INTEGRATING SUSTAINABILITY AND CIRCULAR ECONOMY PRINCIPLES IN LEADERSHIP AMIDST UNCERTAINTY

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Abstract

After the recovery process of the world economy from the consequences of the Coronavirus, the crisis in Ukraine and the problem of the increase in living costs, a new business scene and a leadership role have been established. Inevitably, online businesses have replaced a part of the communication and way of motivating employees, and increased the importance of flexibility of thinking. They also increased the need for metacognitive knowledge and the ability to learn quickly as a means of survival in a dynamic environment, and the necessity for decision-making in a world where the only certainty is that nothing is certain. One of the key parameters for adapting to the new situation is the mentor's influence on the development of competencies in human resources, and establishing the foundation of sustainable leadership as an increasingly important concept, with a focus on environmental protection. The paper investigates the aforementioned influence of leaders who, in addition to their traditional role, are steadily moving into the role of Coach who provides support to employees, encourages new ways of thinking, and nurtures curiosity and faith in the value of continuous learning. On the other hand, a Coach sets an example of ethical behaviour and brings decisions under the principles of nature preservation. A mentor behaves as a leader who takes care of the circular economy, such as the productivity of resources, the elimination of waste and pollution, and the restoration of natural systems for the organisation to be successful and sustainable over time, as well as the pioneer and promoter of this important topic. The goal is to look at the key elements and characteristics that make a leader successful and efficient, and a leader who acts in accordance with the circular economy.

Key words: Leadership, sustainable leadership, circular economy.

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1. Introduction

The paradigm of circular economy was created as a result of linear economy, in order to protect the environment and reduce the negative effects i.e. the emission of greenhouse gases which leads to permanent damage to the atmosphere and the climate changes we are all witnesses to. Circular economy is based on the efficient use of resources and achieving sustainable development. (Reis et al., 2023) This is done by reintroducing renewable materials or waste into the production process and supplying the energy needs of communities. In this way, bioeconomy is improved, renewable bioenegry is produced, and organic waste is valorized. (Andrić et al., 2023) Since the emergence of the 4.0 concept, the research in the field of industrial engineering evolved towards increasing economic, ecological, and social values. An integration of digital technologies and intelligent techniques with the paradigm of sustainable production has occurred. (Milošević & Ćosić 2023) Digitalization can therefore make an essential contribution to the transition to a circular economy. Products can contain tags that can be scanned during exploitation or recycling and thus enable the access to relevant product data (Ćosić et al., 2006) enabling the circular flow of materials throughout the product life cycle by using the 6R concept based on innovation (Reduce, Reuse, Recycle, Refuse, Rethink, and Repair) (Gholami et al., 2022)

On the other hand, the way of introducing circular economy must be supported and monitored by a leader. In relation to major business transformations such as CE, the role of leadership in ensuring an effective paradigm shift is essential. (Moktadir et al., 2018) Inevitably, online businesses have replaced a part of the communication and way of motivating employees, and increased the importance of flexibility of thinking. They also increased the need for metacognitive knowledge and the ability to learn quickly as a means of survival in a dynamic environment, and the necessity for decision-making in a world where the only certainty is that nothing is certain. One of the key parameters for adapting to the new situation is the mentor's influence on the development of competencies in human resources, and establishing the foundation of sustainable leadership as an increasingly important concept, with a focus on environmental protection. Several studies have highlighted that management control systems support ethical leadership by setting moral standards and monitoring organizational practices and employee behaviors (Kleine & Weiβenberger, 2014; Ko et al., 2018) The leader sets an example of ethical behaviors, through which he provides support to employees, encourages new ways of thinking, fosters curiosity and belief in the value of lifelong learning. Lead by their own example, the leader promotes the company's ethics, culture and values, as well as moral behavior in the company. Because of all the above, it is reasonable to assume that ethical leadership resonates most with circular economy.

Geissdoerfer et al. (2017) argue that the circular economy represents a sustainable development strategy, positioning it as a crucial approach for addressing global environmental challenges by promoting resource efficiency and minimizing waste. This aligns CE with the core objectives of the sustainable

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development goals (SDGs), particularly those that focus on environmental sustainability, economic resilience, and social well-being.

