



Financial reporting in the light of the systems approach and social sciences methodology. The conceptual frameworks perspective

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Abstract

The keynote topic of this paper encompasses the process of financial reporting seen as a research process in the sense of social sciences methodology, from the perspective of the systems approach. Attention is focused on the cognitive aspect of conceptual frameworks for financial reporting. The paper aims to examine whether a conceptual framework can be a theory for financial reporting. The research method is based on a foundational approach under the qualitative research method, encompassing descriptive and analytic approaches. There are two basic hypotheses: (a) a conceptual framework for financial reporting represents the systemic aspect of an economic entity and its social component, and (b) the conceptual framework for financial reporting defines an irreplaceable way of doing this, indicating that a unit of the medium of exchange (money) must be used for measurement purposes, as an adequate flow of the medium of exchange is essential to maintain openness of the system, and the usefulness of the representation for shaping that openness depends on the use of that particular unit of measurement. The aim has been successfully performed, and both hypotheses have been positively verified. This gives a new perspective on financial reporting and its conceptual framework, in scientific, social and economic terms.

Keywords: accounting, financial reporting, conceptual framework, systems approach, social sciences methodology, domain ontology.

Streszczenie

Sprawozdawczość finansowa w świetle podejścia systemów i metodologii nauk społecznych. Perspektywa ram konceptualnych

Zasadniczym tematem artykułu jest proces sprawozdawczości finansowej, ujmowany z perspektywy podejścia systemów jako proces badawczy w sensie metodologii nauk społecznych. Koncentracja następuje na kognitywnym aspekcie ram konceptualnych sprawozdawczości finansowej. W artykule odkrywa się naukowy aspekt ram konceptualnych sprawozdawczości finansowej oraz określa ich głęboką rolę w systemach działania społecznego, realizujących procesy poznawcze i regulacyjne. Z poznawczego punktu widzenia autor artykułu zmierza do zbadania, czy ramy konceptualne mogą być teorią sprawozdawczości finansowej. Przyjęta metoda bazuje na podejściu fundamentalnym w ramach badań jakościowych, obejmując podejścia deskryptywne i analityczne. Sformułowano dwie hipotezy bazowe: (a) ramy konceptualne sprawozdawczości finansowej służą odwzorowaniu systemowego aspektu podmiotu gospodarującego oraz jego składnika społecznego, oraz (b) ramy konceptualne sprawozdawczości finansowej określają niezastępowalny sposób tegoż odwzorowania, wskazując, że dla celów pomiaru musi być użyta jednostka

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medium wymiany (pieniądz), jako że adekwatny przepływ medium wymiany (pieniądza) jest nieodzowny dla utrzymania otwartości systemu, zaś użyteczność odwzorowania dla kształtowania tej otwartości warunkowana jest zastosowaniem tej właśnie jednostki miary. Zamierzony cel został pomyślnie zrealizowany i obydwie hipotezy pozytywnie zweryfikowane. Daje to nową perspektywę spojrzenia na sprawozdawczość finansową i jej ramy konceptualne, zarówno w aspekcie naukowym, jak i społecznym oraz ekonomicznym.

Słowa kluczowe: rachunkowość, sprawozdawczość finansowa, ramy konceptualne, podejście systemów, metodologia nauk społecznych, ontologia domeny.

Introduction

Appearing in the Anglo-American area of science, a conceptual framework is a type of conceptual scheme that shapes scientific cognition processes. In the scientific and philosophical literature, it is met mainly as an intuitional term, usually not defined though undergoing analysis. The words ‘conceptual framework’ and ‘conceptual’ and ‘framework’ can be found under 1348 headwords in the Stanford Encyclopedia of Philosophy (SEPh, 2018), and under 1689 items in Encyclopedia Britannica (EB, 2018), but within both of them there is no definition of ‘conceptual framework’. However, the semantic aspect of the concept of a conceptual framework is still of vital interest to researchers (see, for instance, ReGa, 2018, and wiki cf¹. A conceptual framework is sometimes seen as a kind of paradigm. Grounded in science and philosophy, Thomas Kuhn defines a scientific paradigm as “universally recognized scientific achievements that, for a time,

¹ In Wikipedia – with regard to this encyclopedia’s limited scientific status and the passage of time – a conceptual framework has been described concisely in the following manner:

“A conceptual framework is used in research to outline possible courses of action or to present a preferred approach to an idea or thought... Conceptual frameworks (theoretical frameworks) are a type of intermediate theory that attempt to connect to all aspects of inquiry (e.g., problem definition, purpose, literature review, methodology, data collection and analysis). Conceptual frameworks can act like maps that give coherence to empirical inquiry. Because conceptual frameworks are potentially so close to empirical inquiry, they take different forms depending upon the research question or problem. Several types of conceptual frameworks have been identified, ... such as: working hypothesis; descriptive categories; practical ideal types; models of operations research; formal hypotheses” (wiki cf., 2011).

“A conceptual framework is an analytical tool with several variations and contexts. It is used to make conceptual distinctions and organize ideas. Strong conceptual frameworks capture something real and do this in a way that is easy to remember and apply... Conceptual frameworks are particularly useful as organizing devices in empirical research. One set of scholars has applied the notion of conceptual framework to deductive, empirical research at the micro- or individual study level. They employ American football plays as a useful metaphor to clarify the meaning of *conceptual framework* (used in the context of a deductive empirical study). Likewise, conceptual frameworks are abstract representations, connected to the research project’s goal that direct the collection and analysis of data (on the plane of observation – the ground). Critically, a football play is a “plan of action” tied to a particular, timely, purpose, usually summarized as long or short yardage: Shields and Rangarajan (2013) argue that it is this tie to “purpose” that make American football plays such a good metaphor. They define a conceptual framework as “the way ideas are organized to achieve a research project’s purpose”. Like football plays, conceptual frameworks are connected to a research purpose or aim” (wiki cf., 2018).

provide model problems and solutions for a community of practitioners” (Kuhn, 1996). The Oxford dictionary defines a paradigm as, among other things, “a world view underlying the theories and methodology of a particular scientific subject”, and this definition is accompanied by the example of the following sentence: “They are more than theories; they are paradigms or conceptual frameworks that define a field of study, limit our conception of reality, and define an agenda for research and policy-making” (OxDic, 2018).

From the Anglo-American sphere of science and philosophy, conceptual frameworks permeated Anglo-American accounting in the 1970s. They form the basis for the way of obtaining financial information about economic entities and introducing this information into social action systems. Here, conceptual frameworks perform the role of a frame of reference for financial reporting regulations as well², above all, in the scale of economic macro-systems, such as national states, groups of national states, or collections of groups of companies listed on certain stock exchanges (like New Zealand, the European Union, or NYSE companies), and even globally. In spite of this, and in the light of the literature on financial accounting and reporting, the cognitive status of a conceptual framework for financial reporting remains unclear. This paper seeks to discover the social and scientific aspects of conceptual frameworks for financial reporting, and to determine their deep role within a social action system that performs cognitive and control processes.

