

A qualitative examination of how accountability manifests itself in a circular economy

Circular
economy

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Abstract

Purpose – Accountability within the framework of circular economy (CE) is unknown even though the concept of CE is increasingly gaining momentum among governments, policymakers and academics. The purpose of this study is to investigate how accountability expresses itself in the CE.

Design/methodology/approach – This study draws on the institutional logics theory and adopted an exploratory qualitative study aimed at eliciting stakeholders' perspectives on how accountability manifests in the context of CE. Data was collected through semi-structured interviews of cross section of Ghanaians. Respondents were recruited using the purposeful sampling method, and data saturation was reached with 35 respondents. Concurrent data collection and analysis were carried out, and emerging themes were investigated as the research progressed.

Findings – The results indicate that accountability manifestations take on a variety of forms and shapes through both formal and informal processes within the circularity space. The specific areas of accountability manifestations are through the social system embedded in the society, through the organization's responsibility and transparency, through regular reporting to stakeholders using appropriate metrics, through agency and answerability to relevant stakeholders and through governance systems embedded within social interaction. Additionally, this study discovered that accountability manifestations would contribute to the firm's sustainability by enhancing competitive advantage through stakeholder engagement, improving risk management and promoting creativity and innovation.

Originality/value – Given an apparent gap in the literature on circularity and accountability, as well as a call for further studies on the reflections of accountability within the CE, this study provides empirical evidence to fill these gaps.

Keywords Accountability, Circular economy, Sustainability, Institutional logics, Ghana

Paper type Research paper

1. Introduction

Accountability is a critical component of corporate governance that has captivated policymakers and academics for decades. Without accountability, there really is no system to call irresponsible behavior into question, and actors are not held accountable. Consequently, accountability has been identified as a crucial aspect of effective function execution (Gorman and Ward, 2020; Tamvada, 2020). Accountability involves moral or institutional relationship in which one person or a group of agents is granted the right to question, lead, sanction or constrain the exercise of power by another (Macdonald, 2014).



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The emphasis on accountability stems from the fact that without a grasp of accountability manifestations, social actors are unlikely to achieve their objectives within the circular economy's (CE) bounds (Pan and Patel, 2020; Frink and Klimoski, 2004). The more social actors understand accountability evaluation and development, the more probable it is to achieve operational sustainability (Pillai *et al.*, 2017). In other words, lack of accountability has been connected to increasing unethical behavior leading to sustainability issues. Accountability is consequently fundamental to successful social systems, particularly formal organizations and CE implementation (Frishammar and Parida, 2019; Murray *et al.*, 2017). It is puzzling why such a fundamental topic has not gotten more attention in the circularity literature. In other words, the existing literature gives little attention to accountability manifestations within the CE (Frishammar and Parida, 2019; Murray *et al.*, 2017).

A lack of consensus exists in the literature regarding the nature of accountability and how it is defined (Cooper and Owen, 2007). It is also assumed to be context dependent (Ahrens and Khalifa, 2015), having been studied from many angles such as social psychology (Lerner and Tetlock, 1999), health care (Gaitonde *et al.*, 2019), leadership (Ogden *et al.*, 2006), human resource management (Ji *et al.*, 2012) and business ethics (Yang *et al.*, 2019) and accounting (O'Dwyer and Boomsma, 2015). As a result of this, the concept of accountability and its representations are discussed in the sense of the CE in this study.

The CE is a regenerative system in which resource input and waste, emissions and energy leakage are minimized through the slowing, closing and narrowing of material and energy loops. This can be accomplished by focusing on long-term design, maintenance, repair, reuse, remanufacturing and refurbishment (Ellen MacArthur foundation, 2019; Geissdoerfer *et al.*, 2017). Previous attempts have been made in the extant literature to explore the issue of circularity from different perspective: for instance, the role of management controls in promoting the CE within organizations (Svensson and Funck, 2019), business model innovation for CE and sustainability (Pieroni *et al.*, 2019), exploring barriers to implementing different circular business models (Vermunt *et al.*, 2019) among others. Conspicuously missing from the literature is the nature of accountability in the CE space (Di Maio *et al.*, 2017; Frishammar and Parida, 2019; Murray *et al.*, 2017).

The purpose of this study therefore is to investigate how accountability is manifested in the CE by specifically addressing the following research questions:

RQ1. How is accountability manifested in the CE in contemporary times?

RQ2. How accountability manifestations contribute to the sustainability of the firm?

This study approaches these questions from the perspective of institutional logics which deals with how individuals and organizations are influenced by higher order (Freidland and Alford, 1991; Thornton *et al.*, 2012). To this end, this qualitative study investigates stakeholders' opinions of accountability in Ghana's CE space. The study participants were purposely sampled, and data was gathered through semi-structured interviews (SSIs). Concurrent data analysis and gathering occurred, and a thematic approach was used to identify pertinent themes.

The study discovered that within the framework of the CE, accountability is manifested by both formal and informal processes. The specific areas of accountability manifestations are through the social system embedded in the society, through the organization's responsibility and transparency, through regular reporting to stakeholders using appropriate metrics, through agency and answerability to relevant stakeholders and through governance systems embedded within the organization. Additionally, from the

perspective of the sustainability of the firm, the study discovered that accountability manifestations would contribute to the firm's sustainability by enhancing competitive advantage through stakeholder engagement, improving risk management and promoting creativity and innovation.

In this regard, the study adds to the existing literature by drawing on institutional logics to illustrate how accountability arises within the CE (Friedland and Alford, 1991; Thornton *et al.*, 2012; Diab, 2021). The contribution of this study is part of a larger conversation about the importance of accountability in achieving a CE paradigm, a topic that has been surprisingly overlooked in existing literature. (Di Maio *et al.*, 2017).

The rest of the paper is structured as follows: the next subsection deals with the study's context and setting. Section 2 presents the literature review. Section 3 discusses the methodology for the study. Section 4 deals with the results and discussions. Section 5 deals with the summary, conclusions, implications and limitations of the study.

1.1 Context of study and setting

Accountability is a contextual term. This means that the nature of accountability and the manner in which it presents itself varies according to field of study. For instance, accountability manifestation within the health delivery field will be different from the accountability within the educational field (Cooper and Owen, 2007). Given this premise, this study is situated within the context of CE as a phenomenon or field of study.

The study setting is Ghana which presents quite an interesting and a unique setting for the subject matter in several ways. Ghana was appointed as a cochair for United Nation Sustainable Development Goals (SDGs) advocate between 2017 and 2018. Since then, Ghana's development goals and priorities have been aligned with circularity activities and SDGs. It is therefore crucial to explore how accountability will manifest itself in a country with its status as a former SDGs advocate. As a developing country, Ghana faces several environmental difficulties due to the old linear business paradigm of take-make-waste (EPA, 2020). Coupled with declining natural resources estimated at 12.37% of gross national income, the country is looking for ways to extend resource utilization and maximize value.

In this regard, the Ghana Government has put in place policies and regulation toward CE. For instance, there is a ministerial task force against illegal mining in a bid to protect the environment and water bodies. Further, there is a policy on plastic waste management as a vehicle for sustainable development and a shift toward a plastics CE. The country has declared a policy of making Accra the capital city the cleanest city in Africa by reducing waste and pollution. Thus, an accountability perspective in CE is especially necessary in Ghana and throughout Africa, owing to the country's specific circumstances, which include considerable resources, donor-driven growth, marginalized civil societies, weak government, a lack of effective political leadership, corruption, weak institutions, restricted markets and private sector development (Soobaroyen *et al.*, 2017).

2. Literature review

This section discusses the theoretical lens, the concept of CE and accountability.

2.1 Theoretical lens

The study is positioned within the institutional logics theory, which analyses the ways in which broader value systems shape actors' perceptions and behaviors. Institutional logics enquires into the relationships that exist between individuals, organizations and society (Friedland and Alford, 1991). According to Friedland and Alford (1991):

Institutions are preorganization patterns of human activity by which individuals and organizations produce and reproduce their material subsistence and organize time and space. They are also symbolic systems, ways of ordering reality, and thereby rendering experience of time and space meaningful (Friedland and Alford, 1991, p. 248).

The authors asserted that each institutional order is guided by a core logic that underpins its organizing principles and provides social actors with motivational languages and a sense of self identification, hence rejecting both individualistic, rational choice theories and macrosystemic perspectives. Individuals, organizations and associations can further elaborate, exploit and use these traditions and symbols to their advantage (Friedland and Alford, 1991). The authors further state that each of society's core structures – the capitalist market, the bureaucratic state, families, democracy and religion – has a central logic that constrains both the means and ends of individual actions and is constitutive of individuals, organizations and society. Although, institutions impose constraints on policy, they also provide opportunities for agency and reform (Friedland and Alford, 1991). Individuals, communities and organizations may use the cultural tools provided by the contradictions inherent in the differentiated collection of institutional logics to transform their personalities, organizations and society (Thornton *et al.*, 2012). In this study, which examines accountability manifestations in a CE sense, the societal demands for businesses to exhibit responsible behavior (i.e. accountability manifestations and CE) is the underlying logics of action, shape heterogeneity, stability and change in individuals and organizations. Although, the different concepts of institutional logics differ in their focus, they all presuppose a fundamental metatheory for comprehending individual and organizational actions (Thornton *et al.*, 2012). Institutional logics must be situated in a social and institutional context, and this institutional context both regularizes actions and allows for agency and accountability (Thornton *et al.*, 2012; Friedland and Alford, 1991).

