Entrepreneurs' perception: the connection of your brand with the sustainable exploitation of the Amazon rainforest

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Abstract

Objective — This study seeks to understand the perception of entrepreneurs regarding the connection of their brand with the sustainable exploitation of the Amazon Forest, thus presenting the perspective of these entrepreneurs on the variables that can affect the long-term relationships between their brands and environmental sustainability of the Brazilian Amazon.

Design — Qualitative study composed of semi-structured 1 to 1 interviews in 7 (seven) companies that maintain sustainable business activities in the Amazon region of Brazil. The sample was used because they are businesses from the Amazonia UP program, developed by the Imazon Institute. The interrelationships of the data obtained were analyzed using grounded theory, using lexicometric analysis and discourse analysis.

Results — The results of the study show the community that brands that develop sustainable businesses in the Amazon region of Brazil, with their brand equity based on the region's environmental responsibility, realize that the full performance of sustainable activities depends on the performance of three agents: entrepreneurs, indigenous peoples and public management. Regarding the valuation of sustainability by consumers, there is still no relevant appreciation of the added value in products as a result of conservation practices in their products/services. For the other business areas, entrepreneurs perceive a greater importance and consequent valuation of the products through the conservationist practices of the Amazon introduced in the brand experience by the customer.

Research implications — Provides important data on sustainable brand equity, a concept that has been extensively researched, but still poorly understood from the perspective of forest conservation in the Amazon region, presenting the points of view of entrepreneurs and their businesses, branding strategies and valorization of the environmental conservation of the Amazon region.

Originality/value — The influence of environmental sustainability in improving the brand equity of brands of companies located in the Amazon region of Brazil, specifically in the context of Startups. Although the current literature shows positive results regarding the relationship between environmental sustainability and brands, little attention has been paid to the entrepreneur's vision and the relationship of variables specifically in the context of benefits for the business.

1. Introduction

Entrepreneurship, when related to business creation, is known as administrative entrepreneurship, aims to achieve the competitive capacity of the business and the acquisition of business advantages as it is an activity that includes organizational techniques and functions to face future challenges and situations, which can lead to more effective results (Lambright 1994). Such entrepreneurial skills arise through an apparatus of transversal competencies such as paradigm shifts resulting from the imitation of successful acts (imitational entrepreneurship) and experiences and competencies arising from business
leadership (acquisitive entrepreneurship), as well as learning focused on entrepreneurship education (AlSafadi 2016).

In the broad sense, entrepreneurial activity is constantly searching for solutions, seeing advantages and opportunities (Milian 2020), and focused on the constant changes in technological development, social needs, and competitiveness between companies (Thornberry 2001). One of the ways of extrapolating the business environment is entrepreneurship focused on environmental sustainability (Belz & Binder, 2017).

Entrepreneurship with a focus on environmental sustainability is a way to positively impact the sustainable use of natural resources beyond the ecological and social scope, discovering innovations and sustainable business opportunities differently from the traditional process (Sepúlveda and Mendizabal 2011; Davidsson 2016).

The centrality of sustainable entrepreneurship occurs in entrepreneurship focused on activities that do not harm the ecological and social environment in which they operate (Muñoz and Cohen 2018). Instead, it must nourish environments in a way that promotes or restores the balance between social and economic activities (Parrish, 2010), creating a circular economy focused on the emergence of a sustainable ecosystem, minimizing the exploitation of resources and the output of waste and degradative emissions, and maintaining profits and business opportunities (Kanda et al. 2021).

A transition to the conscious consumption of environmentally sustainable products contributes positively to full sustainable development (Peattie and Crane 2005), as such changes provide the beginning of changes in other dimensions involving sustainable development (Hume 2010). Initiatives to promote changes in the population’s consumption patterns that are favorable for the conservation of the environment require holistic perspectives that address all business, product, marketing, and means of production aspects such as development, consumption, and discard[1] dimensions are achieved.

A compelling impulse to change consumption patterns depends on substantial transformations for the entire perspective of product dissemination (Shen et al., 2020). Marketing strategies, sustainable entrepreneurship, and social and behavioral intention are a way to work (Jin 2018) since the performance results of marketing strategies are a mediating variable between subjective norms, perceived behavioral control, and social attitudes about a purchase (Bagozzi et al. 2016).

