GREEN CIRCULAR ECONOMY: AN EDUCATIONAL MODEL TO TRANSFORM

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Abstract

Through qualitative analysis of the related factors for the Green Circular Education Model, six articles published from 2019 to 2021 were studied. Several related factors were discovered, including relevance in design, sustainable human development experiences, complementary design, holistic development of products, spatial quality dimension, a new vision for society, adaptations of current teaching practices, an extension of the "end-of-life" concept, stable policies, multifaceted concept applications, and transverse competent. In order to combat the challenge of limited resources to developing a mindset of transformations, a platform with shared resources is needed to triangulate the transformative servant leadership concept, ESG (environmental, social, and corporate governance) concept with trust (education values with social and governance) and use of sustained materials in flow concept (environmental mindset) when educating the community for the meaning of Sustainable Development Goals (SDGs) and ESG in their lives.

Keywords: Transformation, Servant Leadership, ESG, Education, Trust, Flow Concept

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1. INTRODUCTION

Transformation is a life-long and life-wide journey with design thinking and entrepreneurial spirit to visualize one's identity. With technology, the journey of transformations may be faster and easier to have wider coverage. However, social value or social influence, sometimes, may be more important in the journey of transformation.

Under COVID-19, we may need to re-think how to balance technology, social values, and identity with cultural awareness for sustainable development. It is the inheritance of culture and civilization in the changing process. We need the most important records of transformations at every time, every stage, and in every culture. In this record, digital transformation becomes one of the popular tools to change our ways of study, career, and lifestyle. However, the United Nations Sustainable Development Goals (UNSDGs), the five steps of design thinking (empathize, define, ideate, prototype, validate), and the use of entrepreneurial spirit are worth exploring in parallel with technology in the process of transformations.

This paper provides a review of the literature on the key theories of transformative leadership, servant leadership, and employee engagement. The existing literature on these theories will be reviewed in Section 2 of this paper. The methodology will be presented in Section 3. The findings of the research will be presented and discussed in Section 4. The main conclusions from the literature review and their relation to this research are summarized in Section 5.

2. LITERATURE REVIEW

2.1. Definition of leadership

There is a lot of research on leadership as a management issue and a lot of papers have been published in recent decades (van Dierendonck, Stam, Boersma, de Windt, & Alkema, 2014). Leadership is described as a phenomenon stated by humans since its existence (Safonov, Maslennikov, & Lenska, 2018). Bennis (2009) claimed that a lot of studies have been carried out on leadership, but it is not well-researched and there is still a lot to understand. In addition to Bennis (2009), Burns (1978) also thinks that leadership is observed most but it is not well understood. Seters and Field (1990) stated that leadership is a complex and multidimensional topic. Stogdill and Bass (1982) stated that the term "leadership" appeared in the late 1700s. There are many different definitions of leadership. Stogdill (1950) defined it as an influence for goal achievement to a specific group of people to meet a stated objective. Other scholars define leadership as the art of mobilizing others to achieve shared goals (Kouzes, Posner, & Peters, 1996; Maxwell, 1993). Benmira and Agboola (2021) stated that how to make an effective leader is still unknown. Even though a lot of studies on leader behavior and its effects are conducted in the last 50 years, however, different researchers used different scales, therefore it is quite difficult to compare or integrate with other research findings (Stogdill & Bass, 1982). There are further complications that same types of behavior are referred by researchers to different terms and the same terms may be referred by researchers for different behaviors (Yukl, 2012). Furthermore, no single definition of leadership or leader practice can be identified to lead to an effective leader who is key to any organization's success (Benmira & Agboola, 2021).

2.2. The evolution of leadership theory

Leadership theory is not a static one. It has evolved since its existence. Different theories have dominated at different times. It can be classified as different periods for the dominating theories.

The great man theory (1840's) and the trait theories (1930–1940) are a characteristic of the trait period. Under the great man theory, leaders are born to have special qualities of intelligence, energy, and moral force. These qualities are believed that they cannot be trained; therefore, leaders can only be born with gifts. Under this situation, the mass will only be led by the superior few (Benmira & Agboola, 2021; Stogdill & Bass, 1982). Research at that time was to focus on the born characteristics of the leaders (Organ, 1996). These leaders are mostly exampled in historical figures, such as Caesar, Gandhi, and Lincoln. Recent examples are Iacocca, Kennedy, and MacArthur who have special qualities with born and connected with situational forces (Organ, 1996). Later on, researchers argued that leaders can be born or trained (Buchanan & Huczynski, 2016).