2.2 Circular economy

CE is a method proposed by Chinese and European officials to help countries, businesses and consumers reduce environmental damage and end the product life cycle loop (European Commission, 2015; Murray *et al.*, 2017). It now includes contributions from a range of concepts that share the idea of closed loops. The cradle-to-cradle (McDonough and Braungart, 2010), laws of ecology (Commoner, 2020), looped and performance economies (Stahel, 2010), regenerative design (Lyle, 1996), industrial ecology (Graedel and Allenby, 1995), biomimicry (Benyus, 2002) and the blue economy (Commoner, 2020) are some of the most relevant theoretical influences.

The most renowned definition has been framed by the Ellen MacArthur Foundation, introducing the CE as “an industrial economy that is restorative or regenerative by intention and design” (2013b, p. 14). Similarly, Geng and Doberstein (2008, p. 231), focusing on the Chinese implementation of the concept, describe the CE as the “realization of [a] closed loop material flow in the whole economic system.” Following Geissdoerfer *et al.* (2017), this study defines CE as a regenerative system in which resource input and waste, emission and energy leakage are minimized by slowing, closing and narrowing material and energy loops. This can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing and recycling. The CE has received increased attention in academic research with a range of reviews on the topic by Ghisellini *et al.* (2016), Lieder and Rashid (2016) and Su *et al.* (2013).

2.2.1 Concept of circular economy. The concept of CE has gained traction with policymakers, governments and intergovernmental agencies at the local, regional, national and international level. Germany was a pioneer in integrating the CE into national laws, as

early as 1996, with the enactment of the “Closed Substance Cycle and Waste Management Act” (Su *et al.*, 2013). This was followed by Japan’s 2002 “Basic Law for Establishing a Recycling-Based Society” (METI, 2004) and China’s 2009 “Circular Economy Promotion Law of the People’s Republic of China” (Lieder and Rashid, 2016). Supranational bodies have also incorporated CE concerns most notably the EU’s 2015 Circular Economy Strategy (European Commission, 2015).

In the context of Ghana, CE principles have been used for years. Several actionable policies have been implemented to foster the CE’s future development in Ghana. For instance, Ghana requires manufacturing industries, particularly those in the consumables sector to incorporate eco-friendly design elements into their packaging solutions. For rural areas where waste management choices are limited but food and agricultural waste is prevalent, the government has established a buffer stock system in which surplus agricultural produce is stockpiled for consumption during the lean season. International development agencies, notably the EU, have held seminars on the possibilities of Ghana’s CE. At these seminars, green jobs for young people and women were pushed and awareness is developed. Thus, CE emerges from both government regulations and foreign development agencies. It is in this context that this study seeks to examine how accountability is manifested in the CE space in Ghana.

2.2.2 Review of empirical studies on circular economy. Empirical analysis of CE has increased in recent times (De Angelis, 2020; Tsai *et al.*, 2020; Mashud *et al.*, 2020a, 2020 b, 2020c). Chhimwal *et al.* (2021), for instance, conducted a study on the challenges in the implementation of CE in manufacturing industry. The study discovered that noncompliance with environmental laws, revenue generation, design issues due to technological limitations and a lack of preference for refurbished and reused products are all significant barriers to the manufacturing industry’s adoption of CE practices. Further, numerous researchers have recently worked in this area to establish a link between the CE concept and contemporary sustainable supply chain business models (Mashud *et al.*, 2020a, 2020b, 2020c). Bocken *et al.* (2016) discussed how product design and business model strategies can aid in the implementation of CE models. Rizos *et al.* (2017) concentrated on increasing knowledge and understanding of the challenges and enablers that small- and medium-sized enterprises face when implementing CE business models. Marjamaa *et al.* (2021) conducted a study on the stakeholders’ interest in CE from the context of Finland and discovered that key stakeholders have a vested interest in promoting long-term CE and that they are actively shaping actions toward a more sustainable CE. Further, the authors found that stakeholders prioritize economic and ecological interests, while social interests – particularly in a broader global social sustainability context – remain undervalued, particularly among businesses and partially industrial organizations (Marjamaa *et al.*, 2021).

In a similar study, Liu *et al.* (2021) used a qualitative case study technique to investigate the numerous challenges China faces in implementing large-scale sustainable food consumption and production. This is predicated on the backdrop that China has incorporated the CE into its national development strategy. Winschel (2021) used content analysis to determine whether and to what extent European corporations convert their carbon reduction strategy into carbon objectives that serve as the foundation for their chief executive officers’ short-term and long-term rewards. The author then analyzed the common quality and timeframe aspects of carbon targets, as well as whether carbon targets differ between carbon-intensive and less carbon-intensive businesses. Further, Thakxathi *et al.* (2021) used qualitative SSIs to shed light on the obscured micro-individual level of corporate governance practice by drawing pragmatic insights from the landmark South African King Code experience that can be applied to other governance jurisdictions for global

organizational accountability and responsibility. The combined effect of the literature review revealed that, despite the increase in CE studies, there is still a scarcity of studies that address how accountability manifests within the circularity space. This study aims to fill that gap by investigating how accountability manifests itself in the CE environment.

2.3 Concept of accountability

Accountability is a foundational principle upon which societies and their institutions are constructed (Frink, 2008; Von Dornum, 1997). Nonetheless, the obvious lack of agreement on the concept of accountability is a major impediment when discussing accountability literature (Asare *et al.*, 2021; Cooper and Owen, 2007). Scholars have defined accountability in a variety of ways in the literature. For instance, accountability can be defined as “(a) the allocation and acceptance of responsibility for decisions and actions and (b) the demonstration of whether and how these responsibilities have been met” (Lockwood *et al.*, 2010: 993). Frink and Klimoski (1998) define accountability as:

[...] perceived need to justify or defend a decision or action to some audience(s) which has potential reward and sanctions power, and where such rewards and sanctions are perceived as contingent on accountability conditions.

Gray *et al.* (1996, p. 38) defines accountability as “the duty to provide an account (by no means necessary a financial account) or reckoning of those actions for which one is held responsible.” Further, Munro and Hatherly (1993 p. 369) define accountability as “[...] the willingness and ability to explain and justify one’s actions to self and others.” In this respect, it encapsulates a self-will dimension that goes beyond the statutory duty to provide accounts to varied stakeholders.

Accountability as a term must be seen from both the descriptive and normative perspective (Karlsson-Vinkhuyzen *et al.*, 2018; Rached, 2016). From a descriptive point of view, the basic accountability system can be described as: *A accounts to B for K acts, on the basis of X standards, through Y procedures, at time Z, subject to Q consequences* (Dillard and Vinnari, 2019). The description of accountability system in this way demands that every component be defined such as who accounts to whom, for what, based on what criteria, how, when and subject to what consequences (Dillard and Vinnari, 2019). From the normative point of view, these elements are portrayed to ask for possible accountability system such as why should A account to B, on the basis of what standards, through what procedures, at what time, subject to what consequences? In other words, is the power holder “accountable to the right constituency, in the right way, at the right time, for the right reasons or standards?” (Rached, 2016: 326).

Rached (2016), drawing on Bovens (2010), proposes the accountability relationship between A and B as a “reflective discursive encounter.”

It is reflective since it lets the agents turn inward and find a justification for their acts. It is also discursive because the agents also need to turn outward and express this justification publicly and intelligibly in order to engage in a back-and-forth conversation. Furthermore, it instantiates a non-arbitrary encounter inasmuch as there is some sort of link binding the two subjects in an ongoing account-giving and account taking (Rached, 2016: 323).