Such objectives can be achieved by efficiently managing the brand equity[2] of the brands of products (Rooney 1995). Consumers tend to buy brands or products whose images coincide with it constantly searches for solutions, steel factor in forming an emotional and sentimental focused ship between a consumer and a brand (Aaker 1997; Kleine and Baker 2004). In addition, the trademark is a distinctive sign of a product, company, or service (Morgan et al. 2012; Sánchez 2016), which enjoys added value since they have legal support lodged in the formalization of an application for registration with regulatory bodies, generally designated by public entities of each nation (Gümüş S 2019).
Authors postulate that brands serve as markers for a company's offers, simplify choice, promise a certain level of quality, reduce risk, and generate consumer confidence in the purchased product (Kapferer 2005; Kotler and Keller 2019; Paswan et al. 2020). Therefore, meeting consumer needs through the application of *branding techniques* is one of the key factors for the success of a company's strategic positioning, regardless of the nature or scale of its activity (Paswan et al., 2020).

For this, companies that seek a strategic positioning of their brands in the face of environmental sustainability require a well-defined marketing management concept that enables the company to compete on a par with others in its market, regardless of business size and activity (Winzar et al. 2018). Although these companies have many peculiarities and differences, such as scale and flexibility, the application of *branding* to brands is a universal concept and, therefore, subject to adaptation and implementation in any business (Nystrom et al. 2018).

From a theoretical perspective, the work seeks to understand the perception of new entrepreneurs regarding the connection of their brand with the sustainable forest exploitation of the Amazon Forest through the point of view of the factors that can affect the long-term relationships between brands and environmental sustainability of the Brazilian Amazon.

According to Sachs (2002), sustainable development is only achieved when the environmental, economic, social-cultural, spatial, psychological, national, and international

SecondAaker, (1991) brand equity is a set of assets and liabilities linked to a brand, its name, and symbol, which add to or subtract from the value provided by a product or service to a company and that company's customers. The assets and liabilities are brand loyalty, brand positioning, perceived quality, brand associations, quality, and others brand assets (patents, *trademarks*, relationships with other channels)

### 2. Methods

To achieve the article's objective, a theoretical study was carried out based on data-based theory (Strauss 1987; Strauss and Corbin 1990).

The data-based theory is particularly applicable in qualitative exploratory studies and is often used to study sociotechnical behaviors in emerging research domains (Foley and Timonen, 2015). This method describes the following phases for its conduction: (i) organization of the analysis; (ii) open coding; (iii) axial encoding; (iv) selective coding; and (v) theory delimitation.

#### 2.1 Search context

In this qualitative study, interviews were carried out focusing on the experiences of entrepreneurs in the Amazon region who work with sustainable businesses from the Amazon UP sustainable business program[^3] developed by the Amazon Entrepreneurship Center. Amazônia UP is a pre-acceleration program that aims to boost business ideas focused on forests and biodiversity. Among the priority production

For this research, 7 (seven) brands were invited, selected for the convenience of the research, which was part of 2019, 2020, and 2021 editions, belonging to the production chains: Xibé (sustainable fashion), Uika (circular economy), Muriki (circular economy), Chocolate De Mendes (gastronomy), Osaqui (non-timber forest products), Santa Barbara mushrooms (non-timber forest products) and Mahabio (non-timber forest products). Geographic Map of the Legal Amazon region in Brazil and the locations of the participating entrepreneurs' brands.

2.2 organization phase

In the first phase (i), a script of semi-structured interviews was developed seeking to adapt content initially similar to the question proposed in this research. The interviews were conducted via video from February 15, 2022, to June 20, 2022.

2.2.1 Interview script development

For this research, a semi-structured interview script was cross-culturally adapted to the Portuguese language, based on the questionnaire developed by (Lavorata 2014). The cross-cultural adaptation for the research seeks to build sensitizing concepts for a theoretical study based on the perception of environmental sustainability.

The initial instrument is based on corporate social performance (Postel et al. 2006), which assesses business performance around the three pillars of sustainable development (Triple Bottom Line): economic (source of raw materials and products), social (male and female parity and awareness of local communities,) and environmental (reduction of packaging and reduction of CO2 emissions.) (Postel et al. 2006). The interview script with the participants was conducted by two researchers with experience in qualitative research.