2. Literature review

2.1 Drivers and barriers to the adoption of CE practices

Circular economy practices consist of a couple of principles ranging from the 3R (e.g., Reduce, Reuse and Recycle) to the 6R framework (e.g., Repair, Reduce, Reuse, Recycle, Redesign, and Remanufacture) (Jia et al., 2020). Literature has gained significance in the last decade due to the benefits it can offer when applied in industry. It has the capacity to provide sustainable production, a tendency to reduce the use of natural resources, or rather to promote a more rational use of resources, as well as benefits in the form of waste reduction at the end of a product's lifecycle, due to reuse. In the domain of personality psychology, the trait concept has carried the burden of dispositional explanation. A multitude of personality traits has been identified and new trait dimensions continue to join the growing list. In a similar fashion, the concept of attitude has been the focus of attention in the explanations of human behavior offered by social psychologists. (Ajzen, 1987). Attitude refers to an individual's positive or negative evaluation of performing a particular behavior, subjective norm refers to what others do or what behavior they consider appropriate and perceived behavioral control refers to an individual's ability to exert control over himself/herself in performing a specific behavior (Ajzen, 1991). Concerning ethical leadership, we propose that a leader's attitude toward ethical behavior, subjectivenorm about ethical behavior and perceived behavioral control influence his/her ethical intention, which in turn, translates into followers' perceptions of ethical leadership (Guo, L., 2019). The literature points to a limitation in the research on the impact of ethical leadership on the introduction of circular economy when it comes to the subjective views of the respondents.

2.2 Ethical leadership

Some of the most common accepted definitions: Ethical leadership is considered a key driver of sustainable development, employee well-being, and environmental care (Amisano, 2017). Ethical leadership focuses more on integrity, trustworthiness, fairness, and ethical conduct in personal and professional life. (Cheffi et al. 2023). Ethical leaders engage in acts and behaviors that benefit others, and at the same time, they refrain from behaviors that can cause any harm to others (Yukl et al., 2013).

2.3 The 6 Main Principles of Ethical Leadership

1. *Respect* – Respect includes valuing others' skills and contributions. Mutual respect leads to healthier workplace relationships where both sides appreciate and support what the other is doing and feel secure in talking through issues and

challenges. Healthy relationships create positive work environments, which drives increased productivity.

2. *Accountability* – Ethical leaders hold themselves accountable for their actions. They make decisions based on integrity and stand behind their work.

3. *Service* – Leaders make ethical decisions based on doing what is right for employees, customers, and the community.

4. *Honesty* – Leaders who are transparent build trust amongst their organizations and amongst customers*.

5. *Justice* – Ethical leaders approach situations with a focus on treating everyone fairly, and they expect their teams to treat each other and customers the same way. Through their actions, they build equitable work environments where everyone feels respected.

6. *Community* – Ethical leaders view their companies as communities and consider everyone involved when evaluating situations and making decisions (Professional & Executive Development, Harvard Division of continuing education).

Construct of ethical leadership: ethical leaders think about long-term consequences, drawbacks and benefits of the decisions they make in the organization. They are humble, concerned for the greater good, strive for fairness, take responsibility and show respect for each individual. Ethical leaders set high ethical standards and act in accordance with them. They influence ethical values of the organization through their behaviour. Leaders serve as role models for their followers and show them the behavioural boundaries set within an organization. They are perceived as honest, trustworthy, courageous and demonstrating integrity. The more the leader "walks the talk", by translating internalized values into action, the higher level of trust and respect he generates from followers. (Mihalič et al., 2010). Remains problematic that there continues to be a conflation between ethical leader behaviors and followers' evaluations of the leader's values, traits, and behaviors (Alvesson & Einola, 2019; Fischer et al., 2020).

2.4 Circular economy practices

The implementation of at least one of CE principles is considered an adoption of CE practices (Garrido-Prada et al., 2021). It may also be beneficial for national governments worldwide as they expect to reach decarbonisation objectives and aim for efficient use of natural resources. (Vivek, S., et al., 2023) In study involving industry and academic experts, concluded that leadership is a key factor in the successful deployment of CE practices. (Moktadir et al., 2018) Thus, the potential economic benefits of CE drive businesses to adopt CE practices. (Franco, 2017) argued that the current business climates that favour CE practices threaten firms engaged in linear economic systems. Also, managerial support drives CE adoption, where the top management is committed to collaboratively working with employees. (Lahti et al., 2018)

A takeaway from study is that ethical leadership in has an indirect impact on the extent of CE practices rather than a direct one, as highlighted in sustainability literature (Choi et al., 2015; Pasricha et al., 2018).

