A critical examination of the importance of sustainability in the circular economy: UK perspective

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Keywords
Circular economy, sustainability, air pollution, renovating, climate change, social circular economy

Abstract

Purpose: *The purpose of this research is to examine how the concept of sustainability might operate in a circular economy in order to contribute to economic growth*

Design/methodology/approach*: A quantitative survey questionnaire research strategy was utilised in conjunction with a deductive research approach to elicit information about the topic by referencing the most recent and pertinent literature. This study combines primary and secondary sources. To achieve the research objectives, primary data is acquired via questionnaires. Over a 20-day period, 30 companies representing a variety of industries were approached face to face, via email, and via LinkedIn.*

Findings: *According to the research findings, corporations are becoming increasingly aware of the circular economy and its implications for sustainability. The findings also revealed that businesses are eager to transition to a circular economy and believe there is a link between the two concepts.*

Practical implications: *The study provides a critical perspective on the current state of the circular economy and the importance of sustainability in the circular economy. The research goes beyond the scholarly community's efforts to improve knowledge of the circular economy and the relationship between sustainability and the circular economy.*

Originality/value: *This study contributes significantly to the scarcity of academic evidence on the relationship between the two concepts, and it is an important step toward a better understanding of how businesses can use circular economies to advance toward a more sustainable society.*

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1.1 Introduction & background of the research

According to Murray et al. (2017), the circular economy is the most recent attempt to envision the long-term convergence of commercial growth and environmental health. The circular economy's key components are related with its restorative and regenerative idea, which attempts to reduce pollution and consumption through closing cycles. This involves the development of a production recycle strategy that identifies where leakage and pollution occur and how they may be handled or prevented (Ellenmacarthurfoundation.org, 2017). The circular economy encompasses more than just material recovery and recycling. This also supports the use of non-renewable energy sources such as biomass, wind, and renewable electricity. This appears to be comparable to how plants manufacture nutrition in the environment, in which they use nutrients from decomposing matter, rainwater, and the sun's energy

to develop food (Kalmykova, Sadagopan and Rosado, 2018). Instead of relying on non-renewable petroleum derivatives, the circular economy promotes the development and exploitation of sustainable and environmentally friendly alternatives to traditional sources (VTT, 2020).

The circular economy is regarded as a crucial concept in political science and economics that seek long-term growth. Transitioning from a take–make–use–dispose economy to a production–consumption–waste economy necessitates the commitment and participation of a diverse set of partners (Lieder, 2016). According to the same source, the ability of various players to co-produce value is critical to the success of economic model. This idea is instantly applicable to the larger context of long-term sustainability. It is part of a worldwide strategy that includes, among other things, components of the sustainable economy, ecological design, environmental, and economic systems (Millar, McLaughlin, and Börger, 2019).

The current literature does not clearly define the relationship between circular economy and sustainability, leading to conceptual confusion (Geissdoerfer 2017). The study fills this void by defining the words and integrating their interactions to produce better comprehension (Geissdoerfer 2017, Ellen MacArthur 2013). Circular economy and sustainability, concepts that have only been present for several years, underscore the need for new business strategies and innovation (Osterwalder and Pigneur 2010; Teece, 2010, Trott 2017).

Energy and resource conservation, business model innovation, and manufacturing synergy are some of the measures to change from a linear to a circular economy (Reichel 2016). The circular economy is a novel industrial strategy that aims to improve environmental variables and even exceed sustainability standards (Kopina and Blewitt 2015). Circular economy is commonly cited as a technique that will promote development (Ghisellini 2016). There appear to be conceptual and technological barriers to effective circular economy deployment in a specific location (Ellen Macarthur Foundation, 2017).

1.2 Background of the research context

The climate issue has evolved from scholars' predictions to reality. Global climate change and climatic instability are just one facet of an escalating environmental breakdown that threatens to turn the earth toxic for civilization, as it has been for the 150 species that perish daily (London.gov.uk, 2021). However, London is the first city to commit to becoming carbon-free by 2050, allowing it to pioneer the development of a circular economy (London.gov.uk, 2021). Using a circular economy approach will benefit London's building and construction industry greatly. If circular economy concepts are fully implemented, the London Waste and Recycling Board (LWARB) may earn between £3 billion and £5 billion in revenue for London and create 12,000 additional people by 2036.

Despite growing awareness of the circular economy, there is still a lack of resources in London for how business strategies might be linked to environmental responsibility and aimed to reduce waste (Gong et al., 2020). Some market niches have stricter sustainability and circular economy criteria than others, forcing a company to rethink its marketing strategy. For some companies, servicing an unfit customer is part of a goal to focus on the circular economy and sustainability. The only way to achieve this is through greater transparency, resulting in increased confidence and mutual trust (Ssir.org, 2018).

