

JOURNAL OF BUSINESS MODELS

Accounting and ecocentrism: some reflections

Costanza Di Fabio¹

Abstract

This commentary on A *'storytelling science' approach making the eco-business modelling turn* discusses ecocentrism in relation to accounting, providing an overview of the debate on the matter. Some tools are suggested to provide organisations and research with food for thought in the perspective of creating higher awareness of value generated by ecosystems.

Introduction

Over the past ten years, increasing attention has been devoted to the practical implementation of business logics inspired by the Circular Economy (CE) and the Triple Bottom Line (3BL), aiming at constructing an alternative to the dominant economic development model – i.e., the so-called “take, make and dispose” (Ness, 2008) – and its negative consequences on the long-term sustainability of economies and the integrity of natural ecosystems (UNEP, 2013; EC, 2014). With the above context as a backdrop, the paper *A 'storytelling science' approach making the eco-business modelling turn* makes two essential points. First, it provides a critique of CE and 3BL and their narratives, explaining how these dominate with the effect of preventing an actual turn to eco-business modelling by putting economic bottom line interests before of equity and ecosystem issues. Second, it refutes the idea of balancing profit, people, and the planet that underpins both CE and 3BL, and suggests an eco-centric approach to business modelling based on storytelling science.

The paper's approach in discussing CE and 3BL is highly realistic, and the proposed construction of an alternative storytelling roadmap for an 'eco-revolution' is political in nature.

The current commentary adopts a similar approach focusing on issues relating to the accounting perspective of business modelling *lato sensu*, namely on the meaning of ecocentrism in the perspective of 'account giving'

Keywords: ecosystem accounting; accounting research; disclosure

Please cite this paper as: Di Fabio (2020), 'Accounting and ecocentrism: some reflections' Vol. 8, No. 3, pp. 27-32

¹ University of Genoa, Department of Economics and Business Studies

to stakeholders. More specifically, the commentary adopts a realistic lens as it discusses the actual possibility for an accounting approach to be nowadays fully eco-centric and introduces the debate on the matter. This debate still remains incipient in the accounting field but already ongoing in the economic and ecological areas of research, which could fruitfully trigger the development in the accounting field as well.

In addition, the commentary seeks to produce some actual changes by suggesting – in contrast with the paper – non-definitive solutions aimed at providing organisations and research with tools already able to increase the businesses' awareness of the values generated by natural ecosystems. Although these tools still represent a compromise between the economic logic and the 'natural primacy' of ecosystems, they could represent an initial move towards a prospective eco-turn. From an eco-centric perspective, the ideas suggested in this commentary are not first-best solutions. These tools are conceived, indeed, as initial steps within a context in which organisations seem reluctant to engage seriously in sustainability disclosure and the eco-turn could be still far. They derive not only from reviewing the extant literature, but also from the actual engagement in interdisciplinary research projects with the main focus on the value added by ecosystem services to businesses and their outputs, and aimed at developing both reporting tools and the businesses themselves in a sustainable perspective.

An Eco-Centric Approach to Accounting: Some (Critical) Issues

One of the paper's main arguments is that, for business modelling purposes, the 2015 United Nations' sustainable development goals have been interpreted very differently. In some quarters, the approach to sustainability seems consistent with corporate social responsibility, thus refers to a balance between profit, people and the planet (McAteer, 2019). In contrast, the view supported by the authors is radically different and refutes the conceptual validity of this balance (considered as part of an *out-of-this-world climate denial narrative*). Indeed, it looks at the

systems of productions as economic activities that jeopardise the ecosystem (Latour, 2018). In the authors' view, only rejecting production business models as a taken for granted allows rethinking business models in a way that shifts the focus from economic activity to the ecosystem. From an accounting perspective, the actual possibility to address such a change depends on the extent to which there is consensus on the object of reporting, the values to be represented and their presentation.

In order to develop sustainable business models, it is an issue whether accounting should become eco-centric too, extending its focus well beyond the 'traditional' reporting entity to deal with values emerging from a broader context (i.e. the ecosystem/its parts), and with new and unusual solutions for presentation purposes (Russell, Milne and Dey, 2017). While this debate within the accounting field is still in its infancy, there is an ongoing conversation involving ecologists and economists, triggered by the interest of global organisations in implementing effective systems of the so-called environmental accounting (Millenium Ecosystem Assessment, 2005; TEEB, 2010).

In the economists' perspective, environmental accounting focuses on economic activities at the aggregate level and also accounts for the environmental costs, intended as the exploitation of natural resources by these activities. Specifically, environmental accounting represents a development of the *System of National Accounts* (SNA) (European Commission *et al.*, 2009) that addresses environmental concerns, as national accounting *per se* does not include an environmental dimension. The System of Environmental Economic Accounting (SEEA) published in 1993 evolved in the SEEA Central Framework (SEEA-CF), which provides a system of satellite accounts building on stock and flow accounting of physical and monetary data to represent interrelationships between economy and the natural environment (United Nations *et al.*, 2014a). It incorporates relevant environmental information (natural inputs, residual flows and environmental assets) and provides a standardised structure for organising the information on the interactions economy/environment to support policymakers' activity (Vardon, Burnet and Dovers, 2016). This framework has been

further extended through *Experimental Ecosystem Accounting* (SEEA-EEA) (United Nations et al., 2014b), that addresses the issue of how ecosystem services could have been included in a system in line with national accounting (Banzhaf and Boyd, 2012) given the role of ecosystem services to human activities (TEEB, 2010).