The accountable agent (power holder/account provider) may be a single individual or a collective, and the account holder may be single agent or collective. The relationship is pluralistic in that the power holder may be differently accountable to multiple constituencies. It is also dynamic in that the nature of the relationships may change over time and ongoing because the relationships are situated within an ongoing community

(Dillard and Vinnari, 2019). Rached (2016) proposed eight “coordinates” or dimensions that further specify the “variables” in the definition articulating basic properties by which an accountability system can be conceptualized, implemented and evaluated. The first is the level of formality and concerns the degree to which X, Y, Z, Q are articulated and the degree to which they can be adhered. The relationships between the account holder and the power holder can be depicted as more or less formal and legalized. The second dimension is a spatial one and concerns how the power relationship between the two agents (A, B) plays out along horizontal (peer relationships) or vertical (hierarchical) lines. The third coordinate, institutionality, defines A in terms of whether the collective or the individual members that make up the collective (entity) are to be held accountable. The fourth dimension, expertise, is concerned with the characteristics of A and B with four possible combinations: both are experts; both are lay agents; the power holder is expert and the account holder is lay; or the power holder is lay and the account holder is expert. The fifth dimension, substance (output), refers to the specificity and stringency of the standards (X) to which the power holder is held. The sixth dimension, procedure (input), relates to the types of participatory tools (Y) used so as to render the power holder accountable. The seventh dimension is a temporal one, relates to Z and concerns the moment that the power holder expects the account holder to react, or the account holder has the opportunity to do so, relative to the action on the part of the former. The eighth dimension considers the consequences, Q, of the exercise of power by the account holders to affect the power holders. Rached (2016) claims that the application of these eight properties is the starting point for both a descriptive and a normative engagement regarding the parameters of accountability. Trustworthy description is presumed to precede meaningful prescription, and these coordinates or dimensions provide a framework for such an undertaking.

It should be emphasized that the way and manner in which the general principle of accountability is conceptualized, implemented and evaluated within CE environment is unknown. This is why the study’s primary objective is to examine how accountability manifests itself within a CE context.

3. Methodology

This section discusses the research methodology adopted in this study.

3.1 Research design

Constructivism is the philosophical foundations of this study, and it is based on the belief that reality lies primarily in individuals, through relationships, experiences, structures and generations (Savin-Baden and Howell-Major, 2013). Constructivism is predicated on the premise that individual comprehension and knowledge are based on their own experiences (Kirschner *et al.*, 2006). The epistemology is grounded on the premise that to ascertain the underlying meaning of events and activities, reality must be interpreted and this interpretation was accomplished through phenomenology, which attempted to assign meaning to relevant stakeholders’ experiences, views and perceptions on accountability in the circularity space.

From the above philosophical foundations, the researchers used a qualitative research approach to elicit in-depth perspectives from stakeholders on how accountability manifests in the context of CE (Yin, 2014). Qualitative research methods are useful for providing rich descriptions of complex phenomena, tracking unique or unexpected events, illuminating the experience and interpretation of events by actors with widely varying stakes and roles and progressing toward explanations (Yin, 2014; Creswell, 2013).

3.2 Population, sample and sampling technique of the study

The study's population consisted of cross section of Ghanaians with experience in CE initiatives and accountability framework. Given the context of the study which is accountability within CE in Ghana, the study focused on five stakeholders as follows: academics/researchers; policymakers; CE networks; industry organization; and nongovernmental/civil society groups. Participants were recruited to meet inclusion and exclusion criteria. Based on the sample's accessibility, the researchers proposed interviewing 40 participants. Saturation however, was achieved with 35 face-to-face interviews. Although qualitative researchers have differing opinions on sample sizes, they all agree that extremely small numbers should be used for research. Most qualitative studies use a sample size of 12 until the researcher(s) reach saturation (Braun and Clarke, 2016; Stebbins, 2001). The number of participants depend on the research approach chosen, homogeneity of participant's background, accessibility of participants and the attainment of saturation.

To select the interviewees, the study relied on the network of work colleagues who are familiar with the subject matter and through snowballing approach, other participants were recruited. To ensure that all participants understood the subject of CE, we specifically asked if they had been involved in the implementation of CE through their respective organizations and how they perceived the concept. Thus, all the participants have knowledge about the subject matter. The study was guided by the heterogeneous nature of the sample and as a result more samples were required to achieve data saturation.

3.3 Data collection

A pilot study was conducted from February 26 to March 15, 2021, before the actual data collection began. A total of 15 interviews were conducted with reference to the pilot study. The pilot study's findings had no influence on the research questions. Nonetheless, this process was used to ensure face validity of the questions and also help in linking the research questions to the development of the interview questions as suggested by Saunders *et al.* (2009).

The primary source of data was obtained through 35 SSIs of key respondents who are familiar with CE and accountability issues in Ghana. Given the coronavirus pandemic and restriction on face-face and human interaction, all the interviews were done using the virtual system specifically zoom. All the interviews were conducted in English. As Zoom has a recording system, all the interviews were video and audiotaped and transcribed verbatim. Participants consented to the recording of interviews.

The justification for using SSIs as a data collection tool in this study was that SSI is an effective method for engaging in in-depth conversation. During the SSI, the researcher can typically examine critically the talks and various initially superficial responses to reach complex conclusions. In addition, using SSI, a researcher can typically follow-up on all verbal and nonverbal responses, such as hunches, laughter and silence to disclose hidden information that may prove useful in the final data analysis of various themes collected from the conversation (Ritchie *et al.*, 2013). The interviewers might blend various themes to increase adaptability. In SSI, a researcher might discuss diverse issues with multiple themes. Moreover, the participatory character of the SSI allows the interviewee to respond freely (Yin, 2014; Creswell, 2013).

The interview explored what CE is about, what accountability entails, how accountability manifests in CE context, how accountability is evaluated in CE context (Refer to Appendix 1 for the full interview guide). Follow-up questions were asked to gain full

understanding of participants' views/opinions and perceptions. Interviews lasted for 50–60 min and were conducted by the first author.

The interviewing process began in April 2021 and lasted four months. Senior faculty members at the department of accounting of the University of Ghana provided a review of the interview data to ensure appropriateness and adequacy. To corroborate the face-to-face interview, data triangulation was performed, which means that data was gathered from additional sources such as CE and accountability literature. Further, the study relied on the field notes to provide additional information that helps put the interview responses into context. Overall, the idea was to get a complete understanding of the phenomenon from as many sources as possible.

Trustworthiness comprising the elements of credibility, transferability, dependability and confirmability are fundamental elements of qualitative research that allow the reader to assess the value of the research (Yin, 2014). To ensure the study's credibility, a technique of sustained participation, continuous observation, triangulation and member checking was used. Further, to ensure transferability, the study adopted a strategy of thick description such as the context in which the research was carried out, its setting, sample, sample size, sample strategy, demographic and socio-economic characteristics, inclusion and exclusion criteria, interview procedure and topics, changes in interview questions based on the iterative research process and excerpts from the interview guide. Moreover, to ensure dependability and confirmability, the study used the use of audit trail by providing a complete set of notes on decisions made during the research process, research team meetings, reflective thoughts, sampling, research materials adopted, emergence of the findings and information about the data management. This enables an independent auditor to study the transparency of the research path.

Ethical approval for the study was obtained from the University of Ghana Humanities Ethics Committee. Permission was sought from the relevant gate-keepers at the firms and all participants gave informed consent before interviews were conducted. Respondents were further informed about the objectives of the research and how their contributions will help conceptualize accountability within the context of CE. The participants were informed that participation was purely voluntary and that they had the right to opt out of the process at any time. Anonymity and confidentiality were assured and observed. All identifying information in participants' accounts was removed to ensure anonymity. Participants were assigned identification codes and these were used to present findings.

3.4 Data management and analysis

Generally qualitative researchers complete the first steps of data analysis as they collect the data rather than waiting until all of it is collected (Miles and Huberman, 1994). This study therefore adopted this approach as this makes it easier to analyze the data and also help to know when data saturation has occurred. The study relied on inductive coding approach. Inductive coding is a bottom-up approach in which the codes are derived from the data (Saldaña, 2021). This is critical for exploratory research or when developing new theories, ideas or concepts (Saldaña, 2021). The overall approach to the data analysis was based on thematic analysis. Several steps were used in analyzing the field data. First, the data was organized into specific units, words and sentences. Second, transcripts were read several times to immerse in participants' world. In the third step, codes were identified and themes and subthemes were generated. In the next step, data was transferred into NVivo software version 12, and this was used to manage the data subsequently. Next, similarities and differences in the coded expressions and sentences were identified.

The themes of this study were obtained as follows: By applying first-order analysis (Gioia *et al.*, 2013), the corpus of expressions and sentences was reduced to a manageable number of categories, each of which was given a generalized phrasal description. In the next step, the second-order analysis was used to convert the phrasal descriptions into abstractions (Gioia *et al.*, 2013) that expressed the key dimensions of accountability within CE context. Table 1 illustrates the data analysis abstraction process from empirical expressions to theoretical abstractions. The researchers discussed the themes and subthemes and where discrepancies occurred, a consensus was reached to ensure that participants' views, opinions and perceptions were captured faithfully. Verbatim quotes were then used to support findings (Braun and Clarke, 2006, 2014). Finally, the results of the analysis were discussed and synthesized for the purpose of validating the findings (Yin, 2014).

4. Results and discussions

This section presents and discusses the findings from the study.