1.3 Research aim and objectives

The main aim of this research is to contribute to the advancement of academic knowledge on the subject by investigating how the concept of sustainability can work in a circular economy and contribute to economic growth. The following are the research objectives as a result of this study goal:

1. Examine the similarities and differences between sustainability and the circular economy.
2. To look at the circular economy and how it relates to long-term growth.
3. To comprehend the circular economy's potential for creating a more sustainable environment for business models and innovation

1.4 Research questions

The following research question was developed to investigate the research problem:
How can the principles of sustainability and circular economy be integrated to assist economic growth in London's capital city?

2. Literature Review

2.1 Circular Economy

Starting in the late 1970s, the circular economy concept has gained traction (Geissedoefer, Saveget, Bocken, and Hultink, 2016). Circular economy theory is gaining acceptance among corporations, non-profits, and politicians worldwide. It claims that a green and sustainable society offers new prospects for development and job creation (Kirchherr, 2017). The main goal of the circular economy is economic success (Rizos, V, 2017), followed by natural insurance (Ghisellini et al., 2016; Murray et al., 2017; (Kirchherr, 2017). The number of articles on circular economy has increased dramatically, from around 30 in 2014 to over 100 in 2016. (Geissdoerfer et al., 2017). However, the number of circular economy papers published in 2019–2020 was fewer than in prior years, possibly due to lack of interest or time to achieve the pre-established citation standards (Arruda et al., 2021). More research is needed on the academic sector's evolution of the circular economy over the years and in the future.

Studies on Urban Circular Economy by Bonato and Orsini (2018) and Social Circular Economy by Hobson (2019) have already addressed the Circular Economy topic. Also, according to Hobson (2019), the engagement of individuals as shoppers has received less attention than other parts of the circular economy (such as specialised intercessions) within popular discourse. The author agrees since residents are key players in any economy as shoppers, clients, users, and pioneers. Individuals can influence an economy by purchasing data, goods, and services and then discarding them. In fact, the circular economy is a regenerative industrial paradigm (Ellenmacarthurfoundation.org, 2020).

Without a doubt, the circular economy and the ideas that drive it can help create an eco-friendlier future, but its current dominant methods raise several questions. The main risk is that it will only work temporarily, blinding us to the fact that truly resolving ecological issues will necessitate a fundamental shift in governmental, economic, and social structures. According to a new study by Zing and Geyer (2017), the circular economy has undeniable benefits. The study found that businesses adopting the circular economy do so to benefit the environment, but also to cut pollution and improve operational efficiencies, lowering costs. In an ideal world, this would be great, but in actuality, it might lead to better functional strategies, cheaper unit costs, bigger sales volume, and market rate difficulty.

The UK's House of Commons proposed tax measures to promote the circular economy in 2014. This may encourage reuse and reward businesses that support sustainable development. Employing non-recyclable materials may be prohibited if better solutions are developed (Lacy and Rutqvist, 2015). Officials are working on a circular economy, from transnational partnerships like the EU to countries like China, and cities like Tokyo, New York, and London (Purnell et al., 2020). In 2013, 33% of global CEOs indicated extraordinary investments in the circular economy due to personal, organisational, and biological concerns (Accenture and Compact, 2013). Most people consider circular economy as a way to increase environmental and economic benefits, primarily through technical outputs that create financial, ecological, and sociocultural factors. Discussing how successfully the circular economy contributes to ecological sustainability rarely includes all three aspects, with a heavy emphasis on financial issues, a modest focus on air quality, and a minor emphasis on social justice (Geissdoerfer et al., 2017; Kirchherr et al., 2017). Assuming Kirchherr et al. (2017) are correct, the reality of circular economy studies is a mixed bag. Ghisellini et al. (2016) state that the idea of a circular economy is to gain more monetary, ecological, and social solidity.

Circular economy strategies often emphasise eco-efficiency. It seems differently depending on the approach. Some strategies emphasise this feature of eco-efficacy as the goal of circular economy (Stahel, 2013; Wijkman and Sknberg, 2015). Other ways see eco-efficiency, market relevance and job growth, lowered pollution and waste, result delivers stability, and fewer volatility in resource prices (EMF, 2012). The same author distinguished between eco-efficiency and eco-effectiveness. Eco-efficiency is a method of minimising the size, speed, and harmful impacts of resource channel flow. EMF (2012) defines eco-effectiveness as the conversion of goods and related material exchanges in such a way that they promote ecological functions and long-term economic growth prosperity. Instead of limiting supply chain movement, the idea is to create cycles and metabolic rates that allow components to remain resources (EMF, 2012). In the circular economy, eco-effectiveness must always trump eco-efficiency (EMF, 2012).

