorial Intention Using the Critical Hermeneutic System

The fourth group involves the aims of diagnosing hidden pathology of opinion and the efforts of slicing ideological distortions. These aims are related to Critical hermeneutics, and they are especially important when one needs to explore conformist attitudes and political ideology of respondents.

In this case text is divided into n information layers hidden in it, in this way clarifying and separating each of them (Figure 4). For example, when studying customer's behavior in the shop, available layers of the text where they give the description of the situation can be: economical, financial, emotional, social, behavioral, decision making, conflict management, logical thinking, and others. Most of them lie in the author's sub-consciousness and together with rationally expressed intention create the author's economic behavior model.
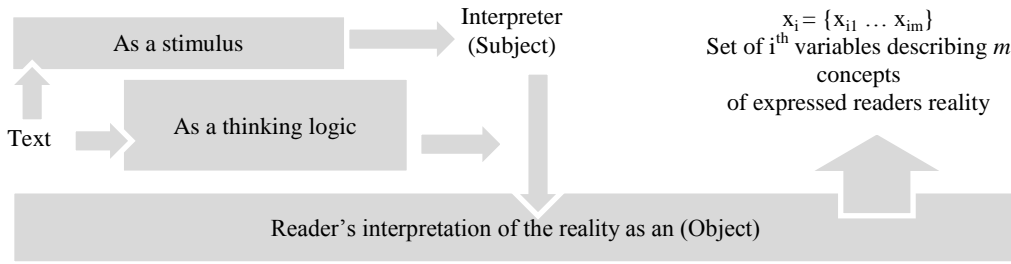
As a stimulus

Interpreter
(Subject)

$x_i = \{x_{i1} \dots x_{im}\}$
Set of ith variables describing m concepts
of expressed readers reality

Text

As a thinking logic

Reader's interpretation of the reality as an (Object)

Figure 3. Encoding the real authorial intention using the Phenomenological Hermeneutic system

Interpreter
(Subject)

Text
(Object)

$x_i = \{x_{i1} \dots x_{im}\}$
Set of ith variables describing real authorial intention layer

REALITY as layers interconnection system

$x_{jm} = \{x_{jm1} \dots x_{jmn}\}$
Set of jth variables describing m ideological layers and n variables
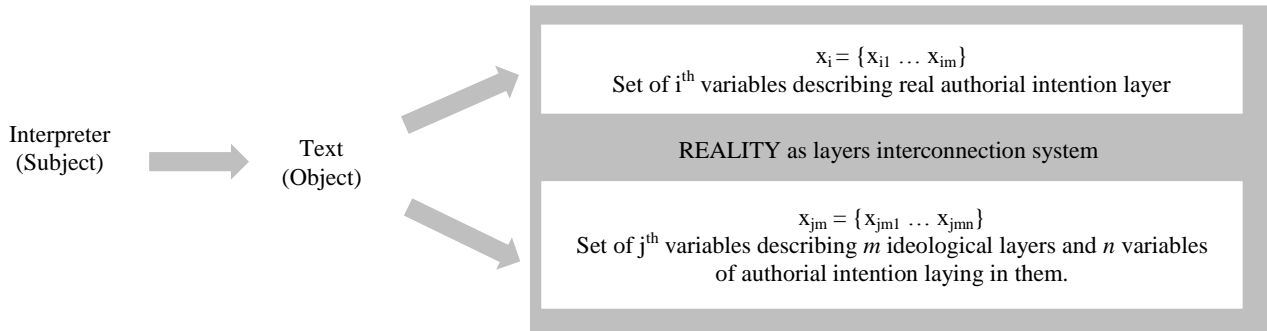of authorial intention laying in them.

Figure 4. Encoding the real authorial intention using the Critical Hermeneutic system

Ability to clarify and separate layers allows not only to evaluate comprehensiveness of the theoretical construct, but also to make an analysis of every single layer for better understanding of individual features of economic phenomena and their formation mechanisms.

In the Critical hermeneutic system, the information set consists of text layers; variables represent the original authorial intention of every single layer. The features of the Critical hermeneutic system allow manual and semi-automatic coding.