In order to comply with ethical principles in research with human beings, the study was sent to the Research Ethics Committee of the Federal University of Sergipe with code CAAE: 55999722.1.0000.5546, according to Resolution 466/2012 of the National Health Council. During the video call, participants who accepted to participate in the study were informed about the objectives, data collection, and the information contained in the Free and Informed Consent Term (FICT). Keeping the ethical security of the research, after obtaining the consent of the participants, the interviews were de-identified, recorded, and then transcribed.

The cross-cultural adaptation of the initial instrument consisted of three phases: the first was carried out right after the translation of the original instrument, performed by two independent translators, and the most appropriate translation for the proposed item was selected. In the second moment, content
validation was performed using the Content Validity Coefficient (CVC) method, a technique that involves the search for common sense from a community of judges (that is, professionals effectively involved in the research area) Gurgel et al. (2021).

As an item acceptance criterion, as suggested by (Nakano and Siqueira 2012; Saiful and Yusoff 2019), in the literature, items that reached 0.70 per item on the Acceptance Scale (I-IVC) and 0.80 on the General Scale (S-IVC) (I for the item; S for scale), which was preferably greater than 0.90 were accepted, those less than 0.6 were eliminated. The evaluation of the questionnaire by the judges was blind. Seeking to validate a clear understanding of the questions proposed in the script, in the third moment, after validation by the CVC, the proposed questions were presented to a group of non-specialist interviewees.

In the third phase, a \textit{back-translation was carried out}, validated by the translators of the original language, to verify if the new proposal of the questionnaire matches the objectives proposed in the original questionnaire proposed by Lavorata. (2014). The final interview script was consolidated with 19 (nineteen) questions for an interview duration lasting an average of 30 to 45 minutes.

\subsection*{2.3 Open Encoding Phase}

During the open coding phase (ii), comparing incidents applicable to each category began. Data analysis was performed using the R Interface \textit{software for Analysis Multidimensionnelles de Textes et de Questionnaires} (IRaMuTeQ). The software's main objective is to analyze the structure and organization of discourse, making it possible to inform the relationships between the lexical world's most frequently stated by the research participants (Camargo & Justo, 2013). When working with interviews, each set of Text must compose a UCI. A set of UCI is known as an analysis corpus, which the software segments into three-line texts, called Text Segments (ST).

Three textual analyses were carried out: (analysis 1) Classical lexicographic analyzes to verify the number of text segments (TS), evocations, and forms.

\subsection*{2.4 Axial encoding phase}

The axial coding phase (iii) was performed by Descending Hierarchical Classification (CHD) (analysis 2), where the text segments are classified according to their respective vocabularies (Souza et al. 2018). The CHD generates a dendrogram with the classes that emerged, and the higher the $\chi^2$, the more associated the word is with the class, and words with $\chi^2 < 3.80 \ (p < 0.05)$ were disregarded. Words classified as nouns, adjectives, and verbs were considered as terms. Other sets and terms present in the STs were excluded from the CHD. The lexical classes obtained were used as constructor codes for the guide (Fernandes 2018).

Moreover finally, a similitude analysis (analysis 4) makes it possible to identify the occurrences between the words, and its result indicates the connectedness between them. At the end of this phase, it is
possible to identify the main codes that guide the perception of entrepreneurs regarding the environmental sustainability of Amazon.

2.5 selective encoding

The selective coding phase (iv) focused on code guide development. The classes that emerged from CHD were initially used to develop the coding guide. We assume that the work initially contained five codes related to the classes that emerged from CHD. While analyzing the first transcripts, we found an increasing number of new codes that were compared and adjusted for understanding and similarity to reduce their numbers. Emerging codes guided subsequent data collection and analysis. However, we continued coding by STs throughout the study to avoid omitting new theoretical insights. In addition, we aimed to develop the codes in progress and their preliminary relationships with the newly received data. This was supported by creating memos and analytical diagrams discussed among the authors.

The guide seeks to refine the results obtained in the coding phase analysis, obtained through the coding of the main terms, main terms and observed STs. With results of the main terms. In the end, the team iteratively consolidated these categories into unified themes, reconciling discrepancies by identifying core categories (Eaves 2001).

2.6 Theory delimitation phase

The theory delimitation phase (v) was developed using the code guide and association of responses against the observed codes. This phase was developed by two judges who did not conduct or codify the interviews but have experience in the content using the Atlas.ti 8th version software (Silva Junior and Leão 2018).

