ENVIRONMENTAL EDUCATION, SUSTAINABILITY AND GREEN CONSUMPTION IN SMALL BUSINESS IN THE WESTERN AMAZON

EDUCAÇÃO AMBIENTAL, SUSTENTABILIDADE E CONSUMO VERDE EM MICROEMPRESA DA AMAZÔNIA OCIDENTAL

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Abstract: This research aims to prepare a study on environmental education in the face of formal and informal actions to promote sustainability, consumption, and green behavior in small businesses in the Western Amazon. To achieve the proposed objective, the following were listed as specific objectives: (I) to analyze, through descriptive statistics, the perception of managers and employees about environmental education, sustainability and green consumption at the individual and organizational levels; (II) to investigate the correlation and association between the perception of sustainability, environmental education and green consumption. The study is justified by the environmental impacts generated by the performance of the food company and considers the possibility of contributing to the promotion of environmental education in smaller organizations, inducing good practices for the necessary environmental changes. The methodology employed descriptive statistics, Pearson's correlation analysis and multiple linear regression. The results show that environmental education, environmental sustainability, and green consumption are correlated constructs. It was also found that environmental education and environmental sustainability are positively related to green consumption. This discovery brings important information to individuals, governments, and organizations in promoting green consumption**.**

Keywords: Environmental education. Sustainability. Green Consumption. Green Behavior. Small business.

Revista GESTO: Revista de Gestão Estratégica de Organizações
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Resumo: Esta pesquisa tem como objetivo elaborar um estudo acerca da educação ambiental em face das ações formais e informais de fomento à sustentabilidade, ao consumo e ao comportamento verde em microempresa da Amazônia Ocidental. Para a consecução do objetivo proposto, foram elencados como objetivos específicos: (I) analisar por meio de estatística descritiva a percepção de líderes e funcionários acerca da educação ambiental, sustentabilidade e consumo verde em nível individual e organizacional; (II) investigar a correlação entre a percepção de sustentabilidade, educação ambiental e consumo verde. O estudo se justifica pelos impactos ambientais gerados pela atuação da microempresa do ramo de alimentos, e leva-se em consideração a possibilidade de contribuir para o fomento da educação ambiental nas organizações de menor porte, induzindo boas práticas para as mudanças ambientais requeridas. A metodologia empregou estatística descritiva e análise de correlação de Pearson. Os resultados mostram que a organização estudada necessita estabelecer diálogo com colaboradores sobre a temática ambiental, melhorando sua comunicação interna e de resultados. No que concerne à educação ambiental, evidencia-se ser necessário fomentar o conhecimento de normas e leis ambientais e viabilizar cursos de capacitação em prol da educação ambiental, em consonância à legislação ambiental.

Palavras-chave: Educação Ambiental. Sustentabilidade. Consumo Verde. Comportamento Verde. Microempresa.

1 Introduction

Environmental, social and economic sustainability depends, to a large extent, on enabling actions capable of aggregating socio-environmental management mechanisms at the individual and organizational level from the triple bottom line perspective (Amaral, Stefano, & Chiusoli, 2018; Wilson, 2015). Environmental education should be promoted by multiple actors, among which the public sector, the private sector and the citizens stand out (MMC Ribeiro, Moura-Leite, Franco, & Max, 2018; A. Silva, Silva, Rebouças, & Abreu, 2015).

Within the scope of education for sustainability, personal values, motivation, technical and legal knowledge act positively towards the development of environmental awareness (Rosa, Madruga, Estivalete, & Telocken, 2018). Companies can act proactively to employ environmental education and adopt corporate social responsibility practices, in order to minimize negative externalities and favor the development of positive externalities for employees, the community and the environment, whether through ethical leadership or of directive practices of social and environmental sustainability (De Roeck & Farooq, 2018; Giesta, 2013).

Compliance with environmental legislation is a challenge for small companies, a situation aggravated by the uncertainty in obtaining benefits and insecurity about the positive impact on business performance (C. S. Ribeiro, Aguiar, & Cortese, 2017). In a different sense, environmental education can be conceived as an organizational strategy aligned with social responsibility as a condition for sustainable innovation and for increasing competitive advantage (Sanches, 2000).

In this context, the problem that the study seeks to answer is: What is the perception of the leaders and employees of a small business located in the Western Amazon about the organizational and individual role in factors related to sustainability, environmental education and green consumption? The question starts from the perspective that environmental education in the business environment suffers an important influence from the structural conditions of the

Revista GESTO: Revista de Gestão Estratégica de Organizações
Santo Ângelo | v. 13 | n. 1 | p. 103-123 | jan./jun. 2025 | DOI: http://dx.doi.org/10.31512/gesto.v13i1.1261

organization and from the professional relationships (formal and informal) established, mediated by people management practices (Oliveira, Correia, & Gomez, 2016; Rohrich & Cunha, 2004).

This work aims to elaborate a study about environmental education in face of formal and informal actions to promote sustainability and green consumption and behavior. In order to achieve the proposed objective, the following specific objectives were listed: (I) to raise the perception of employees and leaders about environmental education, sustainability and green consumption at the individual and organizational level; (II) relate the perception of sustainability, environmental education and green consumption of employees and leaders in order to verify if there is a correlation and association between such practices.

The study is justified by the environmental impacts generated by the branch of activity of the small business in the food sector, in addition, it takes into account the possibility of contributing to the promotion of environmental education in the studied organization, inducing good practices for the required environmental changes, significantly, in the medium or long term. The work is systematized so that, after this introduction, the theoretical framework, methodology, results and final considerations are presented, with the proposal of future lines of investigation.

2 Theoretical Frameworks

This chapter addresses the concept of environmental education, aligning it with the notion of sustainability through the triple bottom line, in which environmental, social and economic perspectives are inseparable (Elkington, 1998).

Environmental education is, therefore, a powerful tool for social transformation, as education (itself) is a political act focused on building citizenship and fostering collectivity (Vargas, 2005).

2.1 Concepts and practices of environmental education, consumption and green behavior

Environmental Education is important in all stages of the teaching and learning process, formal through courses or informal through daily living, being an instrument capable of changing culture, improving the surrounding social reality and impacting the environment (MMC Ribeiro et al., 2018). The change in environmental mentality through environmental education actions is an important tool for entrepreneurs, leaders and employees to act as actors capable of promoting a culture of consumption and sustainable behavior (Oliveira et al., 2016).

In other words, organizations are producers of culture as they create symbolic values and allocate their products in a network of meanings aligned with ethical principles and shared social and environmental responsibility (De Roeck & Farooq, 2018; Oliveira et al., 2016)

In the scenario of promoting sustainability, environmental policies and laws that address the issue by the government are essential. Thus, specific legislation must be sufficient and meet the reality imposed by environmental and social demands. As well as the right to life ensured by the Magna Carta, the preserved environment is also a fundamental right inherent to all people, as explained (J. I. O. Silva, Barbosa, Gustavo, Silva, & Nunes, 2017). In agreement with Costa, Diniz, Cunha, & Pires (2016) the State has a primary role in promoting sustainability, since it

Revista GESTO: Revista de Gestão Estratégica de Organizações
Santo Ângelo | v. 13 | n. 1 | p. 103-123 | jan./jun. 2025 | DOI: http://dx.doi.org/10.31512/gesto.v13i1.1261

is through legislative rules that appropriate environmental behaviors of companies and people are engendered, therefore encouraging the protection and conservation of the environment and sanctions for those who degrade it.

In this context, cultural and values change in favor of sustainability must be fostered through disciplines at universities and other educational levels, however formal disciplines or transversal contents included in pedagogical projects are not widely disseminated in courses in Brazil (Munaretto & Busanello, 2014). Accordingly, Petarnella, Silveira, & Machado (2017) demonstrate that teaching on environmental education and sustainability at the stricto sensu graduate level is rare in the Brazilian reality. Historically, efforts have been mobilized in the legal sphere in favor of the realization of environmental education in the Brazilian scenario, as can be seen through Resolution No. 2/2012 (MEC / CNE-Ministry of Education - National Education Council, 2012), which addresses the national curricular guidelines for high school and Law 9,795 / 99 (Brazil, 1999), which deals with the National Environmental Education Policy. However, formal educational practice has been negligent in meeting the legal requirement for environmental education at the most diverse levels of education (Munaretto & Busanello, 2014; G. B. da Silva & Maracajá, 2012).