4.1 Demographic characteristics

The participants were made up of 35 respondents from a cross section of Ghanaians and comprised 22 males and 13 females and age between 31 to 56 years. The respondents had experience ranging between 9 and 15 years. The educational background of the participants includes 8 bachelor degrees, 15 master's degrees and 12 doctoral degrees in addition to their relevant professional qualifications. The respondents include academics/researchers; policymakers, CE networks; industry organizations; nongovernmental and civil society organizations. Table 2 presents the demographic profile of the study respondents.

4.2 Themes and subthemes

During the analysis of the data, two broad themes emerged in relation to the research objectives as follows:

- (1) accountability manifestations in CE; and
- (2) accountability manifestations in contributing toward the sustainability of the firm.

4.2.1 *Accountability manifestations in circular economy.* This theme highlights how accountability manifests within the context of CE. It includes how it manifests and why it does so within the context of CE. The subthemes described are as follows: social system, responsibility and transparency, regular reporting to stakeholders, agency and answerability and governance systems.

4.2.1.1 Existence of social system. Accountability has been defined as a social glue (Frink and Klimoski, 1998). No mutual expectation or social order can exist without accountability for organizational conduct, operations and choices. Many of these rules and conventions are explicit, but most are socially accepted. Accountability is required by reciprocal expectations in social systems. In a CE, accountability would be reflected in the social system available to all.

On this theme, some of the respondents explained as follows:

I think the societal norms and values will reflect how accountability will manifest particularly in the context of Ghana which is a collective state." (AR 02); "I believe the kind of social norms and value systems will dictate the nature of accountability." (PM 05); "I think the standard expectation imposed by the society will determine the nature of accountability. (CEN 07)

Raw data/original expression	First-order analysis: phrasal description	Second-order analysis: abstraction/subthemes
The society has norms, values and standard of expectation regarding responsible consumption and production especially those regarding the ecology. These social norms should be the starting point for any accountability framework for this circular economy phenomenon	Societal norms, values and standard of expectation	Social system
CE is somehow new concept towards sustainability and this means that organizations will have to show how they are applying its ideals. In this context the firm or firms will have to be transparent. Transparency and responsibility system ought to be the focus of these organizations when it is about showing how accountable you are in the circular economy environment	Showing some level of transparency and responsibility	Responsibility and Transparency
As a policymaker, I would have to assume that there is the need for firms to provide regular reports to all stakeholders about their impact or footprint on the ecology. In this way stakeholders can measure how accountable and responsible you are in the light of circular economy	Reporting to stakeholders about ecological impact	Reporting to stakeholders
The whole discussion about accountability and CE can be likened to the issue of principal and agent. In fact the organizations are the agents of the society which represent the principals. The agent is required to be answerable to the principal if you want to prove accountability	A principal and an agent relationship	Agency and answerability
Governance and for that matter good governance is an ideal way to prove accountability. This is even critical in the context circular economy. Governance will entail ethical behaviour in all aspect of the operations of the organization and in particular toward responsible consumption and production	Good governance and ethical behavior	Governance systems
Circular economy and sustainability are related to a large extent. As the firm exhibits accountability in operations particularly circular accountability will lead to better competitive advantage. This could be in the form of cost advantage or differentiation and unique advantage	Achieving competitive advantage through cost or differentiation advantage	Driving competitive advantage
Circular economy accountability will lead to proper risk management which is a major concern for most if not all organizations. By improving and undertaking risk initiatives linked to circular economy, the sustainability of the firm is also guaranteed	Promoting and undertaking risk management initiative	Improving risk management
Accountable practices relative to circular economy also entails innovation. Successful implementation of circular ideals and sustainability require adoption and use of innovation and technology. Continuous adoption of new and improve technology and innovation is a requirement for sustainable firm	Adoption and use of technology and innovation practices	Fostering innovation

Source: Authors' compilation, 2021

Table 1.
Coding of themes
process

Participating groups	No. of interviewees	Technique	Average duration (minutes)
Academics/researchers (AR)	8	Via Zoom	52
Policymakers (PM)	6	Via Zoom	55
Circular economy network (CEN)	7	Via Zoom	57
Industry organization (IO)	9	Via Zoom	55
NGO/CSO	5	Via Zoom	54
<i>Gender</i>			
Male	22		
Female	13		
<i>Experience (years)</i>			
0–5	3		
6–10	8		
above 10	24		
<i>Highest education</i>			
Bachelor	8		
Masters	15		
Doctorate	12		

Table 2. Demographic profile **Source:** Authors' compilation

On this same theme, other respondents asserted as follows:

Social systems have already defined what is considered acceptable within social interactions [...] therefore any accountability framework should consider that.” (IO 03); “Accountability manifestations will exhibit in social system which is maintained by the various social control mechanisms. These mechanisms maintain the equilibrium between the various processes of social interaction. (NGO/CSO 03)

In a CE, accountability would be achieved through current social mechanisms according to respondents. This result is in line with the literature’s position (Frink and Klimoski, 1998; Rached, 2016) that society contains social systems in the form of values and standards that actors must adhere to in order to be accountable. These social systems are considered institutional logics influencing actor behavior (Thornton *et al.*, 2012). A social system has pattern, order and balance, as well as an adjustment function. Societal changes influence this multifaceted issue. That is, the social system is dependent on society’s aims, objects and interests. In a CE, these social system dynamics would manifest accountability.

Social systems for instance are part of higher logics that governs behavior (Friedland and Alford, 1991; Thornton *et al.*, 2012). Social systems are built on mutual expectations of behavior, norms and values (Hall *et al.*, 2021; Martin-Gutierrez *et al.*, 2020; Frink and Klimoski, 2004; Frink *et al.*, 2015; Rached, 2016). In Ghana, these norms, attitudes and expectations include, for example, seasonal prohibitions on farming and fishing. Various cultural and religious festivals aimed to unite people. Therefore, any accountability structure will take these values and norms into account. In the CE, a social system may include reducing emissions, greenhouse gases and protecting the ecology. The social systems are defined by conventions, values and business practices. The company is part of a larger industry with conventions, values and acceptable standards. These link people and organizations to a bigger institution.

4.2.1.2 Existence of responsibility and transparency. Responsibility and transparency are essential for the efficient operation of the modern economy. They ensure that information is accessible that can be used to assess organizational environmental efficiency. Transparency and responsibility help to provide accountability, which ensures that businesses can be held accountable for their stewardship.

On this theme, some of the respondents alluded as follows:

At the heart of the whole issue is that, sufficient transparency and accountability are essential for ensuring that society's natural resource assets were handled for the good of the entire population." (PM 02); "Transparency and responsibility are the ideal way of showing accountability in any setting. (NGO/CSO 01)

On this same theme, other respondent claimed as follows:

I think a necessary but not sufficient condition to establishing the perception of accountability is responsibility and transparency [...] in fact for accountability to be achieved, there must be transparency. (IO 04)

Another respondent posited as follows:

Transparency and responsibility are critical in this context. The organization's governing documents and policies relevant to circularity must be available to stakeholders for assessment [...]. Organizational responsibility in the context of circular economy must be clear and understood by all. (IO 02)

Transparency and accountability are fundamental manifestations of accountability in the CE, according to [Tamvada \(2020\)](#) and [Blankenberger and Williams \(2020\)](#). In acknowledgment of the relevance of these issues, many recent worldwide initiatives have been launched to promote transparency. Among these are the IMF's new Resource Revenue Transparency Guide, the Extractive Industries Transparency Initiative, the G8's larger transparency initiatives and the New Partnership for Africa's Development, which emphasizes strong transparency ([Diab, 2021](#)). These initiatives constitute institutional logics driving accountability manifestations within the context of CE.

Further, the issue of responsibility and transparency are key consideration in accountability discourse because these concepts underpin the framework of general accountability ([Diab, 2021](#)). From the perspective of institutional logics, transparency and responsibility ensure that information is available that can be used to measure organizational environmental performance and to guard against any possible misuse of natural resources ([Thornton et al., 2012](#)). This is consistent with what [Bovens \(2010\)](#) and [Rached \(2016\)](#) proposed that accountability relationship between account holder and the power holder as a "reflective discursive encounter." "It is reflective since it lets the agents turn inward and find a justification for their acts (i.e. responsibility on the part of the agent or power holder). It is also discursive because the agent also needs to turn outward and express this justification publicly and intelligibly to engage in a back-and-forth conversation (i.e. transparency on the part of the agent or power holder). In the CE context, transparency will be discharged through perceived disclosure of CE practices (i.e. the degree to which information is made available rather than concealed), perceived clarity (i.e. the degree to which information is comprehensible as opposed to obscured) and perceived accuracy (i.e. the degree to which information is accurate and not exaggerated or skewed) ([Schnackenberg et al., 2021](#)).

