

Review Article

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Accounting As an Information Practice in Sustainability Agenda

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ABSTRACT

Relevance: The idea of sustainability dramatically alters the critical elements of management and decision-making and the data needed to develop and implement a strategy that creates ESG (Environmental, Social and Governance) values. Moreover, the modern business environment presents a significant challenge for accounting, which has traditionally been focused primarily on financial decision-making.

Objectives: The paper has two interrelated goals. At its core, it seeks to outline the essential ways that accounting, as a crucial information practice, needs to be redesigned to satisfy user demands while tackling contemporary issues in the context of sustainable development and responsible business. This will be predicated on an examination and analysis of the various approaches put out in academic and professional studies, as well as relevant regulations and experiences. Given the potential for profound shifts in the accounting domain, the associated research aim is to assess the applicability of current accounting methodologies and paradigms to pinpoint prospects for their improvement or modification.

Methods: The article's design refers to a theoretical conceptual study, combining explanatory and exploratory approaches to develop and enrich existing accounting theory according to the practical needs of the day. Research methods include analysis of secondary sources, observations and a review of the literature, which includes academic writings and other open sources - regulatory documents, frameworks and standards, professional databases, analytical reviews and expert consultations, materials from conferences, etc. This data was processed using a combination of analytical and semantic techniques, including textual, thematic, discourse, logical, comparative, and critical analyses.

Results: The results include a set of theoretical constructions and recommendations for modelling accounting advancements in the sustainability agenda to evaluate human well-being contribution and ethical and environmental consciousness in corporate and national governance. Possible ways to update the current accounting system were assessed to meet the criteria of a transparent, user-relevant information environment. As a result of the accounting methodology analysis, there were systematised paradigms and theories of accounting. A set of recommendations was made regarding rethinking the conceptual area and adjusting objects, methods, principles, and approaches of accounting for sustainability and ESG reporting.

Conclusions: Nowadays, accounting can be defined as a flexible, multidisciplinary approach with an expanding problem-solving area, wide conceptual domain, and pluralistic beliefs. Accounting as an information practice needs to respond to a huge range of stakeholders' requests and provide, apart from traditional outputs, not only non-financial and qualitative information but also affect the reality and construct it through product performance. The vitality of accounting as an information practice can be provided by advancing in its conceptual domain and area of impact, widening the scope of objects by non-financial and qualitative information, developing theories and a multiparadigm and transdisciplinary approach, and changes in methodology.

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Highlights

- The study focused on the primary methods of updating accounting in the context of the sustainability agenda
- In this research, approaches to accounting theory in English-language, Ukrainian-language, and Russian-language academia were evaluated and compared, along with trends and prospects of accounting development
- Accounting theories and paradigms were examined and arranged, and the need for radical theoretical changes was assessed
- Recommendations for the development of accounting in the sustainability agenda were produced to provide efficient ESG

- governance and responsible business practices
- The findings can be implemented in accounting practices and utilized in developing frameworks, standards, and regulations, as well as serve as a basis for more research

Introduction

Accounting remains one of the primary informational practices in economic life because of the vast advantages of its systematic approach and robust methodology, theoretical comprehension, and practical adaptability. In today's accounting landscape, significant challenges arise from the changes in the content of information required and the potential threat of the profession potentially being washed out by the influence of interconnected practices and digital technologies.

There are a few reasons for changing the general contour of the accounting conceptual domain and its methodological filling. First, as the focal data source for decision-making for the full scope of stakeholders, accounting aims to provide relevant information that reflects not only financial but a wide range of non-financial information. Second, accounting output efficiency is defined by reaching specific commonly accepted priorities, shifting from businesses' financial performance to their social responsibility for human well-being over the last few decades. Changes in the contemporary world determine it; the VUCA (Volatility, Uncertainty, Complexity and Ambiguity) environment and values rethinking affect human behaviour in economic activity. Accounting has started to be cross-disciplinary and tightly linked with many different areas of knowledge and practice – sociology, environmental science, psychology, management, law, language, computer science, and AI. The theoretical ground of accounting is characterised by a multi- paradigm approach and sufficient flexibility development for meeting the genuine demand for the ultimate information product.

Several trends in the contemporary business information field can confirm the accounting issues that must be analysed and solved. First is a notable decrease in the significance of financial information and interest in financial indicators in decision-making. In research, even more than seven years ago, it was empirically proved less of a correlation between indicators-based financial statement data, such as profitability and cash flow, and market reaction, or the prices of securities [1]. Investors base their decisions on additional indications calculated to evaluate the company's capacity to create value for capital suppliers, such as managers or lenders. Many computed values pertinent to financial market participants are included in value-based management indicators. Among these indicators are the widely recognised free cash flow (FCF) from McKinsey and LEK / Alcar, the increasingly used market value added and residual cash flow (MVA, CVA), economic value added (EVA) from Stern Stewart & Co., and cash profitability of capital (CFROI) from the Boston Consulting Group. While being based on financial reporting, most of these indicators must be adjusted several times to circumvent accounting data limitations. For instance, the financial statement information undergoes nearly 150 changes to calculate EVA. An analogous circumstance arises when considering logical-deductive and empirical-inductive analytical scores, encompassing ratings (Beaver, Camel, Weibel) and the indicators managers employ in goal governance and decision-making (BSC).