The behavioral period (1940–1950) follows the trait period. The behavioral theory proposed that leaders are largely trained than born. Leaders can learn to be effective leaders (Denison, Hooijberg, & Quinn, 1995). Different behaviors that the leaders exhibited are labelled as leadership styles (Johns & Moser, 2001).

Scholars argued that environmental factors play an important role in determining whether the leader can lead effectively. This belief leads to the situational period (1960's) (Safonov et al., 2018). Research in this period suggested that situational factors made the leaders instead of the behavior of the leaders. It implied that leaders are made if they can best fit in a particular situation. This is known as "the contingency theory". Fiedler (1964) proposed that as leaders' styles are fixed, therefore they should be put into situations that best fit their style to enable them to be effective.

Later on, researchers recognized that a single dimension of leadership cannot address all the complexity of the environment that is rapidly changing, disruptive technological innovation, and increasing globalization (Benmira & Agboola, 2021; Seters & Field, 1990). This period is labelled as the new leadership period (1990s), which defines leadership as a one-way, top-down influence between leaders and followers (Benmira & Agboola, 2021). This period encourages the popularity and adoption of transformational and transactional theories (Bass, 1990). Transformational leaders encourage, inspire, and motivate followers, on the other hand, transactional leaders include managers, who tend to focus on supervision, processes, and follower performance (Benmira & Agboola, 2021).

The leadership theories further evolved to the development of shared, collective, and collaborative practices (Kukenberger & D'Innocenzo, 2019; Lee-Davies, 2013). The success of a business is more dependent on the collaboration of leaders and followers instead of solely the contribution of a few leaders at the top. The importance of the followers is in focus and servant leadership becomes popular. Servant leaders serve their followers first and lead later (Eliot, 2020).

2.3. The transformational leadership

Transformational leadership came from the theory of charisma (Burns, 1978; Safonov et al., 2018). However, Barbuto (1997) argued that leaders can be transformational without a charismatic style. Transformational leaders motivate and inspire their people to achieve expected success and develop their leadership potential by engaging the followers to involve themselves (Bass & Riggio, 2006; Burns, 1978). Research in leadership has been dominated by transformational leadership since the 1980's (Hoch, Bommer, Dulebohn, & Wu, 2018).

2.4. The servant leadership

Robert K. Greenleaf proposed the term "servant-leadership" in 1970. He stated that a great leader should be a servant first and this is the greatness of the leader. The leadership came from the initial motive to help others, such as colleagues, customers, and the community, it is a holistic approach to work; the promotion of a sense of community; and a deepening understanding of spirit in the workplace (Greenleaf, 1977). The servant-leader is committed to helping the growth of fellow colleagues in the institution including personal, professional, and spiritual growth (Greenleaf, 1977, 1998; Muthia & Krishnan, 2015).

2.5. The development of transformational leadership and servant leadership

Transformational leadership and servant leadership are so popular in leadership that they have been extended to cover different contexts. These types of extended leadership are labelled as "specific transformational leadership" and specific "servant leadership". Mullen and Kelloway (2009) found that transformational leadership has a positive relationship with employee workplace safety. In addition to workplace safety, Chen, Chang, and Lin (2014) found that transformational leadership has a positive relationship with corporate green performance. Green transformational leadership is defined as the behaviors to motivate the followers of the leader to achieve corporate environmental goals. This specific transformational leadership has developed its own measurement scales.

In addition to transformational leadership, servant leadership also extended to specific servant leadership. Servant leadership is a popular topic in research (Ingram, 2016). Scholars found that servant leadership has a relationship with pro-environment behaviors in the followers and is termed "environment-specific servant leadership" (ESL) (Mughal, Cai, Faraz, & Ahmed, 2022). In environment-specific servant leadership, the leader helps the followers to establish their goals for the pro-social greater good (Mughal et al., 2022; Siddiquei, Asmi, Asadullah, & Mir, 2021; Tuan, 2020).