Waste reduction is commonly stated in circular economy strategies, and it is sometimes the primary purpose (Wrap.org.uk, 2021). The concepts of cradle-to-cradle and planetary boundaries (Braungart et al., 2007) are all related to waste prevention (Rockstrom et al., 2009). Creating a circular economy requires a complex mix of policies. For efficiency, the efforts must be cohesive in their process (within and between governance levels), tightly connected in their goals, and trustworthy among market participants (Wilts & O'Brien, 2019).

2.2 Sustainability

Sustainability appears to have gotten more attention than other notions, and it looks to have been on track to become the obvious model for a long time (Scopelliti et al., 2018; Shepherd et al., 2016). Despite its widespread usage and acceptability, the idea continues to elicit consumer confusion about its meaning or interpretation, as well as what it implies for developmental practise and theory (Montaldo, 2013). There appear to be numerous viewpoints on this concept and how it could be implemented (Jukes, 2020). In actuality, there appear to be several views on this notion and its implementation (Ten Have and Gordijn, 2020). Author emphasises both environmental duties and what we must hope for (by means of strategies and ordinary activities). A dedication to establishing a global society that is compassionate, equal, and helpful, and recognises the importance of individual integrity for everyone (World economic forum, 2021).

Min-Jui Yeh (2020) examines the normative ideals involved in the concept of sustainability. Equality, stability, and unity are his key values. He also looks into three historical periods that shaped and enlarged the concept of sustainability. Since sustainability is widely recognised in academics, it is important to define its basic assumptions so we can completely grasp the obligations and responsibilities that come with it. Lewis and Maslin (2018) and Dobson (2016) describe sustainability as the tensions between humanity, consumption, and progress that have ecological repercussions. Due to a paucity of funds in most countries and a fast-growing population, the researcher thinks that improvements should be made. For Ben-Eli (2015), it is a dynamic equilibrium in the process of communication between citizens and climate usage rate, where citizens expand to their best ability while not causing irreparable harm to the environment. The ability of humans to satisfy their goals despite depleting or draining production resources is defined as sustainability by Craig (2015). As a result, questions about how mankind should conduct economic and social activities to utilise the available environmental supply for human expansion arise. According to Hák, Janouková, and Moldan (2016), converting multicultural society, ecology, and economy into a responsible one is one of the most difficult issues men faces today.

According to Mensah and Enu-Kwesi (2018), the vocabulary should also emphasise cross-generational justice, which is crucial yet difficult to define and anticipate. As a result, modern sustainability theories prioritise and integrate social, ecological, and economic systems to address human challenges in ways that benefit people (Hussain, Chaudhry, & Batool, 2014). The purpose of sustainability

is to find fresh solutions to problems including environmental degradation, resource depletion, and societal issues (Abson et al., 2017). Considering that society is a system, interventions can be focused on the system components that will most successfully impact the entire system. Managing sustainability has many benefits. The potential revenue benefits of sustainable development can be seen. Innovative products and services may be created because of a sustainable development plan. Customers are willing to pay a premium for things produced in an eco-friendly and cost-effective manner (Carrillo-Hermosilla et al., 2009).

2.3 The link between circular economy and sustainability

Long-term profitability necessitates the proper use of business resources to attain a long-term economically feasible goal (Thwink, 2014). Understanding the fundamental causes of current environmental issues, as well as the classification and explanation of those issues, as well as a philosophical study of nature and the concepts of circular economy and sustainability, would allow the researcher to investigate a comprehensive answer to the inquiry rather than a speculative and immaterial solution. While circularity has a positive impact on specific maintainability primers, as Geissdoerfer et al. (2017) point out, it does not emulsify other aspects, particularly the social one.

A circular economy aims to separate value creation from waste generation and resource use by radically changing age and usage frameworks. To establish a fairly viable circular economy, generation, age, and use proclivities should metamorphose in tandem (Velenturf and Purnell, 2021). According to the same authors, a reasonable circular economy entails manufacturing and propelling things that are durable and can be reused, enhanced, and remanufactured multiple times. Rather than simply improving the energy or materials controlled in them and continuously delivering new items, this preserves the utilitarian component of things. According to Kirchherr et al. (2017), circular economy converges to contribute to long-term developments, whereas Suárez-Eiroa et al. (2019) observe that the circular economy's purpose has a position under the shade of an outline of unwinding progress and blossoming improvement.