From the cognitive point of view, this paper aims to examine whether a conceptual framework can be a theory for financial reporting. The research method is based on a foundational approach under the qualitative research method, encompassing descriptive and analytical approaches. There are two basic hypotheses: (a) a conceptual framework for financial reporting represents the systemic aspect of an economic entity and its social component, and (b) the conceptual framework for financial reporting defines an irreplaceable way of doing this, indicating that a unit of the medium of exchange (money) must be used for measurement purposes, as an adequate flow of the medium of exchange is essential to maintain openness of the system, and the usefulness of the representation for shaping that openness depends on the use of that particular unit of measurement.

1. Literature review and research approach

The accounting literature on conceptual frameworks for financial reporting has focused on detailed content presentations, and to some extent on intuitional analyses of conceptual frameworks shaped by the bodies of financial accounting and reporting regulation. However, from the point of view of scientific methodology and reality, understanding

² And in recent years, the Anglo-American business community has come to regard it as a theory formulated by the financial reporting regulators (FTlexi, 2018).

the results obtained seems to be insufficient. Authors concentrate on the conceptual frameworks, analytical descriptions, and interpretations on the grounds of endogenic accounting theories and approaches, and/or in relation to some specific economic theory³, including information economics approach (Christensen, 2010). A few authors have tried to analyze and interpret the conceptual frameworks from the broader perspectives of economic theory and critical theory (Bryer, 1999; Dillard, Vinnari, 2017). Nevertheless, the systems approach is absent from their activities.

In recent years, the perspective on conceptual frameworks has shifted towards computer science and information science approaches, and the conceptual framework has begun to be named “domain ontology” or “domain-specific ontology” (Gerber et al., 2015). The term ‘ontology’ used within this perspective encompasses the genus, properties and interrelationships of entities existing in a particular domain of reality and discourse (Noy, McGuinness, 2001). Domain ontology can be defined as a model of “a specific domain, or part of the world. It represents the particular meanings of terms as they apply to that domain” (*What is Domain*, 2018). However, the systems approach is absent from domain ontology in its current form, as well.

In Poland, in the case of current national research into accounting, the situation is similar to that described above. Researchers undertake theoretical considerations based on the methodology of philosophy and the social sciences (Karmańska, 2013; Szychta, 2013; Zarzycka, 2013), of economics (Zarzycka, 2010), of econophysics (Dobija, 2010), and of endogenic accounting theories (Knop, Brzezina, 2006; Gmytrasiewicz, 2006; Gos, 2008; Hońko, 2007; Ignatowski, 2012; Jezierska, 2008; Krasodomska, 2010; Sawicki, 2013; Szychta, 2010). However, the systems approach and the conceptual framework for financial reporting are absent from this research.

The literature review appears condensed due to an emphasis on whether the author of a given paper took up the issue of conceptual frameworks using the systems approach.

As the focus of our deliberations, we take the systems approach and the social sciences methodology, namely functional methodology⁴, and an institutional perspective. In particular, the ideas and concepts from living systems and complex adaptive systems theories, the functional theory of social action systems, and communicative action theory have been used. As a result, this article focuses on filling the knowledge gap regarding the systemic aspect of accounting (taking into account the methodology of social sciences).

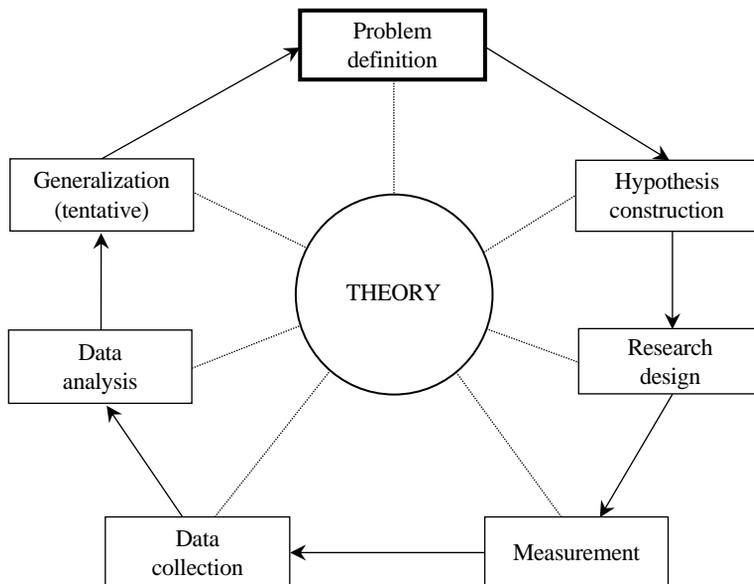
³ The historical range of authors of books and papers on conceptual frameworks for financial reporting without using systemic approach comprise such names as: Anthony (1983), Archer (1993), Bala (2012), Camfferman, Zeff (2007), Dopuch, Sunder (1980), Evans (2003), Gaa (1988), Godfrey et al. (2006), Hendriksen, van Breda (1992), IASB DP (2013), Ijiri (1983), Jaruga (2007), Kam (1990), Kabalski (2009), Lennard (2007), Macve (1981, 1997, 1998), Mattessich (1995), Macve (1998, 2010), Mumford (1993), Page (1998), Plesko (2003), Power (1989, 1993), Scott (1997), Shroeder et al. (2005), Szychta (1996), Turyna (2004), Wolk et al. (2004), Zijl van, Walker (2001).

⁴ On the functionalist paradigm in organizational research see Morgan (1990, pp. 15–18).

2. A conceptual framework as a theory for the research process

In the research methodology it is widely assumed that a theory is an immanent element of the research process, lighting and shaping both its whole and its individual stages. It concerns all fields of science, this also the field of social science comprising, among others, economics and accounting. The theory plays a central role in the research process, as shown in Figure 1. A conceptual framework is one of the forms of a theory.

Figure 1. Research as a multi-stage process



Source: Frankfort-Nachmias, Nachmias (2000, p. 18).

The way to formulate and situate conceptual frameworks in the social sciences is mainly described by American sociologists and methodologists. Thus, sociologists Talcott Parsons and Edward Shils treat theories as arrangements of notions and ideas, creating conceptual schemes built on the basis of observations of reality, and concepts for the way reality actually is. As the criterion for theory classification, they took the degree of conceptual scheme systematization, distinguishing four hierarchical levels of theorizing on this basis, i.e., from the lowest to the highest level (Parsons, Shils, 1951, p. 50)⁵:

- (a) *ad hoc* classificatory systems,
- (b) taxonomies,
- (c) conceptual frameworks,
- (d) theoretical systems (an axiomatic or formal theory is of special importance).

