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When sustainability speaks louder: the role of ESG in mitigating the impact of manager personality traits on earnings management in credit cooperatives

Cuando la sostenibilidad habla más alto: el papel de los criterios ESG para mitigar el impacto de los rasgos de personalidad de los directivos en la gestión de los beneficios en las cooperativas de crédito

Quando a sustentabilidade fala mais alto: o papel do ESG na mitigação do impacto dos traços de personalidade dos gestores sobre o gerenciamento de resultados em cooperativas de crédito

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Abstract

Purpose: To analyze the moderating effect of ESG practices on the relationship between manager personality traits and earnings management practices in credit cooperatives.

Methodology: The study involved 83 credit cooperative managers with data collected through an online survey. Descriptive statistics and multiple linear regression techniques were applied for analysis using Stata® software.

Results: The findings indicate that manager personality traits significantly influence the adoption of earnings management practices. However, the implementation of ESG practices demonstrated a positive moderating effect, discouraging managers with Dark Triad traits (Machiavellianism, narcissism, and psychopathy) from engaging in opportunistic behaviors.

Contributions of the Study: This study contributes to the literature by integrating behavioral and organizational aspects, highlighting how psychological traits influence opportunistic practices and how ESG practices can mitigate these effects. From a practical perspective, the results suggest that credit cooperatives can reduce manipulative practices by adopting robust ESG policies. Additionally, incorporating personality trait analysis into the recruitment and selection process can help identify candidates aligned with organizational values and less prone to earnings manipulation. This can enhance transparency, strengthen corporate governance, and build stakeholder trust.

Keywords: Earnings management; Personality traits; Environmental, Social, and Corporate Governance; Cooperativism.

Resumen

Objetivo: Analizar el efecto moderador de los criterios ESG en la relación entre los rasgos de personalidad de los directivos y las prácticas de gestión de resultados en las cooperativas de crédito.

Metodología: La investigación involucró a 83 directivos de cooperativas de crédito, con datos recolectados mediante una encuesta en línea. Para el análisis, se emplearon técnicas de estadística descriptiva y regresión lineal múltiple, utilizando el software Stata®.

Resultados: Los resultados indican que los rasgos de personalidad de los directivos influyen significativamente en la adopción de prácticas de gestión de resultados. Sin embargo, la implementación de prácticas ESG mostró un efecto moderador positivo, desalentando a los directivos con características de la Tríada Oscura (maquiavelismo, narcisismo y psicopatía) a involucrarse en comportamientos oportunistas.

Contribuciones del Estudio: Este estudio contribuye a la literatura al integrar aspectos conductuales y organizacionales, destacando cómo los rasgos psicológicos influyen en prácticas oportunistas, mientras que las prácticas ESG pueden mitigar estos efectos. Desde una perspectiva práctica, los resultados sugieren que las cooperativas de crédito pueden reducir las prácticas manipulativas adoptando políticas ESG sólidas. Además, el análisis de los rasgos de personalidad puede incorporarse al proceso de reclutamiento y selección de directivos, identificando candidatos alineados con los valores organizacionales y con menor propensión a manipular resultados. Esto puede contribuir a una mayor transparencia, al fortalecimiento de la gobernanza corporativa y al aumento de la confianza de los stakeholders.

Palabras clave: Gestión de resultados; Rasgos de personalidad; Environmental, Social and Corporate Governance; Cooperativismo.

Resumo

Objetivo: Analisar o efeito moderador do ESG na relação entre traços de personalidade de gestores e as práticas de gerenciamento de resultado em cooperativas de crédito.

Metodologia: A pesquisa envolveu 83 gestores de cooperativas de crédito, com dados coletados por meio de uma *survey* on-line. Para a análise, foram empregadas técnicas de estatística descritiva e regressão linear múltipla, utilizando o software Stata®.

Resultados: Os resultados indicam que os traços de personalidade dos gestores influenciam significativamente a adoção de práticas de gerenciamento de resultados. No entanto, a implementação de práticas ESG demonstrou um efeito moderador positivo, desestimulando gestores com características da Dark Triad (maquiavelismo, narcisismo e psicopatia) a se envolverem em comportamentos oportunistas.

Contribuições do Estudo: Este estudo contribui para a literatura ao integrar aspectos comportamentais e organizacionais, destacando como traços psicológicos influenciam práticas oportunistas, enquanto as práticas ESG podem mitigar esses efeitos. Do ponto de vista prático, os resultados sugerem que cooperativas de crédito podem reduzir práticas manipulativas adotando políticas ESG robustas. Além disso, a análise de traços de

personalidade pode ser incorporada ao processo de recrutamento e seleção de gestores, identificando candidatos alinhados com os valores organizacionais e com menor propensão a manipular resultados. Isso pode contribuir para maior transparência, fortalecimento da governança corporativa e aumento da confiança dos stakeholders.

Palavras-chave: Gestão de resultados; Traços de personalidade; Environmental, Social and Corporate Governance; Cooperativismo.

1 Introduction

The concept of ESG (Environmental, Social, and Corporate Governance) has emerged as an evolution of traditional sustainability reports, expanding the scope of communication of the impacts of organizational activities. According to Dechow (2023), the term has become crucial in financial institutions, which need to inform their investors and other stakeholders about the environmental, social, and governance impacts of their operations. This shift implies that companies must not only report financial results, but also report the externalities they cause to society and the environment.

In the financial sector, ESG plays a vital role in integrating corporate governance with sustainability demands, facilitating risk assessment, and promoting greater transparency. International regulations, such as those of the International Sustainability Standards Board (ISSB), have contributed to ESG becoming a central part of accounting practices, highlighting its importance for sustainable development. This movement, especially in credit unions, is essential for monitoring the behavior of managers, reinforcing organizational ethics and increasing credibility with stakeholders, particularly cooperative members (Wong *et al.*, 2021; Khanchel, Lassoued, & Baccar, 2023).

Credit unions have a unique structure, where the cooperative members are simultaneously owners and users of the financial institution, actively participating in the management and enjoying the services offered. This model requires high credibility and trust, as strategic decisions directly affect all members. Transparency in the relations between cooperative members and cooperatives is fundamental, especially with regard to management decisions and accountability. This principle is a crucial pillar for the success of the sustainable development of these institutions, although conflicts of interest may arise, especially during the decision-making process (Wong *et al.*, 2021; Khanchel *et al.*, 2023).

In light of this, credit unions may be faced with earnings management practices, such as manipulating financial information or choosing strategic account classifications to hide or improve financial results. These practices are motivated, in part, by manager personality traits, such as Machiavellianism, narcissism, and psychopathy, which are associated with opportunistic behaviors and manipulation of financial data (D'Souza, Lima, Jones, & Carré, 2019). Previous studies, such as those by D'Souza and Lima (2015), Dantas, Borges and Fernandes (2018), addressed the impacts of these personality traits on earnings management, but did not analyze the influence of ESG as a moderating factor in this dynamic.

This context reveals a gap in the literature, as how ESG practices can moderate the relationship between managers' personality traits and earnings management practices in credit unions has not been widely investigated. The relevance of this issue intensifies when considering the growing pressure on cooperatives to adopt sustainable practices, both internally and externally, from stakeholders and society in general. Therefore, this study aims

to analyze the moderating effect of ESG on the relationship between manager personality traits and earnings management practices in credit unions.

By investigating this interdependence, the research seeks to fill an important gap in the literature on the impact of ESG on financial and managerial practices in credit unions, a sector of great representativeness in Brazil, with a presence in 50.1% of municipalities, according to data from the Central Bank of Brazil (2022). From a theoretical point of view, the research is justified by contributing to the advancement of the understanding of the role of ESG practices in mitigating the effects of Dark Triad personality traits on earnings management. Credit unions, due to their associative nature and social role, are particularly exposed to pressure to adopt sustainable practices, which makes this study crucial to understand how such practices can positively influence managerial decisions (Wong *et al.*, 2021).