It is an amazing coincidence that both transformational leadership and servant leadership are extended into environmentally-specific leadership theories and measurement scales, which relate leadership to ESG and Sustainable Development Goals (SDGs).

2.6. Employee engagement

Engagement is defined in Cambridge Advanced Learner's Dictionary as a process to engage people to be interested in their work in an organization ("Engagement", n.d.). Khan (2013) stated that employee engagement is complex, but it is important for a company's success. The engagement came from the positive psychology movement to sustain positive human behaviors and positive consequences (Anthony-McMann, Ellinger, Astakhova, & Halbesleben, 2017).

Kahn (2007) stated that personal engagement is the employment of a person's "preferred self" in carrying out his/her work. Kahn (2007) proposed that employees will determine whether they are engaged in their role based on three psychological conditions: meaningfulness, safety, and availability (Anthony-McMann et al., 2017). Kahn (2007), later on, emphasized the primacy of psychological safety, predicated on the presence of positive and trusting interpersonal relationships at work, as the key to sustaining engagement.

Even though the popularity of Kahn's conceptualization of engagement with thousands of citations, researchers have generated, four distinct frameworks of engagement, that is, the needs-satisfaction, burnout-antithesis, job satisfaction, and multidimensional frameworks (Fletcher & Robinson, 2013; Shuck, 2011). These frameworks have a similarity — that engagement is a motivational state on an employee's perception of certain valued resources (Saks & Gruman, 2014).

Call for the return to Kahn

As there are so many frameworks, researchers are calling to return to Kahn's framework because it is not only a broader motivational construct but also one with specific psychological conditions. These are both the prerequisites and the antecedents of engagement (Saks & Gruman, 2014). Even after some 30 years since the first proposal of the model, Kahn insisted on his needs-satisfaction framework and rejected the other frameworks (Kahn, 2010).

The importance of employee engagement

The satisfaction of employees will greatly affect employee performance and willingness to stay with the company (Mishra, Singh, & Tripathy, 2020). The importance of employee satisfaction made it an important job to find out its drivers (Popli & Rizvi, 2016). The most demanding skill for leaders is to enhance the psychological safety of the followers, which means, creating a secure environment for everyone to work (Kahn, 1990). Researchers determined that the unit with engaged employees, with those interested in their work and work best, will make the best returns (Luthans & Peterson, 2002). Research expanded the concept of the manager's involvement in providing a psychologically supportive environment by offering the necessary resources so that colleagues can carry out their work (Brown & Leigh, 1996; Kahn, 1990; Maslach, Schaufeli, & Leiter, 2001; Schaufeli, Salanova, González-Romá, & Bakker, 2002; Schaufeli, Bakker, & Salanova, 2006). On the other hand, unsatisfied employees will probably quit their jobs (Hay, 2002; Popli & Rizvi, 2016).

## 2.7. The role of leadership in employee engagement

Various research found that transformational leadership has a relationship with employee engagement (Balwant, Mohammed, & Singh, 2019; Mozammel & Haan, 2016). Similarly, research also found that servant leadership has a relationship with employee engagement (Canavesi & Minelli, 2022; Klein, 2014; Whorton, 2014; Zeeshan, Ng, Ho, & Jantan, 2021). In contrast, there is no research on the relationship of environmental-specific transformational leadership or safety-specific transformational leadership with employee engagement. Furthermore, there is also no research on the relationship between environmental-specific servant leadership and employee engagement by search on Google Scholar on 6 December 2022.

This paper is to find out the ways of applying transformational leadership or servant leadership with design thinking on circular economy in the education sector with employee engagement. The purpose of this paper is to contribute to the current corpus of leadership theory research. There is a significant lack of understanding of how various leadership theories interact with employee engagement and new products/services with the concept of circular economy concept which has been used in different sectors in the Netherlands with circular business models. Based on the ideas of Ekins et al. (2019), the circular economy has two long strands, the first relating to the flow of materials through an economy, and the second

concerned with thinking about the economic conditions that might bring about such a flow. The focus of this paper is on the flow of thinking in curriculum design in the education sector with innovations in teaching and learning materials design.