The central goal of circular economics is to transform corporate operations into long-term, closed-loop organisational resources, rather than to generate material and energy circulation loops (Fogarassy and Finger, 2020). Indeed, putting circular economy in the context of the more well-known concept of sustainability has been a hot topic of discussion ((Sauvé, Bernard, and Sloan, 2016; (Geissdoerfer et al., 2017; Schroeder, Anggraeni, and Weber, 2018; Schöggl, Stumpf, and Baumgartner, 2020; Cecchin et al., 2021). Circular economy is compared to environmental sciences and sustainability by Sauvé et al. (2016). Geissdoerfer et al. (2017) look at the various connections, establishing three types of interactions: conditional (circular economy as a prerequisite for sustainability), advantageous (circular economy aids sustainability), and trade-off (circular economy helps sustainability) (circular economy has both positive and negative sustainability implications). In their literature review, Schöggl et al. (2020) point out that rebound effects may make circular economy solutions harmful in the long run. According to Blum et al. (2020), the circular economy fails to address social issues, and higher-ranking value retention alternatives, which may have longer-term repercussions, are less clearly addressed in circular economy research.

While there is a scholarly debate on the relationship between circular economy and sustainability, the perspective of circular economy businesses appears to be overlooked in the literature. This perspective, on the other hand, may provide insights into how firms' circular economy solutions will contribute to addressing existing sustainability concerns by looking at the real-world consequences of their solutions (Walker et al., 2021). Several studies (Mura, Longo, and Zanni, 2020; Gusmerotti et al., 2019) look at the drivers and challenges of implementing circular economy solutions at the business level, but they don't explain how circular economy and sustainability are related. Brown et al. (2019) investigates why

companies collaborate on the circular economy and find, to their surprise, that the actors' incentives are based on prescriptive durability norms. On the other hand, the respondents' perceptions of the relationship between circular economy and sustainability are not assessed. In a similar vein, Ritzén and Sandström (2017) conduct a survey of manufacturing enterprises to determine circular economy roadblocks and find that a conflict of cultures in several areas, such as sustainability and circular economy, is a barrier to circular economy conversion.

The promotion of circular economy as a tool for addressing each of the three components of sustainability frequently ignores the issue of sustainability trade-offs (Ghisellini, Cialani and Ulgiati, 2016). It is critical to emphasise that such a theory would alter people's perceptions of the relationship between circular economy and sustainability, as well as the importance of properly analysing the implications of circular economy solutions before implementing them. Walker et al., on the other hand, argue that the blurry border between circular economy and sustainability, as well as a lack of understanding of firm-level interpretations of the two concepts, will hinder the potential of organisations to employ circular economy to contribute to better sustainability.

2.4 Conceptual framework

According to Teece (2007), a framework is much less robust than a theory because it is sometimes agnostic about the exact form of possible correlations which might appear. This part contains the conceptual model based on past studies and is connected to the objective and aims. It emphasises the link among circular economy and sustainability, as well as the influence of the notions on the economic, social, and environmental levels, as seen in figure 1.