From a practical point of view, the study offers insights into the importance of considering the individual characteristics of managers during the hiring process, since personality traits can directly affect ethics and transparency in decisions. The research also highlights how ESG practices can be an instrument for controlling and mitigating opportunistic practices within credit unions, contributing to organizational sustainability (D'Souza *et al.*, 2019).

Socially, the survey addresses the importance of credit unions in economic and social contexts, offering financial solutions that promote the well-being of cooperative members and contribute to improving quality of life. The study also aligns with the Sustainable Development Goals (SDGs), especially SDG 8, which aims to promote sustained and inclusive economic growth. The analysis of the impact of ESG practices on credit unions, due to its quasi-public nature, is an important step towards the evolution of a more inclusive and sustainable economy (Viana, 2016).

Thus, this study not only contributes to the academic literature, but also offers practical guidelines for credit unions and public policies related to the sector, with the potential to strengthen sustainable economic development, both in the local and national contexts.

2 Literature Review

2.1 Dark Triad Personality Traits and Earnings management Practices

The practice of managing results with the objective of maximizing profits is not recent, being widely considered usual in the business world. However, this practice often reflects the opportunistic character of managers who may often seek to serve their own interests (D'Souza *et al.*, 2019). In credit unions, the flexibility of legal and accounting standards can be used to ensure positive results. This strategy aims, on the one hand, to promote the retention of current investors and, on the other hand, to attract potential investors interested in contributing resources (Li, & Richie, 2016). In addition, goals linked to variable compensation, such as participation in surpluses, can intensify motivations for earnings management practices, aligning the interests of managers with the achievement of these goals.

Credit unions have unique characteristics that can create loopholes for discretionary choices in accounting classification and measurement. These choices can be used to hide unwanted performance or artificially improve financial indicators, characterizing earnings management (Dantas *et al.*, 2018; Góis, 2017). The impact of these practices can be observed,

for example, in changes in credit risk rating conditions, which, while they may improve immediate outcomes, increase the risk and likelihood of future insolvency (Bressan, Bressan, & Silva, 2019). In this context, variables such as provisions for credit operations emerge as promising elements for investigations in financial institutions (Santos, & Santos, 2020).

The literature suggests that managers' attitudinal factors and organizational characteristics can also intensify earnings management practices (Chowdhury *et al.*, 2018). For example, Goulart (2007) points out that the constant need to convey an image of reliability to the public can lead financial institutions to soften their results, avoiding reporting losses. This behavior is evidenced in Brazil, where management practices have been identified in the main banks as a strategy to maintain the perception of financial soundness (Goulart, 2007). Such practices are particularly relevant in the case of credit unions, where the distribution of surpluses and the alignment between the interests of managers and cooperative members become critical factors.

When discussing earnings management practices, it is essential to consider the personality of managers, given that executive interpretations and choices often reflect personal traits and individual values and characteristics (Hambrick, 2007; Hambrick, & Mason, 1984). In this sense, studies such as those by Jones and Paulhus (2014) and Paulhus and Williams (2002) have deepened the analysis of traits of narcissism, Machiavellianism, and psychopathy, known as the *Dark Triad*. These traits include characteristics such as excessive pride (narcissism), manipulation to achieve personal goals (Machiavellianism), and emotional callousness (psychopathy) (Crysel, Crosser, & Webster, 2013).

These traits, as part of the personality of individuals, configure patterns that shape perception, thought, feeling, and behavior, distinguishing one person from another (Nair, & Kamalanabhan, 2010). In an organizational environment, such characteristics can significantly influence decision-making and business strategies. Narcissists seek prominence and recognition; Machiavellians adopt manipulative strategies to achieve goals; and individuals with psychopathic traits are known for their impulsivity and low empathy (Crysel *et al.*, 2013; Góis, 2017).

The literature presents evidence that Dark Triad traits are associated with decisions that prioritize individual gains, even to the detriment of the organization. For example, studies by Capalbo, Frino, Lim, Mollica, and Palumbo (2018) and Carré, Jone, and Mueller (2020) show how these traits can influence earnings management practices, especially in contexts where maximizing financial gains and meeting goals are encouraged. These traits are also related to opportunistic behaviors, particularly in settings with low supervision or ineffective monitoring mechanisms (Chatterjee, & Hambrick, 2007).

In the case of credit unions, Brown and Davis (2009) point out that agency problems between managers and cooperative members often create incentives for opportunistic practices. In scenarios where the interests of managers and partners are misaligned, it is common for managers to use their position of power to maximize personal gains, often through practices such as earnings management (Espahbodi *et al.*, 2021; Troy *et al.*, 2011). Moreover, the operational complexity of these institutions and the asymmetry of information favor such behaviors (Alam, Ramachandran, & Nahomy 2020).

This context demonstrates the relevance of personality traits in explaining managers' behavior. Individuals with high *Dark Triad* traits may engage in risk-sensitive behaviors and seek opportunities for personal growth, even when doing so entails actions that are detrimental to the organization (Smith, Craig Wallace, & Jordan, 2016; Nair, & Kamalanabhan, 2010). Thus, the economic performance of credit unions, often measured by

the distribution of surpluses to cooperative members, can be influenced by these practices, especially in scenarios where managers seek to meet goals linked to variable compensation (Bressan, Bressan, & Silva, 2019).

In view of this, the following research hypothesis is proposed:

H1 – Managers' Dark *Triad* personality traits positively influence their propensity for earnings management practices

2.2 Moderating Effect of ESG on the Relationship Between Dark Triad Personality Traits and Earnings Management Practices

The concept of Environmental, Social and Corporate Governance (ESG) represents the integration of the management of environmental, social and governance systems into the core of economic operations (Schneider, 2021). In addition to the traditional focus on profit, companies have come to recognize a growing demand for sustainable practices, in line with society's expectations.

In recent years, studies have explored the relationship between earnings management, manager personality traits, and the role of ESG governance as a moderator of this relationship (Gavana, Gottardo, & Moisello, 2022). Traits such as level of awareness, risk propensity, and professional ethics influence managers' inclination to adopt earnings management practices (Zhang, Highhouse, & Nye, 2019; Wang, Xu, Zhang, & Chen, 2016).

Companies committed to ESG tend to operate in a sustainable manner, considering environmental impacts, community engagement, and ethical and transparent governance (Minkkinen, Niukkanen, & Mäntymäki, 2024; Cosimato, Landi, & Iandolo, 2021). The adoption of ESG practices can, in turn, influence managers' willingness to manage results, since these practices promote greater transparency and accountability (Kheniss, Jahmane, & Hofaidhllaoui, 2022; Pathak, & Gupta, 2022).

In financial institutions, sustainability takes on a dual role: internal, related to day-to-day operations; and external, which includes the consideration of ESG risks in credit, financing, and investment decisions (Buallay, Fadel, Al-Ajmi, & Saudagarem, 2020). Corporate social responsibility (CSR) activities play a key role in contributing to society's competitiveness and sustainability (Siueia, Wang, & Deladem, 2019), but there is still much to understand about how ESG performance integrates into business strategy (Giordani, Soschinski, & Klann, 2019).

While establishing ESG policies represents significant upfront costs, such as structuring governance systems, due diligence, and disclosure, these costs can be offset by benefits such as revenue stability, risk reduction, and value creation (Buallay, 2019). In this context, ESG actions not only strengthen the legitimacy of financial institutions, but also signal that profitability can be aligned with meeting stakeholder expectations (Forcadell, & Aracil, 2017; Buallay, 2019b). However, it is important to recognize that the direct return on such actions is not always evident, and in some cases, the high costs can generate controversy (Shen, Wu, Chen, & Fang, 2016).

After the 2008 economic crisis, ESG practices gained relevance as a mechanism to restore the reputation of financial institutions. During this period, they began to be defended as a crucial strategy to regain stakeholder confidence and reposition banks in the market (Buallay *et al.*, 2020; Forcadell, & Aracil, 2017).