At the same time, it highly increased the share of non-financial information required by stakeholders. Non-financial reporting based on ESG indicators and companies' sustainability policy explanations became extremely important in investment and resource allocation decision-making. The increasing adoption of sustainability information practices is demonstrated by more than 600 frameworks and standards for ESG disclosures, impact regulation, socially responsible investments, green transition, and socially responsible governance. According to an analytical review by the International Federation of Accountants, ESG disclosures are included in the reporting of "95% of the 1,350 companies studied in various countries and 64% of companies now obtain assurance/verification over some of the information they provided in 2021" (IFAC, 2023). Responsible reporting has begun to become mandatory in many jurisdictions. For example, the EU's Corporate Sustainability Reporting Directive (CSRD) will require sustainability reporting for nearly 50,000 companies by 2025 (for the year ending on December 31, 2024) (Official Journal of the EU, 2023). Rating agencies, portfolio analysis

services, and aggregators of ESG data represent a developing market. According to Mordor Intelligence's figures, the ESG Rating Services Market is projected to reach USD 15.42 billion by 2029, rising 8.25% over the forecast period from USD 10.37 billion in 2024.

Nowadays, the massive volume of information needed relates to companies' sustainable policies, ESG performance, and risks for disclosures in different ESG and sustainability reporting types. Figure 1 presents the main frameworks and regulations that can guide companies' responsible reporting and illustrates the diversity of information required apart from financial statements.



Figure 1: Sustainability and ESG Reporting Frameworks and Standards (Source: Developed by the author)

The required information cannot be considered traditional accounting information created within the system (not by other informational practices) without changing methodology and conceptual area. As an illustration, we can note a range of dimensions and related categories of issues to be disclosed according to the requirements of the Sustainability Accounting Standards Board (SASB), presented in Figure 2.



Figure 2: Dimensions and Categories of Information which Should be Disclosed (Source: Sustainability Accounting Standards Board)

One more symptomatic tendency, primarily related to the accounting research domain, shows the growing interest in developing accounting theory to match the tangible expectations of new practical realities. Since the author of this paper worked with studies of not only English-speaking but also Russian- and

Ukrainian-language accounting academia, it is considerable to note that acknowledgement of accounting theoretical background development importance is inherent to both scientific communities, despite numerous differences in approaches and concepts. In Anglo-American academia, scholarly studies mainly concentrated on evolving accounting paradigms and theories, impacts on the real world and how reported data can affect reactions in society and economy, identifying new types of accounting, exploring how accounting can drive sustainability efforts, interdisciplinarity and enhancement through intertwining with a variety of sciences, and understanding a company's efficiency in the long run [2-17]. Scientific research in post-Soviet countries accounting focused on developing its conceptual domains and subjects, enhancing methodology, evaluating the possibility of the paradigm shift, and creating new types of accounting (e.g., integrated, sociological, environmental, etc.) [18-21].

Interestingly, both schools agree on the necessity of accounting changes to fit the modern informational landscape and the vitality and ability to match stakeholders' expectations and data demand. Accounting has started to be cross-disciplinary and tightly linked with many different areas of knowledge and practice—sociology, environmental science, psychology, management, law, language, computer science, and AI. The theoretical ground of accounting is characterised by a multi-paradigm approach and sufficient flexibility to meet the genuine demand for the ultimate information product. It has a new life in a new context if remaining stakeholders-oriented and changes-driven. Some may object that it is the most conservative informational practice – but the nature of this conservatism is in striving to move objective and relevant information, not in limitations and conventions in development. Defining the main steps to reshape the domain area, enrich the theory, and refill accounting practices is imperative. In this, one can face many complexities considering the ideas and approaches' multitude, misleading heterogeneity of concepts, existing stereotypes and restrictions in the accounting field.

The symptomatic trends confirming prompts for accounting updating are a considerable diversity of existing theoretical accounting backgrounds and a continuing academic search for new theories, paradigms, and approaches. This tendency is inherent to the different accounting schools and not one decade. Still, it has become a joint movement towards the multi-paradigm vision and pluralistic approach to accounting theory. Accounting theoretical base development is complicated in many ways because of conceptual and terminological variety, which is notable while examining the same-thematic academic writings. Understanding accounting issues and any attempts at its updating could meet difficulties due to ambiguity even of notions and terms, representing essential for scientific knowledge constructs, particularly “theory”, “paradigm”, “framework”, “approach”, “methodology”, “concept”, etc. The presence of many fundamental accounting works does not solve but complicates the problem; any researcher may be confused by this manifoldness and various readings. Precisely what one calls “theory”, another scholar names the “paradigm” or “concept” of accounting. This difference is pronounced in academic studies.

The best illustration of changes in accounting occurring and one of the critical focuses of this work is the high expansion of accounting and reporting sections devoted to sustainability, ESG performance, and long-term value creation. The relevance of these topics was highlighted a vast number of times, e.g., in April 2024 in the editors' introduction to a new column in “The CPA Journal” focusing on sustainability accounting and reporting, as well as integrated reporting, environmental, social, and governance reporting; and related “green”

topics of interest to accounting professionals around the globe: “it seemed evident that Sustainability Accounting and Reporting would have to be considered because an entity's sustainability endeavours and outcomes also influenced stakeholders' decision-making in a significant way” (Niemotko, 2024). A full scope of research in accounting is linked to this area includes sustainable development accounting or accounting for sustainability socially and environmentally focused management accounting, accounting for social accountability/responsibility, accounting for ensuring human rights, accounting on providing green transition and saving of biodiversity, corporate social performance and social disclosure. Interestingly, many studies noted the high significance of management accounting for sustainability and the wide range of methods and measures applied there for monitoring, collecting data, creating information, internal communication and reporting and supporting decision-making [22].

Methodology

This writing aims to evaluate and engage different approaches presented in professional and academic studies to analyse the critical ways of accounting reconfiguration and define its image and strategy as a primary information practice. Since it might provoke significant changes in the accounting subject field and outcome, the accompanying research goal is to assess the existing methodology and paradigm's relevance and define possible steps to enhance or shift them.