4.2.1.3 Regular reporting to stakeholders. Regular reporting is essential for accountability. Reports inform stakeholders on achievements, failures, solutions, costs, risks and future steps. Businesses are currently grappling with how to create reliable, rigorous and objectively validated reporting that allows their adherence to these ideals to be properly evaluated. The under-listed responses are in support of this theme:

I share the view that regular reporting to stakeholders provides social actors with an opportunity to communicate information to a much wider range of stakeholders about the environmental, social, economic, and governance performance. . . I guess this is a form of accountability. (NGO/CSO 03)

I believe regular annual cycle of reporting on common agreed-upon data in relation to circular economy activities, analyzing, reporting and discussing the findings and identifying areas for improvement, built into the agendas of global governance and leadership bodies are clear manifestation of accountability. (CEN 04)

Keeping track of the many commitments made to various stakeholder groups at various times, and communicating progress made against these commitments on a regular basis is a must for accountability. (CEN 07)

I think regularly updating your commitments and disclose progress to affected and interested parties [. . .]. In particular, publicize any material changes to commitments or implementation actions that vary from publicly disclosed document. (AR 05)

Accountability is demonstrated by routine contact with stakeholders concerning circularity initiatives and activities. An organization's feeling of accountability is demonstrated by providing information, taking responsibility for it and listening to feedback from others about how effectively it is meeting its commitments. According to prior research (Diab, 2021; Asare *et al.*, 2021), governmental institutions promoted corporate accountability by pressing for regular reporting to stakeholders. To make routine reporting to stakeholders feasible, metrics for quantifying circularity should be created (Rached, 2016). Moreover, regular reporting is vital for effective stakeholder assurance and engagement, and reports play an important role in informing stakeholders about milestones, challenges, resolutions, costs, threats relative to CE implementation (Schnackenberg *et al.*, 2021). In line with the institutional logic theory, regular reporting ensures compliance with established institutional requirements (Thornton *et al.*, 2012; Rached, 2016). In this regard, the social actor will have to regularly collect, analyses and discusses a mix of data, information and evidence/metrics to assess its performance and the extent to which they are upholding its commitments toward CE principles (Schnackenberg *et al.*, 2021).

4.2.1.4 Agency and answerability. To be dubbed an accountability practice, a practice must make a genuine effort to track the mandate's demands. Accountability demands scrutiny, but it also necessitates answerability. The concept of agency is linked to the necessity for accountability whereby actors perform two distinct roles that are linked by formal social settings. First, the focal person/entity whose decisions, activities or other behaviors are judged by others. Second, position involves someone observing and assessing the focal person. As a result, accountability will come through agency and answerability. This is akin to the principle of principal-agent relationship.

Some respondents noted as follows:

I think accountability is a two-way interaction involving agency on one part and answerability on the other part [. . .] these elements are critical to show accountability." (IO 08). "In my estimation there should be principal agency relationship in this context of accountability [. . .]. This assumes a relation between accountable and accounting actors and the public debates in which they engage. It is closely tied to transparency. (CEN 06)

Another respondent indicated as follows:

Whichever side one takes, accountability systems that seek to promote both answerability and responsibility are needed in circular environment. (AR 04)

On this same theme, another respondent asserted as follows:

Given these realities of circularity, I will argue that accountability policies need to recognize the mutual relationships between answerability and agency [. . .]. This is because accountability

policies are unlikely to be effective unless both are addressed and coordinated at least to some extent. (PM 03)

As stated above, improving accountability focuses on boosting answerability. The findings support the existing literature (Frink and Klimoski, 1998; Frink and Klimoski, 2004) that agency and answerability are required for accountability to manifest. Institutional logics theory says that accountability is heavily institutionalized, with diverse prescriptions for individuals (Friedland and Alford, 1991; Thornton *et al.*, 2012). In fact, every accountability policy or collection of policies must consider the mutuality of agency and answerability (Klimoski, 2004). The reality is that any accountability policies need to recognize the mutual relationship between agency and answerability (Moser and Leipold, 2021). Institutional logics requires agency relationship and answerability from social actors (Thornton *et al.*, 2012; Diab, 2021). When applied to CE environment, the organization being the agent is expected to be answerable for its actions and decision relative to responsible business practices including CE (Frink and Klimoski, 1998; Rached, 2016; Dillard and Vinnari, 2019). In this regard, organizations should be held responsible for adhering to defined and agreed-upon procedures and/or objectives, according to the concept of answerability.

4.2.1.5 Governance systems. Accountability is vital in promoting good governance and sustaining stakeholder engagement in organizational performance. Governance is concerned with how an entity administers and runs itself, as well as how it holds itself and its employees accountable. Ethics, risk management, compliance and administration are all aspects of governance. As a result, in a CE, accountability can be achieved via governance structures. The following comments are in support of this theme:

I can deduce that governance and accountability are two aspects of social interaction that often overlap [...] I mean both terms are linked since many businesses use corporate governance to outline goals for being accountable to internal and external stakeholders. (PM 06)

Corporate governance and accountability provide a focus for business practices that promote fairness, ethical behavior, and transparency. (CEN 05)

In my view a misalignment between corporate governance and accountability practices can damage a company's image among investors and the general public [...]. Accountability should therefore manifest via governance system. (IO 09)

I think stakeholder views corporate governance structure as a disciplinary mechanism used to reprimand, executives, managers, and workers who fail to maintain accountability in business operations. (NGO/CSO 04)

Gorman and Ward (2020) stated that accountability is a subset of governance that involves monitoring, managing and assessing corporate agents to ensure they operate in the best interests of all parties. According to the respondents, governance and accountability are intrinsically intertwined. It is unrealistic to demand accountability without effective governance systems. CE implementation demands an effective governance framework that considers circularity (Asare, *et al.*, 2021). These logics will establish, among other things, whether the organization should engage in CE practices which are all part of the accountability procedures (Diab, 2021; Rached, 2016). Therefore, any accountability policy relative to CE adoption should be situated within the governance system.

4.2.2 *Accountability manifestations in contributing toward sustainability of firm.* This theme deals with how the accountability manifestations in CE context will contribute toward the sustainability of the firm. Businesses are increasingly implementing responsible

behaviors as they pursue profit-making activities. This is due to the rising stakeholder expectations which are motivating organizations to consider the impacts of their actions in a broad, transparent and systematic manner. The subtheme that emerged from the responses are as follows: driving competitive advantage; improving risk management; and fostering innovation.

4.2.2.1 Driving competitive advantage. Accountability in the CE will help firms stay competitive by engaging stakeholders. The strategic importance of sustainability efforts derives from the need to continuously engage with and learn from important stakeholders. Being accountable to stakeholders and regularly engaging them on the firm's sustainability initiatives will result in a competitive advantage. Some of the respondents stated the following on this theme:

I think accountability manifestation will lead to eventual sustainability of the firm in that businesses may create economic benefit by recognizing and resolving social issues that are related to their operations [...] in this case the engagement of stakeholders will be crucial in driving economic value. (IO 01)

I guess by being accountable, organization will be able to predict and respond to economic, social, environmental and regulatory changes as and when they occur through frequent consultation with stakeholders [...] and this will drive competitive advantage. (IO 08)

As the firm continues to be accountable, they are able to establish good relationships with their stakeholders thereby reducing conflict and enhancing cooperation [...] this I believe will help the firm to operate within schedule and budget. (AR 05)

The above responses reveal a strong link between accountability and company sustainability. In business, sustainability means managing and integrating environmental, social and financial demands and concerns for long-term success. According to prior studies (Hahn *et al.*, 2018; Landrum and Ohsowski, 2018), this will lead to firm sustainability. As applied to the framework of CE, there should be a business case for organizations to demonstrate accountability. This business case can be seen in the increased competitive advantage that the company can gain from frequent stakeholder engagements. Through these processes, the firm will exhibit accountability that will lead to sustainability of the firm (Kuzma *et al.*, 2020; Hahn *et al.*, 2018; Landrum and Ohsowski, 2018).

4.2.2.2 Improving risk management. Accountability in a CE environment will improve risk management and thus firm sustainability. Social and environmental hazards develop over time, often affecting the enterprise in multiple ways, and are usually uncontrollable. The management of such hazards depends on the organization's accountability for CE activities. On this theme, some of respondent alluded as follows:

From my perspective, I think adopting socially ethical practices will reduce the firm's exposure to risk [...] with the continuous reduction in the firm's risk exposure level will create long term value. (CEN 04)

I believe risk management and firm's sustainability moves hand in hand [...] by this I mean that an alignment between the two should be efficient enough to sustain and grow a business while preserving the natural environment. (NGO/CSO 03)

Successful risk management strategy may assist management in identifying emerging issues of concern including the availability of renewable energy sources, the depletion of non-renewable resources, or evolving government regulations...which ultimately will lead to firm's sustainability (PM 04).

Accountability in a CE improves an organization's risk assessment and risk management. Via these processes, an organization is able to align its profit objectives with its circularity strategies. The finding is consistent with prior literature that posited that accountability ensures that firms are always alert to emerging risk (Hahn *et al.*, 2018; Landrum and Ohsowski, 2018). Further, accountability in a CE environment increases risk perception and risk management in an organization. When businesses incorporate sustainability values into their business practices, risk management programs must be incorporated as well. Paying close attention to risk factors as a result of the organization's obligation to be accountable in relation to circularity results in long-term value development, which is consistent with prior studies (Tseng, 2021; Whelan and Fink, 2016).