In the investment market, ESG-based funds have consolidated themselves as a reference, offering greater credibility and reliability to investors. It is estimated that about a quarter of professional investment funds in the world base their strategies on ESG, with an approximate value of US\$ 20 trillion in assets (Wong *et al.*, 2021). ESG investment strategies comprise excluding companies that do not align with these pillars, prioritizing sectors with better ESG performance, and activism through corporate board engagement (Van Duuren, Plantinga, & Scholtens 2016).

In the case of credit institutions, corporate governance plays a central role in establishing management, monitoring, and compliance systems that minimize losses, fines, and administrative failures (Serra, & Lemos, 2020). The demand for greater transparency and standardization of reporting by these institutions reinforces the need for rigorous processes to prevent fraud and inconsistencies (Eliwa, Aboud, & Saleh, 2021).

According to Deegan (2002), the disclosure of information can be used strategically by organizations to manage stakeholders, ensuring support or avoiding opposition. Thus, managers have incentives to report activities that demonstrate compliance with stakeholder expectations, reinforcing organizational legitimacy (Bhattacharyya, & Cummings, 2015). In the context of ESG, these practices become even more evident, as companies seek to align their communication with the demands for sustainability and social responsibility.

Based on this scenario, the following research hypothesis is proposed:

H2 – ESG negatively influences the propensity of Managers to manage result practices.

ESG, as an organizational practice, has been associated with the creation of a corporate environment in which accountability and transparency prevail, which can, in theory, reduce the incidence of earnings management practices, especially when considering the personality traits of the *Dark Triad*. Personality traits such as narcissism, Machiavellianism, and psychopathy are linked to opportunistic behaviors, and managers with these traits tend to adopt manipulative and risky practices to maximize their own interests (Jones, & Paulhus, 2014; Paulhus, & Williams, 2002).

However, adopting robust ESG policies can mitigate this trend. According to Arayssi, Jizi and Tabaja (2020), organizations that integrate ESG principles into their strategy tend to foster a culture of greater social responsibility, which can reduce the appeal of opportunistic behaviors by managers, while creating incentives for greater transparency and ethics in business decisions. Studies indicate that companies with solid governance, in compliance with ESG practices, have a more effective internal control system and rigorous monitoring mechanisms, which can mitigate the negative effects of match-fixing (Harrison, & Thompson, 2018).

Corporate governance, in particular, by promoting accountability and transparency, can act as a barrier against earnings management practices, especially in companies where managers exhibit traits of the Dark Triad. Aras *et al.* (2020) emphasize that ESG-oriented governance, by ensuring a closer alignment between the interests of stakeholders and managers, acts as a moderator that limits opportunities for manipulation of financial results, forcing managers to behave in a more ethical and responsible manner.

Another important aspect is the fact that ESG, by incorporating a more holistic approach to business management, focusing not only on profit, but also on environmental and social issues, can attract a manager profile that is less prone to destructive behavior. According to research by Silva (2019), when managers are in an environment where the focus

goes beyond financial profits, with significant considerations about social and environmental impacts, the tendency to manipulate results decreases. This moderating effect occurs because, under ESG guidelines, managers are encouraged to adopt a long-term vision, more aligned with sustainability than with achieving immediate and often manipulated results.

Finally, it is possible to argue that, by integrating ESG in a strategic way, organizations can create an incentive system that favors ethical and responsible action. Brown and Davis (2009) point out that one of the main benefits of implementing ESG practices is the attraction and retention of talent that shares the same values of social responsibility and governance. This type of corporate environment reduces the influence of Dark Triad personality traits, creating a counterbalance to earnings management behavior. In other words, managers with high levels of narcissism, Machiavellianism, and psychopathy may feel more compelled to adopt more transparent practices that are aligned with ESG principles, since the long-term rewards outweigh the immediate gains obtained by financial manipulations.

Based on the arguments, we have the following research hypothesis:

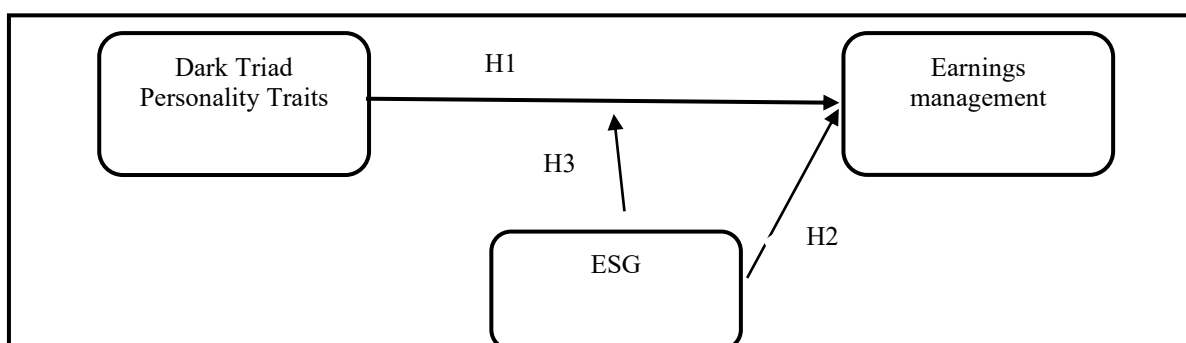
In this way, ESG not only promotes a more ethical organizational culture, but also acts as a crucial moderator in the relationship between Dark Triad personality traits and earnings management practices, by reducing opportunities and incentives for manipulative behaviors.

Based on the arguments, we have the following research hypothesis:

H3 – ESG negatively moderates the relationship between managers' Dark Triad personality traits and the propensity for earnings management practices.

ESG is considered to play an important role as a moderator in the relationship between managers' personality traits and earnings management practices. By promoting an organizational environment that values transparency, ethics, and social responsibility, ESG can reduce the influence of personality traits such as narcissism, Machiavellianism, and psychopathy, which are often associated with manipulative practices of financial results. Companies that adopt sound ESG practices tend to create a culture of stricter governance, with greater accountability and greater vigilance which can discourage managers from engaging in opportunistic behavior.

In this way, ESG acts as a moderating factor, attenuating the relationship between managers' personality traits and the propensity to manage results. To this end, Figure 1 illustrates, in a simplified way, the relationships proposed by the research hypotheses, facilitating the understanding of the links between the variables analyzed.



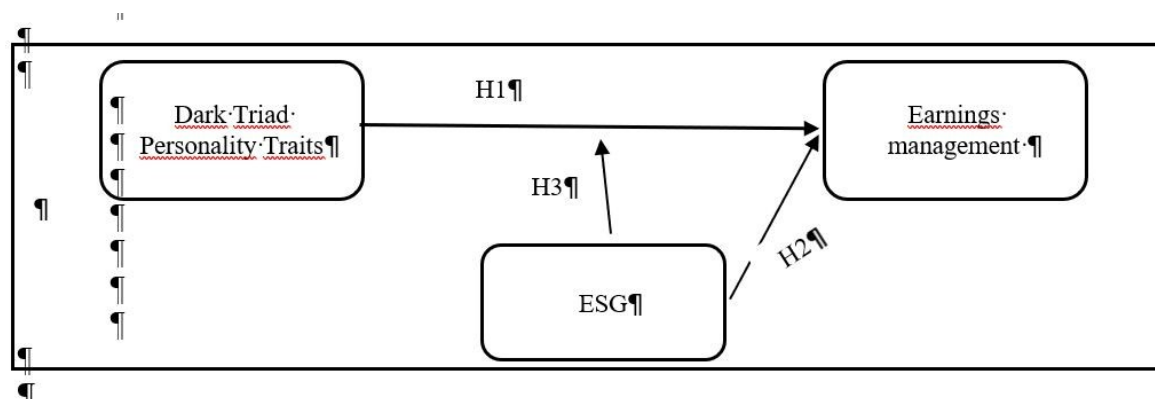


Figure 1 Research Design

Source: survey data.

3 Methodological procedures

The research is classified as descriptive, as it aims to specify the properties, characteristics and profiles of groups or phenomena, using standardized techniques for data collection and the analysis of causal relationships (Sampieri, Collado, & Lucio, 2013). It adopts a quantitative approach, based on the interpretation of numerical data, which are treated by statistical methods. The method used is the survey, through questionnaires with a 5-point Likert scale. This approach allows the identification of characteristics and opinions of the respondents anonymously, which favors the reliability of the answers (Mineiro, 2020).