In contrast to this framework, which entails a compromise between the economic reality and the ecosystem, the ecological lobby refuses the compromise and reaffirms the ecosystem as the primary object of reporting. From this perspective economic reality and its parts (such as the enterprises) consists of pressures and damages inflicted to the ecosystem. Many ecologists also refuse to compromise with an anthropocentric perspective and build on the idea of 'strong sustainability', according to which development is sustainable if it maintains constant the capital stock or (at least) ecosystem services over time (Costanza and Daly 1992; De Groot, Wilson and Boumans, 2002). This is the assumption underlying the ecological view of environmental accounting. Based on this assumption, accounting consists in the assessment of natural stock together with the holistic consideration of flows generated by the stock and exploited by humans (Costanza and Daly, 1992). In this context, biophysical methods¹ measuring natural resources through cost of production are used to perform valuations of natural capital impairment. It is to note that these methods adopt a 'donor-side approach', as they are mainly founded on the assessment of inputs (Patterson, 1998)².

What Comes Next?

The paper effectively remarks that rhetoric characterising business-as-usual models has become self-referential. The authors propose alternative storytelling to construct eco-business models. However, it is to note that, in the continuum of solutions potentially leading to such a radical change, many intermediate steps can be individuated, especially in

¹ Examples of biophysical methods are embodied energy analysis, exergy analysis, ecological footprint, material flow analysis, and land-cover flow.

² In contrast, a user-side approach focuses on outputs and on the identification of users that exploit them.

terms of environmental accounts and non-financial disclosures.

Although it is true that "monetised environmental accounts have not taken off" (Russell et al., 2017: 1435), experiments in this field are an opportunity to reflect on potential reporting solutions. As mentioned above, the SEEA-EEA is an experimental step towards a statistical standard framework for ecosystem accounting (United Nations et al., 2014b) that aims at representing interrelationships between the economy and the natural environment (see also Edens and Hein, 2013; Cavalletti, Di Fabio, Lagomarsino and Ramassa, 2020). To this end, the framework incorporates relevant environmental information (natural inputs, residual flows and environmental assets) and provides a tabular structure to represent the interactions between the economy and the environment (Vardon et al., 2016). In particular, the ecosystem accounts link ecosystems to human activities and provide information that can be aggregated and disaggregated based on units, namely spatial areas about which information is summarised in tables. The link between ecosystem assets and the benefits enjoyed by humans³ are ecosystem services. Thus, the framework provides a definition and classification of ecosystem services, indications on their measurement in physical terms, and approaches to their monetary evaluation.

Based on this framework, experimental efforts have been made in designing *ad hoc* ecosystem-accounting systems for ecosystem services and geographical settings. Besides, research has discussed classification issues related to ecosystem services' definition, the methodological issues on biophysical assessment and measurement of ecosystems, valuation challenges, and indicators expressing degradation of ecosystems (Edens and Hein, 2013; Remme, Schroter and Hein, 2014; Suwarno, Hein and Sumarga, 2016; Cavalletti et al., 2020).

If the challenge opened up by ecosystem accounting has prompted experimental research, the field of non-financial disclosures provides interesting

³ These are both the products of economic units and the benefits accruing to individuals but not produced by economic units.

opportunities for account-giving purposes. For instance, it can be particularly useful considering that the six capitals flow diagram incorporated within the *International <IR> Framework* (IIRC, 2013) has been complemented in recent experiences by information derived from Natural Capital Accounting - NCA (i.e., the methods used to take account of businesses' impacts and dependencies on natural capital assets) to enable more effective management of natural capital (Dickie, Royle and Anderson, 2016). Although the Integrated Reporting (IR) approach can be criticised as 'old wine in new bottles' (see Roslender and Nielsen, 2020), complementing IR through information derived from NCA can represent a sound practice. While IR promotes connectivity of information concerning value creation through financial, manufactured, intellectual, human, social and relationships, and natural capital, NCA measures businesses' impact and dependence on the ecosystem providing the goods/services exploited by business activities and seeks to measure the value generated by the ecosystem.

In the perspective of a revolution towards reporting for sustainable business models, non-financial disclosure is still "focused on the central organising tendencies of economic entities" (Russell *et al.*, 2017: 1436) and this would make it an obsolete tool, and in theory - I agree - only a second-best solution. In practice, however, many businesses still do not fully accept the business

case for taking better account of natural capital, so a timely evolution of business models and their inherent logics into eco-business modelling could be rather unlikely, at least for now. Research highlights that companies often adopt a superficial approach to the disclosure of business models' sustainability, despite its relevance to value creation processes (Bini, Bellucci and Giunta, 2018). Thus, working to provide reliable environmental information to be integrated into decision making and reporting practices could represent a preliminary but necessary step to work towards an eco-turn.