Not only public authorities and schools have an obligation to work on environmental education. Item V of art. 3 of Law No. 9,795 / 99 (Brazil, 1999) emphasizes that it is also incumbent on companies and class entities, and public and private institutions, to promote training programs for workers with a view to increasing control over the work environment and on the impacts of the production process on the natural environment. In this way, companies have a legal obligation to offer environmental education to their employees.

Environmental education involves educational processes in which sustainability must be considered a concept and a practice, in favor of changing mentalities and habits. In this sense, in order to create a sustainable future, it is necessary to encourage, in the educational, business, family and social context, awareness of the vital importance of preserving the environment for the whole community (A. Silva et al., 2015).

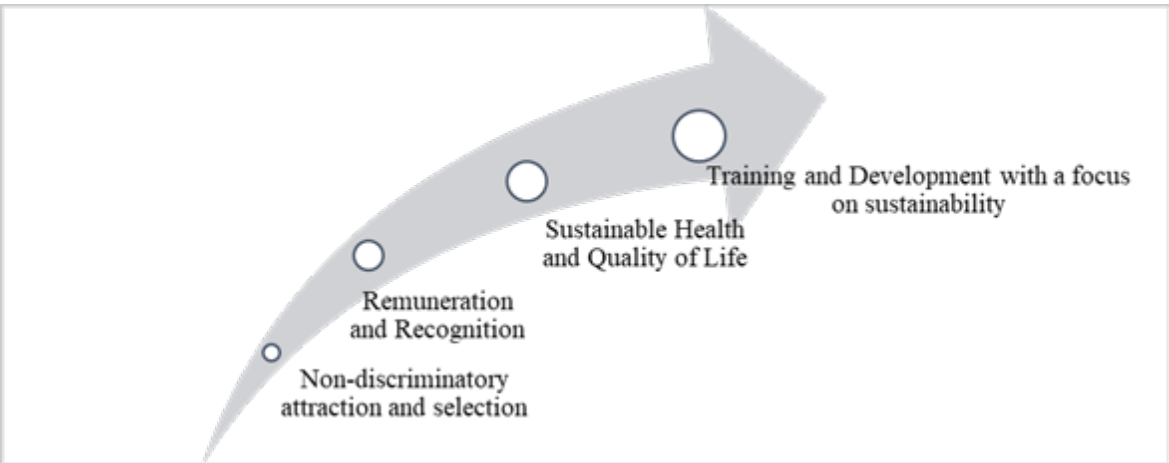
Environmental education practices permeate the transformation of society's unrestrained consumption patterns, as these are currently one of the main problems that foster socio-environmental issues (Oliveira et al., 2016). Sustainable consumption, or green consumption by a given consumer, is influenced by the behavior of other people, so that the commitment to green consumption is a socially constructed activity, or, in other words, it is a prosocial attitude (Johnstone & Hooper, 2016; Paço, Shiel, & Alves, 2019). According to Petarnella et al. (2017) education is the driving force for the development of sustainability, as well as levels of access to income, culture and education.

Values, beliefs, contextual strengths, personal capacities and habit are related to each other in terms of changing environmental behaviors, while environmental citizenship can be fostered by schools, companies and universities (Rosa et al., 2018; A. Silva et al., 2015). This will allow that when exercising environmental citizenship, individuals seek the creation of productive and development models linked to local characteristics (Vargas, 2005).

Environmental citizenship involves local and active construction with a global impact, citizenship that can only be built critically through environmental education. People management in organizations plays an essential role in building environmental citizenship at the business level, as can be seen in Figure 1.

Revista GESTO: Revista de Gestão Estratégica de Organizações
Santo Ângelo | v. 13 | n. 1 | p. 103-123 | jan./jun. 2025 | DOI: http://dx.doi.org/10.31512/gesto.v13i1.1261

Figure 1 - People management practices that promote environmental citizenship in companies.



Source: Elaborated by the authors

Table 1 shows the concepts of the People management practices referred to in Figure 1.

Table 1 - Concepts

Elements	Concepts
Non-discriminatory attraction and selection	Recruitment and selection processes with a view to respecting differences to minorities within the scope of sustainable and socially responsible organizations (Hennekam, Peterson, Tahssain-Gay, & Dumazert, 2019).
Remuneration and Recognition	The remuneration and recognition policy must be competitive and allow employees to remain motivated, also attracting new talents (Řehoř & Vrchota, 2018)..
Health and sustainable quality of life	Health and safety conditions that influence quality of life at work (Dhamija, Gupta, & Bag, 2019).
Training and Development with a focus on sustainability	Learning process and development of professional and behavioral skills with a view to increasing professional performance (Fletcher, Alfes, & Robinson, 2018).
Human Resources	Leaders and employees make up the internal human resources that allow the organization to achieve its goals in favor of socio-environmental responsibility (Silvestri & Veltri, 2020).

Source: Elaborated by the authors

In this way, people management has an essential role in promoting the building of environmental awareness in organizations and it is the role of organizations to understand the complexity of environmental issues, managing environmental assets and liabilities, and fostering the theoretical and practical awakening of sustainability, in favor of quality of life at work and outside it, a theme that runs through the environmental issue (Munck, Souza, & Zagui, 2012; CS Ribeiro et al., 2017).

2.2 Conceptual elements on Sustainability

Sustainability is characterized by the ability to maintain continuous integrative processes that seek to perpetuate the dynamic balance of a complex system in the long term, based on

Revista GESTO: Revista de Gestão Estratégica de Organizações
Santo Ângelo | v. 13 | n. 1 | p. 103-123 | jan./jun. 2025 | DOI: http://dx.doi.org/10.31512/gesto.v13i1.1261

the integration of economic, social and environmental aspects (Amaral et al., 2018; Elkington, 1998). The social dimension refers to the well-being of society and employees; the environmental dimension is related to the reduction or compensation of environmental damage; and finally, the economic dimension refers to the production and distribution of goods and services, with the achievement of organizational objectives (Elkington, 1998; Soares, Lima, Silva, & Santos, 2018).

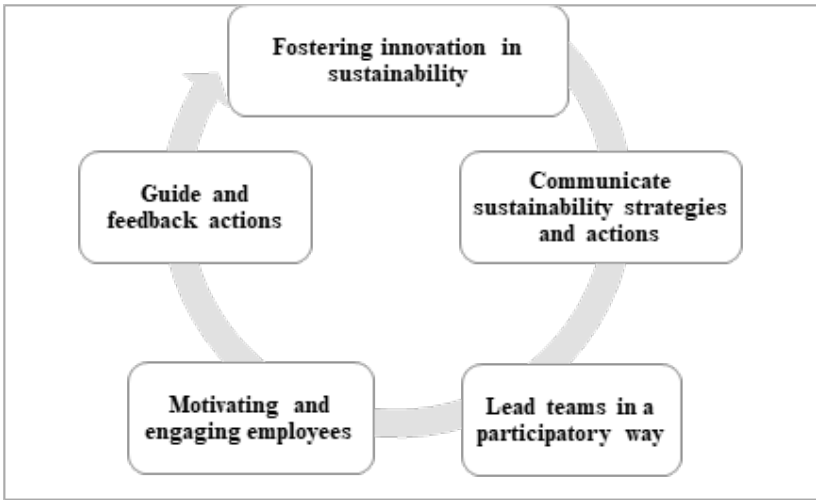
The operationalization of sustainability demands investments and is configured as a business opportunity as it acts as a source of innovation, increasing yields, rationalizing costs and favoring long-term investments in future competitiveness (Munck et al., 2012). The successful implementation of a sustainability strategy involves extremely complex processes of creation and alignment of organizational, sectoral and individual activities amplified by people management practices (Macini, Bansi, & Caldana, 2017; Stefano & Alberton, 2018).

