



# Financing and Business Models for Scaling Up Sustainable Business Networks—Building a Circular Economy

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## Abstract

Transition towards a circular economy (CE) requires collaboration amongst stakeholders. Sustainable Business Networks bring together different organisations to learn and disseminate CE innovations. However, without proper financing models, networks struggle to survive and attain financial independence. In this paper, we explore the different models which are used by African networks to finance their activities. The methodological approach involved nine case studies from three African countries (Zimbabwe, Kenya and South Africa) and selected regional networks. Semi-structured interviews were undertaken with key informants of the networks, and a questionnaire was sent to each network. Content analysis of networks was undertaken, and documents were assessed for each network in order to evaluate network activities under different funding regimes. The main funding models that were observed include membership subscriptions, donor funding, conference fees for network events, consultancy services, crowdfunding and selling knowledge products. The challenge of low payments of subscriptions is common in all countries, and networks devised innovative ways of generating funds such as consultancy fees for services rendered by the network. We conclude that there is still a high level of involvement of donor agencies in financing Sustainable Business Networks. However, this donor-funded approach is failing to steer networks to sustainability beyond projects and programmes which involve networking. Based on the existing literature and the information collected during the interviews, it was possible to recommend a hybrid financing model that is based in two crucial elements, (i) on country specific actors and (ii) on ownership of the network at national level.

**Keywords** Circular economy · Business models · Sustainable Business Networks · Collaboration · Sustainability

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## Introduction

### Background

The transition to a circular economy is a global priority for many countries worldwide [1, 2]. However, financing the transition to a circular economy (CE) will be a mammoth task if there are no innovative and predictable financing models [2, 3]. Networks have been proven as effective means of transferring circular economy expertise from one organisation to another [4–8]. For most networks, there is a means of generating revenue to sustain network activities and operations.

Business models of Sustainable Business Networks play a critical role in the success or failure of a collaborative network of organisations transitioning towards a CE. Whilst network participation is voluntary and not forced on any stakeholder, it is the activities involving members and the personnel operating these networks that are cost centres requiring financing. With their high level of diverse views, networks play a role in innovation transfer [9, 10]. Furthermore, networks play a role in facilitating sustainable development, thereby attaining the resource-based view of the firm [11]. This view of the firm is an aspiration of many firms especially when they experience pressures to conform to sustainability actions. Network collaboration is a form of conformity to the theory of institutional isomorphism, where organisations gradually become similar in behaviour due to pressures from others in the collaboration, influence of standards and regulatory forces [12]. This is in contrast to idiosyncrasy, whereby organisations may be slow to attain innovation [13–15]. Without financing, CE activities which regularly demand technical innovations are significantly affected [1]. Inter-organisational networks require novel business models in order to survive in the current operating environment where there is competition for capital and rising costs of facilitating collaboration.

Very few studies have been undertaken to systematically assess the mechanism of financing Sustainable Business Networks operating in the CE domain. Information that has been assessed from literature shows that networks struggle beyond external financing due to lack of innovative mechanisms to finance network operations. This is exacerbated by the fact that organisations do not have exclusive membership, and financial resources are shared amongst different networks, industrial associations, chambers of industry and other affiliate obligations of organisations. In this sense, it can be said that there are many barriers that affect CE business models [16]. Some of the barriers are related to access to finance. Financing circular economy activities within a network requires resources to facilitate events, training, workshops, conferences and demonstration projects. In order to make an impact, networks should overcome these barriers [17]. Reliance on membership subscriptions has been acknowledged as the major cause of financial failure of networks, especially in the event that members fail to access resources. The evolution of networks into self-sustaining organisations provides effective means of accelerating a circular economy. An increasing number of Sustainable Business Networks have started exploring new models of financing, thereby evolving from traditional financial sources.