The study population is composed of managers, directors and presidents of individual credit unions from all over Brazil. The choice of singular credit unions as the object of study is justified by the central role that these organizations play in the negotiation of credit operations and in direct contact with the cooperative members. This context makes them particularly relevant to the topic at hand.

In addition, the managers of these cooperatives often face challenges related to the possibility of opportunistic action to serve their own interests, which impacts organizational dynamics. Another relevant factor is the high level of pressure faced by individual cooperatives in their governance practices, such as accountability and the holding of ordinary and extraordinary meetings with the cooperative members. In many cases, these pressures exceed those typical of privately held companies, making these organizations an ideal setting to explore the proposed theme.

The survey sample consisted of 83 respondents, including presidents, directors, and managers of credit unions, who participated by answering the questionnaire made available between October 2022 and March 2023. Among the participants, 77.8% were male and 22.2% were female. The majority (66%) of the respondents had more than 5 years of experience in the role, which indicates a professional profile with extensive experience and knowledge in the context of credit unions. This sample reflects the perceptions and experiences of managers directly involved in the administration of these organizations.

Table 1 shows the dimensions of the research.

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Table 1

Research Dimensions

Block	Dimensions	Operational Definition of the Construct	Authors
Characterization of respondents			
I	Personal Aspects	Sociodemographic Characteristics	Survey data.
II	Social Aspects	Professional characteristics	Survey data.
Earnings management			
III	Propensity to Earnings Management	Measures the propensity to manage earnings based on accounting choices.	Baralexis (2004); Noronha, Zeng e Vinten (2008); D'Souza (2016); Góis (2017); Lunardi, Haussmann e Klann (2020).
Dark Triad			
IV	Machiavellianism	Measures the three dimensions that make up the Dark Triad.	Jones and Paulhus (2014) and translated into the study by D'Souza (2016).
	Narcissism		
	Psychopathy		
ESG			
V	V Corporate Governance	Identifies the manager's alignment with the ESG practices carried out in the organization in which he operates.	Davis and Neto (2010); Veber, Lenger, Oliveira, Estivale and Kneipp (2016); OCB (2020).
	Principles and Values		
	Economic Dimension		
	Social Dimension		
	Environmental Dimension		

Source: survey data.

III Propensity to Earnings Management Measures the propensity to manage earnings based on accounting choices. Baralexis (2004); Noronha, Zeng and Vinten (2008); D'Souza (2016); Góis (2017); Lunardi, Haussmann and Klann (2020).

Dark Triad

IV Machiavellianism Measures the three dimensions that make up the Dark Triad. Jones and Paulhus (2014) and translated into the study by D'Souza (2016).

Narcissism

Psychopathy

ESG

V Corporate Governance Identifies the manager's alignment with the ESG practices carried out in the organization in which he operates. Davis and Neto (2010); Veber, Lenger, Oliveira, Estivale and Kneipp (2016); OCB (2020).

Principles and Values

Economic Dimension

Social Dimension

Environmental Dimension

Source: survey data.

The data collection instrument was structured in five blocks, with the objective of measuring different variables related to credit union managers and the organizational practices adopted. The structure of each block is detailed below.

Block I and Block II were responsible for measuring the personal and social characteristics of the respondents, including data such as gender, age, and other sociodemographic aspects. These data provide the necessary context for a more in-depth

analysis of the relationships between the variables and enable a segmentation of the responses based on different manager profiles.

Block III evaluated the managers' propensity to manage results. The statements were based on the studies of Baralexis (2004), Noronha, Zeng and Vinten (2008), D'Souza (2016), Góis (2017) and (2020), which investigate accounting manipulation practices and behaviors related to earnings management. The objective of this block was to identify the predisposition of managers to adopt practices of manipulation or adjustment in financial information.

Block IV focused on the measurement of personality traits, specifically the components of the Dark Triad: narcissism, psychopathy, and Machiavellianism. The statements were based on the study by D'Souza (2016), which explores how these personality traits influence the attitudes and behavior of managers within organizations.

Block V addressed ESG (Environmental, Social and Corporate Governance) practices, based on studies by Veber, Lenger, Oliveira, Estivale and Kneipp (2016) and (2020). The questions sought to understand how managers perceive the importance and implementation of sustainable practices in their credit unions.

The statements of each block can be consulted in full in Appendix B, which contains the complete details of the questions used. This appendix provides transparency and allows other researchers or readers to access the exact instruments used in data collection. This structure of the instrument aims to provide a comprehensive analysis of the variables under study, allowing an in-depth investigation of the relationship between manager personality traits, the propensity to manage results and the adoption of ESG practices in credit unions.

Before applying the questionnaire, two pre-tests were carried out with professionals responsible for the production of financial information and controls in credit unions. The purpose of these tests was to ensure the clarity and adequacy of the questions, as well as to identify possible necessary adjustments to the collection instrument.

From an ethical point of view, the participants were presented with the Informed Consent Form (ICF), which guaranteed the anonymity of the respondents and explained the objectives of the research, the voluntary nature of participation, and the confidential use of the data collected. This procedure ensured compliance with ethical standards and the protection of the rights of the participants.

After the validation of the questionnaire by the professionals, it was sent by e-mail to the individual credit unions with the request that it be passed on to the managers of these entities. In addition, the questionnaire was also shared on the LinkedIn of professionals in the area, aiming to reach a broader sample. The questionnaire was made available on the Google Forms platform, allowing for efficient and accessible data collection.

Once the questionnaires answered by the participants were obtained, the procedure for measuring the research variables was carried out, as detailed in Table 2. This Table describes the steps and techniques used to analyze the variables under study, ensuring the consistency and accuracy of the results obtained

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Table 2
Procedures for measuring research variables

Dependent Variable		
Variable	Metric	Econometric Model
RG	$\sum = (\text{Answer to each question on the Likert scale} \times \text{Weight of each question})$	Weight of each question was obtained by factor analysis of the RG block
Independent Variable		
ESG		
Variables	Metric	Econometric Model
ESG_GC	$\sum = (\text{Answer to each question on the Likert scale} \times \text{Weight of each question})$	The weight of each question was obtained by factor analysis of the block of questions on ESG_GC
ESG_PRINC	$\sum = (\text{Answer to each question on the Likert scale} \times \text{Weight of each question})$	The weight of each question was obtained by factor analysis of the block of questions on ESG_PRINC
ESG_SOCIAL	$\sum = (\text{Answer to each question on the Likert scale} \times \text{Weight of each question})$	The weight of each question was obtained by factor analysis of the block of questions on ESG_SOCIAL
ESG_AMB	$\sum = (\text{Answer to each question on the Likert scale} \times \text{Weight of each question})$	O peso de cada questão foi obtido pela The weight of each question was obtained by factor analysis of the block of questions
ESG	$\sum = (\sum \text{ of the 4 ESG indicators obtained by factor analysis of the issues of each indicator} \times \text{Weight of each ESG indicator})$	The weight obtained by the factor analysis of the \sum of the 4 ESG indicators
DARK TRIAD		
Variables	Metric	Econometric Model
MAQ	$\sum = (\text{Answer to each question on the Likert scale} \times \text{Weight of each question})$	The weight of each question was obtained by factor analysis of the block of questions about MAQ
NARC	$\sum = (\text{Answer to each question on the Likert scale} \times \text{Weight of each question})$	The weight of each question was obtained by factor analysis of the block of questions about NARC
PSYCHO	$\sum = (\text{Answer to each question on the Likert scale} \times \text{Weight of each question})$	The weight of each question was obtained by factor analysis of the block of questions about PSYCHO
DARK TRIAD	$\sum = (\sum \text{ of the 3 DARK TRIAD indicators obtained by factor analysis of the questions of each indicator} \times \text{Weight of each indicator})$	The weight obtained by factor analysis of the \sum of the 3 DARK TRIAD indicators

Source: research data.