3. Methodology

3.1 The survey

The study was based on a survey, which was given to 63 leaders from companies in both manufacturing and service sectors. It consists of two parts, where the first part examines the respondents' opinion on ethical leadership, while the second part refers to the examination of the degree of implementation of circular economy in companies. This study expands the scope of existing circular economy studies and aims to confirm or refute the mutual influence of ethics on it. This study used the following recommended surveys, corrected and adapted them according to the opinion of the authors. The target sample are the leaders of large companies (more than 1000 employees) purposefully chosen because large companies are pioneers in the application of the circular economy in the Republic of Serbia, with top management often based in developed European countries. The introductory part of the questionnaire covers the demographic characteristics of the respondents, followed by the aforementioned section on ethical leadership and circular economy. The ethical leadership part consists of 10 statements that need to be confirmed, denied or partially agreed with on a Likert scale, chosen due to its popularity among leadership experts. The leaders who were given the survey are partly from manufacturing and partly from service companies. The sample size is adequate for hypothesis testing in accordance with the proposed norms.

3.2 Data analysis and results

Table 1 presents survey results regarding the perceptions of leaders' ethical behaviors and practices among respondents. Each question corresponds to a specific statement about leadership ethics, with respondents asked to rate their agreement on a scale from 1 to 5, where 1 typically indicates strong disagreement sand 5 indicates strong agreement.

Table 1: Etichal leadership

	1	2	3	4	5
1. Leader listens to what employees have to say.	4,1	12,2	38,8	22,4	22,4
2. Leader disciplines employees who violate ethical standards.	4,1	6,1	30,6	38,8	20,4
3. Leader conducts personal life in an ethical manner.	4,1	8,2	26,5	38,8	22,4
4. Leader has the best interests of employees in mind.	10,2	8,2	32,7	28,6	20,4
5. Leader makes fair and balanced decisions.	6,1	6,1	30,6	26,5	30,6
6. Leader can be trusted.	4,2	14,6	18,8	27,1	35,4
7. Leader discusses business ethics or values with employees.	6,1	8,2	30,6	20,4	34,7
8. Leader sets an example of how to do things the right way in terms of ethics.	4,2	8,2	32,7	18,4	36,7
9. Leader defines success not just by results but also the way it is obtained.	8,2	16,3	30,6	24,5	20,4
10. When making decisions, leader asks, "what is the right thing to do?"	6,1	24,5	42,9	16,3	10,2

The survey was completed by 63 leaders, of which 57.4% were female and 42.6% were male. The largest number of respondents (72.1%), belong to the age group between 30 and 40 years, while 14.8% of leaders are between 40 and 50 years old, 11.5% belong to the younger category between 20 and 30 years, and 1.6% of respondents are over 50 years old. In terms of work experience, the largest group

consists of those with 10 to 15 years of experience, representing 39.3% of respondents. This is followed by individuals with 5 to 10 years of experience, accounting for 32.8%. Additionally, 9.8% of respondents have 15 to 20 years of experience, and another 9.8% have more than 20 years. The smallest group, 8.2%, includes those with less than 5 years of work experience.

It is encouraging to note, based on the responses of the majority of participants, that a leader can be trusted (62.2%). Additionally, 55.1% of respondents believe that leaders set a positive example of ethical behavior. An area for improvement is vertical communication, where employees feel that leaders listen to what they have to say, particularly considering the professional knowledge they bring to their roles and the expertise they could contribute with innovative suggestions for process improvement.

Table 2 presents survey results regarding the adoption of sustainable practices by a company, focusing on environmental responsibility and resource management. Each question corresponds to a specific statement related to the company's sustainability efforts, with respondents rating their agreement on a scale from 1 to 5, where 1 typically indicates strong disagreement and 5 indicates strong agreement.

Table 2: Circular economy

	1	2	3	4	5
1. Cares about reducing the use of products and resources.	1,6	12,9	32,3	32,3	21
2. The company uses biodegradable materials instead of conventional ones.	19,4	22,6	37,1	14,5	6,5
3. Equipment/cars/machines are intensively used by being shared among employees and branches.	11,3	19,4	25,8	27,4	16,1
4. Renewable energy is used to reduce the environmental impact.	22,6	22,6	30,6	14,5	9,7
5. You recycle products and materials.	8,1	17,7	24,2	25,8	24,2
6. You consider and use regenerative/biodegradable materials instead of conventional ones.	16,1	25,8	29	21	8,1
7. You regularly maintain products to extend their lifespan.	1,6	8,1	24,2	35,5	30,6
8. You recycle waste.	6,5	16,1	21	27,4	29
9. The company implements a process for recovering products that customers no longer use.	25,8	22,6	24,2	19,4	8,1
10. You repair and maintain defective products and materials in order for them to be reused with their original function in mind.	6,5	17,7	19,4	41,9	14,5

It is inevitable that when discussing the circular economy, the first step implemented in companies is often the most commonly recognized one, waste recycling. The majority of respondents, 66.1%, believe that their company regularly maintains products to extend their lifespan. Additionally, the responses indicate that companies are making efforts to reduce the use of products and resources. However, a significant area for improvement is the use of renewable energy sources to reduce environmental impact, with 45.2% of respondents indicating that this aspect is at an unsatisfactory level in their companies.