Motivated by the challenges and opportunities of today's accounting, the paper is designed as theoretical research aimed at developing accounting theory. However, in the subject field under study, fresh theoretical ideas suppose applied effects and obvious practical recommendations. In accounting, it makes no sense to generate knowledge, regardless of its practical application. Thus, the study presents a combination of theoretical and applied approaches.

Since the accounting area could be defined as an intersection of multiple groups, institutions and marker actors' interests, conforming its theoretical elaboration to actual economic requests, and recently, the boundaries of the subject range have blurred, some combinations of explanatory and exploratory purposes exist in the study. The research design was built mainly on deductive reasoning for grounded theory and employs qualitative tools and scenarios to collect data from secondary sources, verify ideas and provide recommendations. Accounting theory and practice improvement are possible while understanding experiences, beliefs, and concepts, gaining in-depth knowledge and generating new ideas to solve issues. The data collection methods corresponding to the goal of the research are observations and literature review, including not only academic writings but also regulatory documents, frameworks and standards, professional internet platforms and databases with statistical data, analytical reviews and expert consultations, practical cases, materials of the conferences, educational programs and other open access data. Semantical and analytical approaches and methods of textual, thematic, discourse, logic, comparative and critical analyses were engaged in processing this data.

This study's theoretical background included Thomas Kuhn's theory of scientific revolutions and paradigms, Burrell and Morgan's epistemological classifications of theories in social science, and multiple related writings in accounting theory.

Since the paper was designed as a theoretical study, significantly based on exploring existing approaches and academic studies, the Results and Discussion sections can intersect at some points.

Results

Accounting as an Information Practice

Accounting changes result from new focuses on business and social goals. Economic evolution is now significantly defined by entities' long-term value creation ability and their rapid reaction to environmental changes to consider risks and refresh management approaches and business models. Strategic planning horizons expand, with time intervals of decision-making decreasing vastly and moving to the level of operational response for rapid environmental changes. This implies shifts in accounting information scope, object coverage, and relevant data provision timing. The social perspective is closely related to sustainability and responsible practices, which significantly shifted the rethinking of economic activities and performance.

Accounting is an information practice primarily allied to the economy and business but affects many layers of public life. It aims to explain social and economic reality and provide proper material to manage these phenomena, especially in non-stable environments. Therefore, accounting theoretical thinking and practical elaborations should be refreshed to match users' needs. Figure 3 shows newfound economic phenomena that primarily affect accounting.



Figure 3: Socio-Economic Trends Affecting Accounting (Source: Developed by the Author)

Developing a set of theoretical constructions that explain modifications to the accounting system makes sense. These theoretical constructions should address the following issues in particular: how accounting should be positioned in the global information environment and evaluated for potential new socio-economic challenges; how reality affects accounting theory, paradigm, subject matter, and methods; which directions should be taken for accounting upgrading; and what regulations for reshaping accounting methodology and infrastructure should be produced.

Even a brief review of academic writings illustrates that accounting develops theories and approaches based on the needs of practical users and merges methodology and efforts with linked practices, striving to provide users with the information they need. This means that accounting now transcends the boundaries and limitations usually inherent to it—only financial measurement, strict conservative methodology, documented data from internal sources, and constrained professional judgment.

Thus, the question is not whether to include non-financial information in the circle of data provided within accounting but how to reason about changes in the accounting paradigm, methodology, and conceptual area.

Accounting is predominantly an information practice that should be developed according to users' demands. Accounting theory explains, predicts, and trends the practice, providing its relevance and further significance. When appraising users' needs and measuring their satisfaction with accounting as an information source nowadays, one can define its main features and products required beyond the common-accepted financial information. It can be a wide range of indicators and disclosures.

Most items related to ESG information have never been considered objects of traditional accounting and cannot naturally fit into its methodology without significant changes in approaches. As shown in Figure 4, an accounting system must reflect, measure, and explain various non-financial business features.

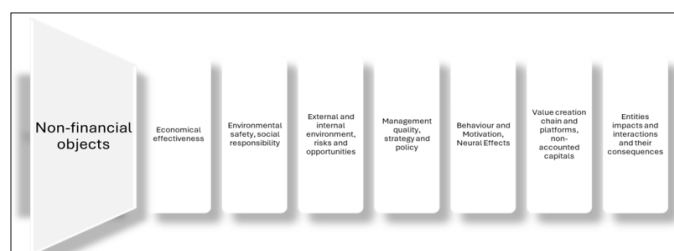


Figure 4: Non-Financial Objects in Accounting (Source: Developed by the Author)

Apart from non-financial information, one more key path of accounting transformation refers to the necessity of companies' quick reactions to external and internal changing environments. To provide companies' governance systems with immediate and even anticipatory responses to turbulent worlds involving high risks and uncertainty, high markets' volatility, and political and social challenges, accounting could be considered as informationally proactive and include a wide range of information that has never been included in traditional subjects. This information includes external data to assess risks, provide benchmarking, define alternative costs and benefits, evaluate the efficiency of different business models and business processes, appraise undefined before capitals and platforms for value creation, predict behaviour reaction to the reporting and disclosure, etc. This part of information belongs to management accounting, which has been developed for decades in a more flexible and less patterned manner, integrated with strategic management, institutional and behavioural economy, analysis, internal control, modelling and many other related practices. Even the approach to decision-making shifts from a well-structured bureaucratic system to a flexible and adaptive agile technology involving all the team members and employees in setting objectives and planning activities to reach goals within a short appraisal cycle. Thus, it means a different understanding of the accounting internal users' contour.

The growth of accounting's boundaries and scope is a crucial direction for its development. The distinctive characteristics of accounting's conceptual space must be wider than ingrained in society's understanding. The narrowness of the subject field provokes an overall underestimation of accounting as an information practice.