Table 2
Procedures for measuring research variables

Dependent variable

Metric Variable Econometric Model

RG $\sum = (\text{Answer to each question on the Likert scale} \times \text{Weight of each question})$ Weight of each question was obtained by factor analysis of the RG block

Independent Variables

ESG

Variables Metric Econometric Model

ESG_GC $\sum = (\text{Answer to each question on the Likert scale} \times \text{Weight of each question})$ The weight of each question was obtained by factor analysis of the block of questions on ESG_GC

ESG_PRINC $\sum = (\text{Answer to each question on the Likert scale} \times \text{Weight of each question})$ The weight of each question was obtained by factor analysis of the block of questions on ESG_PRINC

ESG_SOCIAL $\sum = (\text{Answer to each question on the Likert scale} \times \text{Weight of each question})$ The weight of each question was obtained by factor analysis of the block of questions on ESG_SOCIAL

ESG_AMB Σ = (Answer to each question on the Likert scale x Weight of each question) The weight of each question was obtained by factor analysis of the block of questions

ESG Σ = (Σ of the 4 ESG indicators obtained by factor analysis of the issues of each indicator x Weight of each ESG indicator)

The weight obtained by the factor analysis of the Σ of the 4 ESG indicators

DARK TRIAD

Variables Metric Econometric Model

MAQ Σ = (Answer to each question on the Likert scale x Weight of each question) The weight of each question was obtained by factor analysis of the block of questions about MAQ

NARC Σ = (Answer to each question on the Likert scale x Weight of each question) The weight of each question was obtained by factor analysis of the block of questions about NARC

PSYCHO Σ = (Answer to each question on the Likert scale x Weight of each question) The weight of each question was obtained by factor analysis of the block of questions about PSYCHO

DARK TRIAD Σ = (Σ of the 3 DARK TRIAD indicators obtained by factor analysis of the questions of each indicator x Weight of each indicator. The weight obtained by factor analysis of the Σ of the 3 DARK TRIAD indicators

The construction of aggregate variables for the construct referring to the personality traits of the Dark Triad (narcissism, Machiavellianism and psychopathy) was carried out from an exploratory factor analysis (EFA), following the guidelines of D'Souza and Lima (2015). EFA was used to identify and group the questions of each construct based on the correlation structure between the variables. This method makes it possible to reduce the dimensionality of the data while maintaining most of the explained variance.

The extraction method used was the principal component analysis, with Varimax rotation and Kaiser normalization, recognized for maximizing the interpretability of factors. Factor loadings were evaluated and only values above 0.4 were considered, ensuring that only variables with significant correlations were included. The data analysis resulted in the formation of indicators for each critical factor, built based on the weighted average of the answers to the questions that make up each factor. The weights of the questions were extracted from the "% of variance" column of the factor analysis, reflecting their contribution to the explanation of the total variance of the construct.

For the ESG (Environmental, Social and Corporate Governance) construct, the dimensions were not aggregated into a single general indicator. It was decided to keep the questions grouped into four specific dimensions: Corporate Governance (ESG_GC), ESG Principles (ESG_PRINC), Social Dimension (ESG_SOCIAL) and Environmental Dimension (ESG_AMB). Each of these dimensions was treated separately, with the indicators being calculated from the weighted average of the answers to the questions that compose them. The decision not to consolidate the dimensions into a single index reflects the theoretical and practical relevance of each axis, allowing subsequent analyses to capture the specific impacts of each ESG component.

In the case of Earnings Management (GR), the methodological procedure also included the use of factor analysis to create an aggregate indicator. This indicator was generated from the answers to statements related to earnings management practices, using weights derived from factor analysis to weigh each question. Thus, the consolidated indicator reflects the essence of earnings management behavior, capturing the different practices in an integrated metric.

This methodological approach, based on robust and widely accepted techniques, ensured the validity and reliability of the indicators created, providing a solid basis for subsequent econometric analyses that explore the relationships between the constructs investigated.

Next, the analysis of the respondents' profile was performed through descriptive statistics and multivariate analysis of the data, including the use of the mean, median, standard deviation, minimum and maximum of the results found. Spearman's correlation was also used, which is a statistical measure that indicates the intensity and direction of the linear relationship between two variables. Finally, multiple linear regression was applied, which is a statistical technique used to analyze the relationship between a dependent variable and several independent variables in order to test the hypotheses of the study. The robust model was used for the treatment of heteroscedasticity in the data. All analyses were conducted using the *Stata software*. The models tested are presented below:

$$GR = \alpha + \beta_1(DarkTriad) + \beta_2(ESG) + \varepsilon_{it}$$

$$GR = \alpha + \beta_1(DarkTriad) + \beta_2(ESG) + \beta_3(DarkTriad * ESG) + \varepsilon_{it}$$

$$GR = \alpha + \beta_1(DarkTriad) + \beta_2(ESG) + \beta_3(ESG_GC) + \beta_4(ESG_Princ) + \beta_5(ESG_Social) + \beta_6(ESG_Amb) + \beta_7(DarkTriad * ESG_GC) + \varepsilon_{it}$$

$$GR = \alpha + \beta_1(DarkTriad) + \beta_2(ESG) + \beta_3(ESG_GC) + \beta_4(ESG_Princ) + \beta_5(ESG_Social) + \beta_6(ESG_Amb) + \beta_7(DarkTriad * ESG_Princ) + \varepsilon_{it}$$

$$GR = \alpha + \beta_1(DarkTriad) + \beta_2(ESG) + \beta_3(ESG_GC) + \beta_4(ESG_Princ) + \beta_5(ESG_Social) + \beta_6(ESG_Amb) + \beta_7(DarkTriad * ESG_Social) + \varepsilon_{it}$$

$$GR = \alpha + \beta_1(DarkTriad) + \beta_2(ESG) + \beta_3(ESG_GC) + \beta_4(ESG_Princ) + \beta_5(ESG_Social) + \beta_6(ESG_Amb) + \beta_7(DarkTriad * ESG_Amb) + \varepsilon_{it}$$

4 Analysis of Results

Table 3

Measurement Statistics of Research Variables

Variable	Mean	Median	Standard d Deviation	Min.	Min. Theoretical Scale	Max.	Max. Theoretical Scale
GR	2.8466	2.8042	1.0894	1.0557	1.0000	5.0000	5.0000
MAQ	2.6767	2.6212	0.7553	1.3425	1.0000	4.7595	5.0000
NARC	3.0360	3.0021	0.5140	2.0623	1.0000	4.1519	5.0000
PSYCHO	2.1153	2.0740	0.4944	1.2821	1.0000	3.2559	5.0000
DARK TRIAD	2.8550	2.8169	0.4761	1.9391	1.0000	4.0737	5.0000
ESG_GC	3.7375	4.1090	0.9731	1.6675	1.0000	5.0000	5.0000
ESG_Princ	3.8147	3.9915	0.8417	1.3905	1.0000	5.0000	5.0000
ESG_Social	3.7803	4.0000	0.9202	1.8422	1.0000	5.0000	5.0000
ESG_Amb	3.7964	4.0000	0.9160	1.5994	1.0000	5.0000	5.0000
ESG	3.7944	4.0772	0.7928	1.8376	1.0000	5.0000	5.0000

Source: survey data

The study analyzed the responses of 83 credit union managers, highlighting demographic aspects and relevant professional characteristics. Of the respondents, 77.8% are male, which reflects the low female presence in management positions. These results

corroborate the findings of Hryniewicz and Vianna (2018), who point to a decrease in female representation as the organizational hierarchy rises.

As for marital status, 81% of the participants are married. Regarding the age group, 32% are between 31 and 40 years old, 41% are in the 41 to 50 age group, and 27% are over 51 years old. Regarding the positions held, 45% hold the position of manager, 43% are directors, and only 2% perform the function of president. With regard to academic training, most have completed higher education (74%), with 22% having a specialization, and 4% having only high school education.