The capitalist production model, or even the mass industry, is controlled by macroeconomic interests with an unsustainable bias composed of mercantilist productive arrangements, where the tripod of sustainable development conception, exit to this state of affairs can be formed by the solidary economy, social movements, political ecology and cultural roots, whose pillars are economic, social, environmental and cultural, respectively (Sena, Matos, Mesquita, & Machado, 2017).

Sustainability ensures that the current actions taken by the population will not limit the economic, social and environmental options for future generations (Stefano & Alberton, 2018). Given the present and future importance of sustainability, the theme has assumed a prominent role in many organizations, based on the need to reduce environmental impacts and comply with environmental legislation with a view to increasing organizational performance and achieving corporate social responsibility (Amaral et al., 2018).

As the triple bottom line perspective demonstrates, the economic imperative can foster concern for sustainability, in favor of forming an ethical mindset and values geared towards socially and environmentally responsible action with a focus on controlling environmental impacts (Rosa et al., 2018). For this, the organizational strategy must be aligned with the practices of open innovation and frank communication, as shown in Figure 2.

Figure 2 - Cycle of fostering sustainability in organizations.



Source: Elaborated by the authors

Revista GESTO: Revista de Gestão Estratégica de Organizações
Santo Ângelo | v. 13 | n. 1 | p. 103-123 | jan./jun. 2025 | DOI: http://dx.doi.org/10.31512/gesto.v13i1.1261

The Cycle of fostering sustainability in organizations is represented in Figure 1. It is composed of five stages, which are described in table 2.

Table 2 - Cycle of fostering sustainability: Description of the stages.

Elements	Description
Fostering innovation in sustainability	The promotion of innovation in sustainability in the organization is the result of joint efforts by managers to efficiently carry out the administrative management process (J. G. C. dos Santos, Vasconcelos, Luca, & Cunha, 2019).
Communicate sustainability strategies and actions	The process of communicating strategies and actions to the other instances of the organization is a fundamental requirement for everyone to share and participate (Park, Lee, & Kim, 2016).
Lead teams in a participatory way	Team leadership is responsible for transmitting strategies, objectives and guiding the performance of activities and actions to employees (Scott, Jiang, Wildman, & Griffith, 2018).
Motivating and engaging employees	Motivated employees take actions to transform and foster change (Rosa et al., 2018).
Guide and feedback actions	Guiding actions is present in the administrative management process and is related to feedback and share feedback (Silvestri & Veltri, 2020).

Source: Elaborated by the authors

Innovation focused on sustainability is a structural condition for long-term environmental, economic and social development, and may be of a technological, organizational and institutional nature (Mendonça, Cunha, & Nascimento, 2018). The concern with sustainability has been growing gradually, as a result of environmental education, which promotes, in the individual sphere, a process of disciplining skills, attitudes and competences, whether in the context of work or life (Vargas, 2005).

3 Methodology

For data analysis, descriptive statistics or exploratory data analysis were used, characterized by the initial study of collected data, together with Pearson's correlation analysis. The data were worked through organization through tables and graphs (Jebb, Parrigon, & Woo, 2017). The measures of exploratory data analysis were used to organize, summarize and describe the important aspects of the data set raised through a questionnaire.

The questionnaire was prepared using the Likert scale (Antonialli, Antonialli, & Antonialli, 2017). The instrument consists of fifteen statements addressing three constructs, namely: Sustainability, Environmental Education and Green Consumption, as shown in **Table 3.** The objective questions contained five points, from 1 to 5, being respectively: Disagree Strongly; D – Disagree; N – Neutral; A- Agree; AS - Agree Strongly. The instrument was evaluated by three experts in the research and sustainability area.

The questionnaire was applied in person, in November 2018, to thirty-seven members of small business located in the Western Amazon, among employees and leaders. The organizational environment chosen refers to a small business in the food industry located in Porto Velho-RO. From then on, descriptive statistics were performed for data analysis.

Revista GESTO: Revista de Gestão Estratégica de Organizações
Santo Ângelo | v. 13 | n. 1 | p. 103-123 | jan./jun. 2025 | DOI: http://dx.doi.org/10.31512/gesto.v13i1.1261

Table 3 - Issues on Sustainability, Environmental Education and Green Consumption.

Constructs	Issues
Sustainability	1) The adoption of sustainability practices is valued by members of the company (Zhou, Luo, & Tang, 2018).
	2) Environmental impacts are avoided or reduced whenever possible (Sanches, 2000).
	3) There is an incentive to save paper, water, electricity and other resources (Rosa et al., 2018).
	4) Ideas of sustainability are discussed and evaluated within the company (Giesta, 2013).
	5) People have freedom and channels to propose innovations and implement improvements in activities in favor of sustainability (M. M. C. Ribeiro et al., 2018).
Environmental education	6) People are well aware of sustainability laws and standards (Rohrich & Cunha, 2004).
	7) People participate in sustainability courses and events (Munck et al., 2012; A. Silva et al., 2015).
	8) People practice acts of sustainability on a daily basis (Lyra, Gomes, & Jacovine, 2009).
	9) Environmental education is encouraged through partnerships with universities (Faria, Silva, Silva, & Milani Filho, 2018).
	10) People transmit knowledge about sustainability on a daily basis (Johnstone & Hooper, 2016).
Consumption and Green Behavior	11) In company purchases, preference is given to products with less environmental impact, even if more expensive (Mcwilliams, Parhankangas, Coupet, Welch, & Barnum, 2016; Wilson, 2015).
	12) In company purchases, preference is given to products with a lower price even if they are unsustainable (Reverse) (Mcwilliams et al., 2016; Wilson, 2015).
	13) The company installs automatic equipment such as taps and lamps to reduce the consumption of resources (Sanches, 2000).
	14) People know the company's sustainability strategies and actions (Galbreath, 2017; John, Qadeer, Shahzadi, & Jia, 2019).
	15) People feel motivated to have a sustainable attitude in the organization (Rosa et al., 2018).

Source: Elaborated by the authors

In the same scenario as the study carried out by Castilla et al. (2018), the items elaborated for the questionnaire aim to collect feedback on the perception and experience about sustainability, environmental education and green behavior of the members of the organization, so that, although the items were elaborated specifically for this research and there are no previous statistics , Cronbach's Alpha coefficient was 0.903, which is considerably high, despite the preliminary characteristic of the study. The coefficient was calculated in conjunction with Pearson's correlation analysis and multiple linear regression analysis using the SAS Enterprise Guide 7.1 software (SAS, 2016).

For the analysis of the degree of convergence of the responses to the questionnaire, the agreement or disagreement in relation to the question was checked, so that values less than 3 are considered to be discordant and values greater than 3, to be concordant. Finally, Pearson's correlation analysis shows the correlations between the items raised, coupled with theoretical propositions.

4 Analyses of perception on environmental education, sustainability and green behavior in small business

Revista GESTO: Revista de Gestão Estratégica de Organizações
Santo Ângelo | v. 13 | n. 1 | p. 103-123 | jan./jun. 2025 | DOI: http://dx.doi.org/10.31512/gesto.v13i1.1261

Next, the relationship established between the characteristics necessary for environmental education, sustainability and green behavior in the context of a small business is presented, thus presenting a descriptive approach to the findings, added to the subsidiary use of radar graphics, in order to understand the reality experienced by the organization with regard to the theme on screen.