⁵ Nomenclature as used by Frankfort-Nachmias, Nachmias (2000, p. 34).

According to Parsons and Shils (1962, p. 50), a conceptual framework is a system comprising taxonomy and laws that relate its elements. Thereby, a conceptual framework is a system for which laws related to the classes of observations of reality have been formulated.

According to Frankfort-Nachmias and Nachmias (2000, pp. 35–36), contemporary social sciences methodologists, “In a conceptual framework, descriptive categories are systematically placed in a broad structure of explicit propositions – statements of relationships between two or more empirical properties – which are to be accepted or rejected. [...] conceptual framework belongs to a higher level than a taxonomy because its propositions summarize behaviors as well as provide explanations and predictions for vast numbers of empirical observations. [...] Conceptual frameworks [...] can be used to direct systematic empirical research. However, the propositions derived from conceptual frameworks are not established deductively, that is, from an *a priori* set of universal generalizations. Their dependence on empirical observation in the earlier stages of theorizing and research limits [...] the explanatory and predictive powers of conceptual frameworks and impairs their usefulness for future research”.

Let us notice that from the perspective of the levels of theorizing, conceptual frameworks are the top level of generalizing observations and empirical examinations, and observations and empirical examinations are edge conditions for these frames. The localness and incompleteness of observations and empirical examinations, and the possibility of their fluctuation and limited time horizon, result in the incompleteness of conceptual frameworks as a theory, which is characteristic of middle-range theories, by physicists called effective theories. With theories of middle range, or effective theories, conceptual frameworks share leaning against the empirical base, localness, limitation of time horizon, and possibility of fluctuation.

Since middle-range theories/effective theories are regarded as a model accompanied by a set of rules linking its elements with observation⁶, so a conceptual framework for

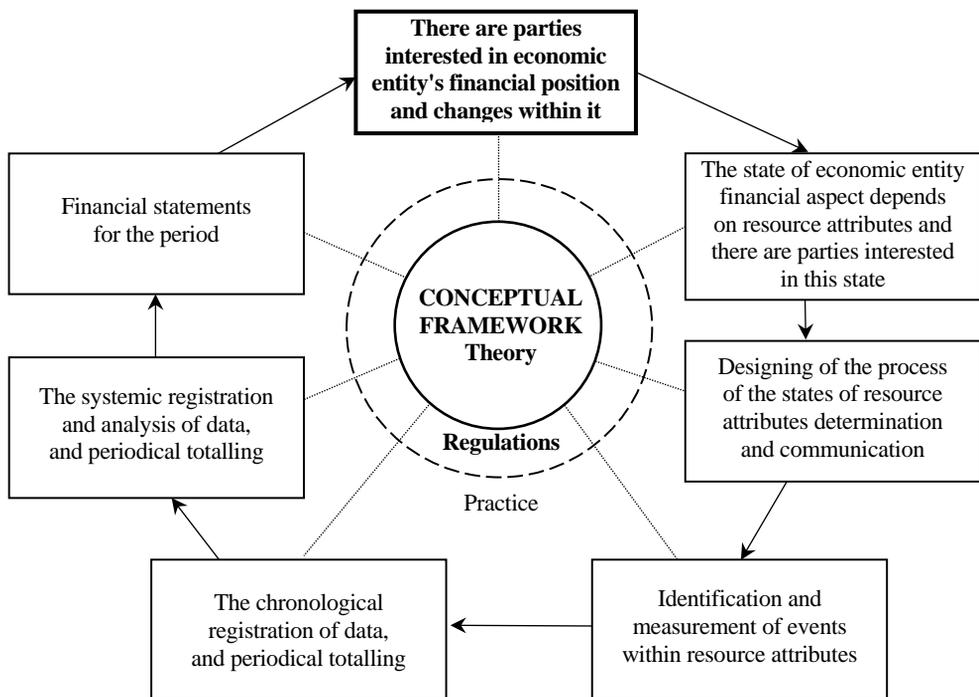
⁶ A middle-range theory is a sort of generally understood theory. Offering models and generalizations referring to clearly circled empirical areas is its distinctive feature. It was introduced into scientific methodology by Robert K. Merton, an American sociologist. Based on physics, middle-range theory assumes the form of effective theory, from which, first of all, the possibility to predict the effects of observation and experience is required. The effective theory is of a phenomenological character. “In physics, an effective theory is a structure created for the modelling of certain observed occurrence, without detailed describing processes being hidden behind it” (Hawking, Mlodinow, 2011, pp. 41–42). “(The effective theory) comes into existence through erasing the majority of information about the microscopic nature of the matter” (Sokolowski, 2011). The theory serves to shape the concept of reality. According to Hawking and Mlodinow (2011, p. 52), “physics theory (image of the world) consists of a model (generally speaking mathematical in its nature) and a set of principles joining the model elements to observation”. Hawking and Mlodinow (2011, p. 52) named such a view on the nature of the theory “the realism dependent on the model”. “According to the realism dependent on the model, there is no point in asking whether the model is real; what is important is whether it corresponds to the observation. If two models exist which are in accordance with the observations ... nobody should claim that one is more realistic than the other. It is possible to use both, but one should choose the one which will fits the description of the specific situation better” (Hawking, Mlodinow, 2011, pp. 55–56). Since the model is created by an observer who is specifically situated in time, space and a social structure, and who is also endowed with various senses, a way of thinking, common sense and who has cognitive needs, it is possible to talk about the model being dependent

financial reporting should be treated like a widened model. And because accounting belongs to the social sciences, the conceptual framework for financial reporting should have the same features as conceptual frameworks in the meaning of the theory of the third level of theorizing, i.e., a middle-range/effective theory, and it may be recognized as a middle range theory/effective theory with the model dependent on the observer.

3. A conceptual framework as a financial reporting theory

Financial reporting has all the features of the research process presented in Figure 1. The specification of these features in the process of financial reporting is illustrated in Figure 2.

Figure 2. Financial reporting as a multi-stage research process



Source: Nowak (2007, p. 101).

on the position of the observer. The usefulness of such a model should be assessed according to the degree of its compliance with the observations available to the observer. In the light of the foregoing, conceptual frameworks are of middle-range/effective theory comprising the model dependent on the observer. An effective theory is a tool for explaining certain observed effects, not necessarily modelling the underlying unobserved structures and processes. It is more an emergent approximation of another deeper theory. It builds a model of only those properties of the object that we consider interesting (Carroll, 2017, p. 240).