Managers report an average of 17 years of experience in credit unions and 9 years in leadership positions. These data demonstrate that, in general, managers have built consolidated careers in the sector over time, differing from the profile identified by D'Souza *et al.* (2019), who, when surveying 263 professionals in the management area, found a scenario with younger and less experienced professionals.

In addition, the correlation analysis revealed significant associations with a mean effect, ruling out the presence of multicollinearity between the variables investigated. This allowed us to move on to the analysis of the moderating effect of ESG (environmental, social, and corporate) factors on the relationship between managers' Dark Triad personality traits and the propensity to manage results.

The results, presented in Table 4, demonstrate that the independent variables (Dark Triad and ESG) exert a significant impact on the dependent variable (Earnings management). These findings indicate that personality traits added to practices aligned with ESG principles significantly influence management behaviors, suggesting potential practical and strategic implications for credit unions.

Table 4

Effects of ESG and Dark Triad Personality Traits on Earnings Management

Independent variables	Dependent Variable: Management					
	Eq.1	Eq.2	Eq.3	Eq.4	Eq.5	Eq.6
Dark Triad	1.0432*	1.0340	1.1472	0.7999	0.8391	1.8775*
ESG	-0.5258*	-0.5334				
ESG_GC			-0.1189	-0.3336*	-0.3363*	-0.3440*
ESG_Princ			-0.3519*	-0.4141	-0.3399*	-0.3304*
ESG_Social			0.0697	0.0543	0.0141	0.0839
ESG_Amb			0.0522	0.0574	0.0568	0.8201
Dark Triad*ESG		0.0024				
Dark Triad*ESG_GC			-0.0690			
Dark Triad*ESG_Princ				0.0243		
Dark Triad*ESG_Social					0.0141	
Dark Triad*ESG_Amb						-0.2546
Constant	1.8635*	1.8925	1.6154	2.7053	2.5850	-0.6619
R ²	0.5183	0.5183	0.5410	0.5405	0.5405	0.5481
Sig.	0.0000*	0.0000*	0.0000*	0.0000*	0.0000*	0.0000*
Jarque-Bera	0.1130	0.1137	0.0551	0.0825	0.0785	0.0682
Durbin-Watson	2.0138	2.0138	2.0175	2.0113	2.0104	2.0126
VIF	<1.28	<5.54	<6.58	<5.23	<4.81	<6.57

* Significance at the 5% level

Source: survey data.

As shown in Table 4, the independent variables were tested in relation to the dependent variable "Outcome Management" in six different models, exploring the hypotheses of the study. All models demonstrated positive relationships with earnings management, with

a statistical significance level of 5%. The results indicate that the fit of the models to the data was satisfactory, with coefficients of determination (R^2) ranging from 0.5183 to 0.5481.

These values suggest that the independent variables explain a significant proportion of the variance of earnings management and that this variation is attributed to the different combinations of variables tested in each model. In addition, the residuals were close to the normal distribution, as evidenced by the Jarque-Bera test, and did not demonstrate significant autocorrelation according to the Durbin-Watson test, reinforcing the statistical adequacy of the models.

In Model 1, it was observed that the ESG variable had a significant negative effect on earnings management, indicating that higher levels of ESG practices are associated with a lower propensity for earnings management. This finding suggests that ESG practices can act as an inhibitor of behaviors related to the manipulation of financial results. In Model 2, by including the interaction between the traits of the "Dark Triad" and ESG practices, it was found that this interaction nullified the direct effect of ESG on earnings management. This indicates that Dark Triad personality traits can influence the way ESG practices are implemented, reducing their inhibitory impact.

Model 3 demonstrated that the "Principles and Values" dimension of ESG (ESG_Princ) exerts a significant negative effect on earnings management, reinforcing the idea that adherence to ethical principles reduces the propensity to manipulate results. Model 4, on the other hand, showed that the "Corporate Governance" (ESG_GC) dimension had a significant negative effect on earnings management, suggesting that robust corporate governance practices are associated with lower levels of manipulation practices. In Model 5, the results pointed to significant negative effects between ESG_GC and ESG_Princ when combined, indicating that the coexistence of corporate governance and ethical principles strengthens the mitigation of earnings management. Finally, in Model 6, it was found that the Dark Triad traits have a significant positive effect on earnings management, while the ESG_GC and ESG_Princ dimensions maintained negative effects. These results highlight the paradoxical influence of personality traits in the context of ethical and governance practices.

Overall, the results support that Dark Triad personality traits have a positive impact on earnings management, confirming the H1 hypothesis. On the other hand, the analyses also showed that ESG practices, especially in the dimensions of Corporate Governance and Principles and Values, exert negative effects on earnings management, partially corroborating hypothesis H2. However, no significant moderating effect of ESG practices on the relationship between Dark Triad personality traits and earnings management was found. This finding suggests that ESG practices act independently and directly, but do not moderate the influence of personality traits in the analyzed context.

The results point to the relevance of ESG practices as effective tools in mitigating opportunistic behaviors related to earnings management, with emphasis on the dimensions of Corporate Governance and Principles and Values. However, the positive influence of Dark Triad traits on earnings management highlights the need for organizational strategies that minimize the negative impacts of these characteristics on the corporate environment. Finally, the lack of moderation of ESG practices in relation to personality traits reinforces the importance of robust and comprehensive implementation to maximize their effectiveness in combating unwanted behaviors.

5 Discussion of the Results

The results indicating that the traits of the Dark Triad exert positive effects on the earnings management are in line with the discussions of D'Souza and Lima (2015). These authors point out that managers often face a dilemma between meeting business objectives and pursuing personal goals, which can lead to the opportunistic use of accounting information. The personality of managers, characterized by Machiavellianism, narcissism, and psychopathy, drives them to adopt practices that benefit their individual interests, often to the detriment of organizational performance as a whole. In the context of credit unions, these findings gain even more relevance, since the closer relationship between managers and cooperative members facilitates the creation of personal bonds that can be exploited for Machiavellian practices, compromising trust and transparency.

Managers' decision-making is largely influenced by subjective judgments, shaped by their individual opinions and preferences, as described by D'Souza and Lima (2015). Thus, the presence of traits of Machiavellianism, narcissism, and psychopathy in managers increases the likelihood of involvement in earnings management. For credit unions, these behaviors are of particular concern, as the governance structure and cooperative values are based on mutual trust and collective benefit. The annual disclosure of results, for example, can become an opportunity to feed the managers' narcissism, reinforcing opportunistic behaviors and generating an environment conducive to the emergence of the Dark Triad characteristics.

The results also confirm the discussions of Borralho, Hernández-Linares Gallardo-Vázquez and Sousa Paiva (2022) and Arayssi, Jizi and Tabaja (2020), by demonstrating that companies with robust ESG practices operate in higher governance environments, which discourages earnings management practices. The corporate governance dimension in ESG, by promoting a transparent and ethical management environment, as suggested by Mahrani and Soewarno (2018), plays a key role in mitigating opportunistic behaviors. These findings reinforce that strengthening ESG practices, especially in the dimensions of governance and sound ethical principles, is an effective strategy to reduce the discretionary power of managers. This approach is especially relevant for credit unions, where the preservation of cooperative values is essential to maintain the trust of the cooperative members and the balance of the system.

On the other hand, the tests carried out to evaluate the moderating effect of ESG on the relationship between Dark Triad and earnings management did not identify statistical significance. This suggests that, although ESG is effective in creating more ethical and transparent organizational environments, as pointed out by Ajina, Lakhal, and Ayed (2019) and Chouaibi and Zouari (2021), the behavioral profile of managers is still the determining factor in the adoption of earnings management practices. Therefore, ESG, while relevant, is not enough on its own to counteract the negative effects of personality traits associated with the Dark Triad.

To mitigate the effects of Dark Triad traits, credit union boards should include rigorous behavioral assessments in the selection and promotion of managers. In addition, it is crucial to reinforce continuous training focused on corporate ethics and cooperative values, promoting awareness of the negative impact of opportunistic practices on organizational performance and the confidence of cooperative members.

