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Issues of measuring and accounting for social capital in digitalization

The research paper provides a comprehensive analysis of the challenges in measuring and accounting for social capital in the context of digitalization. Social capital, encompassing social networks, trust, and social norms, plays a key role in creating added value and ensuring the sustainable development of both business and society. In terms of intangible nature of social capital, its assessment and representation in accounting practices remain complex, especially in the context of rapid transformations driven by digital technologies. The article examines the impact of digitalization on social capital, highlighting both positive aspects, such as increased accessibility to social networks and new opportunities for collective action, and risks, including the creation of weak ties and information polarization. Recommendations from the International Integrated Reporting Council (IIRC) and A4S guidelines are explored, emphasizing the importance of considering social capital as an integral component of performance measurement for enterprises. A proposed three-step approach to social capital assessment is presented, encompassing corporate, project, and product levels, ensuring a comprehensive evaluation of its impact on the value chain. The study also examines the influence of digital platforms on trust-building processes, approaches to measuring community engagement, and opportunities for supporting broad social networks. The research paper underscores that the integration of social capital into organizational processes contributes to a deeper understanding of value creation sources, enhances corporate reputation, strengthens relationships with stakeholders, and opens new market opportunities. Alongside the benefits of digitalization, social capital also faces new challenges, particularly the need to incorporate both qualitative and quantitative metrics to reflect its significance in reporting. The research emphasizes the importance of developing adaptive methods for assessing social capital, considering the specificities of the digital environment and the evolving nature of social interactions.

***Keywords:** social capital; accounting; sustainable development; digitalization; intangible assets.*

Statement of the problem. The relevance of the study of measuring social capital is due to its intangible and multifaceted nature, which makes it difficult to quantify this resource. Social capital is an important element of creating added value for a company, ensuring its efficient operation and sustainable development, but is often ignored in the accounting system. The absence of a universal standard for measuring social capital creates difficulties in assessing its impact on organisations' operations, which limits effective management and strategic planning.

Social capital consists of social norms, networks of interaction, trust and connections between community members, which makes it difficult to measure due to the lack of clear boundaries and dependence on cultural and socio-economic characteristics. It contributes not only to economic development, but also to social stability, conflict reduction and increased public trust.

There are many approaches to assessing social capital, but each has its limitations and needs to be adapted to specific conditions. A combination of qualitative and quantitative methods, such as assessing social ties, trust and participation in community initiatives, allows for a broader understanding of the level of social capital in an organisation or community. The International Integrated Reporting Council (IIRC) has recognised social capital as one of the six key resources required for sustainable development of companies. The absence of its accounting in financial statements leads to an underestimation of its role in creating added value, which negatively affects strategic decisions. Therefore, it is necessary to develop new approaches and methods of measuring social capital that will ensure its proper reflection in the accounting system. Integration of social capital into the accounting system will increase the transparency of enterprises and help to formulate effective development strategies, taking into account both economic and social aspects. This will help strengthen companies' market positions, increase their innovation capacity and resilience to external challenges.

Thus, the relevance of the study of measuring social capital lies in the need to find new approaches to its assessment and integration into the accounting system, which will facilitate the adoption of sound management decisions and sustainable development of enterprises.

Analysis of research and publications. The concept of social capital encompasses research in sociology, economics, and political science. Pierre Bourdieu and Robert Putnam offered a fundamental understanding of the nature and significance of social capital. Bourdieu (1986) proposed the role of social capital as a form of resource embedded in social networks that affects individuals' access to economic and cultural capital [2]. Putnam R.

studied the public aspects of social capital, namely the importance of civic engagement networks in public welfare and democratic decision-making [11].

