Challenges and Evolutionary Logic of Basic Accounting Postulates in the Context of the Digital Economy

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Abstract: *The rise of the digital economy poses a systemic challenge to traditional fundamental accounting postulates. This paper aims to explore the deconstructive challenges faced by basic accounting postulates, their inherent evolutionary logic, and an adaptive theoretical framework. The research reveals the fundamental impact of the digital economy on the boundaries of the accounting entity, the going concern and periodicity assumptions, and the monetary unit principle. Building on this analysis, the paper discusses the theoretical necessity of an evolution from static entities to dynamic value-network entities, from fixed periods to flexible temporal frameworks, and from a single monetary unit of measurement to comprehensive value measurement. Ultimately, the paper constructs an innovative postulational framework that integrates a multidimensional and dynamic entity definition, a combination of flexible periods and real-time reporting, and multiple value measurement and presentation methods. This is intended to provide a foundational direction for the reconstruction of accounting theory in the era of the digital economy.*

Keywords: *Digital Economy; Basic Accounting Postulates; Value-Network Entity; Flexible Periods; Multiple Value Measurement*

Introduction

Fundamental accounting postulates serve as the logical starting point of the financial accounting conceptual framework, and their validity is rooted in a specific economic environment. As the digital economy emerges as the dominant economic form, its distinctive characteristics-such as network-centricity, data-driven operations, agility, and ecosystem-based structures-pose severe tests to the explanatory power and applicability of traditional accounting postulates, which are grounded in the stability, tangibility, and monetizability premises of the industrial age. Conducting a systematic examination and theoretical reconstruction of postulates, including the accounting entity, going concern, accounting period, and monetary measurement, is not only an intrinsic requirement for the self-development of accounting theory. More critically, it is an essential necessity to ensure that accounting information can continue to faithfully and relevantly reflect value-creation activities within the digital economy, thereby maintaining its core function of decision-usefulness. The significance and necessity of this research lie in its aim to clarify the challenges, articulate the evolutionary logic, and attempt to construct a forward-looking framework. This endeavor seeks to promote a responsive evolution of fundamental accounting theory to shifts in the economic paradigm, laying the necessary conceptual groundwork for the subsequent development of accounting standards and the innovation of accounting information systems.

1. Deconstructive Challenges Posed by the Digital Economy to Traditional Basic Accounting Postulates

1.1 The Blurring of Boundaries and Virtualization Impact on the Accounting Entity Postulate

The digital economy has given rise to an operational paradigm centered on platform-based enterprises, virtual firms, and temporary project alliances, which fundamentally deconstructs the clear boundaries assumed by the traditional accounting entity postulate. Traditionally, an accounting entity is regarded as an economic unit that can be clearly identified, independently bears rights and obligations, and is strictly distinguished from other entities[1]. However, economic activities within digital networks

are often completed through the collaboration of multiple legal entities, algorithms, and user communities. The processes of value creation and exchange transcend the boundaries of any single organization. For instance, the operation and management of distributed autonomous organizations based on smart contracts do not rely on traditional corporate governance structures. The ownership of assets and equity is defined within dynamic network protocols, making it difficult to define a stable and closed accounting boundary from an accounting perspective.

This ambiguity and virtualization directly undermine the foundation of accounting recognition, measurement, and reporting. When entity boundaries become dynamically variable, the attribution of assets and liabilities loses its stable premise, and the matching of revenues and expenses may become contentious among the multiple participating collaborative nodes. Consequently, the identification criteria for core accounting elements become ambiguous, and financial statements can no longer fully reflect the financial position and operating results of an entity with clearly defined boundaries. The function of accounting information in reflecting economic substance is thereby weakened. Information users find it difficult to assess the true performance and risks of specific resource combinations based on these statements, posing a severe challenge to the integrity of the traditional financial reporting system.

1.2 The Dynamism Dilemma of the Going Concern and Accounting Period Postulates

The going concern postulate in traditional accounting assumes an indefinite continuation of the business entity, while the accounting period postulate artificially divides this timeline to provide periodic reports. In the digital economy, the iteration speed of business models has accelerated significantly, compressing all stages of the enterprise lifecycle. A large number of emerging operations exist in the form of short-term projects, rapid experimentation, and agile iteration. This challenges the inherent logical foundation of accounting methods built on the expectation of long-term stable operation, such as historical cost measurement, the depreciation and amortization of long-term assets, and the inter-period allocation of related costs and expenses. An enterprise may temporarily assemble resources for a specific digital product or market opportunity and dissolve quickly upon achieving its objective or upon failure, giving its existence a pronounced phasic or project-based character.