Figure 1. Circular economy systems
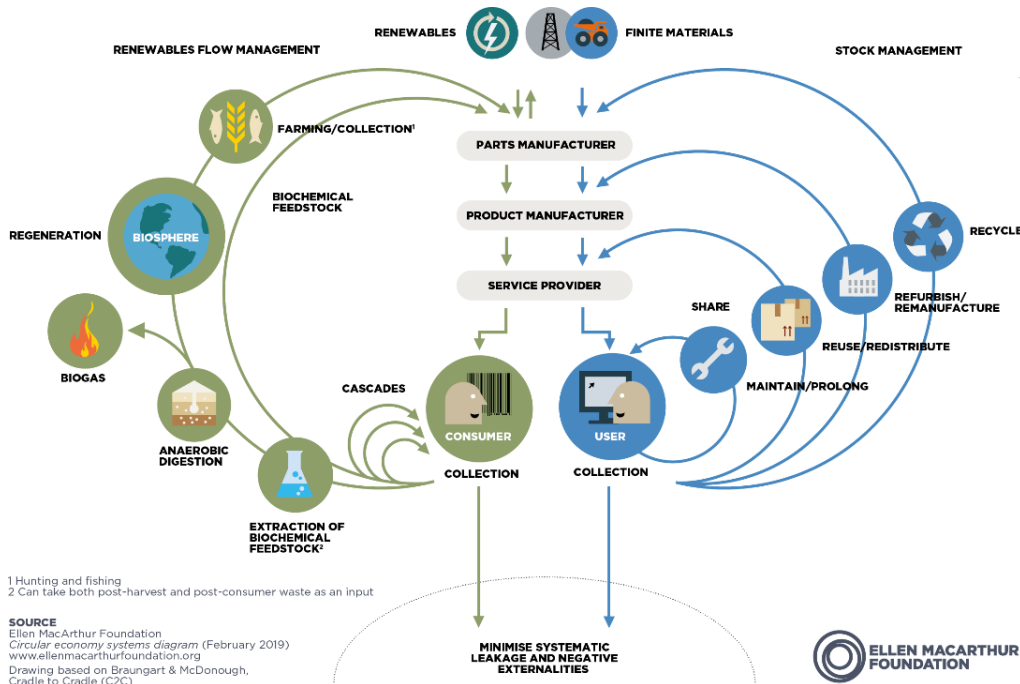
Source: Ekins et al. (2019).

3. RESEARCH METHODOLOGY

The purpose of this paper is to apply relevant leadership concepts with employee engagement for a new concept of design in curriculum with a circular economy concept in education with an emphasis on the Sustainable Development Goals (SDGs) of the United Nations (UN) of social, environmental, and economic, which include:
– SDG 9: "Industry, Innovation, and Infrastructure";
– SDG 10: "Reduced Inequalities";
– SDG 12: "Responsible Consumption and Production";
– SDG 13: "Climate Action".
The objectives of this paper include:
1. To create a framework for academics and practitioners to apply transformational servant leadership to engage employees in education/ training sectors for developing sustainable development strategies with responsibility and innovations in product/service/process design;
2. To explore the possibility for curriculum designers to become global business creators to educate the community, a mindset of research thinking, sustainable development with implementation skills for impacts.

Communication is to send textual messages — verbal and non-verbal for coordinating, integrating, controlling, and persuading purposes. Hence, textual messages are tools for persuading people's minds to accept ideas. Organizational behavior is to understand, predict and control others' behavior.

Management is managing resources within an organization for achieving organizational goals. These three principles — business communication, organization behavior, and business management — bear an interrelated relationship.

Textual messages are data for conducting content analysis during the process of a grounded theory which helps us to induce a concept for generalization and future prediction. From the following quotation, we can realize that content analysis is a technique to enable researchers to study human behavior in an indirect way. It is an analysis of written content drawn from a certain kind of communication paper, like textbooks, essays, and articles from newspapers. Through analyzing this written work of people, the researcher can:
– understand the behavior of people and organizational patterns;
– infer attitudes, values and cultural patterns in different countries or organizations;
– gain ideas of how organizations are perceived;
– can see the trend of certain practices;
– differentiate practices among certain groups of people.