Under this scenario, it can be said that, in spite of a growing realisation of new business models of financing networks, these models have not been evaluated under empirical conditions and in multiple country contexts. Hence, this paper aims at contributing to such a gap in the literature, and the research questions driving this work are the following:

- i) How do Sustainable Business Networks fund their network operations in the pursuit for attaining a circular economy?
- ii) How viable and effective are the business models used by networks in sustaining and scaling up network operations?
- iii) What new business models of network financing can be implemented in order to improve the financial sustainability of the network operations?
- iv) What recommendations can be made to improve the financial viability of networks?

The structure of this research paper includes Section 2 which discusses the literature review, Section 3 which describes the methods utilised by the research, Section 4 which presents the findings and discussion and Section 5 which concludes the study.

## Literature Review

The world is confronted with various environmental challenges that threaten the existence of humanity. Waste management, pollution, climate change, hazardous chemicals, deforestation and environmental degradation are amongst the leading threats to human existence. Most of these challenges have been compounded by the production and consumption patterns [1]. The world has largely relied on a linear economy that involves take, make and dispose [1]. A continuation with the “*business-as-usual*” scenario will result in the world heading towards a place of no return and with an unprecedented environmental damage, which threatens the viability of humanity. However, drastic shifts are required in the way we consume and produce, to adopt a circular economy (CE). A transition to CE requires closing the loop and ensuring the world promotes recycling and reuse but not only focus on waste management [2].

In order to scale up the implementation of circular economy models, there is a need for tacit knowledge and understanding the needs of society towards sustainable development [11]. The tacit knowledge is a key enabler of sustainable innovation and requires intermediary organisations such as inter-organisational networks. Networks can be agents of knowledge transfer to enable transmission of information from one organisation to the other [13]. A Sustainable Business Network is a grouping of organisations that are brought together to undertake activities that promote a circular economy. Networks can be geographically associated, in which case they are considered industrial clusters [8] [6]. They share knowledge, skills and capacity building amongst each other. However, networks can also be geographically dissociated and consist of organisations operating in different parts of the world. Network typology can also be observed in supply chain networks [18].

The role of networks for a circular economy is to undertake information dissemination, capacity building and knowledge transfer. In some networks, knowledge transfer can be undertaken through circular economy project development [13]. Financing of networks has been a major cause of concern in both developed and developing countries. Without financing, networks can fail to undertake activities earmarked at promoting a circular economy. An inadequate regime of financial resources has been identified as one of the causes of failure to attain a circular economy [1]. Different models of financing circular economy networks are recognised in the literature, including subscriptions, project funding, events, conferences, donations and more recently crowdfunding.

Different financing models have varying levels of applicability depending on the country context. In order for networks to become self-financing, they need predictable and

adequate financial resources to be able to support network activities in a circular economy. Network financing can be once-off and in some cases long term, depending on how the network leadership pitches the network to potential key stakeholders. In order for networks to attain a higher level of financing, they are also influenced by the motives and cognitions of the organisations willing to become members of the network.

There are different motives why organisations join networks. Some of them include to earn high levels of awareness, improve legal compliance and enhance better application of innovation. With respect to corporate image, network participation can also ensure that the business is highly regarded amongst its stakeholders and customers.

Despite their ability to promote sustainable innovation, networks also encounter challenges in their operation [16]. Some of the key challenges faced by networks include lack of financing, different cultures amongst network members and lack of policy support for network activities. The typology of conflicts existing in networks and their potential effect on network innovation capabilities is articulated in literature [9]. Other barriers relate to the lack of institutional capacity to undertake circular economy networking activities.

The business case, infrastructure, education and mindset are the four aspects required for the success of financing modalities of a circular economy [3]. Replicating these elements of success for financing a circular economy has attained varying outcomes in different countries. With regard to developing countries in Africa, there is no research on the business and financing models for enhancing networks for a circular economy. This knowledge gap could be the reason why circular economy networks in Africa have had limited development, impact and maturity. The overdependence of African networks on international financing regimes remains a cause of concern.