The Kappa coefficient was used to meet the agreement between the authors on the observed data. The Kappa coefficient can be defined as a measure of association used to describe and test the degree of agreement (reliability and precision) (Landis et al. 1977). To classify the eligibility of the interpretations obtained, those with the excellent deal were considered according to the agreement degrees described by Koch (1977), in which values greater than 0.75 represent excellent agreement, values below 0.40 represent low agreement, and values between 0.40 and 0.75 represent median agreement.

The results focused on the dominant themes that shape the perception of entrepreneurs who use the brand equity Environmental sustainability of the Brazilian Amazon concerning this theme, as well as the gaps perceived by them.

[3] The Amazônia UP program develops workshops ranging from pre-acceleration to pitching techniques. At the end of the program, there is a presentation of the startups through an exhibition of prototypes and connections with investors and other actors in the sustainable business ecosystem of Amazon. On average, 200 registered startups are accepted, and during the process, 13 are selected to go through the entire program.
3. Results And Discussion

3.1 Open Coding Results

The corpus studied consisted of the respondents' answers containing 12 texts (questions), separated into 601 text segments (ST), with the use of 481 STs (80.55%). A total of 20,994 occurrences (words, forms, or words) emerged, with 2,926 different words and 1,536 with a single occurrence. The analyzed content was categorized into four classes: Class 1 - "Agents and communities involved", with 101 ST (20.73%); Class 2 - "Commercialization of products", with 106 ST (22.20%); Class 3 - "Availability of resources and raw material used", with 77 ST (16.34%); Class 4, "Forest-related brand equity", with 115 ST (23.9%); and Class 5 - "Vision of sustainable forestry activities", with 81 ST (16.83%) (Fig. 2).

3.2 Axial coding results

In class 1, "Agents and communities involved" comprises 19.02% (f = 209 ST) of the total corpus analyzed. Consists of words and stems in the interval between $\chi^2 = 2.11$ (aspect) and $\chi^2 = 38.33$ (thing). This class is composed of words like "thing" ($\chi^2 = 38.33$); "person" ($\chi^2 = 28.77$); "environment" ($\chi^2 = 14.52$); "impact" ($\chi^2 = 14.52$); "social" ($\chi^2 = 12.35$); "Manaus" ($\chi^2 = 11.56$); "conservation" ($\chi^2 = 10.82$); "money" ($\chi^2 = 9.62$); "unit" ($\chi^2 = 7.82$) and "work" ($\chi^2 = 7.31$).

In this class, content appears regarding the perception of entrepreneurs about the participation of native peoples and involvement in the environmental sustainability of the forest and signals aspects of the development of products negotiated by the studied brands and their corporate responsibility regarding the sustainable maintenance of the forest in a circular way, mainly aimed at sharing content related to sustainability. Some text segments characterize this class:

“(…) Sometimes, people from communities, whether riverside or indigenous, have no idea of the economic and cultural value of the products they have available” (Entrepreneur 01).

"(…) The native is an entrepreneur, he is a microentrepreneur, but he needs to have this empowerment. Otherwise, things do not work out. For example, society sees that entrepreneur as semi-illiterate, but he is an agent of high innovative capacity” (Entrepreneur 04).

“(…) Thus, we are both concerned with improving the quality of life of the community, of the women involved who work in this community, and the environmental impact that we have left there, socioenvironmental but also with the products that we use, which also has an environmental impact (Entrepreneur 03).

Class 2, "Commercialization of products and the consumer market," comprises 22.02% (f = 91 ST) of the total corpus analyzed. It consists of words and radicals between $\chi^2 = 2.73$ (Brazil) and $\chi^2 = 37.48$ (price). This class is composed of words like "price" ($\chi^2 = 37.48$); "international" ($\chi^2 = 28.60$); "market" ($\chi^2 = 26.68$); "pay" ($\chi^2 = 23.70$); "fair" ($\chi^2 = 20.15$); "product" ($\chi^2 = 18.17$); "level" ($\chi^2 = 17.74$); "outsourcing" ($\chi^2 = 10.59$); "production" ($\chi^2 = 7.31$) and "sales" ($\chi^2 = 6.52$).
It comprises segments of texts related to the perception of entrepreneurs regarding the fair price of their products harming *brand equity*, environmental sustainability, and the acceptance of consumers at such prices.

"(...) The fair price must serve all four: customer, community, my company, and the environment, (Entrepreneur 02)."

"(...) The collection and extraction of this material, so from the beginning, our idea was to have to pay a fair price for their work (Entrepreneur 03).