Accounting's conceptual area should include more than components of the re-production process, asset flow, and relationships related to their distribution. For example, it may involve the stakeholders' interests, social customs, interactions

with the environment, authority, governmental bodies, the market, and public organizations. Accounting could include probabilistic and temporal evaluations of value creation, entity attributes, actions, assets, and results (such as anthropogenic influences, social responsibility and equity, and contributions to sustainable societal growth) that cannot be valued in monetary terms. New accounting objects—such as the entire value chain and product life cycle, long-term effects, interactions, and the business model—and governance issues—such as strategy, stakeholder interaction, management team ethics and integrity, and management approaches—are created through sustainability semantics.

The business model, certain newly defined accounting objects semantically created in sustainability, the entire value chain and product life cycle, long-term effects, impacts, interactions, governance issues (stakeholders' perception, company's strategy, governance quality and management approaches, ethics).

In the case of contemporary accounting, we consider that the idea of a revolutionary paradigm shift is irrelevant nowadays. The current stage of accounting development demonstrates a multi-paradigm approach and pluralism of theoretical groundings. Moreover, a multitude of accounting theories can be applied within the paradigms that are generally recognised. Accounting theories need to be systematised for clear presence and understanding, but given their huge diversity, it is reasonable to do so by a few criteria. It is possible to use a few criteria for their more comparable division to clarify theories' systematics for the different schools' representatives. Firstly, they touch on two important methodological aspects of accounting:

- general scientific approaches chosen as a line of reasoning - deductive (from general to specific) or inductive (vice versa),
- and the approach used for theory verification: either descriptive, which is expanded to positive, or normative, which prescribes the accounting practices and policies to be followed, demonstrating what accounting should be (to describe accounting practices and explain why accounting procedures and policies are as they are).

Besides, some theories were allotted upon a different methodological criterion, which can be defined as a set of initial premises and methods used to know and prove accounting and reality correspondence—for example, logical or empirical proofs, individual studies and field works, phased hypotheses, language analogies, etc. (e.g., pragmatic, axiomatic, naturalistic, predictive, scientific, syntactic, semantic approach). The next criterion for theories taxonomy refers to the accounting content part, its domain, and the primary focus, targeting this practice. It could be fairness, social wealth, economic wealth, individual actors' and aggregate market's reaction to the information, the quality of decisions taken, the rationality of governance, human behaviour, and information interpretation. This criterion can consider the most volume since it embraces a whole bundle of accounting substantial features: main objective and results (fairness, wealth, performance, value creation, decision-making quality, etc.), conceptual domain and focuses, impact on the environment (economy, socius, humans, their groups and institutions, markets and their actors, politics, as well as subjects' information perceptions, behaviour, intentions, and actions). In other words, one could categorise theories while answering, "For what and about what accounting is?" This criterion is related to ontological insight and can include ethical, sociological, eclectic, economic, eventual, behavioural, human information processing, legitimacy, stakeholder, agency, institutional, decision makers, decision models, political economy,

public interest, capture, and trickle-down theories.

The third line of reasoning we can apply to comprehend the multitude of existing theories concerning accounting science is placed in a common frame of knowledge, logic, and the ground of scientific knowledge acquisition and evolution. This approach embraces the place of accounting knowledge relative to other sciences (in the social-humanitarian scope as applied economical, juridical, or even lingual discipline, or in the exact science scope as information one), specifically to getting and developing knowledge about reality and justification for their truth including the role of explorer.

Of course, the changes taking place should affect accounting methodology, not only on a general theoretical level, including norms, rules, conventions, postulates, theorems, and structure, all of which are essential components of the discipline but also concrete methods, principles and techniques of object recognition and evaluation, metrics that could be applied, logical construction for generalising, patterns, etc. For example, the idea of an integrated balance sheet and performance statement requires developing a full set of methods – from a balance model to double-entry and accounts.

Accounting needs to grow in several areas to fulfil current demands. These include being future- focused, having a flexible methodology, not being isolated as a practical and academic discipline, offering and integrating itself into proactive decision-making, significantly expanding the subject area's conceptual understanding through strategic repositioning in social practices, providing information on non-financial objects and qualitative aspects of business, and employing and involving external information. Thus, striving to reshape accounting following the stakeholders' actual demands, we consider drawing the main accounting features in the current landscape important. The main features of contemporary accounting could be defined as follows (figure 5).

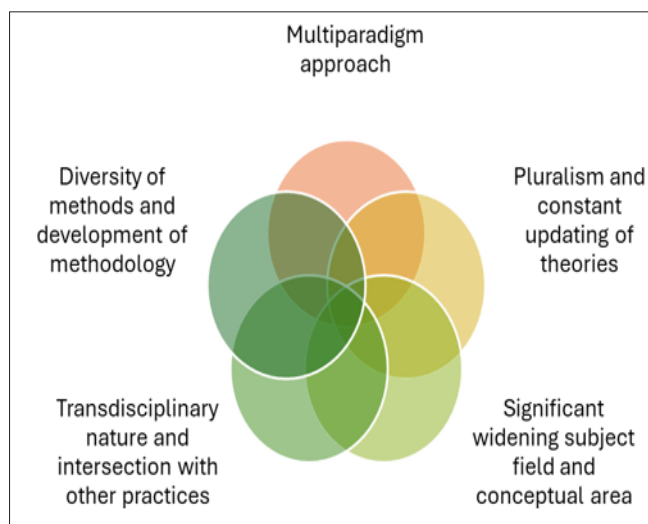


Figure 5: The Main Features of Contemporary Accounting (Source: Developed by the Author)

It is crucial to note that accounting renewal requires an integrated strategy with several interconnected components, all illustrated in Figure 6.