## Methodology

The research was based on case study comparisons that encompassed a combination of research methods. A case study approach was used to gain in-depth understanding of the Sustainable Business Networks rather than breadth. Single case studies of networks in Zimbabwe, South Africa and Kenya were firstly individually analysed, and then, some cross case comparisons were undertaken to determine thematic trends in business models of networks. The case study research was chosen because according to [19]; the application of this approach enables in-depth analysis. As part of the research design, nine interviews with key informants were undertaken using semi-structured interviews structures. Interviews focused on history and development of the networks, key activities, barriers, financing models, revenue sources, usage of revenue and business models. Interviews were undertaken virtually and were transcribed to ensure effective capturing and analysis of data. According to [19], interviews can be semi-structured and developed in such a way to allow further exploratory analysis. The researcher therefore followed the interview protocol but also undertook further exploratory analysis on issues related to financing of Sustainable Business Networks. Further exploratory analysis by the respondents allowed for the gathering of additional information related to networks and how they finance network activities. A questionnaire was also distributed to each Sustainable Business Network to further understand their business model in promoting a circular economy. The questionnaire was focused on issues related to the roles of networks, key activities, benefits of networks, financing models, business models, activities

and events undertaken to generate income for the associations. In order to determine interrelationships, the research's *domain* was *Sustainable Business Networks* whilst the *assertion* was the *financing and business models*.

In order to understand deeper aspects of financial sustainability of networks, content analysis was undertaken on some of the financial data from the networks including some of the financial statements of the networks, project reports, annual reports and project documents. Information on subscription categories, subscription rates, funding sources, project portfolios and source finance was evaluated using the documentation produced by the Sustainable Business Networks. These documents ensured that further information was gathered to explain how the networks were financing their activities. Publicly available information from network reports and websites also provided a foundation for assessing the financial viability of networks. The research was mostly based on qualitative methods and derived classifications of the financing models of Sustainable Business Networks and facilitated identification of emerging trends in financing. In order to ensure that there was reliability and validity of data, the researcher implemented triangulation of methods and triangulation of sources. Triangulation was based on the principle of using multiple methodological approaches and triangulation of information repositories. The researcher avoided relying on one source of information.

In order to select case studies, purposive sampling was used in order to select specific case studies based on the laid out criteria, geographical location, convenience, legal status and subject matter. The protocol was used in order to ensure that the case studies chosen are of a high consistency (Fig. 1). This was done to ensure ease of comparison and benchmarking amongst the case studies. Out of the nine case studies selected, seven were from a national jurisdiction whilst the other two were either international or regional networks. Deliberate emphasis was undertaken to select case studies from three African countries, namely, Zimbabwe, South Africa and Kenya.

In articulating the selection criteria of case studies, we ensured that the selection criteria focused on case studies from the three African countries—Zimbabwe, South Africa and Kenya. However, two case studies were drawn from international and regional case studies to ensure that there was a chance of comparisons of the typologies of national, regional and international case studies. Secondly, selection was for network and associations that focused on circular economy (CE) and fields related to the subject matter