4. Findings

Ethical leadership was measured using 10 items adopted from Brown and cooperates (2005). This instrument was chosen because of its popularity among leadership scholars (Avolio et al., 2009) and relevance to the study of sustainability practices (Choi et al., 2015). The survey results confirm the connection between the principles of ethical leadership and the process of implementing a circular economy.

This conclusion is supported by responses indicating that 62.3% of respondents believe that leaders can be trusted. Approximately 67% of employees agree with the statement that leaders listen to what employees have to say. Furthermore, 55.7% of employees trust that their leader sets an example of working in an ethical manner. Opportunities for enhancement exist in the relationship between leaders and employees concerning ethical behavior, especially regarding the inclusion of employees' perspectives in decision-making processes. It is imperative to establish clear standards that promote zero tolerance for unethical conduct and to implement appropriate disciplinary measures in the event of violations. Leaders play a crucial role in establishing the organizational culture and must consistently model ethical behavior, setting a standard that is expected of all employees. This commitment is essential for fostering a business environment built on strong ethical foundations. When cross-referencing the results of leadership with the implementation of circular economy practices in the observed companies, it is evident that products and materials are being recycled, regular maintenance is conducted to extend product lifespans, and waste is recycled. However, the responses from participants revealed areas for improvement in the adoption of circular economy principles, specifically: the implementation of processes for the recovery of products no longer used by customers, the use of regenerative or biodegradable materials instead of conventional ones, and the adoption of renewable energy sources to mitigate environmental impact. Ethical leadership fosters unity among employees, promotes a sense of community, and encourages the sharing of equipment, vehicles, and machinery both among employees and across different branches of the organization. These insights provide a clear direction for decision-making aimed at accelerating the transition to a circular economy.The study simultaneously examined the role of ethical leadership alongside ten dimensions of circular economy practices. Conducted in Serbia with a sample of 63 leaders, the research identified key areas for developing circular economy initiatives within both service and manufacturing sectors. The findings suggest that ethical leadership can play a crucial role in facilitating the transition to a circular economy. This study contributes to the emerging body of literature on the micro-foundations of sustainability, focusing on the individual actions and interactions that underpin this movement (Aguinis & Glavas, 2012).

Future research directions could include replicating this study in other countries to enhance the generalizability of the findings. Additionally, prioritizing the principles of ethical leadership according to their impact on promoting and implementing circular economy practices could help identify which principles exert the strongest influence on the transition process. Researchers might also consider incorporating other relevant constructs, such as ethical effectiveness or ecological dynamics, into the investigation. This broader approach would facilitate a more comprehensive understanding of the principles that affect the adoption of circular economy practices in organizations, ultimately aiming for a more rational use of natural resources and greater environmental sustainability.

Appendix 1. Questionnaire

Ethical leadership (Source: Brown et al., 2005).
Please indicate the extent to which the following statements describe effective leadership (1-Not at all; 5-frequently if not always):
1. Leader listens to what employees have to say.
2. Leader disciplines employees who violate ethical standards.
3. Leader conducts personal life in an ethical manner.
4. Leader has the best interests of employees in mind.
5. Leader makes fair and balanced decisions.
6. Leader can be trusted.
7. Leader discusses business ethics or values with employees.
8. Leader sets an example of how to do things the right way in terms of ethics.
9. Leader defines success not just by results but also the way it is obtained.
10. When making decisions, leader asks, "what is the right thing to do?"

Circular economy activities (adapted by the authors from PBL's Potting et al., 2016):
1. Cares about reducing the use of products and resources.
2. The company uses biodegradable materials instead of conventional ones.
3. Equipment/cars/machines are intensively used by being shared among employees and branches.
4. Renewable energy is used to reduce the environmental impact.
5. You recycle products and materials.
6. You consider and use regenerative/biodegradable materials instead of conventional ones.
7. You regularly maintain products to extend their lifespan.
8. You recycle waste.
9. The company implements a process for recovering products that customers no longer use.
10. You repair and maintain defective products and materials in order for them to be reused with their original function in mind.

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