4.2.2.3 Fostering innovation. Accountability manifestations in CE environment can lead to the firm's long-term viability through encouraging creativity and innovation. In fact, innovation has been identified as a critical method for achieving sustainability. This opens up new market and business opportunities for firms. On this theme, several respondents made the following observations:

It is expected that the desire of the firm to be accountable relative to circularity will involve innovations and creativity [...] which if sustain will result in the long-term value creation and improve performance. (AR 07)

For companies, innovation is an essential growth tool, particularly when promoted by public policy or voluntary initiatives such as accountability in circular economy. (REP19)

I think accountability in all its forms will drive innovation [...] in this sense, innovations should generate positive economic, social, and environmental results at the same time for the organization. (PM 02)

The views expressed above indicate that accountability manifestations within the circularity space will drive innovation. Organizations pursuing CE initiatives should be concerned with novelties that address the multiple dimensions of circularity in a systematic manner and produce beneficial outcomes for both society and environment. Research has indicated that, technological innovation is a critical policy component for long-term growth (Tseng, 2021; Whelan and Fink, 2016). Accountability within CE business model calls for the need to be innovative. Innovation in turn exert strong and positive influence on sustainability performance (Pillai *et al.*, 2017; Kuzma *et al.*, 2020). As a result of the need for companies to be accountable, creative practices will emerge, resulting in long-term value creation, performance enhancement and eventually firm sustainability.

5. Summary, conclusions, implications and limitations

The study had the objective of exploring how accountability manifests within CE environment and how these manifestations may lead to sustainability of the firm. The objectives were situated within two research questions for qualitative investigation:

RQ1. How is accountability manifested in the CE in contemporary times?

RQ2. How accountability manifestations contribute to the sustainability of a firm?

The examination of field data showed that accountability in the circularity space takes several forms and configurations. The specific areas of accountability manifestations are through the social system embedded in society, through the organization's responsibility and transparency, through regular reporting to stakeholders using appropriate metrics,

through the organization's agency and answerability and through governance systems. Furthermore, the study found that accountability manifestations will contribute to the firm's sustainability by creating competitive advantage through stakeholder engagements, improving risk management and boosting creativity and innovation.

These findings substantiate the position espoused by previous researchers (Rached, 2016; Cooper and Owen, 2007; Frink, 2008; Frink and Klimoski, 2004; Von Dornum, 1997) to the extent that accountability is a multifaceted concept and must be investigated from different levels. Further, it also substantiates the position of the literature to the effect that accountability within the framework of CE should be linked to the business case agenda which is the sustainability of the firm (Karlsson-Vinkhuyzen *et al.*, 2018; Gherardi *et al.*, 2021). Additionally, the results compares favorably with studies by Asare *et al.* (2021) on strategic accountability using institutional theory in Sub-Saharan Africa.

To this end, the research contributes variously to the literature on accountability and circularity as follows.

First, the study offers empirical evidence about how accountability manifests in the circularity space. Within the framework of the CE, accountability is manifested by both formal and informal processes. Formal accountability uses established management control methods for example, budgeting and budget targets, product costing procedures, performance evaluation systems and key performance indicators relative to CE. Informal accountability involves directing company actions or behaviors in a way that helps the organization achieve its economic goals in a discretionary manner while incorporating social norms and political value systems (Diab, 2021; Moser and Leipold, 2021). It is assumed that by implementing these procedures, the social actors will preserve and strengthen its legitimacy in the public eye.

Second, in terms of theoretical contribution, this study uses institutional logics theory (Friedland and Alford, 1991; Thornton *et al.*, 2012) to demonstrate how accountability manifests itself. In this context, CE is underpinned by higher institutional processes (Diab, 2021). Thus, accountability manifestation will be based on multiple institutional logics existing within the circularity space including state order in the organizational field. Higher order logics are translated into conventions and routines, which can be used to define social behavior such as circularity practice (Freidland and Alford, 1991; Thornton *et al.*, 2012). This is important to appreciate how numerous institutional demands not only obstruct activities and impose restrictions on organization but also facilitate this process. This contribution of the study is part of a larger discussion about the need to focus on accountability in a CE context and investigate its critical position, a subject that has been surprisingly overlooked by extant literature (Di Maio *et al.*, 2017; Asare *et al.*, 2021).

Third, the study's results have both policy and managerial implications as follows: the CE is emerging as a viable alternative to the traditional linear system of production and consumption (De Angelis, 2020; Tsai *et al.*, 2020; Mashud *et al.*, 2020a, 2020b, 2020c). Scholars, government and policymakers are calling for more scholarly reflections on the role of accountability within the CE setting, given that accountability is critical in ensuring sustainable development (Karlsson-Vinkhuyzen *et al.*, 2018; Gherardi *et al.*, 2021). This study therefore sets the stage for identifying accountability framework or mechanism within the emerging phenomenon of CE. Additionally, accountability is a fundamental principle of good governance, including natural resource governance of which the CE is a component. This has the effect of guarding against negative social and environmental consequences as well as power abuse (Karlsson-Vinkhuyzen *et al.*, 2018; Gherardi *et al.*, 2021; Bovens, 2007).

Fourth, accountability directs the actions of power holders toward more socially and environmentally sustainable outcomes by ensuring that the voices of citizens and potentially impacted people are included in decision-making (Nuesiri, 2016). Thus, this study has a broader significance in that it proposes mechanisms for ensuring accountability within the circularity space. Ultimately, the government bears the primary responsibility for accountable management of production and consumption systems, as well as natural resources on behalf of its citizens, who are the owners of these resources. However, the government is frequently hesitant to hold powerful actors, particularly businesses to account without reservation, preferring to allow businesses to opt for voluntary mechanisms of accountability or self-regulation (Nuesiri, 2016). By addressing this pressing question of the nature of accountability manifestation, the study sets the tone for government, corporate leaders, policymakers and society in general to initiative discussions for a more formalized system of accountability within the circularity space. In fact, the World Bank and other comparable international financial institutions recognize the importance of accountability mechanisms that would enable them to address complaints and grievances regarding social and environmental outcomes of their funded programs and projects worldwide (Nuesiri, 2016). Thus, the study's findings are contextually relevant, emphasizing the importance of accountability mechanisms in sustainable production and consumption systems, a subject recognized by global institutions.

It should however be noted that given the pluralistic nature of the CE, formal accountability that is excessively based on control and justification would possibly inspire short-term compliance-oriented actions and will not produce the desired results. Therefore, government, policymakers, corporate executives and proponents of CE should recognize that accountability in the circularity space is multifaceted. It should include both formal and informal mechanisms in designing effective accountability systems so as to fulfil the ideals of the CE.

This study has the typical limitations of qualitative research in that the results cannot be generalized. As a result, a potential research direction will be to establish and validate suitable measures for the accountability manifestations constructs in this study using quantitative methodology. Future studies may find it useful to explore how accountability within CE context is evaluated and the boundary conditions that predict positive as well as negative consequences of accountability. Further, future studies could also explore the challenges that accountability faces within the context of CE.

References

- Ahrens, T. and Khalifa, R. (2015), "The impact of regulation on management control: compliance as a strategic response to institutional logics of university accreditation", *Qualitative Research in Accounting & Management*, Vol. 12 No. 2, pp. 106-126.
- Asare, E.T., Burton, B. and Dunne, T. (2021), "Strategic accountability for sustainability of natural resources—public discharge and optimism in Sub-Saharan Africa", *Sustainability Accounting, Management and Policy Journal*, Vol. 13 No. 2, doi: [10.1108/SAMPJ-12-2020-0437](https://doi.org/10.1108/SAMPJ-12-2020-0437).
- Benyus, J.M. (2002), *Biomimicry: Innovation Inspired by Nature*, Harper Collins, New York, NY.
- Blankenberger, B. and Williams, A.M. (2020), "COVID and the impact on higher education: the essential role of integrity and accountability", *Administrative Theory and Praxis*, Vol. 42 No. 3, pp. 404-423.
- Bocken, N.M., De Pauw, I., Bakker, C. and Van Der Grinten, B. (2016), "Product design and business model strategies for a circular economy", *Journal of Industrial and Production Engineering*, Vol. 33 No. 5, pp. 308-320.