4.1 Analysis of Environmental Sustainability in small business

As shown in Table 1, the survey showed that, according to statement SA1, the adoption of sustainability practices is valued by the members of the company, as assessed by 86.5% of respondents, who agreed partially or totally. Regarding item SA2, referring to the mitigation of environmental impacts by the organization, 91.9% of the respondents indicated that the company acts positively. Regarding the third item of the construct, SA3, which concerns the existence of incentives to save paper, water, electricity and other resources, 83.8% of the respondents agree on any level. However, it can be seen from item SA4, that the small business must establish bigger and better channels of communication with regard to the discussion and evaluation of ideas of sustainability, since 17% of the respondents were indifferent or disagreed with that existence. The channels can be formal and informal, fostered through meetings, debates, e-mails, among others (Park et al., 2016).

The improvement of the channels is essential since people feel able to propose innovations, according to item SA5, in which 89.1% of the respondents consider that such a possibility exists within the organization. This is important and highly positive when it comes to promoting innovation and co-creating value by stakeholders (Lenssen, Szekely, & Strebel, 2013; Lyra et al., 2009).

Table 4 - Perceptions about sustainability.

Sustainability	**Ref.**	**DS**	**D**	**N**	**A**	**AS**
1) The adoption of sustainability practices is valued by members of the company.	SA1	2,7%	5,4%	5,4%	29,7%	56,8%
2) Environmental impacts are avoided or reduced whenever possible.	SA2	2,7%	5,4%	0,0%	40,5%	51,4%
3) There is an incentive to save paper, water, electricity and other resources.	SA3	8,1%	5,4%	2,7%	27,0%	56,8%
4) Sustainability ideas are discussed and evaluated within the company.	SA4	10,8%	0,0%	16,2%	35,1%	37,8%
5) People have the freedom to propose innovations and implement improvements in activities in favor of sustainability.	SA5	5,4%	2,7%	2,7%	48,6%	40,5%

Note: DS - Disagree Strongly; D – Disagree; N – Neutral; A- Agree; AS - Agree Strongly.

Source: Elaborated by the authors

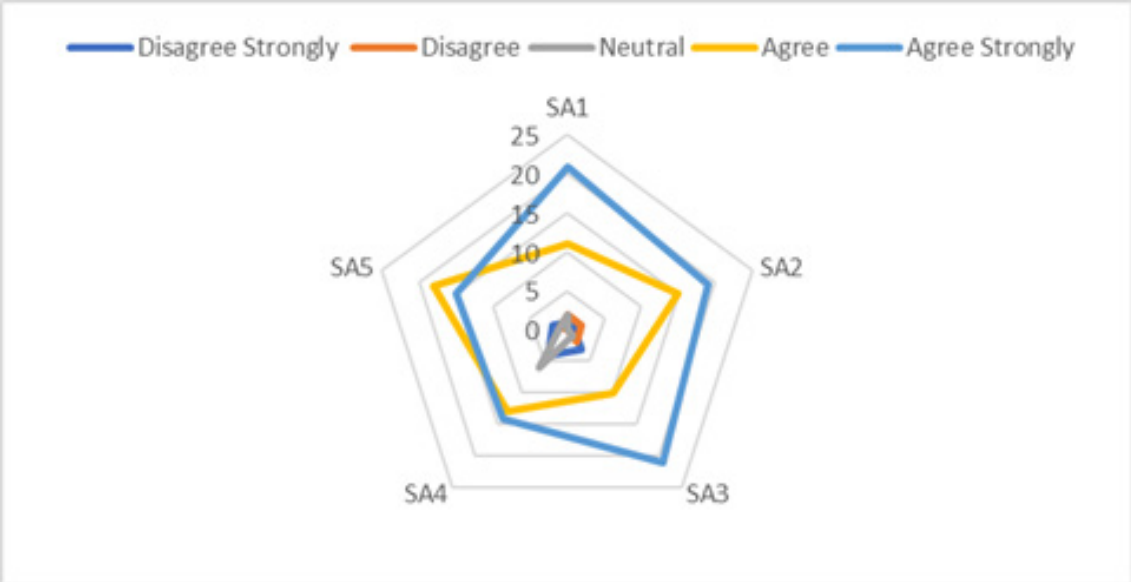
Based on the analysis undertaken, it is suggested that the small business streamline its traditional production, establishing an open dialogue with employees on the environmental theme. In this area, organizations, consumers and public administration have seen that the continuation of wealth generation and added value is only possible with the emergence of

Revista GESTO: Revista de Gestão Estratégica de Organizações
Santo Ângelo | v. 13 | n. 1 | p. 103-123 | jan./jun. 2025 | DOI: http://dx.doi.org/10.31512/gesto.v13i1.1261

cleaner production (FF Santos, Queiroz, & Almeida Neto, 2018), guided by eco-efficiency, with sustainable supply chain management in favor of creating value around so-called green products.

Figure 3 shows the respondents' model perception regarding the environmental sustainability characteristics of the studied small business. As can be seen, sustainability is valued by the organization (SA1), since the respondents had a massive position of total agreement. The organization also seems to excel in saving resources (SA3) and innovation in the scope of sustainability (SA5). The worst performance in terms of sustainability was the provision of channels and space for discussion on the topic (SA4).

Figure 3 - Perceptions about sustainability.



Source: Elaborated by the authors

The organization seems to adopt the posture focused on sustainability, in line with the pollution prevention approach, which has changed environmental paradigms (F. F. Santos et al., 2018). Pollution prevention involves the use of practices, processes, techniques, materials or products with the aim of preventing and reducing the generation of pollution, by adopting a proactive stance that reduces or avoids the generation of waste and emissions (Ribeiro Massote & Moura Santi, 2013). It is, therefore, about avoiding impacts and the generation of waste. In highly dynamic and complex environments, it is essential for the organization to act by minimizing impacts and leveraging its strengths, in order to add value to the organization.

4.2 Analysis of Environmental Education practices in small business

According to Table 2, the data show that 89.1% of the respondents demonstrated to disagree with the statement EA1, related to the deeper knowledge of laws and norms of sustainability. This denotes that specific actions by the organization are needed with regard to the dissemination of normative frameworks capable of guiding the conduct and behaviors in favor of sustainability in the organization, as determined by law Law No. 9,795 / 99 - National Environmental Education Policy (Brazil, 1999). With regard to item EA2, related to participation in courses and events in socio-environmental management, it is noteworthy that 91.9% of employees disagreed or remained neutral, which denotes the vehement need for the organization to promote environmental education, whether either through corporate education, offering or making courses in the field of sustainability possible, or even, it reflects the lack of

Revista GESTO: Revista de Gestão Estratégica de Organizações
Santo Ângelo | v. 13 | n. 1 | p. 103-123 | jan./jun. 2025 | DOI: http://dx.doi.org/10.31512/gesto.v13i1.1261

environmental education in schools and universities (Munaretto & Busanello, 2014; GB da Silva & Maracajá, 2012).

Regarding item EA3, there is disagreement that people practice acts of sustainability in their day-to-day organizational activities, which may be related to the lack of knowledge and shared collective feeling (Brandalise, Silva, Ribeiro, & Bertolini, 2014). In relation to item EA4, employees widely disagree that there is the establishment of partnerships with entities for the promotion of environmental education, which imposes the need for the organization to act proactively and seek to establish these partnerships with educational institutions or universities (Sanches, 2000; JIAO Silva et al., 2017).

Table 5 - Data obtained through a survey concerning environmental education.