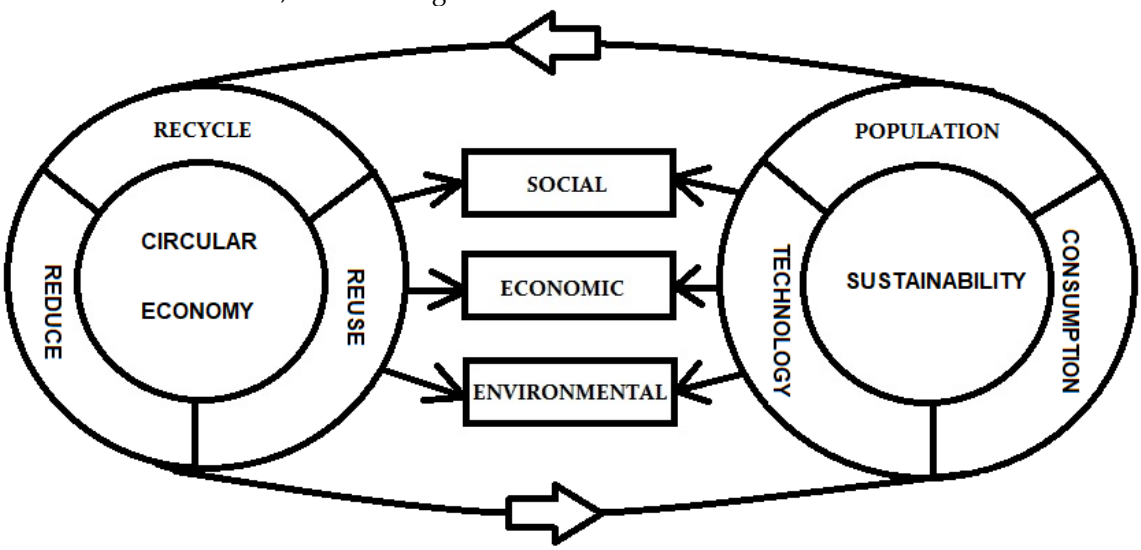

Figure 1. Conceptual framework (Source: Authors)

The researcher argues that there is a link between the two notions, as a fully circular economy must be a sustainable economy, according to the literature assessment. In contrast to sustainability, which focuses on people and the economy, circularity focuses on resource cycles.

Cutting back on immediate consumption cannot be countered by population growth since the repercussions of a larger population are greater than a smaller one. Long-term sustainable growth necessitates a constant and unified effort on both fronts. The long-term benefits of a stable or declining human population are too great to ignore. Additionally, technical advancement is necessary for long-term sustainability. Manufacturing uses, resource types and quantities used, and the products produced will all

need to adapt for long-term economic growth. To put it another way, the circular economy is an environmental transformation in response to the worldwide demand for sustainable systems and involves human business interactions that conform to the three R principles of reduction, reuse, and recycling.

The development and implementation of new economic concepts is essential to a revolutionary circular economy in which resource sufficiency and efficiency are vital. Sustainable circular economies shift from short-term productivity growth for the benefit of a few to creating equal access to services within environmental constraints so that everyone can have a chance for a happy life (Frontiers, 2021). In addition, the circular economy is becoming more widely accepted as a feasible option for achieving more sustainable growth, although the researcher believes that further research is needed.

Approaches for moving toward and ensuring a sustainable circular economy requires constant review and optimization to remain focused with the primary principles of environmental quality, social equality, and economic prosperity. Consumption patterns and manufacturing methods must evolve in tandem to achieve a truly sustainable circular economy. An environmentally friendly circular economy involves developing and marketing products that are long-lasting and that can be reused, repaired, and reconditioned as often as they can. Instead of recovering the energy or materials contained within them and continuously producing different items, this preserves the operational price of objects.

3. Methodology

3.1 Research method and sampling framework

The study employs a quantitative research method to gather data online utilising a questionnaire. A simple random sample strategy was used combined with probability sampling for the investigation. A simple random sample is a subset of a larger sample group in which every individual has an equivalent shot at being picked (Investopedia, 2021). The study has a sample range of 30 people from various industries. The research used a questionnaire-based survey approach to obtain primary data. Because of the positivist character of this study, it starts with a detailed assessment of circular economy knowledge and the connection between circular economy and sustainability

3.2 Survey Design

The research questions were designed to ascertain the level of circular economy awareness, knowledge, and comprehension among businesses. The researcher prepared and developed the questionnaire, which was then screened and validated by the supervisor. The final questionnaire contains 12 questions divided into two parts. The first part of the survey questionnaires is based on demographic information about the participants, while the second part focused on circular economy awareness and the relationship between circular economy and sustainability.

3.3 Data Collection

The participants (mainly company executives) were recruited using LinkedIn, a business networking platform that has grown in popularity as a reliable instrument for rapidly collecting research data (Papacharissi, 2009; Masi et al., 2018). Over a 20-day period, 30 responders from various companies were contacted. Most companies targeted on LinkedIn were promoting or utilising circular economies. Due to the low response rates over the first seven days, the researcher opted to visit with several companies in person and by email. A total of 26 completed responses were received, resulting in an 86 percent response rate. To protect the respondents' privacy, the research adhered to stringent ethical standards. The first paragraph of the survey introduced the research and explained how the data would be used to ensure voluntary participation.

4.1 Summary and analyses of data

4.1.1 Cronbach Alpha Test

Cronbach's coefficient was utilised in this research to compute the internal reliability coefficients of the survey questionnaires. The Cronbach's alpha score for total dependability was 0.81 as is shown in table 3. The findings showed that this questionnaire had a good level of construct validity and internal consistency.