- Bovens, M. (2007), "Analysing and assessing accountability: a conceptual framework 1", *European Law Journal*, Vol. 13 No. 4, pp. 447-468.
- Bovens, M. (2010), "Two concepts of accountability: accountability as a virtue and as a mechanism", *West European Politics*, Vol. 33 No. 5, pp. 946-967.
- Braun, V. and Clarke, V. (2006), "Using thematic analysis in psychology", *Qualitative Research in Psychology*, Vol. 3 No. 2, pp. 77-101.
- Braun, V. and Clarke, V. (2014), "What can "thematic analysis" offer health and wellbeing researchers?", *International Journal of Qualitative Studies on Health and Well-Being*, Vol. 9 No. 1, p. 26152.
- Braun, V. and Clarke, V. (2016), "(Mis) conceptualising themes, thematic analysis, and other problems with Fugard and Potts' (2015) sample-size tool for thematic analysis", *International Journal of Social Research Methodology*, Vol. 19 No. 6, pp. 739-743.
- Chhimwal, M., Agrawal, S. and Kumar, G. (2021), "Measuring circular supply chain risk: a Bayesian network methodology", *Sustainability*, Vol. 13 No. 15, p. 8448.
- Commoner, B. (2020), *The Closing Circle: nature, Man, and Technology*, Courier Dover Publications.
- Cooper, S.M. and Owen, D.L. (2007), "Corporate social reporting and stakeholder accountability: the missing link", *Accounting, Organizations and Society*, Vol. 32 Nos 7/8, pp. 649-667.
- Creswell, J. (2013), *Qualitative Inquiry and Research Design: Choosing among Five Approaches*, 3rd ed., Sage, Thousand Oaks, CA.
- De Angelis, R. (2020), "Circular economy: laying the foundations for conceptual and theoretical development in management studies", *Management Decision*, available at: <https://doi.org/10.1108/MD-05-2019-0587>
- Di Maio, F., Rem, P.C., Baldé, K. and Polder, M. (2017), "Measuring resource efficiency and circular economy: a market value approach", *Resources, Conservation and Recycling*, Vol. 122, pp. 163-171.
- Diab, A. (2021), "The accountability process during the centrality of state institutional logics: a case from an African rural context", *Journal of Accounting in Emerging Economies*, Vol. 11 No. 3, doi: [10.1108/JAEE-06-2020-0126](https://doi.org/10.1108/JAEE-06-2020-0126)
- Dillard, J. and Vinnari, E. (2019), "Critical dialogical accountability: from accounting-based accountability to accountability-based accounting", *Critical Perspectives on Accounting*, Vol. 62, pp. 16-38.
- Ellen MacArthur Foundation (2019), "What is the circular economy?", available at: www.ellenmacarthurfoundation.org/circular-economy/what-is-the-circular-economy (accessed 16 February 2021).
- European Commission (2015), *Closing the Loop – an EU Action Plan for the Circular Economy, Com (2015) 614 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions*, European Commission, Brussels.
- Friedland, R. and Alford, R.R. (1991), "Bringing society back in: symbols, practices, and institutional contradictions", in Powell, W.W. and DiMaggio, P.J. (Eds), *The New Institutionalism in Organizational Analysis*, University of Chicago Press, Chicago.
- Frink, D.D. and Klimoski, R.J. (1998), "Toward a theory of accountability in organizations and human resource management".
- Frink, D.D. and Klimoski, R.J. (2004), "Advancing accountability theory and practice: introduction to the human resource management review special edition", *Human Resource Management Review*, Vol. 14 No. 1, pp. 1-17.
- Frink, D.D., Hall, A.T., Perryman, A.A., Ranft, A.L., Hochwarter, W.A., Ferris, G.R. and Royle, M.T. (2008), "Meso-level theory of accountability in organizations", *Research in Personnel and Human Resources Management*, Emerald Group Publishing Limited, Bingley.

- Frishammar, J. and Parida, V. (2019), "Circular business model transformation: a roadmap for incumbent firms", *California Management Review*, Vol. 61 No. 2, pp. 5-29.
- Gaitonde, R., Muraleedharan, V.R., San Sebastian, M. and Hurtig, A.K. (2019), "Accountability in the health system of Tamil Nadu, India: exploring its multiple meanings", *Health Research Policy and Systems*, Vol. 17 No. 1, pp. 1-11.
- Geissdoerfer, M., Savaget, P., Bocken, N.M. and Hultink, E.J. (2017), "The circular economy—a new sustainability paradigm?", *Journal of Cleaner Production*, Vol. 143, pp. 757-768.
- Geng, Y. and Doberstein, B. (2008), "Developing the circular economy in China: challenges and opportunities for achieving 'leapfrog development'", *International Journal of Sustainable Development and World Ecology*, Vol. 15 No. 3, pp. 231-239.
- Gherardi, L., Linsalata, A.M., Gagliardo, E.D. and Orelli, R.L. (2021), "Accountability and reporting for sustainability and public value: challenges in the public sector", *Sustainability*, Vol. 13 No. 3, p. 1097.
- Ghisellini, P., Cialani, C. and Ulgiati, S. (2016), "A review on circular economy: the expected transition to a balanced interplay of environmental and economic systems", *Journal of Cleaner Production*, Vol. 114, pp. 11-32.
- Gioia, D.A., Corley, K.G. and Hamilton, A.L. (2013), "Seeking qualitative rigor in inductive research: notes on the Gioia methodology", *Organisational Research Methods*, Vol. 1 No. 16, pp. 15-31.
- Gorman, L. and Ward, A.M. (2020), "Accountability", *Encyclopedia of Sustainable Management*, Vol. 1.
- Graedel, T.E. and Allenby, B.R. (1995), *Industrial Ecology*, Prentice Hall, Englewood Cliffs.
- Gray, R., Owen, D. and Adams, C. (1996), *Accounting and Accountability: Changes and Challenges in Corporate Social and Environmental Reporting*, Prentice Hall.
- Hahn, T., Figge, F., Pinkse, J. and Preuss, L. (2018), "A paradox perspective on corporate sustainability: descriptive, instrumental, and normative aspects", *Journal of Business Ethics*, Vol. 148 No. 2, pp. 235-248.
- Hall, D.M., Gilbertz, S.J., Anderson, M.B., Avellaneda, P.M., Ficklin, D.L., Knouft, J.H. and Lowry, C.S. (2021), "Mechanisms for engaging social systems in freshwater science research", *Freshwater Science*, Vol. 40 No. 1, pp. 245-251.
- Ji, L., Tang, G., Wang, X., Yan, M. and Liu, Z. (2012), "Collectivistic-HRM, firm strategy and firm performance: an empirical test", *The International Journal of Human Resource Management*, Vol. 23 No. 1, pp. 190-203.
- Karlsson-Vinkhuyzen, S., Dahl, A.L. and Persson, Å. (2018), "The emerging accountability regimes for the sustainable development goals and policy integration: Friend or foe?", *Environment and Planning C: Politics and Space*, Vol. 36 No. 8, pp. 1371-1390.
- Kirschner, P.A., Sweller, J. and Clark, R.E. (2006), "Why minimal guidance during instruction does not work: an analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching", *Educational Psychologist*, Vol. 41 No. 2, pp. 75-86.
- Kuzma, E., Padilha, L.S., Sehnem, S., Julkovski, D.J. and Roman, D.J. (2020), "The relationship between innovation and sustainability: a meta-analytic study", *Journal of Cleaner Production*, Vol. 259.
- Landrum, N.E. and Ohsowski, B. (2018), "Identifying worldviews on corporate sustainability: a content analysis of corporate sustainability reports", *Business Strategy and the Environment*, Vol. 27 No. 1, pp. 128-151.
- Lerner, J.S. and Tetlock, P.E. (1999), "Accounting for the effects of accountability", *Psychological Bulletin*, Vol. 125 No. 2, pp. 255-275.
- Lieder, M. and Rashid, A. (2016), "Towards circular economy implementation: a comprehensive review in context of manufacturing industry", *Journal of Cleaner Production*, Vol. 115, pp. 36-51.
- Liu, Y., Wood, L.C., Venkatesh, V.G., Zhang, A. and Farooque, M. (2021), "Barriers to sustainable food consumption and production in China: a fuzzy Dematel analysis from a circular economy perspective", *Sustainable Production and Consumption*, Vol. 28, pp. 1114-1129.