"Content analysis as a methodology is often used in conjunction with other methods, in particular historical and ethnographical research. It can be used in any context in which the researcher desires a means of systematizing and quantifying data. It is extremely valuable in analyzing observation and interview data" (Frankel & Wallen, 1990, p. 482).

Content analysis is a systematic and objective analysis of selected text characteristics. This includes counting the number, and frequency of words, finding out the characteristics of themes, and characters, building relationship among items, paragraphs, finally establishing a meaningful concept. It is not simply a quantitative research

method but also a qualitative one as the purpose of the writing is also reflected through the analysis.

In this research, the authors counted the frequency of occurrence of words and phrases from ISO 9001 and 9004 standards to demonstrate the key elements embedded in a management system (the former standards are used for ISO certification and the latter ones are used as benchmarking assessment criteria).

However, when handling content analysis, researchers need to be aware of the sampling pattern and the levels of units. They should be classified systematically for analysis and comparison. That is to have headlines, sub-headlines, keywords of ISO or Quality Assurance International (QAI) requirements for analyzing their location in the texts and to find out the meaning of the purposes of the requirements. Moreover, selecting a representative sample of textual messages is also important. Considerations for selecting documents for analysis can be the number of school types, the number of ISO-certified schools, and the number of consultants or technical committee members involved. Researchers need to induce all the related data for deriving a theory instead of proving the validity of a theory. Last of all, they can be deduced from literature to derive a certain structure or framework — establishing linkage and integration of collected and analyzed data in research.

4. RESULTS AND DISCUSSION

There are two levels of content analysis — describing fundamental inherent characteristics of messages and applying characteristics to related areas. The former one is objective as collected data are facts while the latter one is subjective as it is derived from researchers' points of view and personal life experience. When handling the content analysis of this research, the researchers bear the research objectives in their minds — the impact of ISO on schools without making any assumptions about traditional variables, such as age, sex, and rank. In fact, finding out conflicting or complementary ideas from analyzed texts can make the research more objective and convincing.

After describing the characteristics of content analysis of the above, its advantages can be summarized as follows:

– no people are involved;
– no experiments are required;
– cost is minimal;
– texts found within a certain period of time in the past can reflect social phenomena.

However, researchers shall also realize that content analysis may have limitations in the availability of texts. Moreover, they may be subjective when interpreting the selected texts. As a result, they cannot demonstrate the cause-and-effect relationship within selected texts explicitly.

When interpreting or making inferences from documents received, research should follow the ideas of Babbie (2001). That is to:
– trace the person or authority composing the documents;
– think about the reasons behind of having the existence of the documents;
– find out the ways of acquiring the information contained in the documents;
– investigate the magnitude of biases in the documents;
– identify the main categories and concepts brought up by the writer;
– internalize the theories that the documents have demonstrated results.

To determine related factors that were connected to the dependent variable, the green circular education model, research was performed. Six articles published from 2019 to 2021 were studied. Several related factors were discovered, including relevance in design, sustainable human development experiences, complementary design, holistic development of products, spatial quality dimension, a new vision for society, adaptations of current teaching practices, an extension of "end-of-life" concept, stable policies, multifaceted concept applications, and transverse competent.

By using NVivo, a text search was conducted for the factors above to acquire a more accurate point of view regarding the keywords' relationships to the topic. The search result showed that some of the keywords, such as "relevance in design" and "complementary design" showed up more frequently with 333 and 328 times, respectively, while "transverse competent" was cited less often (Table 1).

Table 1. Findings of the keywords search

Factors	Sources	References
Relevance in design	6	333
Complementary design	6	328
Sustainable human development experiences	6	306
Holistic development of products	6	245
Spatial quality dimension	5	157
New vision for society	6	128
Adaptations of current teaching practices	5	116
Extension of "end-of-life" concept	6	62
Multifaceted concept applications	6	59
Stable policies	5	14
Transverse competent	1	1