Encoding the Real Authorial Intention Using the Post-structural Hermeneutic System

Finally, the fifth group involves the aim to understand the principles and principles behind formation of one's opinion. It means the text is a tool to investigate the reality in terms of finding its features, explaining the author's opinion and creating the model of economic environment, which combines the variables explaining preconditions of the formation of the author's opinion. Post-structural hermeneutics is especially useful in exploratory economic research for the analysis of the reasons behind population's behavior and for assessment of the face validity of economic research tools (Figure 5).
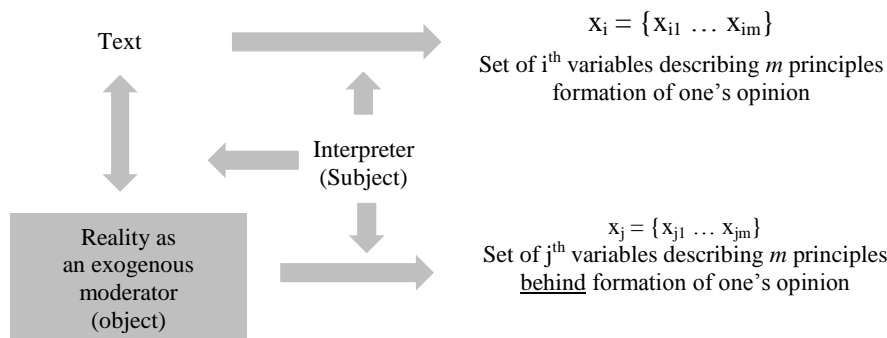
Text

$x_i = \{x_{i1} \dots x_{im}\}$
Set of ith variables describing m principles
formation of one's opinion

Interpreter
(Subject)

Reality as
an exogenous
moderator
(object)

$x_j = \{x_{j1} \dots x_{jm}\}$
Set of jth variables describing m principles
<u>behind</u> formation of one's opinion

Figure 5. Encoding the real authorial intention using the Post-structural Hermeneutic system

In the Post-structural hermeneutic system, the information consists of one's opinion as text and its formation environment represented by author's text, researcher's notes, and additional information sources. Variables represent the principles of formation and those behind forming one's opinion. This system allows manual and semi-automatic coding.

Description of coding sequence
The main idea of this methodology is that the principles used for coding a verbal content can be used for statistical coding of respondents' opinions, attitudes, and feelings obtained using the hermeneutic systems described by F.P.A. Demeterio III, (2001).

In order to ensure repeatability of the created coding system results, a special development sequence of coding system was designed. It was based on: Wilkinson's (1991) *Key and hook* technique, which describes a logical sequence of construct content identification; on Merkys's (2005) operationalization technique combined with six unit coding sequence given by Weber (1985); and supplemented by dichotomous coding described by Whicker & Lynn (1998).

Combining all the pieces into a single structure produced the following content processing and coding sequence:

1. *Reading the text and understanding its authorial intention* (based on the hermeneutic systems of interpretation described above).

2. *Identification of intention's logical structure* (based on Wilkinson (1991) Key and Hook technique).

Recognition of a logical structure of the intention is used as a tool to ensure content validity. It enables identifying the statistical potential of the text including notes if text is obtained from interview and researcher's notes used for recording the reader's insights. For this purpose, Wilkinson's (1991) method for identifying the logical structure of the content is used. It enables integrating the insights gained at the stage of hermeneutic analysis into one logical structure, which, depending on the hermeneutic system used, will reflect the logical setup of the authorial intention that comes both from text and researcher's insights. In order to apply Wilkinson's (1991) Key and Hook technique, text and researcher's insights have to be combined into narrative.

3. *Dividing the narrative into logical passages.*

Identification of logical passages (logical passage means an extract from a text with the single meaning) of the narrative, their analysis and integration into one logical sequence is a preparatory step before operationalization. Its purpose is to identify the topics and sub-topics of authorial intention discussed in the narrative. Dividing the narrative into logical passages allow to create the structure of authorial intention and explore the sequence of authorial thinking. The methodology is based on the approach that mathematical testing is primarily a tool for statistical verification of the theoretical insights rather than an exploratory tool. For this reason, the structure of logical relationships has to be uncovered first and only then coded. Finally, using the statistical tools the models of these relationships are examined.

4. *Comparative analysis of the logical passages and their conflation into coherent logical sequence.*

Analysis of the logical passages of the text can be horizontal and vertical. In this methodology, vertical analysis means identifying the same logical passages in different parts of one narrative's text (specific to the application of Phenomenological, Critical and Post-structural hermeneutic systems) and conducting their comparative analysis. Meanwhile horizontal analysis means identification and comparison of the same logical passages across the texts of several narratives (specific to the application of Romantic and Dialectic hermeneutic systems).