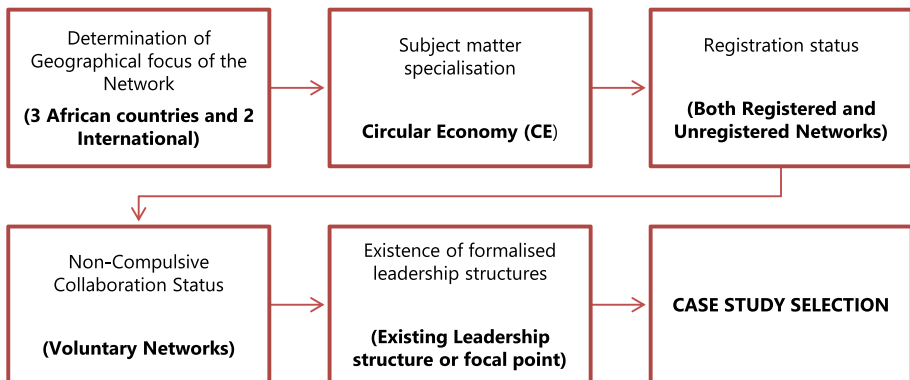


Fig. 1 Case study selection protocols for Sustainable Business Networks

of CE. Related fields that could be accepted included cleaner production, sustainable development, safe chemical management, sustainability reporting, life cycle assessment, sustainable consumption and production as well as associated fields. Thirdly, we considered the legal and registration status of the networks. Initial consideration was given to registered networks for ease of centralisation of information and higher probability of organised programming, but the selection also allowed more informal networks with loose connections but with effective programmes. Furthermore, we considered in the selection process the collaborative forms of networks where members clustered voluntarily. Networks, where the collaboration is forced, were excluded. Consideration in the strategic sampling was given to networks with existing leadership structures or focal point. This was a strategic decision to ensure more efficient evaluation and centralised information repository as well as in aiding selection of key informants.

Ethical procedures were followed, including seeking consent from the respondents. In the following section, the most relevant findings from the interviews and documentation revision are presented to answer the research questions.

## Findings and Discussion

This section presents the findings related to the financing models of the Sustainable Business Networks as well as how they mobilise financial resources in order to undertake circular economy activities. These findings are specific to each case study and also offer comparisons with other case studies in terms of business and financing models for a circular economy. The findings and discussion are divided into categories of sources of finance and effects of financing models, as well as emerging financing models for circular economy networks.

### Sources of Finance for the Sustainable Business Networks

This section is dedicated to provide some answers to the first question driving this research (How do Sustainable Business Networks fund their network operations in the pursuit for attaining a circular economy?). The results showed that most of the Sustainable Business Networks were based on the subscription model. The subscription model involved paying a fee in exchange of network benefit value.<sup>1</sup> Some of the network benefits included access to information, access to projects, training opportunities and discounted conference fees. Membership was spread over many categories such as corporate membership, NGO membership, affiliate membership, observer membership and champions. In some of the networks, membership was determined by paying affiliation fees and an organisation would cease to be a member if the affiliation was not paid. In a few selected cases, membership was carried over even without payment of subscriptions. Voting rights within selected networks was also enforced based on the ability to pay membership subscriptions.

A common pattern observed in networks is the low payment of subscription fees. The rate of payment of subscriptions was 40% of the registered members. In the case of industrial clusters, there was no subscription, as the members would affiliate on the basis of geographic proximity. The major challenge of such collaboration was the lack of availability of

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<sup>1</sup> Value includes the ability to improve, enhance or strengthen an institution due to network participation.

funds to finance activities that involved technological investments for CE transition within the organisations. Other perspectives observed from the cluster approach were that some organisations were not interested even if there were no subscriptions. Table 1 shows the different financing models from the studied case studies.

Out of the nine case studies which were assessed, eight had a subscription model. This showed that for this set of cases, subscriptions were very common in Sustainable Business Networks (see Table 2) and provide a convenient method of raising funds for the association. The networks also favoured the charging of event fees for conferences, workshops and other activities involving the convening of members. Charging these fees was regarded as a means to cover the operational costs of the circular economy events and also to ensure that the organisers and secretariats were paid for their time. Associations with paid and full-time secretariats had more time to plan and implement successful circular economy networking activities.

The cost of these networking events varied depending on the network as well as the macro-economic conditions prevailing in the country. In cases where networks were operating in hyperinflationary environments, prices of subscriptions fluctuated and increased regularly in tandem with the changes in the prices of goods and services. Two of the networks, case study G and case study H, did not charge event fees as these were already covered by the financiers or the event was covered at one of the members'