The study by Wellman et al [12] examines how the Internet affects social relationships, noting that digital platforms can promote both connecting and unifying social capital by forming groups with different or similar backgrounds. Lampe and Ellison [8] analysed the role of social media sites in increasing social capital, especially among young people who use these platforms to maintain existing relationships and create new ones. However, there is still a debate about the comparison of digital interactions with traditional, face-to-face interactions in the formation of social capital. Some studies indicate that digital networks create weaker ties that may lack reliability [4]. Hampton and Wellman [6] found results where online and offline interactions complement each other, and digital tools increase the ability to maintain broad social networks that might not otherwise exist. Gruateng K. [5] developed recommendations for quantifying social capital, combining both qualitative and quantitative approaches. However, there is still no consensus on a universal method of measurement. The contextual nature of social capital makes it difficult to apply standardised indicators. This problem is further compounded when trying to reflect social capital in the accounting system. Moritsen J. and Train S. [9] explain the limitations of traditional accounting practices in covering the qualitative aspects of social relations.

Thus, while digitalisation opens up new opportunities for creating and maintaining social capital, it also poses unique challenges that require careful consideration. The evolving nature of social interactions in the digital age requires adaptive and accurate approaches to measuring and understanding social capital, especially in terms of its implications for economic and societal development.

The article is aimed at studying approaches to accounting for social capital in the modern business environment, in particular in the context of digitalisation and the growing role of intangible assets.

Presentation of the main material. To measure social capital, it is customary to use its 3 components: networks, trust, and social norms (cohesion) [11]. For example, the World Bank's methodology for quantifying social capital is based on the interaction of these dimensions, creating opportunities for the development of social norms, networks and trust [13]. In today's increasingly digital world, digitalisation processes have a significant impact on each of these dimensions, changing the ways in which actors communicate, interact and collaborate.

Social capital starts with networks that connect individuals and groups. Traditionally, networks were formed through personal interaction, geographic proximity or family ties. However, digitalisation has changed the concept of networks, making them more accessible and inclusive. Social media platforms, professional networks such as LinkedIn, and community forums create virtual spaces where people can easily connect based on shared interests, goals, or professions, regardless of geographic location. Digital tools allow people to belong to multiple intersecting networks that span different social, economic and cultural backgrounds. This unprecedented connectivity can increase social capital by providing greater access to resources, information and support systems. However, digitalisation also creates a risk of shallow, weak ties. Therefore, it is important to assess whether these new forms of networks are as effective in building and developing social capital over the long term as traditional ones.

According to R.Putnam, the next element of social capital is trust [11]. It promotes cooperation and reduces transaction costs in social and economic activities. In the context of digitalisation, trust takes on new dimensions. Online platforms provide mechanisms for building trust, such as reviews, ratings, and digital contracts, which minimise the negative impact of anonymity or low levels of personal connection that often characterise digital interactions. Platforms such as eBay, Airbnb, and Uber, for example, use peer reviews and rating systems to create a form of digital trust that allows strangers to transact or interact with confidence. However, digital trust has to address new challenges: the spread of disinformation, identity theft, online fraud, etc. Building trust that can strengthen online relationships requires effective moderation, transparency, and the development of reliable security measures.

When analysing the impact of digitalisation on the formation and development of social capital, the most noticeable changes are in the approaches to communication and collective action. Effective communication channels are important at both the micro and macro levels, as they are a necessary component of social capital. Digital platforms have changed the way we communicate, offering instant, multi-channel options that were not possible before. Messaging apps, video calls and social media allow for continuous real-time communication across vast distances, thus facilitating the exchange of ideas, information, management and business. Collective action, in its turn, refers to the ability of individuals or groups to work towards common goals. Digitalisation has transformed approaches to mobilising and organising collective action. Modern digital tools reduce the cost of coordination and allow for the rapid dissemination of information, enabling large groups to form and act within a short period of time.

However, there is also a negative impact of digitalisation on social capital. For example, in cases where «filter bubbles» are created, where participants united by common interests, ideas or responsibilities are exposed to information that reinforces their existing beliefs. These filters are often based on past experiences and result in a narrow flow of information. This deepens divisions and creates polarised communities. Such an environment negatively affects the expansion of the social network of partnerships and makes it difficult for social norms to operate.