The periodic, regular financial reporting model reveals a significant lag when dealing with highly dynamic economic activities. Information disclosure based on fixed annual or quarterly cycles struggles to capture the instantaneous changes in key elements such as the value of digital assets, user data resources, and technological advantages. A contradiction arises between the volatility of business activities and the static, periodic nature of financial reports, leading to a decline in the relevance of accounting information[2]. Profit data calculated based on past fixed periods may fail to effectively predict an enterprise's future cash flow generation capacity. This is especially true when core value drivers are evolving rapidly, significantly weakening the decision-usefulness of earnings information produced under the accounting period convention.

1.3 Limitations of the Monetary Measurement Postulate Regarding Non-Monetary Value Information

The monetary measurement postulate requires that accounting information be quantitatively reflected using a uniform monetary unit, with the implicit premise that major economic resources and their changes can be monetized. The core production factors of the digital economy, such as data assets, user relationship networks, algorithmic models, intellectual property, and the ecosystem value of digital platforms, involve complex processes of generation, accumulation, and operational mechanisms. They often lack active market transaction prices, making reliable and precise monetary measurement difficult. Yet, these elements constitute the key to the core competitiveness and future value potential of entities in the digital economy. Due to its strict monetary measurement constraint, the traditional accounting system cannot effectively recognize and measure these resources within the financial statements. This results in a severe deviation between the book value and the market value of an enterprise, creating a significant gap in the portrayal of the entity's true economic resources within the financial reports.

An over-reliance on monetary measurement leads to a structural deficiency in how the accounting information system reflects value information. Many critical factors influencing decisions, such as data quality, user activity, technological iteration capability, and network effect strength, are inherently non-financial and non-monetizable. Although difficult to quantify in monetary terms, this information is crucial for assessing an entity's operational efficiency, risk profile, and growth prospects. Adhering

rigidly to the monetary measurement principle, the current financial reporting system is compelled to exclude these significant value drivers from the core statements, limiting their disclosure to qualitative descriptions in notes or other supplementary sections. Consequently, this undermines the ability of accounting information to provide comprehensive, forward-looking signals for resource allocation decisions and reduces the overall informational content and decision relevance of the accounting reporting system.

2. The Internal Logic and Theoretical Pathway for the Evolution of Basic Accounting Postulates

2.1 The Cognitive Shift from Entity-Based to Value-Network-Based Entity

The theoretical foundation of the traditional accounting entity postulate originates from the economic organizational forms of the industrial age, with its core being the treatment of a legally independent and physically bounded enterprise as an indivisible accounting unit. This perspective confines economic activities within the boundaries of the organization, positioning the function of the accounting information system as reflecting the resource flows and operating results of this closed entity. The permeation of digital technologies and the prominence of network effects have shifted the core logic of value creation from internalized production to cross-entity collaboration and interaction. The networked nature of economic activities necessitates a fundamental cognitive shift in accounting theory-moving the focus from the "entity itself" to portraying the "value-creation network in which the entity participates and leads." This shift does not deny the existence of the legal entity but emphasizes that the focus of accounting reflection should expand to capture the networked resources and relationships upon which the entity relies for survival, or over which it exercises control or significant influence[3].

The conceptual construction of a value-network-based entity implies that the criteria for defining an accounting entity must shift from relying solely on legal form to analyzing substantive value control and benefit flows. The entity boundary gains a degree of elasticity and situational dependency, with its scope potentially adjusting dynamically in response to changes in key contracts, data flows, or algorithmic protocols. Consequently, the scope of accounting recognition extends to encompass external resources and partnership relationships that, although not legally owned, hold systemic importance for the entity's value generation. These must be incorporated into the accounting information system in an appropriate manner. The logical core of this evolutionary path is that accounting information must capture the actual structure of value creation rather than adhere to an outdated organizational form, ensuring the information faithfully maps the entity's true position and risk exposure within the digital economic ecosystem.