In the context of credit unions, strengthening ESG practices is essential to preserve the trust of cooperative members and ensure alignment with cooperative principles. The adoption of policies that inhibit opportunistic behavior contributes to a more equitable and transparent environment, reinforcing the positive social impact of these institutions in the community.

This study deepens the understanding of the influence of Dark Triad characteristics on earnings management, especially in the cooperative sector. In addition, the findings highlight the mitigating role of ESG practices, albeit not as a moderator, offering a refined perspective on how ethical principles and corporate governance can interact with behavioral traits in different organizational contexts.

Overall, the results suggest that to mitigate the impact of the Dark Triad on earnings management, credit unions must adopt an integrated approach that combines robust ESG practices with conscious management of the individual characteristics of their leaders. This not only strengthens internal governance but also contributes to the long-term sustainability and credibility of these organizations.

6 Final Considerations

The objective of this study was to analyze the relationship between the personality traits of credit union managers, characterized by the Dark Triad (narcissism, Machiavellianism and psychopathy), and the practices of earnings management, considering the possible moderating effect of ESG practices. The results confirmed that Dark Triad traits have a significant positive relationship with the propensity to manage results, indicating that managers with these characteristics are more inclined to adopt opportunistic practices. On the other hand, it was found that ESG practices have a negative relationship with earnings management, showing that initiatives aimed at corporate governance and ethical principles can inhibit such behaviors. However, no moderating effects of ESG practices on the relationship between the Dark Triad and earnings management were identified.

In view of this, it is recommended that credit unions prioritize the implementation of ESG practices as a mechanism to strengthen organizational governance, creating a more ethical and transparent environment, capable of reducing the propensity to manage results. Specifically, it is recommended that behavioral mapping be carried out during the recruitment, selection, and promotion processes, in order to identify traits related to the Dark Triad. This practice would allow cooperatives to act preventively, minimizing the negative influence of these traits on management and preserving cooperative values.

The findings of this study contribute to the literature on earnings management in credit unions, highlighting the impact of managers personality traits and the adoption of ESG practices. Given the fundamental role of cooperatives for the economy and for the development of the communities in which they operate, the results presented can help in the design of management strategies that promote greater alignment between the interests of managers and members, strengthening sustainability and trust in the operations of these organizations.

Among the limitations of the study, the impossibility of generalizing the results stands out, since they are restricted to the sample analyzed. In addition, economic and operational characteristics of credit unions, such as size, region of operation, and financial indicators, were not considered in the model, although they may have a significant influence on earnings management and sustainability practices. The inclusion of these variables represents a promising field for future research.

For subsequent studies, it is suggested that other moderating variables be explored, such as the size of the organization, the regulatory environment, the ownership structure, and organizational maturity. In addition, investigating the relationship between ESG performance and earnings management practices in different sectors or national contexts can further enrich the understanding of the topic. Such approaches would help capture contextual nuances and

provide actionable insights for organizations of different types and sizes, amplifying the academic and applied impact of this line of research.

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Appendix A – Factor analysis and the rotating component matrix of each construct

Earnings management			Dark Triad Personality Traits								
Comp. Varimax	% Var.	% Cum.	Comp. Varimax	% Var.	% Cum.	Comp. Varimax	% Var.	% Cum.	Comp. Varimax	% Var.	% Cum.
GR5	45.74	45.74	MAQ7	36.95	36.95	NARC7	23.98	23.98	PSICO5	27.06	27.06
GR9	15.16	60.90	MAQ2	13.01	49.96	NARC3	16.17	40.14	PSICO2	14.11	41.16
GR7	9.67	70.57	MAQ1	10.62	60.57	NARC9	13.72	53.86	PSICO6	12.57	53.74
GR3	7.17	77.74	MAQ3	9.62	70.20	NARC1	10.91	64.78	PSICO8	11.94	65.67
GR2	5.57	83.32	MAQ9	7.94	78.14	NARC8	10.33	75.11	PSICO7	9.98	75.65
GR4	5.02	88.33	MAQ4	7.04	85.18	NARC6	8.78	83.89	PSICO4	8.34	83.99
GR1	4.65	92.99	MAQ8	6.50	91.67	NARC5	6.10	89.99	PSICO3	6.39	90.38
GR8	3.32	96.31	MAQ6	4.78	96.45	NARC2	5.58	95.57	PSICO9	5.97	96.35
GR10	2.15	98.46	MAQ5	3.55	100.00	NARC4	4.43	100.00	PSICO1	3.65	100.00
GR6	1.54	100.00									
ESG											
Comp. Varimax	% Var.	% Cum.	Comp. Varimax	% Var.	% Cum.	Comp. Varimax	% Var.	% Cum.	Comp. Varimax	% Var.	% Cum.
ESG_GC10	28.41	28.41	ESG_Princ11	31.94	31.94	ESC_Social1	49.52	49.52	ESC_Amb1	59.94	59.94
ESG_GC1	12.41	40.82	ESG_Princ6	12.39	44.33	ESC_Social3	21.66	71.18	ESC_Amb2	13.47	73.41
ESG_GC7	10.17	50.99	ESG_Princ2	8.96	53.29	ESC_Social4	15.79	86.97	ESC_Amb3	11.86	85.27
ESG_GC6	8.50	59.49	ESG_Princ8	8.16	61.46	ESC_Social2	13.03	100.00	ESC_Amb4	9.06	94.33
ESG_GC5	8.01	67.51	ESG_Princ10	6.92	68.38				ESC_Amb5	5.67	100.00
ESG_GC9	7.48	74.98	ESG_Princ9	5.92	74.30						
ESG_GC12	6.26	81.25	ESG_Princ13	5.19	79.49						
ESG_GC2	5.32	86.56	ESG_Princ7	5.03	84.56						
ESG_GC11	4.39	90.95	ESG_Princ3	3.40	87.92						
ESG_GC8	4.16	95.07	ESG_Princ14	3.25	91.17						
ESG_GC3	2.65	97.72	ESG_Princ5	2.80	93.97						
ESG_GC4	2.28	100.00	ESG_Princ4	2.32	96.29						
			ESG_Princ1	2.05	98.34						
			ESG_Princ12	1.66	100.00						
ESG Aggregate						Dark Triad Aggregate					
Comp. Varimax	% Var.		% Cum.			Comp. Varimax	% Var.		% Cum.		
Sum ESG Princ	59.39		59.39			Sum Narc	70.79		70.79		
Sum ESG GC	19.20		78.60			Sum Maq	15.31		15.31		
Sum ESG Amb	11.99		90.58			Sum Psico	13.90		13.90		
Sum ESC Social	9.42		100.00								

% Var. = Variance of principal component analysis (question weight); % Cum. = cumulative % of variance of principal component analysis; Comp. Varimax = classification of questions of each construct according to the rotated component matrix in the Varimax rotation method.

Fonte: dados da pesquisa

Appendix B – Questionnaire

Block I – Personal Aspects

1. Gender:
- ☐ Female
 - ☐ Male
 - ☐ I do not wish to identify myself

2. Date of Birth: _____

3. Marital Status:

- ☐ Single
- ☐ Married
- ☐ Divorced
- ☐ Widowed
- ☐ Other _____

Block II – Social Aspects

4. Identify your Education:

- ☐ Administration
- ☐ Accounting
- ☐ Law
- ☐ Economics
- ☐ Other _____

5. Identify your Function or Position in the Cooperative:

- ☐ President
- ☐ Financial Director
- ☐ Business Director
- ☐ Administrative Director
- ☐ Other _____

6. Since what year have you held the function or position highlighted in the question above:

7. How many years have you been working in the cooperative: _____

8. What year was the Cooperative established: _____

Block III – Propensity for Earnings Management (EM)

The questions below are related to actions and points to be observed in the month preceding the closing of the results to be disclosed. There are no right or wrong answers; you should only demonstrate your perception of the alternatives considering the scale of (1) Never and (5) Always.

GR1	To relax, because everything possible was done to achieve the results.
GR2	To call the team to present the results achieved so far and request their dedication and commitment in the remaining days.