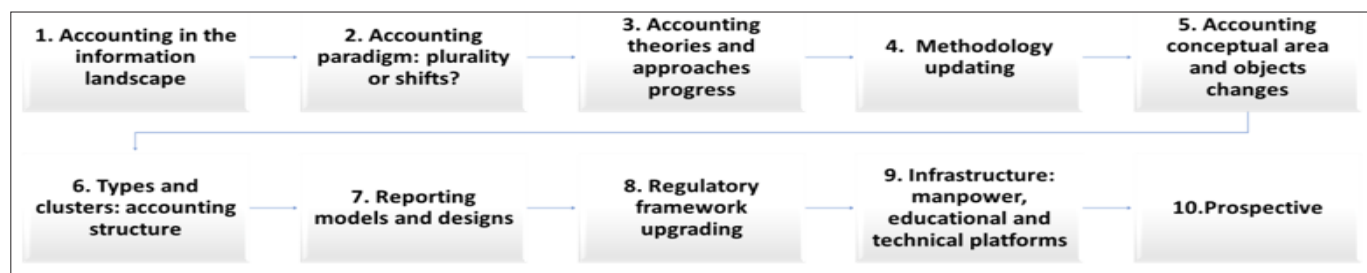


Figure 6: Accounting Updating Logic and Elements (Source: Developed by the Author)

In the rapidly evolving topic of sustainability accounting, multiple paradigms and disciplines come together to tackle issues such as human behaviour governance, social and ecological assessments, internal control, and management analytics and prediction. It might have a unique intradisciplinary structure or be more focused on providing data for the reporting and analysis systems. A few examples of accounting methods that are either newly created or already in use are impact accounting, value chain or life cycle costing, environmental, social, and material flow-cost accounting, ESG-management accounting, and economically focused accounting. By utilising state-of-the-art knowledge in sustainability sciences, ESG accounting expands its approach and starts to work with diverse non-financial data collected from several sources.

We can identify five vital appropriate elements of accounting for sustainability based on scholarly and real-world observations (Figure 7):

- Impact accounting provides information about how goods, organisations, the environment, society, and people's welfare are influenced by describing effect pathways and measuring effects.
- Summarising the business's contributions to the Sustainable Development Goals,
- Integrated accounting evaluates how well a business uses its financial, manufacturing, intellectual, human, social, and natural activities to create value while influencing external capital and environments,
- Keeping track of all the connections and actions (own, downstream, and downstream) the business makes to produce its goods, from the initial project to production, delivery, consumption, and end-of-life.

Accounting Primarily Focuses on the Interactions and Impacts an Entity Experiences in the Economic, Social, and Environmental Domains.

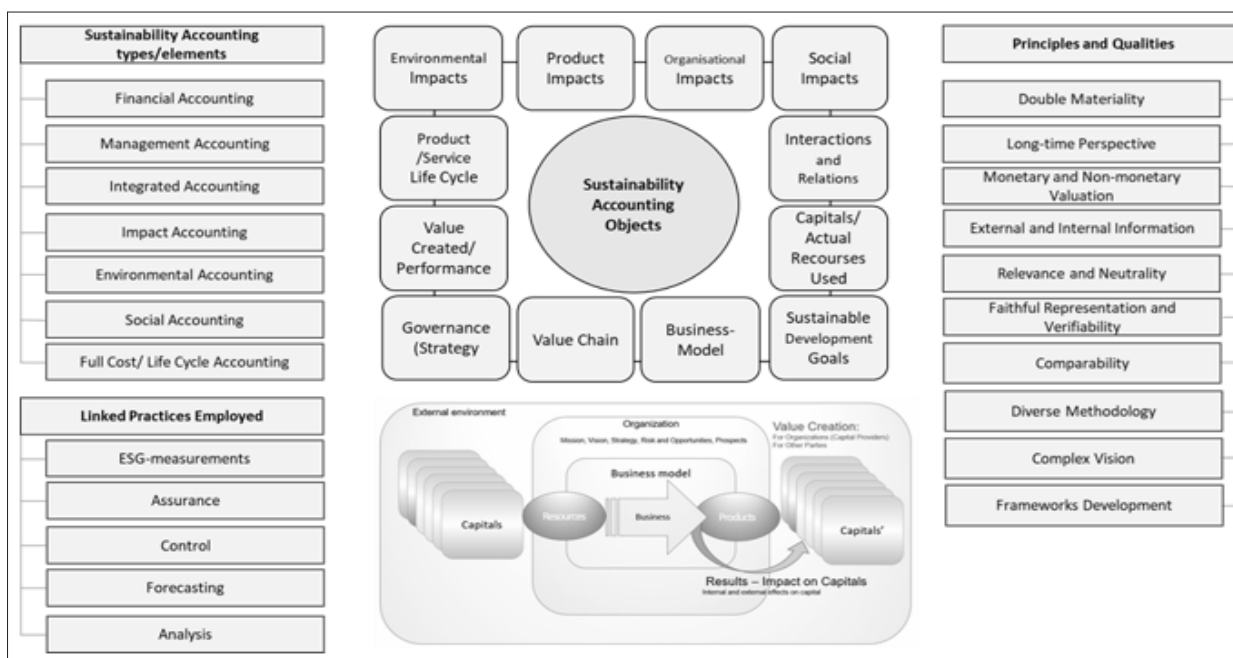


Figure 7: The main fitting components of accounting for sustainability (Source: Developed by the author)

Discussion

Accounting Paradigms

As presented by Thomas Kuhn, the paradigm notion means a “model for formulating problems and their solutions to the scientific community” for a certain period [23]. Its features mostly embrace the following matters: the subject to be studied, the main research questions, which methods should be used, and how the results could be interpreted. Despite several post-Kuhnian disputations his idea of the scientific revolution was widely adopted and continues to be used in a substantial part of scholars’ studies. Following Kuhn, the paradigm can be presumed to be the commonly adopted idea that forms the basis of scientific knowledge and invariant content during some historical period [24,25]. Being accepted by the scientific community, it contains a conceptual model for problem statements

and seeking practical solutions, and it is notable that to Kuhn, a paradigm includes a theory or even a group of theories. A paradigm shift occurs when deviations from the current theory become so significant that the existing one cannot describe and predict reality. This leads to a transition in bifurcation point to a new paradigm embracing laws, theoretical principles, and workable ways of using these laws and regulations.