Table 1. Cronbach Alpha result

Items/questions/components	9
Sum of the item's variances	4.868343
Variances of total scores	17.61095
Cronbach alpha	0.814007

4.2.2. Demographics

A total of 26 people responded, accounting for 86% of the sample frame which is considering excellent (Willott, 2019). The most part of the respondents came from female with 81% which leave male with a percentage of 19%. Women are much more likely than males to take part in surveys (Curtin et al 2000; Moore and Tarnai, 2002; Singer et al; 2000). In terms of the respondents' ages most responders were between 25-34 (34%), followed by 35-44 (31%), 45-54 (23%), 55-64 (8%) and 18-24 (4%). When questioned about their positions inside their companies, most of the responded had Manager position, 20% were Directors and the rest were in a CEO position.

4.2.3. *Knowledge about circular economy*

The second part of the survey questionnaires is designed to measure the amount of circular economy knowledge as well as the relationship between circular economy and sustainability. The first question intended to offer a quick summary of the firms' understanding of the circular economy. Looking at the statistics, it was quite pleasing to observe that 54% of the respondents had heard of the word previously, while 35 % claimed to be familiar with it, rather than having only heard of it. This confirms the findings of Masi et al. (2018), who discovered a 65 % awareness level, but contradicts the findings of Ormazabal et al. (2018), who claimed that just 35% of companies have heard of the word.

Table 2. Knowledge about circular economy

Ranking	Number	%
Strongly Disagree	0	0%
Disagree	0	0%
Neutral	2	8%
Agree	14	54%
Strongly Agree	10	38%

4.2.4 The company is interested on circular economy

The next section of the survey was created to determine the importance of circular economy in companies as is illustrated in Table 8. It's surprising to observe that a total of 89% of those questioned appeared to agree, while only 4% disagreed. This demonstrates that the importance of circular economy has grown over time.

Table 3. Company is interested in circular economy

Ranking	Number	%
Strongly Disagree	0	0%
Disagree	1	4%
Neutral	2	8%
Agree	16	62%
Strongly Agree	7	27%

4.2.5 Encouraging circular economy

To determine the extent to which companies are encouraging circular economy, 65% of respondents said that they were informed, while 4% looked to disagree with that. 31% remained neutral.

Table 4-Encouraging circular economy

Ranking	Number	%
Strongly Disagree	0	0%
Disagree	1	4%
Neutral	8	31%
Agree	6	23%
Strongly Agree	11	42%

4.2.6 Embracing the concept of sustainability and circular economy

Study participants have been given a short statement and asked whether they believed their company can run more effectively if it adopts the concepts of sustainability and circular economy. Given that statement, it was interesting to see that all together 65% of the respondents that includes 42% which strongly agreed and 23% which appeared to agree with that fact, only 4% disagreed. This demonstrates that, while knowledge of these 2 concepts and its potential prospects has grown over time, there is still a lot more work to be undertaken in the field.

Table 5. Embracing sustainability and circular economy

Ranking	Number	%
Strongly Disagree	0	0%
Disagree	1	4%
Neutral	8	31%
Agree	6	23%
Strongly Agree	11	42%

4.2.7 Circular economy and economic growth

When questioned about the circular economy contribution to economy growth in companies, 73% of respondents stated their agreement to that and nobody disagree. This is quite positive, as it indicates that companies are becoming increasingly conscious of the significance of circular economy in relation to economic growth.

Table 6. Circular economy and economic growth

Ranking	Number	%
Strongly Disagree	0	0%
Disagree	0	0%
Neutral	2	8%
Agree	19	73%
Strongly Agree	5	19%

4.2.8 Circular economy and the sustainable environment

What is truly promising is that around 54 % of the organisations indicated that they strongly agree that circular economy is helping to develop a more sustainable environment for the companies. It is gratifying to observe how far businesses have progressed and how far they are advancing in their efforts to reduce their environmental effect.

Table 7. Circular economy and the sustainable environment

Ranking	Number	%
Strongly Disagree	0	0%
Disagree	0	0%
Neutral	2	8%
Agree	19	73%
Strongly Agree	5	19%

4.2.9 The company benefit from circular economy

On this point, a total of 61% of respondents have a positive reaction in adopting a circular economy which will benefit the company. On the other hand, 31% are not aware about any benefit which make the researcher believes there is a lack of understanding on company level which limit the use of circular economy.

Table 8-Company benefit from circular economy

Ranking	Number	%
Strongly Disagree	0	0%
Disagree	2	8%
Neutral	8	31%
Agree	10	38%
Strongly Agree	6	23%

4.2.10 Use of circular economy

A very optimistic response of 62% is indicating that companies are using circular economy and only 4% are not involved in circular economy yet.