- Lockwood, M., Davidson, J., Curtis, A., Stratford, E. and Griffith, R. (2010), "Governance principles for natural resource management", *Society and Natural Resources*, Vol. 23 No. 10, pp. 986-1001.
- Lyle, J.T. (1996), *Regenerative Design for Sustainable Development*, John Wiley and Sons New York, NY.
- McDonough, W. and Braungart, M. (2010), *Cradle to Cradle: Remaking the Way we Make Things*, North point press, London.
- Macdonald, K. (2014), "The meaning and purposes of transnational accountability", *Australian Journal of Public Administration*, Vol. 73 No. 4, pp. 426-436.
- Marjamaa, M., Salminen, H., Kujala, J., Tapaninaho, R. and Heikkinen, A. (2021), "A sustainable circular economy: exploring stakeholder interests in Finland", *South Asian Journal of Business and Management Cases*, Vol. 10 No. 1, pp. 50-62.
- Martin-Gutierrez, S., Losada, J.C. and Benito, R.M. (2020), "Impact of individual actions on the collective response of social systems", *Scientific Reports*, Vol. 10 No. 1, pp. 1-14.
- Mashud, A.H.M., Roy, D., Daryanto, Y. and Ali, M.H. (2020a), "A sustainable inventory model with imperfect products, deterioration, and controllable emissions", *Mathematics*, Vol. 8 No. 11, pp. 1-21.
- Mashud, A.H.M., Wee, H.M., Huang, C.V. and Wu, J.Z. (2020b), "Optimal replenishment policy for deteriorating products in a newsboy problem with multiple just-in-time deliveries", *Mathematics*, Vol. 8 No. 11, pp. 1-18.
- Mashud, A.H.M., Wee, H.M., Sarkar, B. and Chiang Li, Y.H. (2020c), "A sustainable inventory system with the advanced payment policy and trade-credit strategy for a two-warehouse inventory system", *Kybernetes*, available at: <https://doi.org/10.1108/K-01-2020-0052>
- METI (2004), *Handbook on Resource Recycling Legislation and 3R Initiatives*, Japanese Ministry of Economy, Trade and Industry, Tokyo.
- Miles, M.B. and Huberman, A.M. (1994), *Qualitative Data Analysis: An Expanded Sourcebook*, Sage. [Database][Mismatch]
- Moser, C. and Leipold, S. (2021), "Toward 'hardened' accountability? Analyzing the European Union's hybrid transnational governance in timber and biofuel supply chains", *Regulation and Governance*, Vol. 15 No. 1, pp. 115-132.
- Munro, R. and Hatherly, D. (1993), "Accountability and the new commercial agenda", *Critical Perspectives on Accounting*, Vol. 4 No. 4, pp. 369-395.
- Murray, A., Skene, K. and Haynes, K. (2017), "The circular economy: an interdisciplinary exploration of the concept and application in a global context", *Journal of Business Ethics*, Vol. 140 No. 3, pp. 369-380.
- Nuesiri, E.O. (2016), "Accountability of powerful actors for social and environmental outcomes", NRGF Conceptual Paper, IUCN and CEESP, Gland, Switzerland.
- O'Dwyer, B. and Boomsma, R. (2015), "The co-construction of NGO accountability: aligning imposed and felt accountability in NGO-funder accountability relationships", *Accounting, Auditing & Accountability Journal*.
- Ogden, S., Glaister, K.W. and Marginson, D. (2006), "Empowerment and accountability: evidence from the UK privatized water industry", *Journal of Management Studies*, Vol. 43 No. 3, pp. 521-555.
- Pan, P. and Patel, C. (2020), "Formal accountability, perceived accountability and aggressive reporting judgements", *Accounting and Business Research*, Vol. 1, pp. 1-27.
- Pieroni, M.P., McAlone, T.C. and Pigozzo, D.C. (2019), "Business model innovation for circular economy and sustainability: a review of approaches", *Journal of Cleaner Production*, Vol. 215, pp. 198-216.
- Pillai, K.V., Slutsky, P., Wolf, K., Duthler, G. and Stever, I. (2017), "Companies' accountability in sustainability: a comparative analysis of SDGs in five countries", *Sustainable Development Goals in the Asian Context*, Springer, Singapore, pp. 85-106.

-
- Rached, D. (2016), "The concept(s) of accountability: form in search of substance", *Leiden Journal of International Law*, Vol. 29 No. 2, pp. 317-342.
- Ritchie, J., Lewis, J., Nicholls, C. M. and Ormston, R. (Eds) (2013), *Qualitative Research Practice: A Guide for Social Science Students and Researchers*, Sage, New York, NY.
- Rizos, V., Behrens, A., Van der Gaast, W., Hofman, E., Ioannou, A., Kafyeke, T. and Topi, C. (2016), "Implementation of circular economy business models by small and medium-sized enterprises (SMEs): barriers and enablers", *Sustainability*, Vol. 8 No. 11, p. 1212.
- Saldaña, J. (2021). *The Coding Manual for Qualitative Researchers*, Sage.
- Saunders, M., Lewis, P. and Thornhill, A. (2009), *Research Methods for Business Students*, Pearson education.
- Savin-Baden, M. and Howell-Major, C. (2013), *Qualitative Research: The Essential Guide to Theory and Practice*, Routledge.
- Schnackenberg, A.K., Tomlinson, E. and Coen, C. (2021), "The dimensional structure of transparency: a construct validation of transparency as disclosure, clarity, and accuracy in organizations", *Human Relations*, Vol. 74 No. 10, pp. 1628-1660.
- Soobaroyen, T., Tsamenyi, M. and Sapra, H. (2017), "Accounting and governance in Africa—contributions and opportunities for further research", *Journal of Accounting in Emerging Economies*, Vol. 7 No. 4, pp. 422-427.
- Stahel, W.R. (2010), "Sustainability and the performance economy", *The Performance Economy*, Palgrave Macmillan, London, pp. 269-287.
- Stebbins, R.A. (2001), *Exploratory Research in the Social Sciences*, Kindle edition, Sage, Thousand Oaks, CA.
- Su, B., Heshmati, A., Geng, Y. and Yu, X. (2013), "A review of the circular economy in China: moving from rhetoric to implementation", *Journal of Cleaner Production*, Vol. 42, pp. 215-227.
- Svensson, N. and Funck, E.K. (2019), "Management control in circular economy. Exploring and theorizing the adaptation of management control to circular business models", *Journal of Cleaner Production*, Vol. 233, pp. 390-398.
- Tamvada, M. (2020), "Corporate social responsibility and accountability: a new theoretical foundation for regulating CSR", *International Journal of Corporate Social Responsibility*, Vol. 5 No. 1, pp. 1-14.
- Thakhathi, A., De Jongh, D. and Langeni, P. (2021), "What's in a king? Unveiling the pragmatic micro-perceived value attributes of a fulfilling corporate governance code for responsible sustainable development", *Journal of Global Responsibility*, Vol. 12 No. 4.
- Thornton, P., Ocasio, W. and Lounsbury, M. (2012), *The Institutional Logics Perspective*, John Wiley and Sons, NJ.
- Tsai, F.M., Bui, T.D., Tseng, M.L., Lim, M.K., Wu, K.J. and Mashud, A.H.M. (2020), "Assessing a hierarchical sustainable solid waste management structure with qualitative information: Policy and regulations drive social impacts and stakeholder participation", *Resources, Conservation and Recycling*, p. 105285.
- Tseng, S. (2021), "Capitalising on capitalism: the growing business case for sustainability and the crucial role of shareholders".
- Vermunt, D.A., Negro, S.O., Verweij, P.A., Kuppens, D.V. and Hekkert, M.P. (2019), "Exploring barriers to implementing different circular business models", *Journal of Cleaner Production*, Vol. 222, pp. 891-902.
- Von Dornum, D.D. (1997), "The straight and the crooked: legal accountability in ancient Greece", *Columbia Law Review*, Vol. 97 No. 5, pp. 1483-1518.
- Whelan, T. and Fink, C. (2016), "The comprehensive business case for sustainability", *Harvard Business Review*, Vol. 21 No. 2016.

- Winschel, J. (2021), "Climate change policies and carbon-related CEO compensation systems: an exploratory study of European companies", *Journal of Global Responsibility*, Vol. 12 No. 2.
- Yang, D., Xiao, T. and Huang, J. (2019), "Dual-channel structure choice of an environmental responsibility supply chain with green investment", *Journal of Cleaner Production*, Vol. 210, pp. 134-145.
- Yin, R. (2014), *Case Study Research: Design and Methods*, 5th ed., Sage, Thousand Oaks, CA.

Further reading

- Bovens, M. (2005), "Public accountability", in Ferlie, E., Lynne, L. and Pollitt, C. (Eds), *The Oxford Handbook of Public Management*, OUP, Oxford.
- Gary, R., Owen, D. and Adams, C. (1996), "Accounting and accountability: changes and challenges in corporate social and environmental reporting", Prectice Hall.
- Mulgan, R. (2000), "Accountability: an ever-expanding concept?", *Public Administration*, Vol. 78 No. 3, pp. 555-573.

Appendix. Interview guide – semi-structured interview questions

The following interview questions were put to the respondents to obtain their views and perception relative to the subject matter:

(1) What is CE and why do you think that is CE? (2) Have you been involved in CE implementation or initiative? (3) What is accountability? (4) What accountability entails? (5) What is the meaning of accountability in the CE context? (6) What makes you believe that is accountability in the context of CE? (7) How is accountability manifested within the CE context? (8) Why does it manifest in this way? (9) How are these manifestations contributing toward sustainability of the firm? (10) How is accountability evaluated in the context of CE? (11) What are the elements of accountability in the CE environment? (12) What type or kind of accountability (i.e. formal or informal) would you recommend within the context of CE and why?

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