The digital environment has fundamentally altered the dynamics of social capital, changing how it is generated, used and reported in the broader context of intangible assets. Social capital, which is characterised by trust, networks and reciprocity within and between communities, is increasingly intertwined with digital platforms, affecting both its measurement and its integration into organisational reporting systems.

The A4S Social Capital Accounting Guidelines [1] emphasise the importance of recognising social capital as an integral component of measuring business performance. Social capital includes the value created through partnerships and networks that a business develops among stakeholders at different levels. This definition is consistent with the classical scientific approaches of R.Putnam and P.Bourdieu [11, 2], where trust, partnership and collective action are key dimensions of social capital. In the context of accounting, the categorisation of social capital improves the quality of information through the full disclosure of sources of value added.

The A4S recommendations also point out that measuring social capital is a complex process. They propose a materiality-based approach, where companies identify and prioritise the most influential aspects of social capital for stakeholders and business performance. Among the indicators for assessing social capital are the trust index, the level of community involvement and employee satisfaction. It is worth noting that the proposed approach takes into account the scientific approaches of J.Coleman, J.Nahapet, and S.Goshal [3, 10], who propose similar quantitative measures for assessing intangible resources that form social capital.

Digitalisation has expanded the reach and influence of social capital by enabling rapid network formation and expansion. Platforms such as social media, professional networking sites, and digital forums facilitate the formation of social capital (close, trust-based relationships). Digital tools and platforms provide new opportunities for community building, collective action, and information sharing, thereby enhancing the value created through social connections. In particular, for businesses, the digital environment can provide real-time interaction with stakeholders, which has a positive impact on transparency, trust and mutual benefit. However, it is necessary to take into account the peculiarities of digital social networks. The shift from physical to virtual space often requires a reassessment of how social capital is measured and reported. The intangible nature of social capital becomes more pronounced in the digital environment.

Taking nto consideration the complex nature of social capital, disclosure of information about it should take into account both qualitative narratives and quantitative, monetary estimates. Qualitative narratives should provide a detailed understanding of social dynamics, especially for those processes where numerical data is scarce. Quantitative indicators should provide information for comparing and tracking changes in social capital over time, providing a more standardised approach to measurement. Monetary valuation remains the most controversial, as it requires the presentation of relative and social benefits in financial terms. The complexity of monetary valuation of social capital, in particular due to a significant level of uncertainty, is described in the work of P.Bourdieu [2]. In the digital environment, companies can determine the value of social capital by using metrics, such as the financial impact of customer loyalty programmes or the economic value of a brand, the value of pages on social media.

The approach proposed by A4S [1] for assessing social capital (figure 1) is defined by a structured three-step process. The purpose of each step is to ensure that the assessment takes into account relevant organisational arrangements, stakeholders and timeframes. It is expected that the proposed process will facilitate a systematic approach to assessing the impacts and dependencies of social capital in a company's value chain.

The first step involves determining the type of assessment, which classifies decisions into three primary levels: corporate, project, and product. The classification ensures that the assessment is aligned with the decision-making context and captures the appropriate scale of impact. The second step focuses on identifying the implications and dependencies of social capital in the value chain. This step assesses the risks and opportunities associated with social capital and identifies areas where the company has influence or control. The goal is to prioritise areas with the most significant impact on stakeholders and the business itself. The third step involves defining a temporal scope of the assessment to ensure relevance for decision-making.

The framework focuses on clarity and precision in setting boundaries for social capital assessments. By defining the types of decisions, stages of the value chain and timeframes, companies can ensure that the direct and indirect impacts of social capital are comprehensively covered. The methodology also emphasises the importance of tailoring the assessment to the specific organisational context, which has a significant impact on strategic planning and stakeholder engagement.