**Table 1** Financing models of Sustainable Business Networks

Case identity	Subscription	Event fees	Donations and sponsorships	Consultancy	Other funds
Case study A	Yes	Yes	Yes	Yes	No
Case study B	Yes	Yes	Yes	No	No
Case study C	Yes	Yes	Yes	Yes	No
Case study D	Yes	No	Yes	No	No
Case study E	Yes	Yes	Yes	No	No
Case study F	No	No	Yes	No	No
Case study G	Yes	Yes	Yes	No	No
Case study H	Yes	Yes	Yes	No	No
Case study I	Yes	Yes	Yes	No	No

**Table 2** Subscription fees of Sustainable Business Networks

Case identity	Minimum subscription (US \$)	Maximum subscription (US \$)
Case study A	35	35
Case study B	200	3000
Case study C	50	50
Case study D	1000	3000
Case study E	250	2000
Case study F	0	0
Case study G	Voluntary contribution	Voluntary contribution
Case study H	Voluntary contribution	Voluntary contribution
Case study I	36	720

premises, thereby eliminating the need to be charged by destinations such as hotels and conference facilities. These had been previously covered by network members. Undertaking CE networking activities under the support of sponsors, donors and development partners is a very good way of cutting operational costs of running the Sustainable Business Networks. However, this strategy is not sustainable in the long run as funding needs to be sought each time there is an activity. The research observed the need to build more sustainable and resilient financing models for networks in order to prevent business models which brewed dependency. All the nine case studies of Sustainable Business Networks had a model of accepting financing from sponsors and donors. These sponsorship arrangements were mainly for projects, specific events and programmes. The sponsorship ranged from a single day to several years depending on the initiative being implemented. Whilst sponsorship was good, it was noted that at times it caused over-dependency on donors and sponsors.

Challenges of *ownership* were raised during the interviews of the Sustainable Business Networks as a result of reliance on external financing. This challenge relates to members failing to pay subscriptions due to dependence on the external financiers. On the other hand, funding from external stakeholders was considered useful as a means of supporting those members who were still financially distressed to sustain networking activities.

The viability of business models varies depending on the context within which the network operates. The most popular business model is the one related to subscription but depends on the levels (amounts) of subscriptions and also the ability to collect. Where subscription amounts were low, it was difficult to achieve significant resources required for meaningful circular economy projects. When carefully planned subscriptions can be the most viable funding source for networks and can be formalised at the point of entry into the network, consequences can be defined for failure to pay the subscription fees. In addition, the enforcement of these consequences is an area that needs strengthening. Event fees are fairly viable, but only when there is an event. The challenge of event fees is their seasonality. Donations and sponsorships were identified as good business models but were shrouded with high levels of uncertainty. Consequences cannot be defined for a donor or financier failing to remit promised financial resources for CE. The networks had limited control of the donations and sponsorships. Consultancy models were very viable but uncommon. Only case study A had the consultancy model. This model depended on the development of the market for consultancy services. In this model, members of the network were required to pay a percentage of their consultancy fees to the Sustainable Business Network. Through this model, the Sustainable Business Network grew its revenue base significantly. Other emerging models such as crowdfunding are not very popular and remain untested in CE network settings.

Subscription fee levels varied from one network to the other, depending on the charter and arrangements agreed by the members. Table 2 presents the plethora of subscription levels in the studied networks. In some networks, there was flexibility, whereas in some other networks, there was a formal and rigid structure defining subscriptions.

The lowest level of subscription was those which were free subscription. These included some membership categories such as observer membership and patron membership. In case study D, there were defined membership fees, but new members could enjoy network benefits by being in the observer membership category. The highest level of membership subscription from the sampled network case studies was pegged at the level of \$3000. This subscription level was observed at a global network as well as at a local network level.