Table 9: The use of circular economy

Ranking	Number	%
Strongly Disagree	0	00%
Disagree	1	4%
Neutral	2	8%
Agree	16	62%
Strongly Agree	7	27%

4.2.11 The connection between sustainability and circular economy

Concerning the link between sustainability and circular economy just 4% of those surveyed looked to be ignoring that potential at the present, whilst approximately 46% of enterprises agreed with a link between the 2 concepts and 42% being confident about this connection.

Table 10: The connection between sustainability and circular economy

Ranking	Number	%
Strongly Disagree	0	0%
Disagree	1	4%
Neutral	2	8%
Agree	12	46%
Strongly Agree	11	42%

4.2.12 Pearson's coefficient

Researcher would like to answer objective 2 which involve investigating circular economy in relation to sustainable growth. This objective will be answered applying Pearson's coefficient. The level of the relationship's strength changes according to the magnitude of the correlation coefficient. As is shown in table a score of 0.11, indicates that there is a positive correlation between circular economy and sustainability, although it is weak.

Table 11: Pearson's correlation coefficient

Pearson's	Circular economy contributes to economy growth of companies in London	There is a connection between sustainability and circular economy
Circular economy contributes to economy growth of companies in London	1	
There is a connection between sustainability and circular economy	0.11888919	1

5.1 Discussion

Ccircular economy looks to be gaining popularity and people have more knowledge about the benefits of circular economy. Three objectives were used to investigate the research question "How can the principles of sustainability and circular economy be incorporated to support economic growth in the capital city of London? "

Objective 1: Examine the similarities and differences between sustainability and the circular economy.

This goal performed a study of published information to analyse a variety of parallels and discrepancies between the ideas of sustainability and the circular economy. According to Geissdoerfer et al. (2017), the notions of circular economy and sustainability are becoming more popular around scholars,

entrepreneurs, and government, but the similarities and contrast between the two remain still vague. As previously stated, Chapter 2 of this study gave a historical overview, description, and importance of sustainability and the circular economy Both theories are essentially international in scope, with shared concerns about present levels of productivity, manufacturing output, and spending, which may not only harm coming generations but may also provide possibilities of untapped strategic edge (Lewis and Maslin 2018; Mulvihill and Harris Ali 2016; Moreno et al 2016). According to Geissdoerfer et al. (2017) they also emphasise the significance of effectively merging environmental and social issues with economic success, and they prioritise necessary improvements. Both words consider public participation to be not only helpful, but also required to achieve their goals (Mulvihill and Harris Ali 2017). According to Lewis et. al (2018) and Crane et.al (2016) these similarities emphasise the need of regulations and compensation as major agreement. One example is the United Kingdom law on plastic waste, which has resulted in a fee on carrying bags to limit the amount of waste produced by them, which got increased over the time (Gov.UK 2021).

These two notions differ because of the different settings and goals given each one (Geissdoerfer et. al 2017; Moreno et. al 2016). Sustainability is significantly wider than idea of the circular economy and may be used to a greater range of stakeholder's responsibilities and activities, as well as emerging threats, such as security and legal, and possibilities, such as fulfilling varied market requirements (Lewis and Maslin 2018). On the other hand, circular economy provides a better view to sustainability and is thus used in this idea, potentially offering a paradigm for expanded usage of sustainable consumption processes which can be find in academic research as Ellen MacArthur Foundation 2017; Braungart and McDonough 2009.

Pieroni, et. al (2019) state that circular economy may be used to promote economic sustainability but not all structures which feature circle movements are fundamentally better sustainable.

In conclusion, companies who recognise the significance and benefits that these two concepts may provide integrate these into their plans and try to apply them at the administrative level by concentrating their attention primarily on the following areas: development, production, administration, and distribution.

Objective 2: To look at the circular economy and how it relates to long-term growth

The literature review revealed a range of theoretical definitions of both circular economy and sustainability (Kirchherr, Reike and Hekkert, 2017). Discussions concerning how the circular economy contributes to sustainable development rarely include all three parts of sustainability, with a strong focus on economic concerns, a minor focus on environmental stewardship, and a minor focus on social justice (Geissdoerfer et al., 2017; Kirchherr et al., 2017). While Kirchherr et al. (2017) affirm that the goal of a circular economy is sustainable growth, generating so much balance in the environment, economic expansion, and fair social policy for present and future generations, and Ghisellini et al. (2016) conclude that the goal of a circular economy is to obtain a greater position in economic, ecologic, and social elements, the truth of circular economy is a mixed bag. Within the survey, the findings revealed the existence of a weak relationship between circular economy and sustainability as is shown in table 16. In addition to that, the apparent relationship among circular economy and sustainable development is frequently obscured in the literature (Velenturf and Purnell, 2021). This really is clear from an examination of circular economy descriptions: Just 12% incorporate environmental sustainability (Geissdoerfer et al., 2017). Nevertheless, it could be based on the argument that both concepts emerged from same literary works in the 1960s–70s (as will be argued in Section 2.3), and thus it would appear strange to describe the connections between the 2 concepts.