Environmental Education	**Ref.**	**DS**	**D**	**N**	**A**	**AS**
6) People are well aware of sustainability laws and standards.	EA1	45,9%	43,2%	8,1%	0,0%	2,7%
7) People participate in sustainability courses and events.	EA2	62,2%	29,7%	2,7%	2,7%	2,7%
8) People practice acts of sustainability on a daily basis.	EA3	45,9%	35,1%	2,7%	8,1%	8,1%
9) Environmental education is encouraged through partnerships with entities.	EA4	59,5%	35,1%	2,7%	0,0%	2,7%
10) People transmit knowledge about sustainability on a daily basis.	EA5	40,5%	29,7%	0,0%	18,9%	10,8%

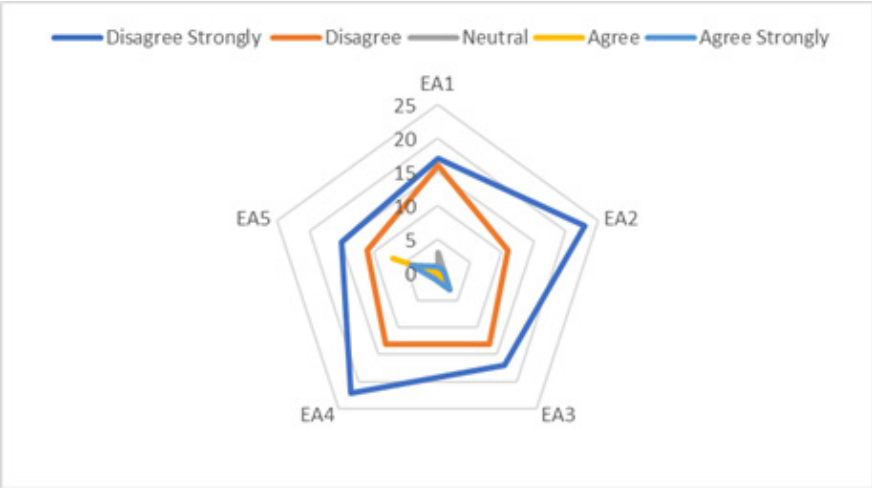
Note: DS - Disagree Strongly; D – Disagree; N – Neutral; A- Agree; AS - Agree Strongly.

Source: Elaborated by the authors

Finally, with regard to the informal transmission of knowledge about sustainability in daily work, item EA5, 23.5% of the respondents showed that such practice occurs in the organizational environment, which demonstrates the existence of informal networks of internal education cooperation in favor of making sustainability feasible, with space for collective behaviors of solidarity, ethics and sensitivity (Vargas, 2005).

Figure 4 consolidates the information presented in Table 5.

Figure 4 - Perception about environmental education.



Source: Elaborated by the authors

Revista GESTO: Revista de Gestão Estratégica de Organizações
Santo Ângelo | v. 13 | n. 1 | p. 103-123 | jan./jun. 2025 | DOI: http://dx.doi.org/10.31512/gesto.v13i1.1261

It is evident that item EA4 had wide total disagreement among respondents, so that most respondents perceive the need for small business to encourage environmental education through partnerships with entities, in line with item III of Art. 13 of Law No. 9,795 / 99 (Brazil, 1999), according to which public and private companies must provide partnerships with schools, universities and non-governmental organizations. As for items EA1 and EA2, the graph shows total or partial disagreement among respondents, demonstrating that people do not know environmental laws and regulations, nor do they participate in courses in the area.

Regulation and control play an essential role in defining goals and standards capable of shaping organizational performance, so that the legal framework for regulating the protection of the environment through the proper performance of organizations (CS Ribeiro et al., 2017). Thus, knowing environmental laws is essential in a highly complex environment, so that sustainable attitudes are adopted, at which point environmental education plays a major role.

4.3 Analysis of Consumption and Green Behavior

As shown in Table 3, 97.3% of the respondents agreed totally or partially in relation to the statement CON1, according to which in the purchase of the small business, preference is given to products with less environmental impact, even if more expensive. This may be due to the use of packaging, biodegradable bags and paper recycled by the company. The consumption and green behavior adopted are essential in promoting sustainability and reducing environmental impacts (Faria et al., 2018).

Consumption and green behavior	**Ref.**	**DS**	**D**	**N**	**A**	**AS**
11) In company purchases, preference is given to products with less environmental impact, even if more expensive.	CON1	2,7%	0,0%	0,0%	37,8%	59,5%
12) In company purchases, preference is given to products with a lower price, even if unsustainable. (Reverse)	CON2	56,8%	29,7%	10,8%	0,0%	2,7%
13) The company installs equipment such as taps and automatic lamps to reduce the consumption of resources.	CON3	8,1%	0,0%	0,0%	45,9%	45,9%
14) People know the company's sustainability strategies and actions.	CON4	2,7%	10,8%	10,8%	5,4%	70,3%
15) People feel motivated to have a resource saving attitude in the organization.	CON5	5,4%	2,7%	54,1%	0,0%	37,8%

Table 6 - Perceptions about consumption and green behavior.

Note: DS - Disagree Strongly; D – Disagree; N – Neutral; A- Agree; AS - Agree Strongly.

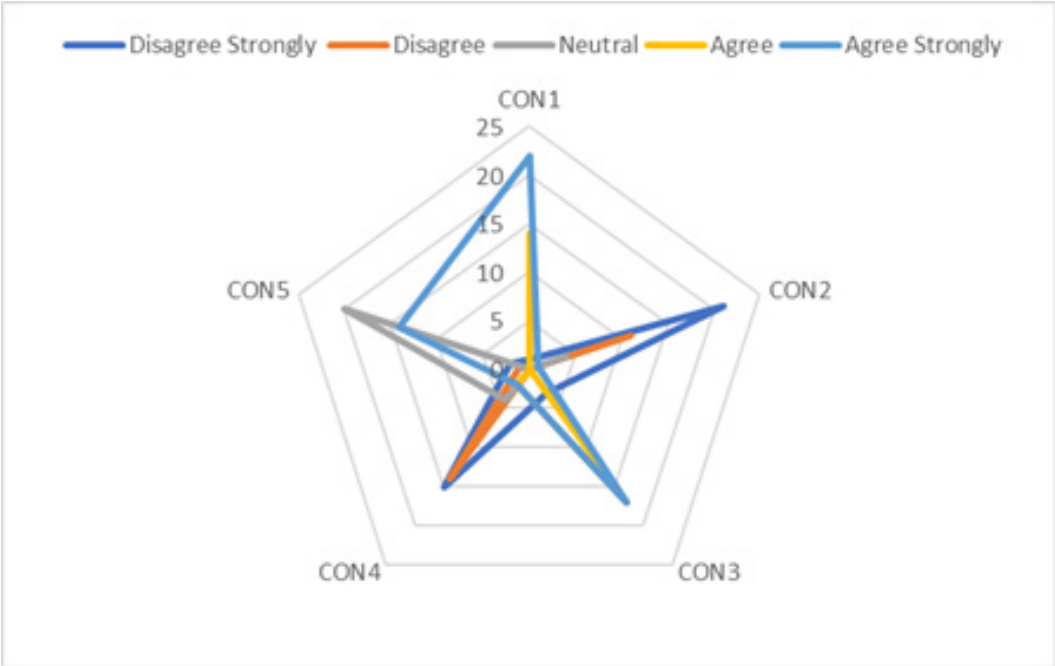
Source: Elaborated by the authors

Regarding the statement CON2, most respondents (86.5%) disagreed totally or partially that the products with lower prices should be preferred over others, even if they are unsustainable. Considering that this item is reverse, this corroborates the statement CON1. This demonstrates that ecological behavior is assumed by the company, gaining the legitimacy of interested parties, and therefore, workers exhibit positive attitudes of green behavior (Paço, Alves, Shiel, & Filho, 2013).

Revista GESTO: Revista de Gestão Estratégica de Organizações
Santo Ângelo | v. 13 | n. 1 | p. 103-123 | jan./jun. 2025 | DOI: http://dx.doi.org/10.31512/gesto.v13i1.1261

Regarding the item CON3, almost all respondents agreed to some extent that the company installs equipment such as taps and automatic lamps to reduce the consumption of resources, which can be seen as a proactive posture of sustainability (Sanches, 2000). In item CON4, which deals with employees' knowledge of the company's sustainability strategies and actions, 86.5% demonstrated disagreement or neutrality in relation to the respondent, which denotes the need for the small business to better elaborate and communicate its sustainability strategies to employees, since the company claims to have implemented actions, so dialogue is essential (Giesta, 2013). Finally, with regard to item CON5, according to which people feel motivated to have a resource-saving attitude in the organization, only 37.8% of respondents agreed with the information, demonstrating that the organization has a need to motivate and better engage its employees in the development of environmental sustainability policies and practices within the organization (Rosa et al., 2018). Figure 5 consolidates the information in Table 6.