Current reporting practices and academic approaches agree on the need to integrate social capital accounting into core organizational processes. Ensuring this integration ensures that social capital issues are not separated from sustainability or human resources functions, but are included in financial reports, strategic planning, and investment evaluation. It is the integrated approach that contributes to informed decision-making, consistent with approaches to holistic capital management [7]. Thus, the strategic implications of social capital accounting are significant in management decision-making. Businesses can use social capital indicators to improve their reputation, strengthen relationships with stakeholders, and identify new market opportunities.

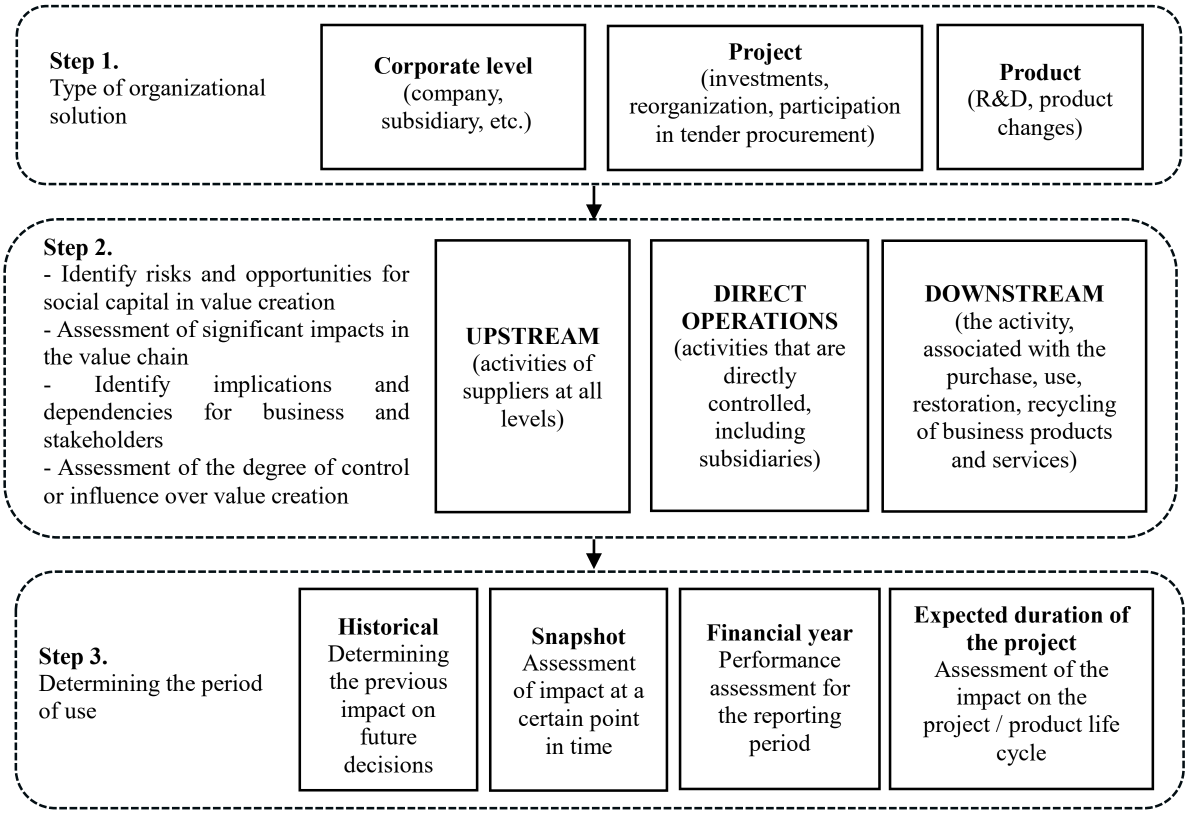

Figure 1. The process of assessing social capital using the A4S approach (Based on [1])

Conclusions and prospects for further research. The assessment and integration of social capital into organizational frameworks is a key advancement in accounting and management practices, especially in the context of the digital environment and its transformational impact. Social capital, which encompasses networks, norms, and trust, is increasingly recognized as a key intangible asset that affects business performance and social values. The study emphasizes the importance of defining clear boundaries to assess the impact of social capital in the value chain. A structured approach that includes identifying the types of organizational decisions, analyzing impacts in first- and lower-level activities, and defining appropriate timeframes ensures that assessments are comprehensive and contextually relevant. Such a framework allows businesses to identify areas over which they have influence or control, enabling targeted actions to both mitigate risks and realize opportunities related to social capital.