Comparative analysis of the logical passages allows find the passages with the same meaning but written in the different way. Sometimes author trying to explain the subject describes it using different perspectives what causes the repeatability of the same content in different fragments of the text. Usually these fragments are written differently so finding them enables proper coding of authorial intention.

5. *Operationalization of the logical passages* (needs the approach from broader to narrower to develop the theoretical construct) *and then application of the coding sequence to code the theoretical construct* (needs the approach from narrower to broader to code the narrative according to the created coding map) (see table 1).

Table 1

Operationalization of the logical passages

Operationalization of the logical structure described by Merkys (2005) **u**sed to develop the coding design and to create the coding map, which would ensure the logical consistency between the constructs in the narrative.		*Statistical levels of content coverage*	*Six unit coding sequence* given by Weber (1985) used as a technical procedure to code the narrative according to its intention.	
Development of theoretical construct:	a. Interpretation of a theoretical (extensive) concept $T_i = \{T_1 \ldots T_N\}$ used by the respondents;	<Indices>	Coding of theoretical construct:	6. The whole text (6th unit);
	b. Classification of T_i into *j* constrictive concepts $t_{ij}=\{t_{i1} \ldots t_{iM}\}$, according to the respondents' intention, which have a lower degree of abstraction than T_i	<Categories>		5. A paragraph (5th unit), 4. A theme, the definition of a theme as a unit of the text has no more than one of the following elements: the perceiver, the agent of the action, the action, the target of the action and the situation (4th unit);
	c. Creation of t_{ij} empirical indicators $E_{ijk} = \{E_{ij1} \ldots E_{ijK}\}$ (Expressed by notions or by the logical construct);	<Subcategories>		3. A sentence, recording the meaning of the entire sentence (3rd unit);
	d. Development of E_{ijk}-metrological criterias e_{ijk}.	<Variables>		2. A semantic unit usually referred to as word dense *such as idioms* or *proper nouns* (2nd unit); 1. A word, simply recording every word (1st unit)

6. *Dichotomous coding according to developed metrological criteria.* The scale was developed based on Whicker & Lynn (1998) dichotomous coding description. According to them, dichotomous data are generated by coding an observation 0 if it lacks a particular characteristic and 1 if it manifests the characteristic.

$$e_{ijkt} = \begin{array}{l} 0 \; if \; not \; mentioned \\ 1 \quad if \; mentioned \end{array};$$

According to Whicker & Lynn (1998), the advantages of dichotomous coding are that dichotomous data are obviously nominal level data – a variable with two categories – so that some set operations is applied. Technically, dichotomous data also meet the requirements of all levels of data, as well as nominal data. Since a code of 1 implies more of the characteristic in question than 0, the coding scheme embodies direction and, therefore, meets the requirements of ordinal data, so that the mathematics of an inequality applies the distance between 0 and 1 as an interval. Because there is only one interval, the requirement of interval data for equal intervals incorporated into the measuring scheme is met. Hence, the mathematics of addition and subtraction is applied. And finally, with one category, that of 0, implying the total absence of the characteristic in question, dichotomous data have a true zero point-none of characteristic, so the requirements of ratio data are met. Such versatility of dichotomous coding scheme means that once dichotomous data are obtained, many (but not all) higher-level statistics that require interval/ratio data can be used without causing bias or violating the assumptions of the statistical tool.

This paper is intended to explore the possibilities of hermeneutic systems application in coding design and conceptualizes the published method. The empirical example of coding sequence practical application in the empirical research is presented in the paper *The Quantitative Content Processing Methodology: Coding of Narratives and Their Statistical Analysis* (Vaitkevicius & Kazokiene, 2013).

Discussion

The proposed methodology can be applied using statistical methods to compare the data obtained from open-ended and close-ended questions at the level of separate words and their collocations as well as that of their understanding and underlying content. This methodology gives more possibilities for processing data from open-ended questionnaires and more comprehensive analysis of the topic employing quantitative and qualitative methods. The methodology proved especially useful for analyzing the relationship between data obtained through interviews and data obtained through close-ended questions. The methodology enabled to identify and include into the assessment system new attributes of the research object and assess their impact on its behavior.