Figure 5 - Perceptions about consumption and green behavior.



Source: Elaborated by the authors

Through the analysis of Figure 5, it is possible to notice that people partially or totally agree with the statements CON1 and CON3, showing alignment in the understanding of green consumption and behavior, therefore, there is a link between sustainable attitude and green purchasing behavior (Paço et al., 2013). However, an important observation must be made regarding item CON4, since there was an important disagreement among the respondents, showing that people are unaware of the company's sustainability strategies and actions. Given this finding, it is important to work on environmental education and communication with employees.

There are several levels of innovation, bringing the concepts of incremental innovation and radical innovation (Lenssen et al., 2013; Marcon, de Medeiros, & Ribeiro, 2017). Regarding innovation models, the authors point out that there are two groups: (1) linear models; (2) interactive models. Linear models are characterized by mechanistic innovations, whose need for change comes from the external environment, and interactive models, in turn, are characterized

Revista GESTO: Revista de Gestão Estratégica de Organizações
Santo Ângelo | v. 13 | n. 1 | p. 103-123 | jan./jun. 2025 | DOI: http://dx.doi.org/10.31512/gesto.v13i1.1261

by cross-functional interactions that can occur within organizations and between these and stakeholders (suppliers, government institutions, universities and / or consumers) (Lyra et al., 2009; Marcon et al., 2017).

In the case of the present study, the small business can undertake small incremental innovations, in favor of the gradual adoption of socio-environmental management and sustainability practices. In this sense, the small business would be framed in the interactive innovation model, arising from internal needs, such as the one highlighted by this study, which revealed the need for the small business to adopt environmental education practices and improvements in organizational communication channels to foster innovation, co-creation and communication of results, from the perspective of employees. In an environment permeated by complexity, interactive innovation models represent the company's adaptation to the imposed reality, favoring its survival in the market and increasing its competitiveness.

4.4 Effect of sustainability perception and levels of environmental education on green consumption

The descriptive statistics of the variables: environmental sustainability, environmental education and consumption and green behavior are shown in Table 7.

Table 7 - Descriptive statistics for the variables of the multiple regression model.

Variable	Observations	Average	Standard deviation
Environmental Sustainability	37	4.1	1.04
Environmental education	37	1.8	0.98
Consumption and green behavior	37	4.03	1,02

Source: Elaborated by the authors

According to descriptive statistics, the variable with the highest average is "Consumption and green behavior" (4.03). Table 8 shows Pearson's correlations between the variables.

Table 8 - Coefficients of correlation Pearson.

	Environmental Sustainability	Environmental education	Consumption and green behavior
Environmental Sustainability	1.00	0.61***	0.97***
Environmental education	0.60***	1.00	0.69***
Consumption and green behavior	0.97***	0.69***	1.00

Note: ***: p-value <0.0001.

Source: Elaborated by the authors

The correlation analysis shows that the variables have at least 0.61% correlation with each other with statistical significance, which allows inserting the variables in the regression model.

In the multiple regression model, the variable perception of environmental sustainability was modeled, and the level of environmental education was moderated as independent variables, while the behavior of green consumption was modeled as a dependent variable. In this sense, we

Revista GESTO: Revista de Gestão Estratégica de Organizações
Santo Ângelo | v. 13 | n. 1 | p. 103-123 | jan./jun. 2025 | DOI: http://dx.doi.org/10.31512/gesto.v13i1.1261

seek to understand the impacts of sustainability and environmental education on consumption and green behavior.

According to the ANOVA test (Table 9), the p-value <0.0001 allows us to reject the null hypothesis, and thus, the general regression model is accepted. The multiple linear regression model has an adjusted R2 of 0.9557, which is considered highly explanatory in the social sciences. In other words, green consumption and behavior is explained in this sample in 95.57% by environmental education and the perception of sustainability.

Table 9 - ANOVA table

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**P value**
Model	2	36.01	18.00	389.3	<0,0001
Error	34	1.57	0.04		
Corrected total	36	37.58			

Note: DF: Degrees of freedom.

Source: Elaborated by the authors

The p-value of <0.0001 present in the analysis of variance - Anova informs that the general adjustment of the model is significant. Table 10 shows the Betas of linear regression.

Table 10 - Betas of multiple linear regression.

Independent variable	**DF**	**β**	**T value**	**P value**	**VIF**	**95% Confidence Limits**
Intercepto	1	0.188	1.26	0.2166	0	-0.11553 0.49176
Sustentabilidade ambiental (x_1)	1	0.849	19.73	<0.0001	1,589	0.76163 0.93659
Educação Ambiental (x_2)	1	0.167	3.65	0.0009	1,589	0.07405 0.26030

Note: DF: Degrees of freedom. VIF: Variance Inflation.

With the results of Table 10, it is possible to see that the intercept will not integrate the regression model due to the p-value greater than alpha of 0.05. In addition, the confidence interval of the intercept comprises zero, which also prevents its use in the regression equation.

The variable x1 (environmental sustainability) presented Beta of 0.849 with statistical significance attested by the p-value of <0.0001, below alpha 0.05. Likewise, the variable x2 (Environmental Education) also has statistical significance, whose Beta is 0.167. Both variables have a low value of VIF and condition index, with no collinearity problems. Therefore, the multiple linear regression equation can be expressed as follows:

$$y = 0.849\ x_1 + 0.167\ x_2$$

Finally, it should be noted that the Shapiro-Wilk, Kolmogorov-Smirnov, Cramer-von Mises and Anderson-Darling tests confirmed the normality of the residues. In addition, the premises of the linear regression of homoscedasticity, linearity and independence of the residues were met.

Revista GESTO: Revista de Gestão Estratégica de Organizações
Santo Ângelo | v. 13 | n. 1 | p. 103-123 | jan./jun. 2025 | DOI: http://dx.doi.org/10.31512/gesto.v13i1.1261

In view of the results, it is evident that Consumption and Behavior and Green (y) is associated with environmental sustainability (x1) and environmental education (x2), which provides important insights for organizations and individuals to promote green behaviors.

In general, it appears that partnerships with entities and people who transmit knowledge about sustainability should be encouraged, so that the organization produces less environmental impact (Zhou et al., 2018). Environmental education should be encouraged through partnerships with universities to strengthen sustainability among employees with a focus on the organization's global sustainable performance (Rosa et al., 2018).

Likewise, it appears that the more the company presents and communicates strategies and actions focused on the principles of sustainability, the more it will motivate its employees to engage in the company's sustainability actions (Galbreath, 2017; John et al., 2019).

Based on the correlations and regression evidenced and analyzed in loco, and comparing the results found with the studies mentioned above in the study method, it was found that the company has practices and actions aimed at the tripod of sustainability, which are transmitted and disseminated by employees. In this perspective, the practices of environmental sustainability reflect in the preservation of the environment as well as in the change of behavior of the collaborators, as they are inserted in this process in the company. Thus, in the next chapter, the final considerations of the study will be explained.

5 Final considerations

The objective of this work was to elaborate a study about environmental education in the face of formal and informal actions to promote sustainability and green consumption and behavior. Specifically, the dimensions were evaluated: sustainability, environmental education, and, finally, consumption and green behavior.

Regarding sustainability, it was found that the small business must establish an open dialogue with employees on the environmental issue. The responses show that the adoption of sustainability practices is valued by the members of the small business, and that it works to mitigate the environmental impacts generated, as well as to encourage the saving of resources. The need for improved communication and innovation in relation to sustainability at the organizational level was evident. In relation to environmental education, it became evident that there is a need for small business to foster knowledge of environmental standards and laws, so that there is even an impact on changing permanent attitudes of employees. Training courses should also be offered or made possible in order to gradually work with environmental education. This can be done by establishing partnerships with other institutions. And finally, in relation to green consumption and behavior, the need for environmental education to communicate the company's sustainability strategies and actions, impacting the consumption patterns of employees, became clear, so that the benefits of green products.