Starting from this point, reporting that adopts an integrated approach could evolve into giving accounts of the extent to which ecosystem services benefit businesses by enabling them to increase the value delivered to customers. Overall, this effort could represent an initial attempt to produce information of interest not only to investors considering traditional financial disclosures no more sufficient to evaluate the overall businesses' sustainability, but also to the community as a whole, i.e., the public interest, broadly defined (Stuebs and Wilkinson, 2014).

References

- Banzhaf, H. S., and Boyd, J. (2012). The architecture and measurement of an ecosystem services index. *Sustainability*, 4(4): 430-461.
- Bini, L., Bellucci, M., and Giunta, F. (2018). Integrating sustainability in business model disclosure: Evidence from the UK mining industry. *Journal of Cleaner Production*, 171: 1161-1170.
- Cavalletti, B., Di Fabio, C., Lagomarsino, E., and Ramassa, P. (2020). Ecosystem accounting for marine protected areas: A proposed framework. *Ecological Economics*, 173: 106623.
- Costanza, R., and Daly, H. E. (1992). Natural capital and sustainable development. *Conservation Biology*, 6(1): 37-46.
- De Groot, R. S., Wilson, M. A., and Boumans, R. M. (2002). A typology for the classification, description and valuation of ecosystem functions, goods and services. *Ecological Economics*, 41(3): 393-408.
- Dickie, I., Royle, D. and Anderson, S. (2016). *Integrated Reporting and Natural Capital Accounting*. JNCC Report, No. 587. JNCC, Peterborough.
- Edens, B., and Hein, L. (2013). Towards a consistent approach for ecosystem accounting. *Ecological Economics*, 90: 41-52.
- European Commission – EC (2014). MEMO, Questions and Answers on the Commission Communication “Towards a Circular Economy” and the Waste Targets Review. Available at: http://europa.eu/rapid/press-release_MEMO-14-450_en.htm
- European Commission, International Monetary Fund, Organisation for Economic Cooperation and Development, United Nations, The World Bank (2009). *System of National Accounts 2008*. United Nations, New York.
- IIRC (2013). *International <IR> Framework*. Available at: <http://integratedreporting.org/resource/international-ir-framework>
- Latour, B. (2018). *Down to Earth – Politics in the New Climatic Regime*, Cambridge, Polity Press.
- McAteer, P. (2019), *Sustainability is the New Advantage—Leadership, Change and the Future of Business*. New York: Anthem Press.
- Millennium Ecosystem Assessment, 2005. *Ecosystems and Human Well-Being: Synthesis*. The Millennium Ecosystem Assessment Series Island Press, Washington DC.
- Ness, D. (2008). Sustainable urban infrastructure in China: Towards a Factor 10 improvement in resource productivity through integrated infrastructure systems. *International Journal of Sustainable Development & World Ecology*, 15(4): 288-301.
- Patterson, M. (1998). Commensuration and theories of value in ecological economics. *Ecological Economics*, 25(1): 105-125.

Remme, R. P., Schröter, M., and Hein, L. (2014). Developing spatial biophysical accounting for multiple ecosystem services. *Ecosystem Services*, 10: 6-18.

Roslender, R., and Nielsen, C. (2020). Accounting for the value expectations of customers: Re-imagining the Integrated Reporting initiative. *Critical Perspectives on Accounting*, (in press).

Russell, S., Milne, M. J., and Dey, C. (2017). Accounts of nature and the nature of accounts. *Accounting, Auditing & Accountability Journal*, 30(7): 1426-1458.

Stuebs, M., and Wilkinson, B. (2014). Professionalizing the Tax Accounting profession: Fulfilling Public-Interest Reporting Responsibilities. In Mintz, S. (ed). *Accounting for the Public Interest. Perspectives on Accountability, Professionalism and Role in Society*, pp. 27-50, Berlin: Springer.

Suwarno, A., Hein, L., and Sumarga, E. (2016). Who benefits from ecosystem services? A case study for Central Kalimantan, Indonesia. *Environmental Management*, 57(2): 331-344.

TEEB (2010). *The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature: A Synthesis of the Approach, Conclusions and Recommendations of TEEB*.

United Nations Environment Programme - UNEP (2013). *Resource Efficiency: Economics and Outlook for China*. Available at: http://www.unep.org/pdf/China_Resource_Efficiency_in_English_2013.pdf

United Nations, European Commission, Food and Agricultural Organization of the United Nations, Organisation for Economic Co-operation and Development, The World Bank (2014a). *System of Environmental- Economic Accounting 2012 - Central Framework*. New York.

United Nations, European Commission, Food and Agricultural Organization of the United Nations, Organisation for Economic Co-operation and Development, The World Bank (2014b). *System of Environmental- Economic Accounting 2012 - Experimental Ecosystem Accounting*. New York.

Vardon, M., Burnett, P., and Dovers, S. (2016). The accounting push and the policy pull: balancing environment and economic decisions. *Ecological Economics*, 124: 145-152.