2.2 The Temporal Fusion Logic of Going Concern and Project Periodicity

The going concern postulate provides a stable temporal expectation for accrual accounting, the historical cost principle, and the distinction between capital and revenue expenditures. The agility and the pace of disruptive innovation inherent in the digital economy have given rise to a multitude of business models and project-based operational units with defined lifecycles. This necessitates that accounting theory integrate two seemingly contradictory temporal perspectives within its postulates regarding time: a forward-looking expectation of long-term continuity and a project periodicity based on specific tasks or technological windows. The internal logic of this evolution is not to simply replace the former with the latter, but to construct a layered or flexible temporal framework capable of simultaneously accommodating economic activities with different continuity characteristics. The going concern postulate remains applicable for core platform or infrastructure businesses; whereas for rapidly iterating product lines or temporary project alliances, the project cycle needs to be introduced as a supplementary basis for the accounting period.

This temporal fusion logic profoundly influences the theoretical design of asset valuation, revenue recognition, and reporting frequency. The criteria for the recognition and amortization of long-term assets versus project-specific assets may need to be distinguished. The timing of revenue recognition may need to be aligned with project milestones or value delivery points rather than solely based on sales contract terms. More fundamentally, it challenges the traditional doctrine that accounting periods must be uniform and fixed, promoting theoretical exploration into reporting cycle flexibility, such as triggered reporting or disclosure driven by key events. Its theoretical pathway points towards a more inclusive system of temporal postulates. This system would organize the generation and aggregation of

accounting information based on the inherent temporal characteristics of economic activities, rather than external calendar time, thereby enhancing the alignment between accounting information and economic substance in the temporal dimension[4].

2.3 The Inevitability of Expanding from Monetary Measurement to Comprehensive Value Measurement

The advantages of uniformity and additivity inherent in the monetary measurement postulate proved highly efficient for the industrial economy dominated by homogeneous physical assets. However, when the digital economy elevates highly heterogeneous elements such as data, algorithms, user relationships, and digital ecosystems to the forefront of value creation, the limitations of purely monetary measurement become an informational bottleneck. The value of these new elements is often multidimensional, context-dependent, and future-oriented, making it difficult to measure precisely and without bias using a single monetary scale. The evolutionary logic of accounting measurement theory necessarily points toward systematically incorporating non-monetary, comprehensive value measurement information while maintaining the core status of monetary measurement. This expansion does not abandon the pursuit of objectivity and reliability in measurement. Instead, it acknowledges the diverse manifestations of value and seeks to establish a richer set of measurement indicators capable of capturing key value drivers.

The theoretical pathway for expanding comprehensive value measurement involves re-examining the boundaries of accounting information and the spectrum of measurement attributes. It necessitates distinguishing between "recognition and measurement within the statements" and "measurement for disclosure outside the statements." For digital assets that meet specific stringent criteria (such as control and the reliable measurement of future economic benefits), there is a need to explore the possibility of measuring them within the statements using monetary terms or non-monetary technical characteristics. For a multitude of value elements that are difficult to monetize yet crucial, it is essential to develop standardized non-financial measurement and reporting frameworks to serve as an integral supplement to the financial statements. The inherent necessity of this evolution is rooted in the fundamental objective of accounting's decision-usefulness. When critical decision-making information largely exists outside the monetary system, the informational content and decision relevance of the accounting information system will continue to diminish if it rigidly adheres to a single monetary dimension. Therefore, constructing a comprehensive reporting system where monetary information and non-monetary value information corroborate and complement each other becomes an inevitable direction for accounting measurement theory to adapt to the complexities of the digital economy.

3. Constructing an Innovative Framework of Basic Accounting Postulates Adapted to the Digital Economy

3.1 The Theoretical Connotation and Defining Criteria of the Multidimensional Dynamic Entity Postulate

The proposal of the Multidimensional Dynamic Entity Postulate aims to address the core challenges of blurred boundaries and structural virtualization of value-creating units in the digital economy. Its theoretical connotation lies in that the accounting entity is no longer pre-defined as a static, closed legal or economic entity. Instead, it is viewed as a dynamically adjustable, networked set of value-creating activities constructed around a core controlling power or key resources. This postulate acknowledges that an entity possesses multiple dimensions, such as a legal entity dimension defined by legal control rights, a functional entity dimension defined by the scope of data and algorithmic control, and an economic interest entity dimension defined by cash flow and risk attribution. These dimensions may overlap or diverge at specific points in time. The accounting information system needs to select and define the most relevant entity dimension for accounting and reporting based on specific reporting objectives[5].