Increased attention to social capital accounting is contributing to the improvement of the framework and tools aimed at quantifying its value in an organizational context. The use of both qualitative and quantitative indicators, including trust indices, employee engagement indicators, and digital engagement indicators, provides a way for enterprises to integrate the intangible assets generated by social capital into their financial and integrated reporting. By measuring social capital in monetary terms, businesses can monetize it. Monetization methods, such as cost-benefit analysis, return on investment (ROI) calculations for social programs, and financial proxies for stakeholder trust, allow for the translation of social capital value into actionable economic decisions. The digital environment has not only expanded the synergies of social capital elements, but also highlighted the need for innovative accounting methods. Digital platforms facilitate real-time data collection, stakeholder feedback, and engagement tracking, allowing companies to better capture the dynamic nature of social capital. Tools such as social media analytics, digital trust indices, and sentiment analysis now play a key role in providing information on social capital trends, thus helping to inform management decisions. The study examines the practical implications of integrating social capital into accounting and decision-making. Businesses that effectively account for social capital can improve their reputation, build stronger relationships with stakeholders, and open up new market opportunities. However, challenges remain in standardizing and operationalizing social capital accounting. The intangible and multifaceted nature of social capital makes it difficult to establish universally accepted indicators and measurement methods.

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Проблеми оцінки та обліку соціального капіталу в умовах цифровізації

У статті здійснено комплексний аналіз проблем вимірювання та обліку соціального капіталу в умовах цифровізації. Соціальний капітал, що включає соціальні мережі, довіру, соціальні норми, відіграє ключову роль у створенні доданої вартості та забезпеченні сталого розвитку бізнесу й суспільства. З огляду на нематеріальну природу соціального капіталу, його оцінка та відображення в бухгалтерському обліку є складним завданням, особливо в умовах швидкої трансформації, спричиненої цифровими технологіями. У статті розглянуто вплив цифровізації на соціальний капітал, зокрема позитивні аспекти, такі як підвищення доступності соціальних мереж і нові можливості для колективних дій, а також ризики, пов'язані зі створенням слабких зв'язків та інформаційною поляризацією. Досліджено рекомендації Ради з міжнародної інтегрованої звітності (IIRC) та рекомендації A4S щодо врахування соціального капіталу як невід'ємного компонента вимірювання ефективності діяльності підприємств. Запропонований триступеневий підхід до оцінювання соціального капіталу охоплює корпоративний, проєктний та продуктовий рівні, що забезпечує комплексний підхід до оцінки його впливу на ланцюг створення вартості. Також детально розглянуто вплив цифрових платформ на процес формування довіри, підходи до оцінки залученості спільнот та можливості для підтримки широких соціальних мереж.

У статті підкреслюється, що інтеграція соціального капіталу в організаційні процеси сприяє глибшому розумінню джерел створення доданої вартості, покращує репутацію підприємств, зміцнює відносини із заінтересованими сторонами та відкриває нові ринкові можливості. Разом із перевагами цифровізації соціальний капітал також піддається новим викликам, зокрема потребі врахування якісних і кількісних показників для відображення його значення у звітності. Дослідження наголошує на важливості розробки адаптивних методів оцінки соціального капіталу, що враховують специфіку цифрового середовища та мінливий характер соціальних взаємодій.

Ключові слова: соціальний капітал; бухгалтерський облік; сталий розвиток; цифровізація; нематеріальні активи.

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