Objective 3: To comprehend the circular economy's potential for creating a more sustainable environment for business models and innovations.

As is presented in literature review, issue of environmental impact of sustainability and circular business models have grown (Salvador et al., 2020; Dentchev et al., 2018). Instead of recommending companies to control the habitat, which entails control of the environmental assets to that they have accessibility, the studies have suggested that organisations practise ecological sustainability (Cristoni and Tonelli, 2018). Circular economy studies, on the other hand, are presently employing more intense environment management strategies. Companies must implement more sustainable measures as a direct outcome of environmentally conscious product lines. As a result, it emphasises the importance of employing techniques that can analyse activities out of an ecological aspect to evaluate potential ecological consequences. Possible improvements in electricity usage, as well as environmental and toxicological effects, can produce good outcomes when using a circular economy strategy, as demonstrated in the research of Ferreira et al (2019).

Businesses must show to their stakeholders that they are committed to preserving society's environmental and ecological principles (Lahti et al., 2018). In this context the table 12 shows how confident the companies are in circular economy acting as a driver towards more sustainable environment. This demonstrates that, organisations involved in circular economy or starting the process of getting involved have a better understanding of sustainable environment. It is critical that organisations understand that and precisely internalise circularity fundamentals inside of their own business plan, thereby merging their own stated objectives with improving productivity, reduction of waste, and, exploring sources of income which facilitate both profitability and environmental rejuvenation.

Moreover, the findings showed in table 14 are in line with the results found on literature review, such as Stahel and Börlin (1987) who stated that firms who use the circular economy idea may generate more income over its counterparts in a linear economy. Furthermore, business is expected to gain an extra $4.5 trillion in revenues by 2030 simply by utilising circular economy concepts (World Economic Forum,2021).

The Ellen MacArthur Foundation (2015, p.14) has predicted significant advantages from a shift toward circularity. Their "circular scenario may cut annual net European resource consumption by up to 32%, or €0.6 trillion, by 2030, with an extra €0.7 trillion involved in investment amplification impacts and another €0.5 trillion generated by decreased emissions.'' Clearly, these resources price reductions, and the returns on capital needed to obtain them, are highly dependent on estimates regarding source and cost of materials. Interestingly, the benefit of company moving towards a circular economy had a positive response.

Because the term circular economy has only recently begun to gain popularity in the European continent, there appear to be oscillations and ambiguity in terms of knowledge, with a range of between 35 percent (Ormazabal, et al., 2018) and 65 percent (Masi, et al., 2018) of respondents queried heard of circular economy before, much lower than the 90 percent knowledge evaluated in China (Liu and Bai, 2014). The survey results show 89 percent of the respondents have knowledge about circular economy which is similar with the study of Liu and Bai (2014).

5.3 Limitations and future direction of the research

The first limitation is connected to primary research, which takes a lot of time and involves certain previous understanding of the subject as well as, preferably, market research skills to ensure the best possible outcome. If the selected approach, simple random sample, does not accurately represent the population it is meant to represent, it may have a sampling error.

This research is based on the findings of a small sample of 26 business survey replies due to time constrained.

Another key obstacle is the shortage of recent research articles and commercial application in this subject.

Group research may be utilised in future research to understand how the link between the two ideas changes and evolves through time and to benefit the companies. Just setting out on their circular economy journey, while keeping sustainability in mind. Therefore, the precautions should be taken to generalize the findings of this resource.

6. Conclusion

The recent study views the circular economy as a roadmap for even greater business model innovation, primarily through giving enterprises with opportunities to close their energy and material cycles. According on this, the aim of this study was to give a theoretical explanation which is based on literature review and the survey questionnaire on the question ''How can the principles of sustainability and circular economy be incorporated to support economic growth in the capital city of London?

As a conclusion, there really is no question about the relevance of these two notions for the advancement of our civilization, as indicated by their inclusion not just on governments' priorities and in business initiatives. Furthermore, having a circular approach may assist a business to achieve more sustainable results while lowering effects. To create a truly sustainable circular economy, consumption and production systems must advance in parallel. A sustainable circular economy comprises developing and marketing things that are long-lasting and can be repurposed, repaired, and refurbished. This retains the operational price of things instead of recuperating the energy or materials contained inside them and continually creating different goods.

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