Nowadays, conceptual frameworks used by regulators (we will call them ‘regulatory conceptual frameworks’) play the role of a theory for financial reporting. Explicitly or implicitly, they relate the main aspects and stages of the financial reporting process, and function like a scheme, providing coherence for this process which, by nature, is a process of empirically examining the economic entity’s financial aspect. Regulatory conceptual frameworks for financial reporting were developed in the realm of Anglo-American accounting. Shaping their first version took over sixty years, and it began from the postulates of William Paton in 1922, through the postulates of Maurice Monitz in 1961, the ASOBAT declaration of 1966, APB declaration No. 4 in 1970, until the first conceptual declarations by the FASB, between 1978 and 1985⁷.

It is easy to notice that regulatory conceptual frameworks have the general features of the conceptual frameworks that were described in Part 2. They summarize events and behaviors in the financial reporting process and within the fragment of reality which it encompasses, and they also provide the instrumentation for the explanations and predictions of the majority of the empirical observation. As such, they direct the systematic process of financial reporting.

However, the conceptual frameworks’ explanatory and predictive powers, and their usefulness for future research orientation are limited because the propositions of conceptual frameworks are based on the limited range of previous observations and real accounting practice examinations rather than on the deduction from an a priori set of versatile generalizations. This feature is recognized by the authors of the conceptual framework for financial reporting who emphasize many times that actual regulatory decisions and accounting practices cannot be fully consistent with regulatory conceptual frameworks, and even go beyond them. As a consequence of the limitations of the observation and examination bases and the time horizon, which results in the incompleteness of conceptual frameworks, conceptual frameworks can mutate in different countries and sectors. So, there is the possibility that they will evolve, which we are observing at present in the form of work on universal conceptual frameworks, performed together by the IASB and FASB⁸.

To illustrate the significance of the empirical perspective in regulatory conceptual frameworks for shaping financial reporting, we will quote some statements from the appendixes to British regulatory conceptual frameworks, promulgated in 1999 by the local Accounting Standards Board – ASB:

“The Board started to develop its frame of reference by looking to the accounting principles that, at that time (the early 1990s. – *Author’s note*), underpinned accounting practice in the UK. However, those principles were found wanting because (a) they

⁷ More see Hendriksen, van Breda (2002, pp. 111–126), Nowak (2010, chap. 4).

⁸ See also Nowak (2010, pp. 170–172) and Tarca (2018).

were developed piecemeal at different times in response to particular problems and were not consistent with one another, (b) some of them had not kept up with modern developments, (c) some of them were out of line with developments internationally” (ASB CF, 1999, pp. 124–125).

And also:

“It is the Board's view that a common set of principles is necessary to achieve further harmonization in international practice. For that reason, the Statement of Principles is based on the International Accounting Standards Committee's ‘Framework for the Preparation and Presentation of Financial Statements’ (the IASC Framework), which was itself derived from the Statements of Financial Accounting Concepts issued in the USA by the Financial Accounting Standards Board. [...] the principles and explanations in the Statement are similar to those set out in the conceptual statements issued by other leading accounting standard-setters, including those in Australia, Canada, New Zealand and the USA” (ASB CF, 1999, p. 119).

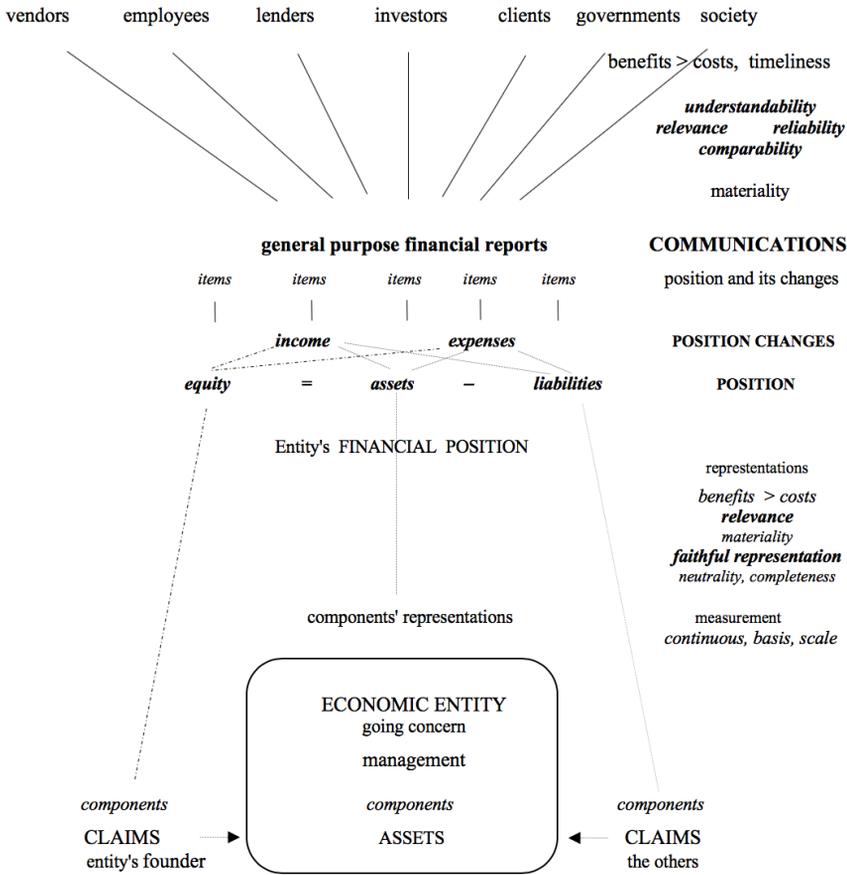
4. The conceptual framework as an effective theory/a middle range theory comprising an observer-dependent model

The general pattern of the conceptual framework for financial reporting was formulated in 2007 (Nowak, 2007, pp. 177–179; 2010, pp. 212–214). It is presented in Figure 3. This pattern generalizes the regulatory conceptual frameworks of the Anglo-American area which were promulgated before 2010 and were built according to one structural schema coming from the conceptual framework by the FASB.

Components which are repeated in those frameworks constitute the collection of elements and relationships of the pattern presented in Figure 3, which serve to map and signal the state of the economic entity's financial aspect. The presented model underlines the general features of regulatory conceptual frameworks as an effective theory/a middle-range theory, that is: leaning against the empirical base, localness, time horizon limitation (‘as long as economic subjects exist’), and the possibility of fluctuation. This model also shows that the conceptual framework for financial reporting is a theory consisting of the model and rules joining its elements to the observation (compare: footnote 6). As such, conceptual frameworks – like other effective theories – need to limit their fluctuations, i.e., the need for stabilization through normalization⁹.