Conclusions

▪ Rethinking of hermeneutic systems allowed to transform them into economic information scientific collection methods and enabled to design the quantification procedure for collected qualitative data which combines six stages of content processing and coding:

○ Reading the text and understanding its authorial intention (based on selection and use of Romanticist, Phenomenological, Dialectical, Critical, and Post-structural hermeneutic systems of interpretation),

○ Identification of intention's logical structure (based on Wilkinson's Key and Hook technique),

○ Dividing the narrative into logical passages,

○ Comparative analysis of the logical passages and their conflation into coherent logical sequence,

○ Operationalization of the logical passages (based on Merkys's operationalization technique and Six unit coding sequence given by Weber), and

○ Dichotomous coding according to developed metrological criteria (based on Whicker & Lynn dichotomous coding).

▪ The quantitative coding of authorial intentions enables to convert the variables used in the narratives and qualitative research such as interviews into quantitative variables and compare them to the variables used in quantitative research or to make their analysis using the quantitative methods.

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Sigitas Vaitkevičius

Hermeneutikos sistemų tinkamumo autorinių intencijų kodavimui ir statistinei analizei ekonomikoje apmąstymas

Santrauka

Naratyvai kaip tyrimo objektas yra svarbūs mokslinės informacijos surinkimo šaltiniai ekonomikoje. Taip yra todėl, kad ekonominė informacija reikalauja paaiškinimo, kuris atskleidžia žmogiškojo mąstymo ir elgsenos priežastis. Tokie faktai dažniausiai surenkami naudojant *naratyvus.* Čia kyla pagrindinė mokslinė problema: *kaip suderinti kiekybinę ir kokybinę informaciją.* Paprastai ekonomikos moksle, kiekybinė ir kokybinė informacija kaupiama nuosekliai, t. y., kai atrandamas kiekybinis faktas, jis tikslinamas kokybiškai ir atvirkščiai, kai atrandamas fenomenas, jis studijuojamas kiekybinėmis metodikomis. Anksčiau buvo atliekami kombinuoti, kiekybinėmis ir kokybinėmis metodologijomis vienu metu pagrįsti tyrimai, tačiau jų rezultatų palyginimas buvo vykdomas ne kiekybiniu, o kokybiniu lygmeniu. Taip pat reikia paminėti, kad anksčiau suformuotos prielaidos kokybiniams rezultatams kvantifikuoti (Whicker ir Lynn, 1998), turėjo apribojimų. Tokios metodologinės serijos neatskleidžia visų autorių nuomonių įvairovės, o daugiau veikia kaip teksto tam tikrų dalių statistinių dažnumų skaičiavimo seka. Būtent tai ir paskatino sukurti metodiką, kuri ne tik įvertintų žodžių ar jų junginių, susietų su tam tikru suvokimu, dažnumų identifikaciją, bet leistų koduoti ir kontekstą. Tam tikslui pasirinkta *hermeneutika,* kuri šiuo metu suvokiama kaip požiūris į tyrimą, kuriame teigiama, jog supratimas yra interpretacija, kuri yra sutelkta kalboje. Hermeneutika taip pat apibūdinama kaip mokslas, menas ir interpretavimo filosofija (Small ir Mannion, 2005). Hermeneutinis tyrimas, skirtingai nei anksčiau aptarta kodavimo seka, sukuria aibę įvairių interpretacijų, kurios atsiranda pažvelgus skirtingomis perspektyvomis į tekstą. Šios perspektyvos atsiranda dėl skirtingos sąveikos tarp teksto, jo autoriaus ir skaitytojo.

Hermeneutika sukurta atskleisti teksto intenciją (Woodside, 2010; Lawrence, 2006; Smith ir kt., 2006**;** Michael, 2002; Demeterio III, 2001; Thompson ir kt. 1994; Kurt, 1988) yra per daug sudėtingas paprastoms kodavimo procedūroms ir jam reikia specialaus kodavimo dizaino, kuris leistų atskleisti hermeneutinių sistemų pranašumus. Šis straipsnis sutelktas į hermeneutinių sistemų (Demeterio III, 2001) analizę, susiejant ją su mokslinės informacijos gavimo ir kodavimo procesu tam, kad padarytų jį išmanesnį, reliabilų ir pritaikomą ekonomikos tyrimui.

Šio straipsnio tikslas – aptarti hermeneutines sistemas ir susieti jas su autorinių intencijų kodavimu ir statistine analize.

Žinių kūrimas: metodologinis pagrindimas. Šios metodologijos idėja glūdi supratime, kad ekonomikos mokslinio tyrimo metu yra du pagrindiniai žinių kūrimo proceso etapai. Tai yra žinių sukūrimas ir jų apdorojimas. Šiuo atveju žinių sukūrimas apima kūrybinius procesus, paaiškinančius kaip tyrėjo sąmonėje sukuriamos ir suvokiamos naujos ekonominės žinios. O žinių apdorojimas apima instrumentus ir jų panaudojimo būdus, skirtus sukurti naujas ekonomines žinias iš jau esančių. Apibendrinant galima teigti, kad abu jie kuria naujas ekonomines žinias, tačiau skiriasi kūrimo būdai.