"(...) Even I wonder if he understood why it is a more expensive than similar products without being sustainable, but the output is wonderful. In my view, the quality of the product and environmental responsibility is essential to sell at this price (Entrepreneur 05).

As for the perception of the fair price obtained by the companies, it is directly dependent on the consumers' accreditation regarding the originality of the brand's products, both for the national and international markets, as well as the demand for a greater effort from these brands in the search for proof of this credibility.

"(...) I even went after the fair-trade certification seal (Entrepreneur 03).

"(...) Yes, but it is necessary to work on the image because, in countless international fairs, we have gone and observed that Brazil no longer has credibility. So it is sad and unfortunate that it is an investment that you have to make more (Entrepreneur 02).

"(...) We have been questioned why many people make or sell products saying they are products from Amazon. Still, only the raw material comes from Amazon, extracted in any way and at a low price, and added value abroad. Saying it is from here on Amazon (Entrepreneur 05).

Class 3 “*Availability of resources and raw material used*” comprises 16.34% (f = 67 ST) of the total corpus analyzed. It consists of words and radicals between $\chi^2 = 2.07$ (supplier) and $\chi^2 = 43.00$ (raw material). This class is composed of words like "raw material" ($\chi^2 = 43.00$); "oil" ($\chi^2 = 31.17$); "extraction" ($\chi^2 = 30.38$); "cosmetic" ($\chi^2 = 30.38$); "process" ($\chi^2 = 28.84$); "sector" ($\chi^2 = 26.29$); "auxiliary" ($\chi^2 = 25.91$); "harvest" ($\chi^2 = 20.68$); "demand" ($\chi^2 = 20.68$) and "artisanal" ($\chi^2 = 20.68$). In class 3, there are segments related to the availability and acquisition of the raw material used in its products and the brand's responsibility in terms of maintaining it with the extractive communities, both by raising awareness through the exchange of knowledge and by the valuation of prices in the acquisition of manufactured products.

"(...) So, we not only help them to improve their extraction process, but we have helped to develop bioproducts from the co-products that are obtained with the extraction (Entrepreneur 03)."
"[...] We have been doing this work (education) together with other communities that work with raw materials that can be used in our products, and that has the potential for use without degrading (Entrepreneur 06).

(...) so they say it is not worth it because there is no demand, and we keep trying to show that there is demand, so if they offer it, at the time of harvest, we can buy on a larger scale (Entrepreneur 03).

(...) so they invited us to go there and give them a workshop and teach them how to make paint that has longer durability for them to use (Entrepreneur 06).

Class 4, "Brand equity and signs related to the Amazon forest" comprises 23.09% (\( f = 98 \) ST) of the total corpus analyzed. Consisting of words and stems in the range between \( \chi^2 = 2.07 \) (Design) \( \chi^2 = 52.86 \) (use). This class is composed of words like "use" (\( \chi^2 = 52.86 \)); "species" (\( \chi^2 = 22.67 \)); "traveler" (\( \chi^2 = 22.67 \)); "look" (\( \chi^2 = 22.67 \)); "color" (\( \chi^2 = 14.96 \)); "animal" (\( \chi^2 = 11.71 \)); "place" (\( \chi^2 = 11.15 \)); "people" (\( \chi^2 = 9.90 \)); "preserve" (\( \chi^2 = 9.62 \)) and "care" (\( \chi^2 = 8.84 \)). Class 4 represents a greater volume of ST, consisting of text segments that reflect the branding strategies adopted by the studied brands.

"(...) And then, the design realized this and used the colors, and inside the letters of our brand, there are waves and a gradient reflecting the colors of the sunset in our region (Entrepreneur 01).

"(...) Our logo is a monkey (Entrepreneur 07).

"(...) All our labels are based on the visual language of the native peoples, with their consent. Then, of course, we give it a color and such, but generally, the art itself is of its origin (Entrepreneur 02).

Class 5, "Vision of sustainable and degrading activities" comprises 16.83% (\( f = 64 \) ST) of the total corpus analyzed. Consisting of words and stems in the interval between \( \chi^2 = 2.47 \) (region) \( \chi^2 = 42.47 \) (form). This class is composed of words like "shape" (\( \chi^2 = 42.47 \)); "knowledge" (\( \chi^2 = 34.64 \)); "imagine" (\( \chi^2 = 25.02 \)); "education" (\( \chi^2 = 25.02 \)); "play" (\( \chi^2 = 24.42 \)); "natural" (\( \chi^2 = 19.73 \)); "empirical" (\( \chi^2 = 14.94 \)); "period" (\( \chi^2 = 14.94 \)); "forest" (\( \chi^2 = 14.80 \)) and "past" (\( \chi^2 = 14.43 \)). In this class, segments emerge that reflect the vision of the entrepreneurs of the brands studied concerning the current forestry activities developed in the Amazon. These are both sustainable and exploratory activities. The following STs describe this class further.