⁹ The Merriam-Webster Dictionary definition of normalize: “to make conform to or reduce to a norm or standard”, and synonyms: ‘formalize, homogenize, regularize, standardize’ (MWD, 2018)

Figure 3. The general pattern of the regulatory conceptual framework oriented towards the complete set of stakeholders



Source: Nowak (2010, pp. 212–214).

Since effective theories are dependent on the observer (see: footnote 2), so it remains true in the case of conceptual frameworks for financial reporting. For them, an observer is constituted by the economic entity’s circle of stakeholders. The stakeholders have diverse informational needs that depend on the type of economic decisions they make, and a conceptual framework constitutes the general image of the economic entity they see¹⁰. In the case of conceptual frameworks generalized by the pattern in Figure 3, the circle of stakeholders embraces all parties interested in the economic entity.

¹⁰ From the *Foreword* to the 1996 American edition of FASB conceptual Statements: “The existing concepts Statements are intended to serve the public interest by setting the objectives, qualitative characteristics, and other concepts that guide selection of economic events to be recognized and measured for financial reporting and their display in financial statements or related means of communicating information to those who are interested” (US FASB SFAC 96/97 ed., p.i).

However, within the common parts of the regulatory conceptual frameworks promulgated in 2010 by the IASB and FASB, the circle of economic entity observers has been narrowed to creditors, among which existing and potential investors and lenders stand out (IASB CF, 2010; US FASB SFAC8, 2010). The manner of constructing the “image of the world, i.e., of the economic entity” for the creditors has also been emphasized by the explicit implementation of the principle of faithful representation. The general pattern of regulatory conceptual framework oriented toward a limited/incomplete set of stakeholders is presented in Figure 4.

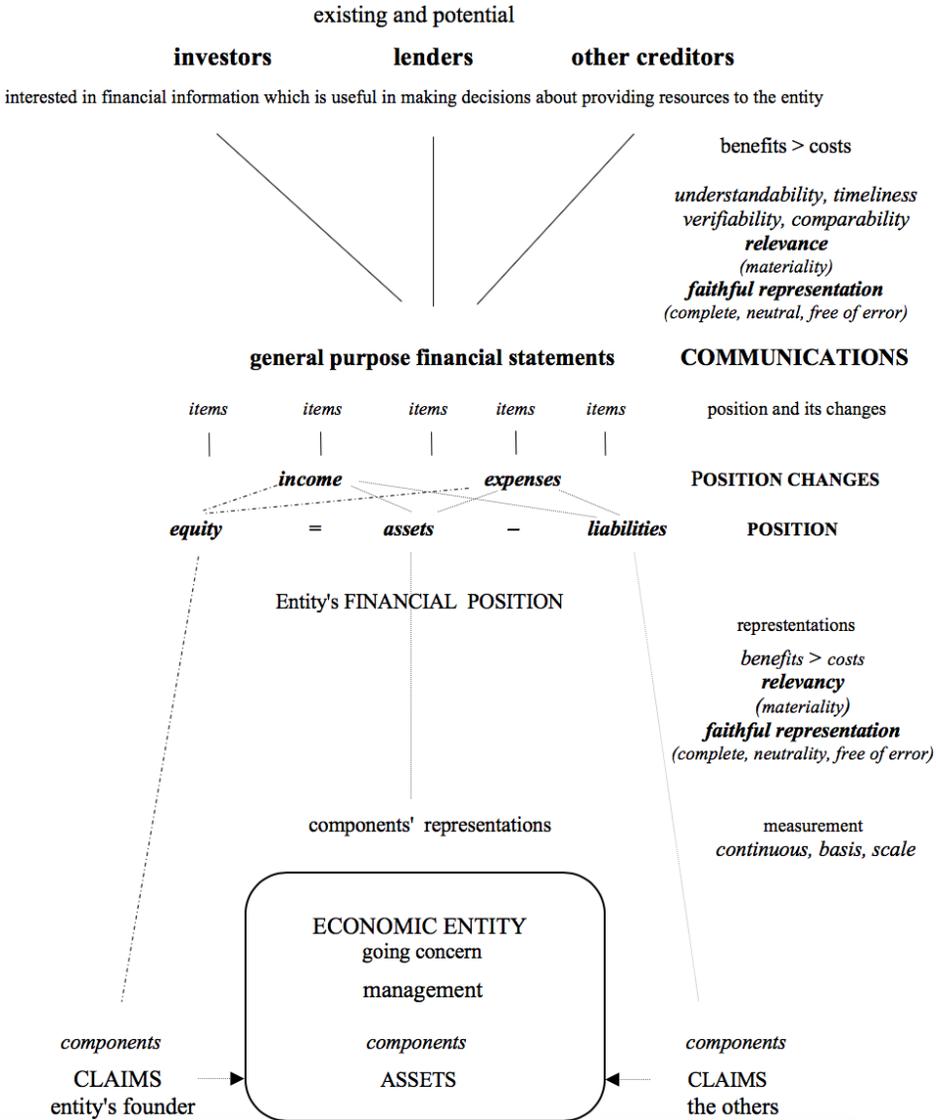
5. Normalization of the conceptual framework for financial reporting

By normalization, we understand that the regularity of the conceptual object or model is based on real-world structures, processes, and patterns. As the conceptual framework for financial reporting, which relates to the real world, has been socially constructed by national and/or international regulatory bodies, we will, therefore, refer to some theories and models of how society functions, and to the systems approach that links the social world with the physical world.

From the perspective of sociology, the conceptual framework for financial reporting constitutes an institution, which is a separate complex of social activities. As such, it functions like a regulatory pattern which channels human activities in a similar way to instincts. It provides procedures by which people’s financial reporting behavior is modeled, enforced and maintained in the ranks societies consider appropriate. At the same time, this effect is achieved in such a way – typical for any institution – that these ~~puts~~ patterns appear to man as the only possible. As an institution, the conceptual framework for financial reporting establishes a kind of behavioral imperative. (Berger, 1988, pp. 86–90). However, an institution freezes only one of many competing patterns of social action. And it further functions like a frozen event sailing over the region of space-time occupied by a given type of society, from time to time forcing solutions which are not always best for current situations. Such a way of existing does not mean that the institution is a theory. To check whether an institution is also a theory, it is necessary to check whether it can be formulated on the basis of higher-order theories. That is what we are going to do now with regard to the conceptual framework under consideration.

A deeper insight into the nature of the conceptual framework for financial reporting is possible through the prism of the theory of social system action, the theory of communicative action, and the theory of an economic entity as a complex adaptive system. Due to such insight, we can check whether the framework in question goes beyond the institution and confirms its existence as a theory.