Hermeneutinė sistema ir jos bruožai, įgalinantys autorinių intencijų kodavimą ir statistinę analizę. Hermeneutinis kodavimas pagrįstas Demeterio III (2001) hermeneutinės interpretacijos sistemos tipologija, kuri hermeneutinę sitemą į penkias grupes padalina pagal esminius autorinės intencijos identifikacijos bruožus. Tokiu būdu suformuojama: romantinės, dialektinės, fenomenologinės, kritinės ir po-struktūrinės hermeneutikos sistemos.

*Hermeneutinis kodavimas: konstrukto struktūra***.** Hermeneutinis kodavimas grįstas keturiais esminiais elementais, kurie reikalingi teisingai intencijos interpretacijai: vieno ar kelių autorių tekstai. Tekstas hermeneutiniame kodavime gali būti: studijuojamu objektu arba stimulu, leidžiančiu skaitytojui kurti asmeninius vaizdinius; interpretuotoju, kuris skaitydamas tekstą atkuria originalią arba sukuria naują autorinę intenciją; realybe, kuri veikia kaip interpretacijos modelis (istorinis ir kultūrinis kontekstas), mąstymo modelis (kai nustato mąstymo logiką), mąstymo sluoksnių sistema (kai atskleidžia mąstymo struktūrą), egzogeninis moderatorius (kai tuo pačiu metu veikia teksto interpretaciją, formuoja interpretuotojo mąstymo modelį ir studijuojamo konteksto interpretacinę sistemą); kintamieji statistiškai apibūdinantys autorinę intenciją.

Autorinės intencijos kodavimas straipsnyje aptariamas panaudojant romantinės, dialektines, fenomenologinės, kritinės ir postruktūrinės hermeneutikos sistemas. Aprašomi kiekvienos sistemos bruožai, paskirtis, pritaikomumas tiriant ekonomiką. Pateikiamas sistemos funkcionavimo modelis. Taip pat nurodoma, kas sudaro koduojamos informacijos rinkinį ir kas užkoduotų kintamųjų rinkinį bei, kuris rankinio, pusiau automatinio ar automatinio kodavimo principas yra tinkamas.

*Kodavimo sekos aprašas***.** Pagrindinė šios metodologijos idėja yra ta, kad verbalinio turinio kodavimo principai gali būti panaudoti respondentų nuomonėms, nuostatoms ir pojūčiams statistiškai koduoti, pritaikant F. P. A. Demeterio III (2001) hermeneutines sistemas. Paminėtina tai, kad ši metodika konkrečios turinio kodavimo sekos nekuria, tačiau yra skirta paaiškinti, kaip sukurti turinio skaitinio kodavimo sitemą, kuri leistų tyrinėtojams dalintis ne tik tyrimo rezultatais, bet ir kodavimo sekomis, leidžiančiomis kurti autorinių intencijų duomenų bazes.

Norint užtikrinti sukurtos kodavimo sistemos rezultatų pakartojamumą, buvo sudaryta speciali kodavimo sistemos kūrimo seka. Ji pagrįsta: Wilkinson (1991) *žymenų ir jungčių technika* (plg. angl. *Key and hook technique*), kuri paaiškina konstrukto turinio identifikavimo loginį nuoseklumą; Merkio (2005) *operacionalizavimo technika* suderinta su Weber (1985) šešių žingsnių seka; bei Whicker ir Lynn (1998) dichotominiu kodavimu. Viską apjungus ir papildžius trūkstama informacija, gauta ši turinio apdorojimo skaitmeninio kodavimo seka:

1. Teksto skaitymas ir jo prasmės atskleidimas (paremtas straipsnyje aprašytomis hermeneutinėmis interpretacijos sistemomis).