By further investigating the interrelationships among the factors, it appears that some keywords, such as "relevance in design", "complementary design", and "sustainable human development experiences" connect the most to the topic of the green circular education model. A graphical depiction was created from the data based on the findings (Figure 2).
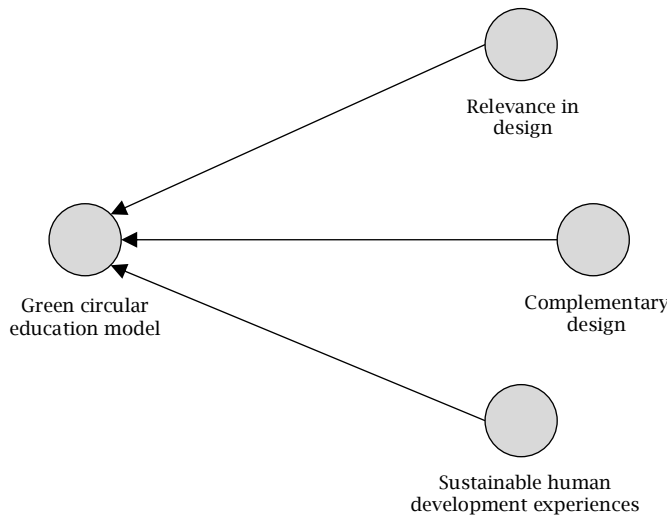
Figure 2. Green circular education model

Table 2. Green circular education model

Name	Nodes	References
Competences of the professional of the future in the circular economy	10	105
Green Circular Economy 2021 Digital Library Systemic design education in interdisciplinary environments_ Enha	10	394
Green Circular Economy 2021 EU	10	176
Green Circular Economy Collaborative Project Engineer Teaching sustainability-12-04368-v2	12	648
Green Circular Economy Design Education Situated Learning 2019 65317_1	11	483
The Circular Economy Concept in Design Education	11	477

In the circular economy era, environmental sustainability in curriculum design is important, and the ways of using existing teaching and learning materials to upcycle for developing a new perspective in learning and applying ESG concepts into daily life and the workplace will be worth to be studied. In this paper, we explore how to apply relevancy in design, complementary design with sustainable human experiences for a green circular education model for impacts in educational activities. It is important to apply research findings to educating producers and consumers of content to balance responsible consumption with innovations and circular economy concepts.

The following are suggested ways to engage stakeholders in education and training sectors for developing circular economy concepts with ESG contents via interactive game-based activities:

– *Vision* creation: Participants are invited to create a vision for themselves. Visualize the goal, and what the participant can become after joining the game-based activities on ESG/SDG-related content.

– *Incentives* offer: Video games or similar kinds of visual games can be designed in levels of progression for receiving incentives with schedules to have sustainable and immersion user experiences to learn, act and co-create impacts and keep participants to play and earn.

– *Unique story* techniques: Video and visual content are needed with a unique storyline.

• Game story;

– *Challenging* for becoming a champion: Participants may become a champion with rewards for achieving levels of an interactive gamers with efforts contributed.

– *Easy* to access with equality.

– *Available* to play the game to earn learning and contributing experiences anywhere with equality.

– *Affordable* to start the game to play and earn: Free or offer affordable price for participants and game educators to design.

5. CONCLUSION

A mindset of transformative-servant leadership and circular economy with SDGs/ESG with an innovative design of learning and teaching materials are needed in the real world under COVID-19 with uncertainties.

Young people aged from 20 to 50 may be concerned about their career and study planning. Empathy and a mindset of transformative servant leadership and circular economy with SDGs/ESG may help them to live in a better way. For those aged 50 to 70 who are seeking to semi-retire or retire with a second life achievement, a mindset of transformative servant leadership with SDGs/ESG help them to accept reality with openness to change and accept the situation while thinking a way out for contributions with happiness.

However, the obstacles hindering the development of this kind of transformative mindset may be from two perspectives:

– Limited resources — it is not easy to develop a transformative mindset as most of us have priorities in our lives.

– The circular economy concept may be aggressive for educators and trainers to change and upcycle their existing materials with a flow concept.

In order to combat the challenge of limited resources to developing a mindset of transformations, a platform with shared resources may be needed for reaching 20/80 rules, 20% of resources that you use,

and you can generate 80% of the impact. Besides, we need to think about the triangulation among the transformative servant leadership concept, ESG concept with trust (education values with social and governance), and use of sustained materials in flow concept (environmental mindset) when educating the community for the meaning of SDG and ESG in their lives.

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