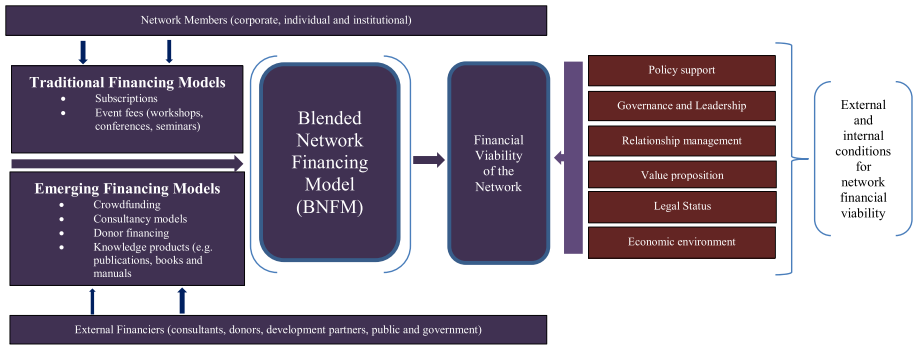


A number of factors were identified to explain the variations in the levels of subscriptions. Case study A was a regional networking organisation on circular economy and did not solely rely on subscriptions. It focused efforts on growing its network membership. Case B was predominantly made up of private sector companies including multinationals; therefore, it could peg subscriptions at a high level. Case C was a regional organisation but faced challenges in value proposition and as such struggled to set subscriptions on a high level. Reliance on donor funding also resulted in most activities being funded, such that justifying high membership fees was not well received by members. Case E was also dominated by large-scale organisations and could bill higher fees. Case F was completely different from the others and charged no fees. This was because it was an industrial cluster and members were joining due to their proximity rather than paying to benefit from a value proposition. Case G and case H allowed for flexibility in voluntary contributions. Case H comprised of mostly small- to medium-sized organisations who had moderate capacity to pay subscriptions.

### **Effect of Level of Subscription and Remittances**

From the interviews undertaken and the responses to semi-structured questionnaires, the level of subscription was not a determinant of remittances. Instead, the value proposition was more essential. Some case studies such as case study D have a very high value proposition and partnerships with leading global organisations, with high subscription fees but in terms of sustainability were edged by case study A. Case study A although with lower subscription fees was generating revenue in excess of US \$2,700,000 per annum. Case C struggled to generate subscriptions as members were used to be financed for workshops, conferences, roundtables and other network events. Case G and case H show unique approaches as they used voluntary contribution. The level varied from year to year but attracted committed membership due to a high value proposition. Therefore, whilst it may be commonly believed that high subscriptions will translate into massive revenue for networks, this is not the case in empirical settings, at least that is not the case for the African case studies of this research. In general, it can be said here that the ability to collect revenue is influenced by value proposition, membership financial status and the effect of the external factors promoting collaboration. Even if subscriptions were to be waived, as in the case of case F, there will still be some organisations unwilling to collaborate. Hence, based on the collected evidence, we came up to the conclusion that the presence or absence of subscriptions alone does not guarantee successful collaboration.

Therefore, network coordinators, secretariats and governance bodies of the professional networks might consider to look beyond subscriptions for guaranteeing financial sustainability. From this empirical research, it was possible to observe that blended models of finance can cushion networks from financial stress. Without finances, some networks were passive and without activity. The use of blended finance can be better illustrated by the blended network finance model (BNFM) derived from this research (Fig. 2). Funding from both internal sources (members derived from corporate and individual subscriptions) is essential, to sustain network financial viability. With greater collaboration, networks were also able to harness external financing, through donors, governments and recently crowdfunding. It was observed that networks are increasingly becoming innovative in the search for financing. The success of this model is also influenced by external factors such as policy support.



**Fig. 2** Blended network financing model (BNFM)

### Emerging Financing Models

This section is dedicated to answer the third research question (*What new business models of network financing can be implemented in order to improve the financial sustainability of the network operations?*). Through the interviewees' answers, it was possible to identify innovative models of financing, such as the consultancy model. This was mentioned by one representative of one case study; the respondent said that they were able to raise their revenue significantly above all the other networks by means of consultancy activities. Technical work and research work were charged to various external stakeholders. In addition, members were requested to pay 10% of consultancy fees for projects acquired through the network. Others mentioned that *innovative ways* of financing the enquired networks were crowdfunding and credit financing for network activities. Although crowdfunding was identified as a financing source, none of the networks were, in fact, implementing it. Even further, development of knowledge products, books, publications and manuals was identified as a potentially viable funding source. However, the networks had not yet developed effective publishing capability to the extent of selling knowledge products at a very high scale. Where publications exist, most of them are not for sale and available either exclusive to members who are subscribed or to members of the public as knowledge transfer. In the case of newsletters, some of them were exclusive to paid-up members. The development of knowledge products was cited as value creation for existing members and prospective members.