2. Intencijos loginės struktūros identifikavimas, pagrįstas Wilkinson (1991) žymenų ir jungčių technika. Intencijos loginės struktūros atpažinimas, naudojamas kaip turinio validumo užtikrinimo instrumentas. Jis leidžia pažinti teksto, jo atžymų, (kai tekstas gautas interviu metu ir autoriaus užrašų, skirtų užrašyti skaitančiojo įžvalgas), potencialą. Šiam tikslui panaudotas Wilkinson (1991) metodas, skirtas nustatyti turinio loginę struktūrą. Jis leidžia integruoti į bendrą loginę struktūrą įžvalgas, padarytas hermeneutinės analizės metu. Priklausomai nuo panaudotos hermeneutinės sistemos, ši struktūra parodo autorinės intencijos sąranką, kuri susideda iš teksto ir tyrėjo įžvalgų. Tam, kad būtų pritaikyta Wilkinson (1991) žymenų ir jungčių technika, tekstas ir tyrėjo įžvalgos turi būti sujungtos į naratyvą.

3. Naratyvo suskirstymas į loginius pasažus. Naratyvo loginių pasažų (teksto dalis turinti vienodą reikšmę) identifikavimas, jų analizė ir integracija į vieną loginę seką yra parengiamasis operacionalizacijos etapas. Jo tikslas yra nustatyti autorinės intencijos naratyve antraštinius ir paantraštinius turinio fragmentus, leidžiančius struktūruoti nagrinėjamą tekstą. Toks suskirstymas leidžia sukurti autorinės intencijos struktūrą ir nustatyti autorinio mąstymo nuoseklumą. Metodologija grindžiama požiūriu, kad matematinis testavimas yra statistinė teorinių įžvalgų verifikacijos priemonė, o ne eksploracinis instrumentas. Tokiu būdu, loginių ryšių struktūra turi būti atskleista anksčiau ir tik po to užkoduota. Pabaigoje, panaudojant statistines priemones, tyrinėjami sąryšių modeliai.

4. Loginių pasažų lyginamoji analizė ir jų apjungimas į koherentinę loginę seką. Loginių pasažų analizė gali būti horizontali ir vertikali. Horizontali reiškia skirtingų vieno ar kelių autorių naratyvų tekstuose išskirtų, panašią reikšmę turinčių, loginių pasažų lyginamąją analizę (būdinga romantinės ir dialektinės hermeneutikos sitemoms). Vertikali analizė reiškia tame pačiame naratyve, skirtingose teksto vietose išskirtų, loginių pasažų, su panašiomis reikšmėmis, lyginamąją analizę (būdinga fenomenologinės, kritinės ir postruktūrinės hermeneutikos sistemoms). Lyginamoji loginių pasažų analizė leidžia rasti pasažus, kurių reikšmė yra ta pati, o užrašyta skirtingai. Kartais autoriai, siekdami apibūdinti tiriamąjį dalyką, jį apibūdina iš įvairių perspektyvų. Todėl atsiranda to paties turinio pasikartojamumas skirtinguose teksto fragmentuose. Dažniausiai šie teksto fragmentai yra skirtingai užrašyti, todėl jų radimas leidžia tiksliau koduoti autorines intencijas.

5. Loginių pasažų operacionalizacija. Loginių pasažų operacionalizacija Merkio (2005) grindžiama požiūriu nuo bendresnio iki konkretesnio ir yra skirta parengti kodavimo dizainą bei sudaryti teorinį konstruktą. Teorinis konstruktas koduojamas Weber (1985) šešių žingsnių seka. Tai techninė procedūra, užtikrinanti naratyvo kodavimo nuoseklumą.

6. Dichotominis kodavimas paremtas Whicker ir Lynn (1998) kodavimo dizaine išskirtais metrologiniais kriterijais. Koduojama 1, jei stebėjimas pasižymi tam tikra charakteristika, o 0, jeigu jis neturi tos charakteristikos.

Šis straipsnis yra skirtas atskleisti hermeneutinių sistemų taikymo galimybes koduojant ir jis konceptualizuoja jau paskelbtą metodą. Praktinio kodavimo empiriniame tyrime pavyzdys publikuotas straipsnyje „Kiekybinė turinio apdorojimo metodologija: naratyvų kodavimas ir jų statistinė analizė" (Vaitkevicius ir Kazokiene, 2013).

Apibendrinimas. Ši metodologija, panaudojant statistinius metodus, gali būti taikoma palyginti duomenims, gautiems atvirų ir uždarų klausimynų klausimais ir lyginant pavienius žodžius ar jų junginius kontekste. Ši metodologija ypač pasiteisino lyginant interviu ir uždaro tipo klausimais gautus duomenis. Be to, ji leido praplėsti statistinių indikatorių sistemą bei tokiu būdu geriau įvertinti tiriamąjį objektą.

The article has been reviewed.