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GR3	To examine the need to make adjustments to accounts receivable or the provision for doubtful accounts (increase or decrease in provision expenses).
GR4	To check whether administrative, advertising and publicity expenses and/or maintenance can be adjusted.
GR5	To examine the possibility of postponing probable losses, indicated by the legal department in the positions of legal proceedings, in order to be accounted for in the next period.
GR6	To check whether financial charges can be recorded in the future period.
GR7	To examine the possibility of reversing amounts provisioned in credit operations in order to maximize results.
GR8	To check whether it is necessary to change the depreciation method for assets recorded in fixed assets.
GR9	To analyze the possibility of recognizing “prepaid expenses” as an expense for the period.
GR10	To analyze the possibility of adjusting accounting entries relating to ongoing works/renovations (for example, postponing or advancing the completion of the work).

Block IV – Dark Triad Personality Traits

Please indicate your perception of the following questions using the scale of (1) Strongly Disagree and (5) Strongly Agree. There are no right or wrong answers; you should simply demonstrate your perception of the alternatives. which should be answered based on your life principles.

MAQ1	It is not wise to tell your secrets.
MAQ2	People generally do not work hard unless they have to.
MAQ3	You need to have important people on your side, no matter what the cost.
MAQ4	Avoid direct conflict with others because they may be useful in the future.
MAQ5	It is wise to keep information that you can use against people later.
MAQ6	You should wait for the right moment to get back at people.
MAQ7	There are things you should keep from others because they do not need to know.
MAQ8	Make sure your plans benefit you, not others.
MAQ9	Most people can be manipulated.
NARC1	People see me as a natural leader.
NARC2	I hate being the center of attention.
NARC3	Many group activities tend to be boring without me.
NARC4	I know I am special because people keep telling me so.
NARC5	I like meeting important people.
NARC6	I feel embarrassed when I receive compliments.
NARC7	I have been compared to famous people.
NARC8	I am an ordinary person.
NARC9	I insist on getting the respect I deserve.
PSYCH O 1	I like to retaliate against people in authority.
PSYCH O 2	I avoid dangerous situations.
PSYCH O 3	Retaliation has to be swift and nasty.
PSYCH O 4	People often say I'm out of control.

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PSYCH O 5	It's true that I can be mean to others.
PSYCH O 6	People who mess with me always regret it.
PSYCH O 7	I've never been in trouble with the law.
PSYCH O 8	I like to pick on unsuccessful people.
PSYCH O 9	I'll say anything to get what I want.

Block V – ESG Please indicate your perception of the following questions using the scale of (1) Strongly Disagree and (5) Strongly Agree. There are no right or wrong answers; you should simply state your perception of the alternatives.

ESG_GC1	Members holding the position of advisor/director receive management, accounting and financial reports in advance and are able to read and understand them.
ESG_GC2	The administration ensures the effective representation and participation of members in the deliberations of General Assemblies. (Disclosure through notices of convocation, pre-assemblies, elections of delegates and pre-assembly channels).
ESG_GC3	The annual activity plan and the annual budget of the Internal Audit are approved in advance by the Board of Directors/Management to ensure alignment with the strategic direction and the resources necessary for its execution.
ESG_GC4	The audit committee meets regularly with the Board of Directors/Management, the fiscal council, the chief executive and, when applicable, other executives.
ESG_GC5	The Internal Audit acts proactively in the implementation and improvement of internal controls, the establishment of standards and monitoring procedures in line with the best practices inherent to the activity.
ESG_GC6	The cooperative has its financial statements audited by an independent external auditor to ensure that they reflect the reality of the cooperative's economic and financial position.
ESG_GC8	The cooperative has established a statutory Advisory Board made up of independent or external advisors to gradually improve its governance and to provide advice on relevant topics and meetings.
ESG_GC8	The activities of the Board of Directors/Management are standardized by internal regulations which makes not only responsibilities and duties clear, but also decision-making powers.
ESG_GC9	The Board of Directors and/or Management adopt policies that incorporate economic, social, cultural and environmental considerations in defining business and operations. aiming at the sustainability of the cooperative.
ESG_GC10	The Board of Directors/Management are remunerated according to the responsibility of the position. taking into account qualifications, the value generated for the cooperative, the risks of the activity and the market average.
ESG_GC11	The Code of Ethics and Conduct defines economic, social and environmental responsibilities, reflecting the cooperative's culture and cooperative principles.
ESG_GC12	The cooperative uses the ombudsman's office as a means of receiving statements from members to try to resolve conflicts and subsidize the improvement of work processes.
ESG_Princ1	The cooperative is a voluntary organization open to all people able to use its services and assume the responsibilities of membership without social, Racial, Political, religious or gender discrimination.
ESG_Princ2	In the cooperative. members have equal voting rights (one member, one vote).
ESG_Princ3	Elected men and women assume the responsibility of representing the other members.
ESG_Princ4	The cooperative is a democratic organization controlled by its members who actively participate in the formulation of its policies and decision-making.
ESG_Princ5	Members contribute equitably to the capital of the cooperative and control it democratically.

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	Part of this capital is usually the common property of the cooperative.
ESG_Princ6	Members of the cooperative usually receive, if anything, remuneration limited to the paid-in capital, as a condition of their membership.
ESG_Princ7	Members allocate surpluses to one or more of the following purposes: Development of the cooperative through the creation of reserves; Benefits to members in proportion to their transactions with the cooperative; Support for other activities approved by the members.
ESG_Princ8	The cooperative promotes the education and training of its members, elected representatives and workers on the nature and advantages of cooperation.
ESG_Princ9	The cooperative works for the sustainable development of its communities, through policies approved by the members.
ESG_Princ10	In order to hire a supplier, in addition to requiring a good commercial proposal (quality, price and deadline), the cooperative assesses whether the supplier maintains socially and environmentally responsible practices.
ESG_Princ11	The cooperative carries out actions on its premises to reduce water consumption (such as installing self-closing taps and low-flow toilets, or using rainwater for cleaning and maintenance activities).
ESG_Princ12	The cooperative seeks to implement paper-saving actions in its activities (such as using double-sided sheets and digital processes).
ESG_Princ13	In its communication (advertising contracts and media), the cooperative encourages and educates its consumers to adopt conscious and responsible consumer attitudes (such as digital invoices and use of bank statements through internet banking. for example).
ESG_Princ14	The sustainable actions and practices developed by the cooperative improve its image in the community/market. resulting in an increase in the volume of revenue and services.
ESG_Social1	The cooperative has a formal document (such as the sustainability report) that clarifies the parameters encouraged with regard to sustainable relationships and seeks to involve its stakeholders (employees. customers. suppliers. community and board of directors) in the preparation and review of the document.
ESG_Social2	In addition to complying with the obligations determined by law, the cooperative is concerned with offering its employees a pleasant and safe physical environment (for example, it encourages employees to practice physical activities; it guides employees on taking care of their body posture during professional activities; it has ramps. safety warnings in Braille. light and sound signals in areas where vehicles circulate. etc.).
ESG_Social3	The cooperative values diversity by not using discriminatory practices regarding gender, race, sexual orientation, age, religious or political beliefs of candidates, as well as people with disabilities in the selection of personnel.
ESG_Social4	The cooperative considers it important and implements actions for the development of the local community through the generation of jobs and income, measures to reduce poverty and increase inclusion in society, and carrying out educational and/or public interest campaigns in the community in conjunction with local organizations.
ESG_Social5	The cooperative encourages volunteer work by its employees in the community and recognizes the importance of this volunteer work, publicizing it through bulletin boards, an internal newspaper, a local newspaper or social media.
ESG_Amb1	The cooperative seeks to use materials in its processes that cause less harm to the environment. For example, it seeks to control and reduce noise and visual pollution caused by its processes.
ESG_Amb2	The cooperative adopts reverse logistics practices with suppliers and/or partners for disposal.
ESG_Amb3	The cooperative seeks to implement actions that aim to preserve the environment (for example: selective waste collection with identified containers for paper, glass, metal, plastic and organic material).
ESG_Amb4	The cooperative promotes environmental education for employees and their families and for the community as an effective way to reduce environmental impacts.