Whilst climate finance exists through international financing institutions such as Green Climate Fund (GCF), Adaptation Fund and Climate Technology Centre and Network (CTCN), there was still limited capacity to develop bankable proposals. In addition, membership needed to have consensus in order to tap into these emerging finance instruments. Case study B successfully harnessed financing from the Climate Technology Centre and Network (CTCN) to undertake energy and water audits<sup>2</sup> for its members to the tune of US \$250,000. The energy and water saving options which were identified have the potential of saving up to US \$3,000,000 in the selected companies. The implementation of the options was halted by the lack of financing to support clean technologies within the organisations.

<sup>2</sup> The project was called Facilitating Rapid Uptake of Industrial Energy Efficiency and Efficient Water Utilisation in the selected industrial sectors in Zimbabwe.

## Conclusions

The analysis of nine African Sustainable Business Networks enabled us to identify funding means to cover their operations, and those are subscriptions, donor financing, event fees and sponsorships. The results showed that the majority of Sustainable Business Networks are relying on subscriptions. Some innovative funding streams involve (i) consultancy models when there are also possible in certain country contexts and (ii) retaining fees from network members who attain consultancy assignments through networks. Although convenient and easy to impose on the network members; subscriptions alone cannot sustain an economically viable network. Subscriptions are affected by the financial status of the network members and currency risk in countries where the subscriptions are being billed, as well as value proposition. Donor funding of network activities provides significant relief on the network activities. However, if donor funding is not used to build ownership of the network, it may lead to collapse of the network due to lack of financial viability. In order to scale up collaborations, network representatives might consider of thinking outside the box and use blended financing models based on membership fees, external financing, emerging sources of climate finance, commercialising knowledge products and public–private partnerships. Reliance on only one stream of revenue for a network is a recipe for failure. This is due to the risk of failure of one income stream and its potential dire consequences on network viability. On the contrary, it is also possible to run networks without any subscriptions, if the network members are in an industrial cluster, geographically linked to one another. The level of subscription alone does not guarantee success, but the collective effect of value proposition, commitment, external factors and cognitions of network collaboration acting on the actors of the network. Governance aspects and financial management capacity of the networks and associations also determine financial viability in all the case studies as the governance structures established the parameters of collection of financial resources and defined consequences of non-payment of members to the CE network. Based on the analysis of the nine cases, we recommend that there is a consideration of increased blending and combining of funding sources for Sustainable Business Network, in order to survive and deliver CE mandate. Education and training are highly recommended for network leadership in order for them to gain new insights on how to finance network activities. The capacity building programmes will be specifically aimed at addressing business model development, fundraising, Sustainable Business Networks, financial viability, grant writing, engaging international financiers, financing beyond subscriptions crowdfunding and operating networks in economically volatile circumstances. Training should also be based on successful case studies of Sustainable Business Networks, which have been able to operate in a financially viable manner. Further research should establish why networks fail despite financing models and which financing models are viable for promoting circular economy. More empirical testing of business models is also required in multiple country contexts, beyond Africa.

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Michiel Heldeweg: reviewing and editing.

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**Data Availability** Data is available on request.

## Declarations

**Ethics Approval and Consent to Participate** Ethics approval has been granted by the University of Twente, Netherlands, and consent has been sought from the participants.

**Consent for Publication** Consent was sought for research and publication from the respondents and authors.

**Competing Interests** The authors declare no competing interests.

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