Figure 4. The general pattern of a regulatory conceptual framework oriented towards the creditors (limited/incomplete set of stakeholders)



Source: Author's own elaboration on the basis of Nowak (2010, pp. 212–214) and IASB CF (2010).

The normalization of conceptual frameworks as the theory orienting guiding cognitive processes is possible on condition that they connect their general pattern with the pattern of the studied aspect of reality fragment we are getting to know. It can be done by weaving conceptual frameworks into the imperatives of the social action system

which performs the cognitive process. Let us refer to Talcott Parsons's social action system theory and Jürgen Habermas's communicative action theory to strengthen these imperatives. This is the approach followed by the author of this paper in a book on the nature of conceptual frameworks for financial reporting (Nowak, 2007, chapters 2 and 6). Results obtained in this way look like below.

Treating financial reporting as the cognitive process occurring in the system of social action, and having taken the criterion of truth into consideration as one of the claims conditioning the efficiency of communicative action occurring in such a system, it is possible to state that the normalization of conceptual frameworks, essential for financial reporting communicative efficiency, requires (Nowak, 2010, pp. 90–91):

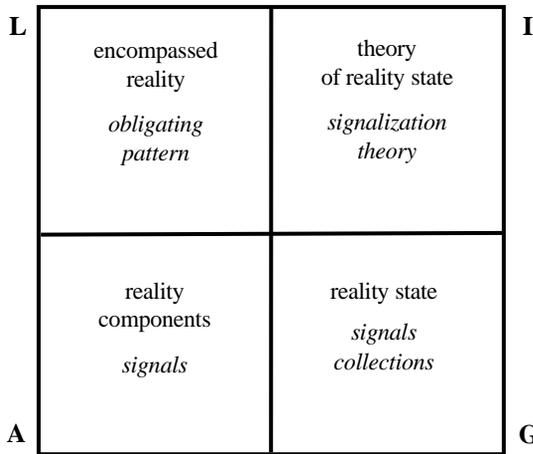
- a) the determination of the aspect and fragment of the real world taken into consideration,
- b) the formulation of a theory explaining and forecasting the fragment and aspect,
- c) the determination of how the state of the fragment and aspect are determined, in the light of this theory,
- d) the determination of the components of this state available for observation.

One should regard these requirements as specifications of the social action system imperative functions because the process of financial reporting proceeds in the system of social action and is determined by this system's fractal features. The requirements can also be expressed from the perspective of subsystems that perform social action imperative functions, and which are captured in a four-segment pattern and in a cybernetic pattern of informational determinism (LIGA-L). The imperative function of latency (L) concerns the cultivation encompassed reality structure and function, the imperative function of integration (I) concerns the explanation of the encompassed reality, the imperative function of goals (G) concerns the representation of encompassed reality states, and the imperative function of adaptation (A) concerns looking for components of the encompassed reality states. The general media of exchange between the imperative functions have to be of a symbolic character, and – in our opinion – their roles will play, respectively, the obligating pattern of the encompassed reality, the signalization theory, the manner of representing the encompassed reality state (signalling instrumentation), and the way of recognizing the encompassed reality state components. Patterns of imperative functions are depicted in Figure 5 and in Figure 6, where:

- the name *encompassed reality* relates to requirement a), and the medium of exchange appropriate for this requirement relates to the name *obligating pattern*,
- the name *the theory of encompassed reality state* relates to requirement b), and the medium of exchange appropriate for this requirement relates to the name *signalization theory*,
- the name *encompassed reality state* relates to requirement c), and the medium of exchange appropriate for this requirement relates to the name *signals collections* (manners of representation),

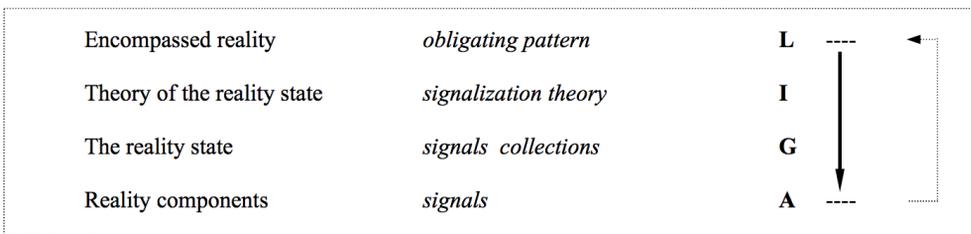
- the name *encompassed reality components* relates to requirement d), and the medium of exchange appropriate for this requirement relates to the name *signals* (measurement).

Figure 5. Imperative components of financial reporting as a process within a social action system



Source: Author's own elaboration.

Figure 6. Informational determinism of financial reporting as a process within a social action system: LIGA-L type cybernetic pattern



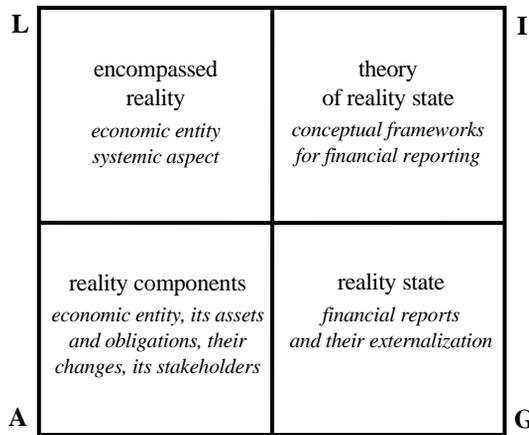
Source: Author's own elaboration.

Let us underline that due to the social action system's fractal properties, the components and relationships shown in these Figures will appear in every financial reporting system, irrespective of its size. Explicitly or implicitly, they will appear both within an economic microentity reporting system and within the reporting system of transnational corporations, as well as within all systems of financial reporting regulations. Let us notice that in the light of the LIGA-L cybernetic model, the representations (images) of the state of reality and its components cannot influence the theory of the state of

the reality. However, this theory is influenced by an obligating pattern of encompassed reality.

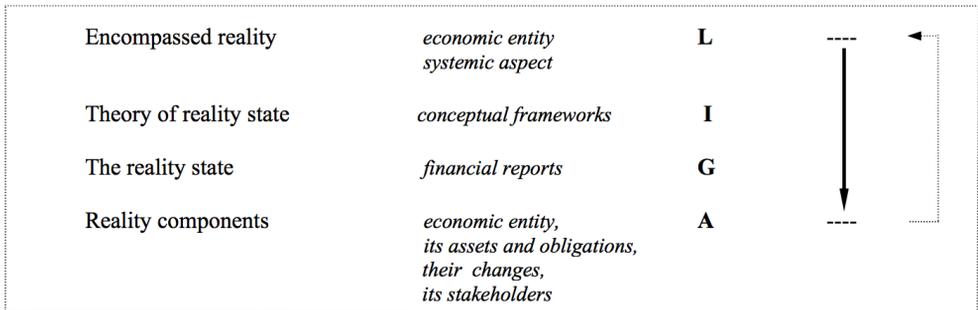
As shown in Figure 7 and Figure 8, a regulatory conceptual framework for financial reporting appears in the role of signalization theory, whereas the pattern of encompassed reality appears in the role of the obligating pattern.