The research question about the perception of the leaders and employees of a small business located in the Western Amazon about the organizational and individual role in factors related to sustainability, environmental education and green consumption was answered, as the results indicate that daily actions making courses feasible, reducing the use of resources and reorienting consumption patterns can be gradually implemented in favor of incremental innovation and sustainability in the organization.

Revista GESTO: Revista de Gestão Estratégica de Organizações
Santo Ângelo | v. 13 | n. 1 | p. 103-123 | jan./jun. 2025 | DOI: http://dx.doi.org/10.31512/gesto.v13i1.1261

Multiple linear regression and correlations showed that environmental education and environmental sustainability are positively related to green consumption. This finding brings important sinsights to individuals, governments and organizations in promoting green behavior.

The limitations of the research involve carrying out a quantitative survey with a reduced number of employees, due to the fact that it is a small business, and the performance of descriptive statistics. Future studies can carry out the survey in a greater number of organizations, of different sizes and sectors, using inferential statistics and construct validation.

References

Amaral, L. A, Stefano, S. R., & Chiusoli, C. L. (2018). Sustentabilidade Organizacional na Perspectiva do Triple Bottom Line: O Caso Itaipu Binacional. RECC – *Revista Eletrônica Científica Do CRA-PR,* 5(1), 52–68.

Antonialli, F., Antonialli, L. M., & Antonialli, R. (2017). Uses and abuses of the likert scale: bibliometric study in the proceedings of enanpad from 2010 to 2015. *REUNA*, 2222(44), 1–19. https://doi.org/10.21714/2179-8834/2017v22n4p1-19

Brandalise, L. T., Silva, J. M., Ribeiro, I., & Bertolini, G. R. F. (2014). O reflexo da disciplina de educação ambiental na percepção e conduta dos universitários. *Pretexto*, 15(4), 11–26. https://doi.org/10.21714/pretexto.v15i4.2289

Brasil. (1999). Lei no 9.795/99 - *Política Nacional de Educação Ambiental.*

Castilla, D., Botella, C., Miralles, I., Bretón-López, J., Dragomir-Davis, A. M., Zaragoza, I., & Garcia-Palacios, A. (2018). Teaching digital literacy skills to the elderly using a social network with linear navigation: A case study in a rural area. *International Journal of Human Computer Studies,* 118(May), 24–37. https://doi.org/10.1016/j.ijhcs.2018.05.009

Costa, C. F., Diniz, M. de F. S., Cunha, N. R. da S., & Pires, R. R. (2016). O fator sustentabilidade nas licitações e contratações públicas. *Reuna*, 21(4), 37–56. https://doi.org/10.21714/2179-8834/2016v21n4p37-56

De Roeck, K., & Farooq, O. (2018). Corporate Social Responsibility and Ethical Leadership: Investigating Their Interactive Effect on Employees' Socially Responsible Behaviors. *Journal of Business Ethics,* 151(4), 923–939. https://doi.org/10.1007/s10551-017-3656-6

Dhamija, P., Gupta, S., & Bag, S. (2019). Measuring of job satisfaction: the use of quality of work life factors. *Benchmarking*, 26(3), 871–892. https://doi.org/10.1108/BIJ-06-2018-0155

Elkington, J. (1998). *Cannibals with Forks: The Triple-bottom-line of 21st Century* (N. S. Publishers, Ed.). Gabriola Island.

Faria, A. C. de, Silva, L. S., Silva, D., & Milani Filho, M. A. F. (2018). Influência do Conhecimento sobre Sustentabilidade nas Atitudes, Comportamentos e Consumo de Estudantes de Administração. *Revista Eletrônica de Ciência Administrativa,* 17(2), 239–260. https://doi.org/10.21529/recadm.2018010

Fletcher, L., Alfes, K., & Robinson, D. (2018). The relationship between perceived training and development and employee retention: the mediating role of work attitudes. *International Journal of Human Resource Management,* 29(18), 2701–2728. https://doi.org/10.1080/09585192.2016.1262888

Galbreath, J. (2017). The Impact of Board Structure on Corporate Social Responsibility: A Temporal View. *Business Strategy and the Environment,* 26(3), 358–370. https://doi.org/10.1002/bse.1922

Giesta, L. C. (2013). Desenvolvimento Sustentável, Responsabilidade Social Corporativa e Educação Ambiental em contexto de inovação organizacional: conceitos revisitados. *Revista de Administração Da UFSM,* 5, 767–783. https://doi.org/10.5902/198346597654

Hennekam, S., Peterson, J., Tahssain-Gay, L., & Dumazert, J.-P. (2021). Recruitment discrimination: how organizations use social power to circumvent laws and regulations. The International *Journal of Human Resource Management,* 32(10), 2213-2241. https://doi.org/10.1080/09585192.2019.1579251

Jebb, A. T., Parrigon, S., & Woo, S. E. (2017). Exploratory data analysis as a foundation of inductive research. *Human Resource Management Review,* 27(2), 265–276. https://doi.org/10.1016/j.hrmr.2016.08.003

John, A., Qadeer, F., Shahzadi, G., & Jia, F. (2019). Getting paid to be good: How and when employees respond to corporate social responsibility? *Journal of Cleaner Production,* 215, 784–795. https://doi.org/10.1016/j.jclepro.2019.01.074

Johnstone, M. L., & Hooper, S. (2016). Social influence and green consumption behaviour: a need for greater government involvement. *Journal of Marketing Management,* 32(9–10), 827–855. https://doi.org/10.1080/0267257X.2016.1189955

Lenssen, M. P. A. I.-S. and S. P. G., Szekely, F., & Strebel, H. (2013). Incremental, radical and game-changing: Strategic innovation for sustainability. *Corporate Governance,* 13(5), 467–481. https://doi.org/10.1108/CG-06-2013-0084

Lyra, M. G., Gomes, R. C., & Jacovine, L. A. G. (2009). O Papel dos Stakeholders na Sustentabilidade da Empresa: Contribuições para Construção de um Modelo de Análise. *Revista de Administração Contemporânea,* 13, 39–52. https://doi.org/10.1590/S1415-65552009000500004

Macini, N., Bansi, A. C., & Caldana, A. C. F. (2017). Ações e Indicadores para a Gestão Sustentável de Pessoas. *Revista de Administração da UFSM,* 10(Ed. Especial), 8-25. 10.5902/19834659 25228

Marcon, A., de Medeiros, J. F., & Ribeiro, J. L. D. (2017). Innovation and environmentally sustainable economy: Identifying the best practices developed by multinationals in Brazil. *Journal of Cleaner Production,* 160, 83–97. https://doi.org/10.1016/j.jclepro.2017.02.101

Mcwilliams, A., Parhankangas, A., Coupet, J., Welch, E., & Barnum, D. T. (2016). Strategic Decision Making for the Triple Bottom Line. *Business Strategy and the Environment,* 25(3), 193–204. https://doi.org/10.1002/bse.1867

MEC/CNE-Ministério da Educação - Conselho Nacional de Educação. (2012*). Resolução no 2/2012 - Define Diretrizes Curriculares Nacionais para o Ensino Médio.* Disponível em: https://pactoensinomedio.mec.gov.br/images/pdf/resolucao_ceb_002_30012012.pdf. Acesso em: 27 jan. 2025.