(...) For example, I get sorrowful here in Belém because several canals were called Venice, and nowadays, these canals, like the Dock in an upscale neighborhood, have become open sewers (Entrepreneur 07).

(...) So today, I see that everything has already been deforested for those guarding the forest. We have a super fruit that in this region reproduces naturally, and people keep burning and killing them (Entrepreneur 05).

The emergence of class 5 demonstrates the perception of entrepreneurs regarding the preservation of environmental liabilities related to their areas of activity in the forest. In addition, the data demonstrate
that the existing environmental impacts such as silting and interruptions of rivers and streams, accentuated deforestation, and soil contamination generates concerns for entrepreneurs and negatively impact their businesses.

Based on the five classes listed, from the perspective of Grounded Theory, it was possible to determine a significant number of codes converging to the groups and the five distinct classes.

### 3.3 Result of selective encoding

CHD formed two subgroups, a group containing classes 2 and 3, which are topics related to the Commercialization of products and services developed by the brands, and classes 1, 4, and 5, which are classes more related to the perception of new entrepreneurs in the Amazon region. the importance of connecting your brand with the sustainable exploitation of the forest.

Based on the subgroups and codes, it is possible to understand which factors led entrepreneurs to act sustainably in the Amazon rainforest and to what extent such factors can benefit or negatively affect the long-term relationships between brands and the environmental sustainability of Amazon. Brazil. In Table 1, it is possible to verify the main codes observed.
<table>
<thead>
<tr>
<th>Initials</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLASS 1</td>
<td>C1A</td>
<td>Viewing the Agents involved</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The code “Agents involved” in this class refers to local agents involved in sustainable forestry activities from extractions to the acquisition of products.</td>
</tr>
<tr>
<td></td>
<td>C1B</td>
<td>Understanding the communities involved</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The code seeks to understand the traditional communities involved in the brand, such as indigenous peoples, quilombolas, and riverside dwellers.</td>
</tr>
<tr>
<td></td>
<td>C1C</td>
<td>Realizing the social impact</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The code aims to understand the brand's social impact on forests.</td>
</tr>
<tr>
<td></td>
<td>C1D</td>
<td>Government action</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The code aims to understand the performance of the state and NGOs in the face of environmental sustainability.</td>
</tr>
<tr>
<td>CLASS 2</td>
<td>C2A</td>
<td>Trading commercialized product/service</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The code in this class seeks to understand which main products/services are being developed sustainably in Brazil's Amazon rainforest studied in this research.</td>
</tr>
<tr>
<td></td>
<td>C2B</td>
<td>Looking for a source of raw material supply</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What are the sources of acquisition of the raw material used, and which are the products or extractive agents</td>
</tr>
<tr>
<td></td>
<td>C2C</td>
<td>Producing sustainable means of forest maintenance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Which articulations the brands develop or seek to develop for the sustainable maintenance of the forest.</td>
</tr>
<tr>
<td></td>
<td>C2D</td>
<td>Recognizing the importance of traditional knowledge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The code in this class seeks to understand the vision of traditional knowledge in traditional communities and the impact on entrepreneurship.</td>
</tr>
<tr>
<td>CLASS 3</td>
<td>C3A</td>
<td>Making the resources available</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It aims to understand to what extent the resources used by brands to develop their services/products are being made available, both for them and for others involved in the local business ecosystem (competitors).</td>
</tr>
<tr>
<td></td>
<td>C3B</td>
<td>Understanding the Processes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What are the production and extraction processes used by the producing agents, what are the impacts generated, and how are they minimized.</td>
</tr>
<tr>
<td></td>
<td>C3C</td>
<td>Seeking strategic scaling</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What is the consumer market profile, and what scale does it seek to achieve without negatively impacting the Amazon rainforest.</td>
</tr>
<tr>
<td>CLASS 4</td>
<td>C4A</td>
<td>Planning the Branding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The code in this class refers to the branding strategies adopted by the company, aiming at strategic positioning against the brand's &quot;environmental sustainability.&quot;</td>
</tr>
<tr>
<td></td>
<td>C4B</td>
<td>Outlining the distinctive signs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Which signs does the brand use related to the forest, community aiming to achieve the association of products with the forest by consumers</td>
</tr>
<tr>
<td>Initials</td>
<td>Code</td>
<td>Description</td>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>C4C</td>
<td>Positioning yourself strategically</td>
<td>Which market does the brand seek to reach (regional, national, or international)</td>
</tr>
<tr>
<td>CLASS 5</td>
<td>C5A</td>
<td>Pursuing environmental sustainability</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The code in this class refers to the main objective the company seeks to achieve when the environmental sustainability of the forest, such as preservation of traditional knowledge, preservation of species in their natural habitat, or the maintenance of native peoples in front of their place, tradition, and culture.</td>
</tr>
<tr>
<td>C5B</td>
<td>Observing the deleterious occurrences</td>
<td>The main degradation activities observed by brands in their locality</td>
</tr>
<tr>
<td>C5C</td>
<td>Perceiving sustainability as a positive factor</td>
<td>The code in this class aims to understand the perception of the future of the forest and the sustainable attitudes that are observed and that generate positive results.</td>
</tr>
</tbody>
</table>