Based on this theory and further studies, many researchers suppose the accounting problems point to the existing paradigm inadequacy and predetermine its replacement through a growing revolution.

While investigating the paradigm in accounting, several questions could arise. Firstly, one can problem with the place of paradigm in the system of scientific knowledge and interrelation with practice. Is practice being defined by existing paradigms, or, on the contrary, is the paradigm progress following practical activity as objectively existing phenomena? Also, considering paradigm a generally accepted idea in the all-academic community, can we agree on several paradigms' existence contemporaneously and question the concept of complete paradigm replacement with another via scientific revolution? questioned the appropriateness of using a paradigm revolution approach in accounting and argued for an alternative idea of research programs by I. Lakatos. Accounting scientific research proves that it is not obvious that another should completely replace one dominant idea prevailing in the professional community; they can coexist simultaneously. While paradigmatic boundaries and clustering, which result in the dominance of one paradigm in accounting research, have adverse effects on the accounting academy, paradigm heterogeneity expands the field of accounting research and advances related practices [26].

Paradigm implies that accounting as science is viewed from a certain angle. It relies on knowledge nature, subject understanding, or methodology aspects to explain connections with reality and provide the possibility to construct it (not only to supply information decision-needed but to affect the reaction economy and society on this information). To submit paradigms in a system, applying a few dimensions to understand their nature seems sensible. This could refer to epistemological, ontological, human nature, and methodological awareness, which suggested regarding social science paradigms taxonomy and are accepted by accounting academia. These insights include ontological (the nature of an object studied, accounting essence), epistemological (the knowledge construction, ground and nature, its place relative to others scientific pieces of knowledge), human nature (causes of human behaviour and relationship with environment), and methodological (approaches are used and methods of reality contemplation) accounting theoretical development concentrates only on ontological and epistemological bases [27,28].

Thus, numerous paradigm taxonomies were introduced, with different extents corresponding. The epistemological view is the most widespread for paradigms' systematic in accounting. From an epistemological outlook, most adopted by many scholars are the Functionalist paradigm (Positive Accounting Theory or Mainstream), the Interpretive paradigm (Constructionism) and the Critical paradigm [29-31]. In many initial taxonomies, the fourth research approach was Pragmatism [32]. The constructionist approach "considers the reality being mentally constructed, so the knowledge creation is based on interpretation of the social practices," in contrast to the positivist approach, which presumes the possibility of reality prediction and generalization of empirical experience without actor involvement [33,34]. Thus,

the Interpretive approach starts with the researcher's subjective assessments and interpretations based on interactions with the subject. The Critical perspective recognizes that actors are biased in their interpretations and understandings of events, making it impossible to evaluate existing objectivity with any reliability. As a result, the only way to study reality is by considering social contradictions and conflicts. According to a pragmatic approach appears pluralistic and practical-oriented, with eclectic methodology and understanding of objectives.

Two primary schools of accounting theory provide the foundation of the methodological aspect of accounting paradigms. The second explains accounting theory as an activity that explains and predicts accounting behaviour and events, according to [35,36]. On the other hand, the first is concerned with creating accounting assumptions, definitions, principles and concepts that underlie accounting rulemaking. As a result, the main difference between normative and descriptive approaches is what they aim to achieve. While descriptive theory studies phenomena to comprehend their nature, normative theory describes what the theory should be [37]. They also differ in theory development: normative methodology is a deductive process forming objectives and developing principles. At the same time, descriptive is an inductive process to record natural phenomena. When we explain and predict phenomena, it invokes a more positive methodology. There is a distinction made by several accounting theorists between normative and positive research methodology and normative and descriptive research methodology.

An ontological view of accounting paradigms taxonomy appears less exposit in academic writings and, at times, could be represented by the same classification. Ontology studies reality, its nature, elements, and its interrelations with accounting. This is mostly discourse of reality understanding, objects to be reflected on, or objects to be differently involved in accounting information proceeding and consumption. Describes seven paradigms: anthropological, conjunctural, eventual, procedural, idealized, informational, and behavioral [38]. Wells is the first to apply Kuhn's theory to accounting. Belkaoui (2004) relying on academic literature identify seven basic paradigms differing by accounting domain: 1) the anthropological (with accounting practices domain), 2) the behaviour-of-the-markets (with capital markets reaction domain), 3) the economic-event (with the prediction of economic events domain), 4) the decision-process (with decision theories and processes of individuals domain), 5) the ideal-income (with measurement of performance domain), 6) the information-economics (with an evaluation of information domain), 7) the user-behaviour (with information recipients' behaviour domain). Kovalyov's taxonomy featured six paradigms that align with the SATTA (Statement on Accounting Theory and Theory Acceptance): deductive of ideal income, decision theory, capital market, behavioural, and informational economics," as well as "inductive-anthropological. states that the ontological dimension operates with the set of images, notions, and their interrelations in a subject field, forming an object's nature. The two most widely used ontological paradigms are managerial, which supports decision-making in all socio-economic practices, and financial, which emphasizes financial information provided [39-41].