Figure 7. Imperative components of financial reporting as a process within a social action system



Source: Nowak (2010, p. 253).

Figure 8. Informational determinism of financial reporting as a process within a social action system



Source: Nowak (2010, p. 253).

Let us notice that in the light of Figure 7, the shape of regulatory conceptual frameworks depends on what exists in the pattern of the encompassed reality, i.e., on what exists in the systemic aspect of the economic entity. Within this aspect, the economic

entity is an open system with the properties of a complex adaptive system (Nowak, 2010, pp. 234–248; Nowak, 2016, pp. 11–21)¹¹. The fundamental features and the economic entity’s systemic patterns of metastructure and metabehavior/metafunction have been established as a result of the theoretical deliberations based on, among others, the concept of living system properties (Katz, Kahn, 1978) and the concept of organization key components (Leavitt, 1965). We present them below to elucidate more fully and complement the discussion of the economic entity’s systemic aspect.

According to Nowak (2010, pp. 238–239; 2016, pp. 11–21), by adding space-time inclusiveness and relationality¹², the set of fundamental systemic attributes of the economic entity are of an emergent character, and are presented as follows¹³:

- space-time regionality,
- relationality/structurality,
- identity,
- periodicity,
- resourceness, i.e., gathering and maintaining resources,
- obligability, i.e., the ability to satisfy claims on resources,
- exchangeability, i.e., the ability to pay with resources, conditioning the ability for an exchange with the environment,
- surplus-generation ability, i.e., the ability to generate a surplus of resources imported over resources consumed and exported,
- the self-description of the states, and changes in the states, of attributes 1–6,
- signality/communication.

The patterns of the meta-structure and meta-behavior of an economic entity’s systemic aspect are presented respectively in Figures 9 and 10.

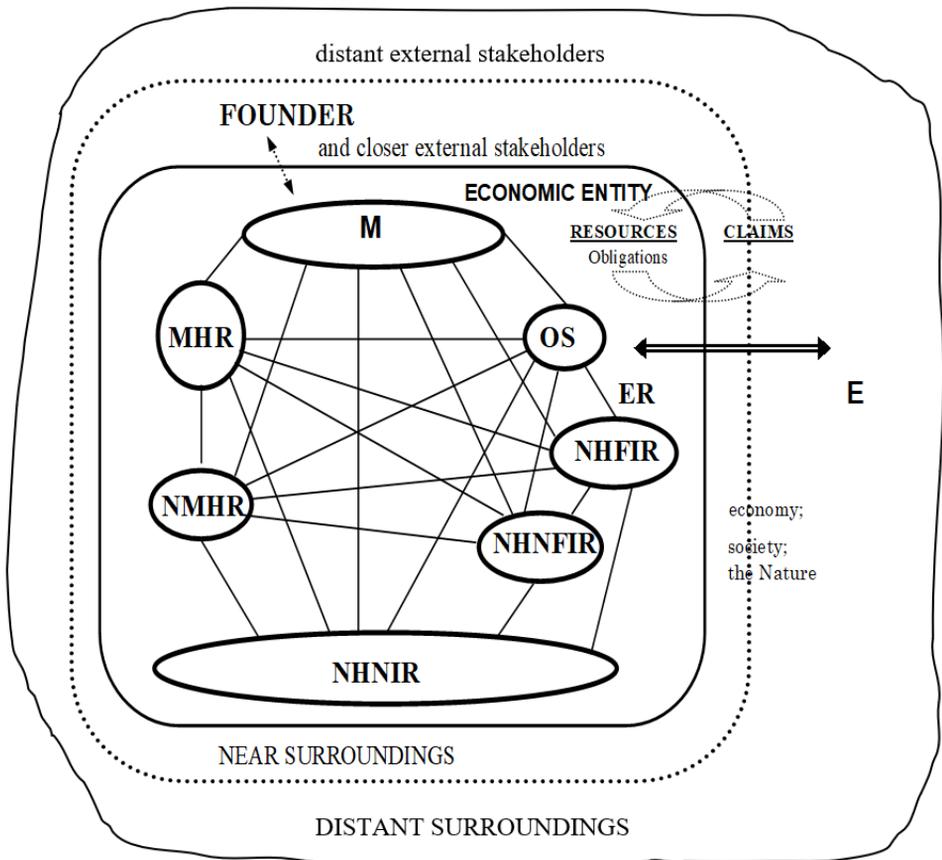
¹¹ For complex adaptive systems generally, see Gell-Mann (2016), and – from the perspective of economics Jakimowicz (2016).

¹² Cf. Rovelli (2017, pp. 115–116 and 158–161).

¹³ The concept of an economic entity’s fundamental futures is rooted in the concept of the basic futures of reality. From the perspective of quantum mechanics, it can be said: “To summarize, quantum mechanics is the discovery of three features of the world:

- *Granularity* [...]. The information in the state of a system is finite, and limited by Plank’s constant.
- *Indeterminacy*. The future is not determined unequivocally by the past. Even the more rigid regularities we see are, ultimately, statistical.
- *Relationality*. The events of nature are always interactions. All events of a system occur in relation to another system (Rovelli, 2017, p. 116).