Mendonça, A. T. B. B. de, Cunha, S. K. da, & Nascimento, T. C. (2018). Relações Multiníveis e Inovação Sustentável: O Programa Veículo Elétrico da Itaipu Brasil. *Revista Eletrônica de Ciência Administrativa,* 17(3), 316–343. https://doi.org/10.21529/recadm.2018013

Munaretto, L. F., & Busanello, S. (2014). Um estudo sobre inserção da educação ambiental nos projetos pedagógicos dos cursos do Centro de Educação Superior Norte do RS/UFSM. *Revista de Administração Da UFSM*, 7(0), 24–39. https://doi.org/10.5902/1983465911374

Munck, L., Souza, R. B. de, & Zagui, C. (2012). A Gestão Por Competências e sua Relação com Ações Voltadas à Sustentabilidade. *Revista de Gestão*, 19(3), 377–394. https://doi.org/10.5700/rege469

Oliveira, V., Correia, S., & Gomez, C. (2016). Cultura de Consumo, Sustentabilidade e Práticas Empresariais: Como as Empresas Podem Contribuir para Promover o valor Simbólico da Sustentabilidade nas Atividades de Consumo? *Revista de Gestão Ambiental e Sustentabilidade,* 5(1), 61–77. https://doi.org/10.5585/geas.v5i1.335

Paço, A., Alves, H., Shiel, C., & Leal Filho, W. (2013). Development of a green consumer behaviour model. *International Journal of Consumer Studies,* 37(4), 414–421. https://doi.org/10.1111/ijcs.12009

Paço, A. do Shiel, C., & Alves, H. (2019). A new model for testing green consumer behaviour. *Journal of Cleaner Production,* 207, 998–1006. https://doi.org/10.1016/j.jclepro.2018.10.105

Park, J., Lee, K. H., & Kim, P. S. (2016). Participative Management and Perceived Organizational Performance: The Moderating Effects of Innovative Organizational Culture. Public Performance and Management Review, 39(2), 316–336. https://doi.org/10.1080/15309576.2015.1108773

Petarnella, L., Silveira, A., & Machado, N. S. (2017). Educação Ambiental e Ensino de Sustentabilidade: Reflexões no Contexto da Administração. *Revista de Gestão Ambiental e Sustentabilidade,* 6(1), 1–12. https://doi.org/10.5585/geas.v6i1.616

Řehoř, P., & Vrchota, J. (2018). Remuneration in small and middle-sized enterprises with project management. *Procedia Computer Science,* 138, 829–834. https://doi.org/10.1016/j.procs.2018.10.108

Ribeiro Massote, C. H., & Moura Santi, A. M. (2013). Implementation of a cleaner production program in a Brazilian wooden furniture factory. *Journal of Cleaner Production,* 46, 89–97. https://doi.org/10.1016/j.jclepro.2012.09.004

Ribeiro, C. S., Aguiar, A. de O. e, & Cortese, T. T. P. (2017). Requisitos Legais Ambientais e a Gestão Ambiental em Oficina Mecânica de Pequeno Porte: relato de um caso. *Revista Da Micro e Pequena Empresa,* 11(2), 105–118. http://dx.doi.org/10.21714/19-82-25372017v11n2p105118

Ribeiro, M. M. C., Moura-Leite, R., Franco, S. C., & Max, C. Z. (2018). Práticas de Divulgação, Conscientização e Capacitação para a Sustentabilidade uma Proposta para as Universidades Federais Brasileiras. *Revista de Administração IMED,* 8(1), 146. https://doi.org/10.18256/2237-7956.2018.v8i1.2138

Rohrich, S. S., & Cunha, J. C. da. (2004). A proposição de uma taxonomia para análise da gestão ambiental no Brasil. *Revista de Administração Contemporânea,* 8(4), 81–97. https://doi.org/10.1590/s1415-65552004000400005

Rosa, A. C. da, Madruga, L. R. da R. G., Estivalete, V. de F. B., & Telocken, S. G. (2018). Educação para a sustentabilidade: um olhar à luz dos valores pessoais e da motivação. *Revista de Gestão Ambiental e Sustentabilidade – GeAS,* 7(3), 421-436.

Sanches, C. S. (2000). Gestão ambiental proativa. *Revista de Administração de Empresas*, 40(1), 76–87. https://doi.org/10.1590/s0034-75902000000100009

Santos, F. F., Queiroz, R. de C. S. de, & Almeida Neto, J. A. de. (2018). Avaliação da aplicação das técnicas da Produção Mais Limpa em um laticínio no Sul da Bahia. *Gestão & Produção,* 25(1), 117–131. https://doi.org/10.1590/0104-530x2234-16

Santos, J. G. C. dos, Vasconcelos, A. C. de, De Luca, M. M. M., & Cunha, J. V. A. da. (2019). Innovation and socio-environmental sustainability: a comparative study of Brazilian and European firms. Revista De Administração Da UFSM, 12(5), 995–1012. https://doi.org/10.5902/1983465925464

SAS. (2016). SAS 9.4 – *SAS Enterprise Guide 7.13.* Copyright © 2016 SAS Institute Inc. SAS Institute Inc., Cary, NC, EUA.

Scott, C. P. R., Jiang, H., Wildman, J. L., & Griffith, R. (2018). The impact of implicit collective leadership theories on the emergence and effectiveness of leadership networks in teams. *Human Resource Management Review,* 28(4), 464–481. https://doi.org/10.1016/j.hrmr.2017.03.005

Sena, A. M. C. de, Matos, F. R. N., Mesquita, R. F. de, & Machado, D. de Q. (2017). Abordagem grassroots e resistência: atualizando a concepção de desenvolvimento sustentável. *Cadernos EBAPE.BR,* 15(3), 651–666. https://doi.org/10.1590/1679-395152097

Silva, A., Silva, F., Rebouças, S., & Abreu, M. (2015). Comportamentos Ambientalmente Responsáveis e Sua Relação com a Educação Ambiental. *Revista de Gestão Ambiental e Sustentabilidade*, 4(1), 1–16. https://doi.org/10.5585/geas.v4i1.205

Silva, G. B. da, & Maracajá, K. F. B. (2012). A educação ambiental e a educação turística no ensino fundamental na Escola Estadual Quintino Bocaiúva e Escola Municipal Professora Palmira Barbosa em Santa Cruz (RN). *Caderno Virtual de Turismo,* 12(3), 272–286.

Silva, J. I. A. O., Barbosa, E. S. L., Gustavo, A., Silva, F. da, & Nunes, G. H. F. (2017). Unidades de conservação no semiárido brasileiro: estudo da gestão desses espaços preservados. *REUNIR,* 7(2), 48–66.

Revista GESTO: Revista de Gestão Estratégica de Organizações
Santo Ângelo | v. 13 | n. 1 | p. 103-123 | jan./jun. 2025 | DOI: http://dx.doi.org/10.31512/gesto.v13i1.1261

Silvestri, A., & Veltri, S. (2020). Exploring the relationships between corporate social responsibility, leadership, and sustainable entrepreneurship theories: A conceptual framework. *Corporate Social Responsibility and Environmental Management*, 27(2), 585–594. https://doi.org/10.1002/csr.1822

Soares, C. M. L., Lima, M. M. S., Silva, P. Z. P., & Santos, R. R. D. (2018). Análise do Indicador de Sustentabilidade Ambiental de uma Indústria Têxtil do Rio Grande do Norte. Revista da Micro e Pequena Empresa, 12(2), 39-52. http://dx.doi.org/10.21714/19-82-25372018v12n2p3952

Stefano, S. R., & Alberton, A. (2018). Alignment between organization strategy and competencies for sustainability: proposition model for analysis. *Revista Capital Científico - Eletrônica,* 16(4). https://doi.org/10.5935/2177-4153.20180032

Vargas, L. A. (2012). Educação ambiental: A base para uma ação político/transformadora na sociedade. remea - *Revista Eletrônica Do Mestrado Em Educação Ambiental,* 15. https://doi.org/10.14295/remea.v15i0.2926

Wilson, J. P. (2015). The triple bottom line. International Journal of Retail & Distribution Management, 43(4/5), 432-447. https://doi.org/10.1108/IJRDM-11-2013-0210

Zhou, Z., Luo, B. N., & Tang, T. L. P. (2018). Corporate social responsibility excites 'exponential' positive employee engagement: The matthew effect in CSR and sustainable policy. *Corporate Social Responsibility and Environmental Management*, 25(4), 339–354. https://doi.org/10.1002/csr.1464