Nowadays, we're developing entirely new ideas about accounting fundamentals. For example, accounting as a social activity, a means of "engaging with and portraying social reality assumes that it may address issues like fair distribution of resources,

responsibility and openness in power structures, and similar topics. Accounting suggests a response to various individuals, organizations, and institutions, acknowledging their impact on practice and results multiplicity. It is seen as a socioeconomic institute in the institutional economy. When viewed via an ontological lens, it becomes a logical, multidisciplinary approach that covers institutional, social, linguistic, monetary, commercial, behavioural, psychological, and other behaviours. Innovative methods strongly emphasise the importance of socioeconomic factors that give rise to accounting's existence, substance, and related behaviours [42-44].

Recently, there has been a noticeable trend to increase the volume of accounting paradigm studies that are more debatable and open-ended. Recent scholarly works have highlighted a major shift in study diversity, blending paradigmatic perspectives and the quest for integrated ways. The main change here is from a mono-paradigm to a multi-paradigm perspective. According to Lopez, accounting studies aim to comprehend social phenomena to harmonize and standardize them, drawing from various ideological perspectives. The mono-paradigmatic approach in accounting theory is concerning since it leads to the "closed character and inadequate breadth of research within a single paradigm; genuine acknowledgement of heterogeneity could have numerous positive effects on accounting research".

This review gave us a reason to state that an existing pluralistic approach to accounting paradigms and the tendency of their coexistence and mutual enrichment demonstrates the ability of accounting theory to be developed in a non-revolutionary but evolutionary way to provide and predict practical queries.

Accounting Theories

The plurality of accounting theories could be described precisely by an abundance of views on their practical outcomes and consequences. However, even in pluralistic thought, the ambiguity and content discrepancy of critical scientific knowledge constructs in accounting theoretical background leads to difficulties in theory building, comparing, and evaluating.

The "theory" concept is not clear-cut and varies in different scientific research, which leads to some theoretical divergence, e.g., for what one scholar calls "paradigm", another uses the term "theory". Philosophically, theory, an essential attribute of any science, appears as a system of concepts in some knowledge field, giving a holistic idea for patterns and links of reality fragments. Broadly, theory is a set of ideas and beliefs, a scientific framework to explain, underpin, predict and develop practice. In a narrower sense, compared with the paradigm, theory can be seen as a more concrete notion, usually included in a paradigm because, unlike the last one, it could be verified and proved by empirical data and changed depending on it. One can develop and prove a few theories within the paradigm.

Currently, "there is no single widely accepted accounting theory" despite numerous attempts to develop one. According to "the lack of a comprehensive theory of accounting on which accounting research can be based is a crucial dilemma in accounting research." "Various accounting theories of a middle range have resulted from different approaches, although there is no single comprehensive theory of accounting".

There are two schools of thought in accounting theory. The first establishes a broad framework, guidelines, and practices to aid

practice and growth. As per Hendriksen's definition in 1977, accounting theory can be characterized as logical reasoning presented in the form of broad principles that offer a comprehensive framework for evaluating accounting practices and directing the creation of new practices and processes. A normative technique provides this. According to the second school embraces the goal of accounting theory, which is to offer "a basis for predicting and explaining accounting behaviour and events." It adheres to convention and uses descriptive or positive techniques to describe actual phenomena.

Deductive, inductive, ethical, sociological, economic, eclectic, and new approaches containing regulatory, event, behavioural, human information processing, predictive, and positive approaches are among the methods of accounting theory that Riahi-Belkaoui classified as theoretical and non-theoretical (practical or pragmatic). Theory can be seen from tax, legitimacy, ethical, economic, behavioural, and structural perspectives thanks to Hendriksen and Van Breda [45]. notes pragmatic, ethical, sociological, economic, situational, behavioural, and prognostic approaches to accounting and concepts of the information economy and managerial models [46]. has offered a taxonomy of accounting theories, divided into Personalistic and Materialistic according to the main subject: actors (their rights, outlooks, responsibility, and interests) vs. values (resources, means and their origins) [47]. Respective of these two groups, he distinguished tax, legal, ethical, and psychological (behavioural) sub-theories in the personalistic dimension from macroeconomic, microeconomic, and socio-corporative in materialistic metering. Inyang et al. suggested the taxonomy of accounting theory using pragmatic, syntactic, semantic, normative, positive, naturalistic, and scientific approaches.

Accounting perception as a language with the proper semantics (content), syntactic (logical structure), and pragmatics (influence) approach is the feasible discourse that supports theory classification [48]. considers accounting to be a linguistic system that may be characterized in two dimensions: semiotic (pattern of signs) and communicative (connective environment).

The diversity of theories reflects not only a long way of "accounting science" evolution but also enormous potential for the strategical positioning and flexibility of priorities, development of methodology, narratives and discourses to match real demand for accounting as a social practice—to ensure information and other outputs, to reach specific goals, to be an instrument of influence, power and resource allocation, motivation and social communication, decision-supporting, etc.

Accounting Transformation: Accounting for Sustainability

The accounting for sustainability issues gained prominence in the 1980s and underwent multiple phases of extensive scholarly discourse. They cover various topics regarding their theoretical framework, guiding principles and methods, scientific connections, and divisions within disciplines. Accounting research typically justifies new methods based on ideas recognized in the professional arena, considering that components of accounting practice have evolved. It explains novel accounting ideas and forms and connects them to relevant ESG-governance initiatives. Academic research on various policies, procedures, and practices related to sustainability accounting and accountability has a long history. Scholars such as contend that researchers must draw more broadly from the most recent insights offered by sustainability science if accounting practices are to develop in a way that can positively contribute towards sustainable development [49-55].