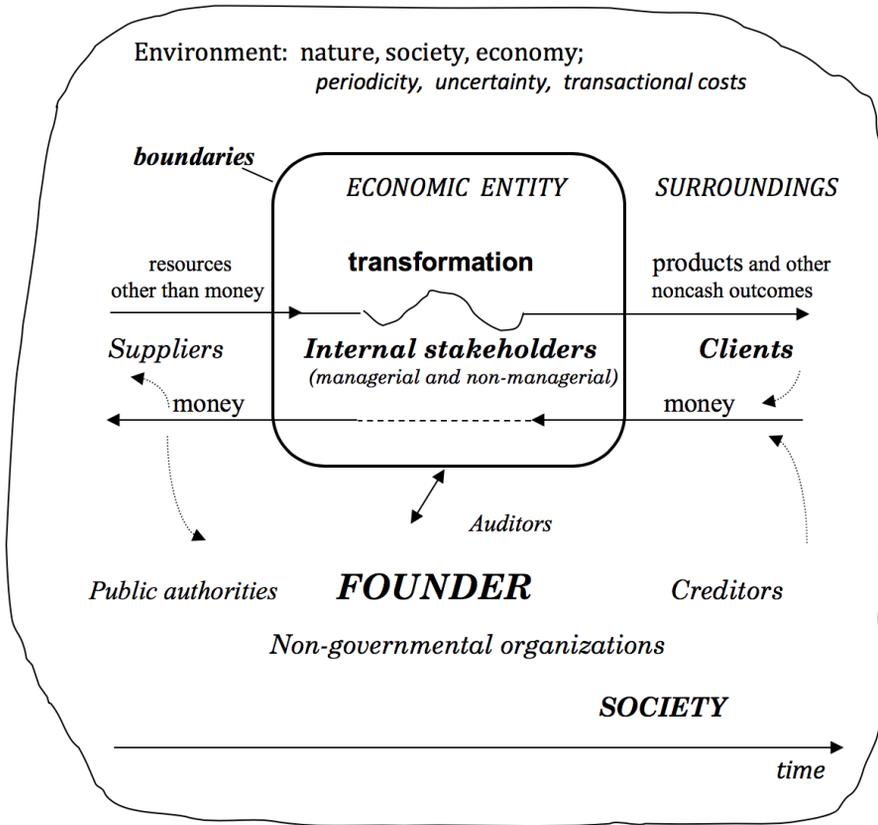
Figure 9. The pattern of an economic entity’s meta-structure as a complex adaptive system



- M** a meta-goal (founder's need is the leitmotif for the formation of the economic entity)
- MHR** managerial human resources (dominant internal stakeholders)
- NMHR** non-managerial human resources (non-dominant internal stakeholders)
- NHR** non-human non-informational resources
- NHFIR** non-human financial information resources
- NHNFIR** non-human non-financial information resources
- OS** organizational structure, i.e., the set of formal and informal internal relationships, together with accountability relationships
- ER** relationships between the economic entity and its environment
- E** environment: economy, society, nature

Source: Author's own elaboration on the basis of Nowak (2010, p. 233; 2016, p. 14).

Figure 10. The pattern of an economic entity’s meta-behavior as a complex adaptive system with stakeholders, and money as the medium of exchange



From the systems approach point of view, the subject matter of accounting is the representation and prediction of the state of the economic entity's fundamental systemic attributes, and the changes in these states. The states, and their changes, represented by means of a monetary measure, are communicated in the form of statements of financial position and changes within it (see Figure 11), formulated in the process of financial reporting.

Figure 11. Accounting articulation of fundamental system attributes of the economic entity and the changes within them

Attribute	Evidence
Space-time regionality	Every statement reflecting the financial position or its changes
Relationality/structurality	Every statement reflecting the financial position or its changes
Identity	Every statement reflecting the financial position or its changes

Figure 11. Accounting articulation of fundamental system attributes of the economic entity and the changes within them (*cont.*)

Attribute	Evidence
Periodicity	Every statement reflecting the financial position or its changes
Resourceness	<i>Ex post</i> and <i>ex ante</i> statements of the financial position – assets
Obligability	<i>Ex post</i> and <i>ex ante</i> statements of the financial position – liabilities and equity
Exchangeability	<i>Ex post</i> and <i>ex ante</i> statements of cash flows
Surplus-generation ability	<i>Ex post</i> and <i>ex ante</i> comprehensive income statements
Self-descriptiveness	The existence of accounts and financial statements
Signality/communicativity	Financial statements/financial information externalization

Source: Author's own elaboration on the basis of Nowak (2007, p. 201, and 2016).

Conclusions

Financial reporting is a process that occurs within a social action system. In the light of the functional theory of social action, the theory of complex adaptive systems, and the theory of communicative action, a regulatory conceptual framework for financial reporting functions both as the institution and the theory.

They are formulated on the basis of economic entities' observations and empirical examinations. In the methodological meaning, they are the highest level of generalization of those observations and examinations, and they belong to a class of middle-range, or effective, theories. With middle-range/effective theories, they share leaning against the empirical basis, localness, time horizon limitations, and the possibility of fluctuation. They seem to be similar to a paradigm within the meaning of Kuhn, and as such are a specific theory for a research process within accounting, oriented towards an economic entity. They reveal and emphasize the social aspects of accounting and justify it as a social science.

As regards the economic entity's financial representations, they especially point to:

- *what* is to be observed and scrutinized,
- the kind of *questions* that are supposed to be asked and probed for answers in relation to this entity,
- *how* these questions are to be structured,
- *how* the results of the investigations/representations of this entity should be interpreted,
- *how* this entity representation is to be conducted, and
- *what* kind of equipment is available to conduct the investigation/representation.

Due to the possibility of fluctuations, the conceptual frameworks for financial reporting need normalization, as every other effective theory does. The normalization of these frameworks can take place by weaving them in into the imperatives of cognitive processes occurring in a social system. Such a weaving requires the obligating pattern of encompassed reality to be shaped, and this pattern should play the role of a frame of reference for the conceptual frameworks for financial reporting. This method of normalization allows us to reveal that they are not only an institution but a theory of financial reporting, as well. ‘Conceptual frameworks as a theory’ gives more elasticity to ‘conceptual frameworks as an institution’, facilitating their mutation, as has happened, for instance, with regard to the public sector accounting international framework or the US FASB, US GASB, and US FASAB frameworks.

Thus, financial reporting is a cognitive process which occurs in the economic entity’s social action system. Financial reporting represents the state of the economic entity’s systemic aspect. The pattern of this aspect constitutes the frame of reference for regulatory conceptual frameworks and performs the normalizing role towards them. Seen in the perspective of conceptual frameworks for financial reporting, the economic entity is a complex adaptive system with emergent basic features and peculiar patterns of meta-structure and meta-behavior/meta-function.

The introduction of the institutional interpretation makes it possible to highlight and emphasize the dual nature of the conceptual frameworks, as an institution in the sociological sense, and as a theory in the scientific cognitive sense. As an institution, the conceptual frameworks govern the setting and application of financial accounting norms, both through standards and/or legislation, and through the entity’s accounting policy. As a theory, they go beyond the emotional and practical sphere, and indicate the necessity and importance of financial reporting in the social action system.

By using the systems approach, we can better understand and explain the nature and deep determinants of accounting and financial reporting. And this is the author’s contribution to the existing knowledge.

Regarding the cognitive aspect of this paper, the aim has been successfully achieved, and both hypotheses have been positively verified. This means that the conceptual frameworks are the theory of the representation of an economic entity’s systemic aspect (in the form of financial reporting), and to be useful for the economic entity’s openness, shaping this representation has to take place using the unit of the medium of exchange (money). It is a new perspective for seeing financial reporting and the conceptual framework for their scientific, social and economic aspects.

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