The core criterion for defining this dynamic entity shifts from traditional legal ownership to substantive control and value integration capability. The judgment criteria can focus on the exclusive or dominant access and control over key digital assets (such as core datasets, proprietary algorithms, platform interfaces), as well as the capacity to arrange the primary flow of economic benefits and the assumption of risks within networked transactions. When a set of activities shares unified digital infrastructure, is governed by the same logic of smart contracts, or collectively pursues an identifiable

value objective, it may be identified as a single accounting entity for consolidated or integrated reporting, even if the participants involve multiple legal entities. This defining criterion emphasizes economic substance over legal form, requiring accounting judgment to delve into an analysis of the rights and benefit flows underlying the technological architecture and protocol arrangements.

3.2 A Temporal Postulate Model Integrating Flexible Periods and Real-time Reporting

The temporal postulate model integrating flexible periods and real-time reporting aims to address the disconnect between fixed accounting periods and the dynamic pace of business. The flexible period postulate acknowledges that economic activities of different natures have varying value realization cycles, allowing for the division of reporting periods based on changes in business models, project phases, or key performance drivers. For instance, in managing the lifecycle of a digital product, the accounting period might align with its major development, launch, iteration, and phase-out stages, rather than mechanically adhering to calendar quarters. This requires establishing a mechanism where the aggregation and evaluation of financial information are triggered by business events or significant state changes, thereby aligning the generation cycle of accounting information with the inherent business rhythm[6].

The introduction of the real-time reporting element represents a direct response to the demand for information timeliness. It does not replace periodic reporting but serves as a critical supplement, enabling the continuous or event-driven disclosure of specific types of information within an entity's financial position and operating results that have high timeliness requirements. This model relies on highly automated accounting information systems capable of real-time capture, measurement, and release of key transactions (such as bulk transfers of digital assets), important performance indicators (such as real-time user data), or changes in risk thresholds. The flexible period model provides structured stage summaries, while real-time reporting ensures the zero-delay transmission of extremely important information. Together, they constitute a temporal reporting system that can both deliver a systematic, staged overview and capture critical real-time signals.

3.3 A Comprehensive Postulational System for Multi-Dimensional Value Information Measurement and Reporting

The comprehensive postulational system for multi-dimensional value information measurement and reporting transcends the limitations of a single monetary unit of measurement. It advocates that the accounting information system should integrate various measurement attributes and information types to comprehensively reflect an entity's value creation capacity. The core of this system lies in constructing a tiered framework for measurement and reporting. At the level of recognition within the financial statements, while maintaining the dominance of monetary measurement, it proposes a limited expansion of measurement attributes. For instance, it suggests employing fair value measurement for digital assets with active markets, and exploring the use of technical performance indicators to assist in cost allocation for digital resources with specific purposes. More crucially, it formally establishes the necessary status of non-monetized value information within accounting reports. This requires the systematic identification, measurement (in forms such as physical units, ratios, or indices), and reporting of key resources and performance drivers that are vital for assessing the entity's future prospects.

This comprehensive postulational system necessitates the establishment of a standardized framework for non-financial information reporting, ensuring its comparability, reliability, and relevance alongside financial statement information. The framework must clearly define the multi-dimensional value aspects to be reported, such as the scale and quality of data assets, algorithmic performance metrics, the activity and health of the digital platform ecosystem, and the reserve and stability of key talent, while also standardizing their measurement methods and disclosure formats. Ultimately, financial reporting will evolve into an integrated information package that combines monetized financial position and operating results with standardized non-monetized value drivers. Monetary information provides a unified summary of value and historical benchmarks, whereas non-monetary information reveals the sources and sustainability of value creation. These two components interrelate and corroborate each other, collectively serving the economic decision-making needs of information users.

Conclusion

This study systematically elaborates on the deconstructive impact of the digital economy on traditional basic accounting postulates across three dimensions: entity boundaries, the temporal dimension, and the measurement scale. It demonstrates the inherent logic of their necessary evolution from a closed entity to an open value network, from fixed periods to flexible integration, and from a singular monetary focus to multidimensional comprehensiveness. Furthermore, the study preliminarily constructs an innovative postulational framework comprising a Multidimensional Dynamic Entity, a flexible temporal model, and a comprehensive system for value measurement and reporting. This framework does not represent a complete negation of tradition but is rather a theoretical expansion and adaptive reconstruction based on changes in economic substance. Future research directions could focus on the detailed design of specific recognition, measurement, and reporting rules under this innovative framework, explore the technical pathways for emerging digital technologies (such as distributed ledgers and smart contracts) in supporting the implementation of the new postulates, and assess the new balances and methods for achieving accounting information quality characteristics (such as relevance, reliability, and comparability) within the new framework. This will promote the profound evolution and practical application of the accounting theoretical system in the era of the digital economy.

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