The interpretative research approach is a common foundation for academic papers in sustainable accounting. Stakeholder theory, legitimacy theory organizational change theoretical framing and control theory are all used in the theoretical background [56-62]. According to studies use a multi-disciplinary problem-focused rather than a siloed- disciplinary approach to research to comply with cutting-edge sustainability sciences (Ecosystem services, Environmental disclosure, and Corporate Social Responsibility) and gain new insights into long-term business efficiency. Sustainability accounting, social and environmental management accounting, human rights, biodiversity, and corporate social performance are all included in accounting. bibliometric analysis indicates that accounting types such as social and environmental accounting, environmental management accounting, environmentally focused accounting, carbon accounting, green accounting, integrated accounting, impact accounting, and others are frequently mentioned. Environmental management accounting and social and environmental accounting are popular schools [63-66].

Some corporate non-financial reports are relatively new, giving information regarding the measured impacts of business on human well-being. The idea is to include in the information reported to stakeholders that the company's activities impact the external world in a long-term perspective, and interactions with different actors along the value-creation chain belong to the schools of so-called Impact Accounting.

The concepts of the Harvard Business School's Impact-Weighted Accounts Initiative and related advancements are a good way to illustrate impact accounting. Together with the Value Balancing Alliance, the International Foundation for Valuing Impacts created the foundations of the Impact Accounting System approach in 2023. The impact accounting methodology was designed to harmonize two current approaches from the viewpoints of investors and entity management and to supplement financial reporting with information relevant to sustainability issues that may be used to make decisions.

This methodology uses monetary, quantitative, and qualitative methods to quantify and value changes in human well-being. It is a multidisciplinary, intricate strategy built on impact management, financial accounting, and disclosures about sustainability. This method aims to give corporate managers a clear picture of the advantages and disadvantages a company generates so they may make decisions about investments based on impact, return, and risk (IVFI, 2024). Before this publication, developments from the Harvard Business School were made possible by the Impact-Weighted Accounts effort, and each one merits recognition.

These include A Framework for Product Impact-Weighted Accounts, Accounting for Employment Impact at Scale Accounting for Organizational Employment Impact and A Conceptualization of Sub-Living Wages: Liabilities, Leverage, and Risk [67-70]. For example, the impact of the product was evaluated in several dimensions, including its reach (quantity and duration), customer usage (quality, affordability, and ability to choose), impact on the environment (pollutants and efficiency), and recyclability at the end of the product's life. The original methodology was recommended for each case. Instructions on the kinds of data required, where to find the data, and how to put it together to estimate impact and make it comparable were provided for each assessment dimension.

The Impact Economy Foundation's Impact-Weighted Accounts Framework, created in 2022 with two companion documents, offers a complete approach akin to this [71]. This framework provides a technique that explains and outlines the main impact accounting topics, including identification, measurement, aggregation, comparability, and presentation in Impact-Weighted Account statements.

The Value Reporting Foundation's six-capital classification—"financial, manufactured, intellectual, human, social, and natural capital" puts forth the idea that value creation for society and stakeholders is facilitated by an entity's impacts on the various types of capital involved [72]. This is the primary connection between this document and the concept of Integrated Reporting. As a result, this document is very important. The Integrated Profit and Loss Statement represents an exciting idea of impact statements, an Integrated Balance Sheet, and three derived statements: the Sustainability Statement for External Costs (act sustainably by operating within planetary and social boundaries), the Stakeholder Value Creation Statement (ability to create value for society and stakeholders), and the Sustainability Statement for SDG Contribution (contribute to the sustainable development according to SDGs).

The economy-emphasis accounting pathway is another approach that is developing nowadays. The topic of economically focused accounting is extremely intricate, encompassing both financial and management accounting. It can be defined as communicating with and supporting the management of direct economic consequences and interactions between an organization and the outside environment. According to it delineates an enclosure around the organization and documents, examines, and/or publishes reports on economic material interactions and impacts within or outside it [73]. It is necessary to "incorporate the direct interactions and impacts between the organization, the society in which it operates, and the natural environment" in addition to direct short-term economic interactions and impacts when accounting for sustainable development.

Studies by discuss the mix of economic and societal impact measurement issues and the design of proper methodology [74-76].

According to ESG accounting is a dynamic, fast-growing field of information that spans multiple disciplines and is linked to bound activities like human behaviour governance, social and ecological assessments, internal control, and management analytics and prediction. It could be organized or concentrated differently within the discipline to provide data for the reporting and analytical systems. It could include impact accounting, environmental accounting, social accounting, material flow-cost accounting, life cycle or value chain costing, ESG-management accounting, economically focused accounting, and other types of accounting currently in use or just getting started [77-83].

Conclusions

Inspired by specific conversations in scholarly and applied accounting domains, the increasing significance of non-financial data, ongoing obstacles to information practices in the contemporary socio- economic environment, knowledge gaps regarding the current state of accounting and the dangers of its dissolution or becoming a financial reporting provider exclusively, this paper aims to highlight the prospects of accounting development in the present and the future.

The vitality of accounting as an information practice is evident through various trends in its development. On a theoretical level, substantial research is dedicated to creating theories that meet the needs of accounting output users. This aims to make accounting an effective tool for socioeconomic impact, re-evaluating values, and striving for humanistic goals such as supporting human well-being, minimizing the negative effects of decisions, enhancing the environment, and promoting social progress. Theoretical resources analysis shows that accounting nowadays can be assessed as a multiparadigm and pluralistic in theories, interdisciplinary and flexible methodology, with a growing subject field and wide-scope conceptual domain.

Practically, accounting progresses by following the real requirements of business, society, and governance, providing products such as ESG reporting and sustainability disclosures, reflecting value creation and long-term stability, assessing ruling policies and businesses' responsibility, communicating with stakeholders to affect the reactions of individuals, institutes, groups, and markets, etc.

Accounting is pluralistic and flexible, reshaped in its positioning as a system of knowledge and as a subject field, employing new theoretical trends and upgrading methodology. It has a good prospect for complex development through volumizing academic studies and examining practical information and decision support needs.

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