### 3.4 Delimitation of theory

It is possible to notice that, when analyzing the classes that deal with sustainable forest maintenance, the codes are related to the strategic positioning of the brand and the valuation of the price fairly for the consumer. This relationship is more strongly present between the C1A and C4C codes. However, when analyzing the C4C code, the positioning of brands in the national consumer market, there is still a low relationship between consumption and choice of products harming the brand's concern with the sustainability of the forest.

"(...) Here we noticed that there was certainly a reduction in tourism at Carnival because of this national news about the waters of the Tapajós being cloudy and all because of illegal mining and everything else" (Entrepreneur 03).

"(...) The Brazilian consumer is not yet in this market niche. Not at all. It did not reach that level. Or nothing arrived" (Entrepreneur 02).

The codes also represent the perception of the importance of the presence of native peoples, their traditional knowledge, and customs. Codes C1A, C1B, and C1C emerge from this perception of entrepreneurs.

"(...) It is, in fact, something that we need to go there to learn from them, and this is an aspect that we need to learn. They know how to manage forests incredibly. So sometimes it makes you want to cry. (Entrepreneur 01).

When we seek to understand what factors led entrepreneurs to act sustainably in the Amazon rainforest, the most common Codes are the C3B. The entrepreneur's local vision of Amazon's forest wealth develops
insights and business opportunities.

(...) I am the son of a quilombola mother, and from a very early age, I learned to live with traditional knowledge. Adding to the knowledge I acquired with my training, I noticed that adding value could exist in my products and still represent and preserve the culture and identity of the people who live on the Amazon (Entrepreneur 02).

When I moved here, I liked to take people to know the natural beauties here, in this region (...) so I thought of doing unconventional tourism, that of sun and beach, so I started a different service added to my passion for cycling, it all added up positively (Entrepreneur 07).

When analyzing the entrepreneurs' understanding of the possible factors that benefit or affect the existence of a brand and the environmental sustainability of the Brazilian Amazon, it is clear that there is a connection between codes belonging to the two subgroups.

For these, the main factors are related to the codes of understanding of the importance of the existence of the traditional communities involved (C1B) regarding the production of sustainable means of forest maintenance (C2C) and the population's awareness in general.

The sustainability of the Amazon Forest does not only depend on the application of corporate policies of environmental responsibility but also on the exchange of knowledge with traditional peoples, which can be incorporated into the planning, execution, and monitoring of restoration activities through educational strategies aimed at the effective use of the natural resources allocated there through education programs in the countryside (Reyes-García et al. 2019). Native peoples are responsible for everything from environmental monitoring and building relationships with plants and lands to ecological restoration (Wehi and Lord 2017; Thompson et al., 2020). In this sense, there are many lessons and ways in which the intersections between indigenous knowledge and ethnobiology can inform and contribute to the future of humanity and other lives on Earth (Turner et al., 2022).

"(...) It is exactly that people do not understand that this is important, but it is a sensitivity to life. It is not the sensitivity of financial exchange. He does not want money. He does not want any material goods and expects an exchange of knowledge, a show of respect (Entrepreneur 02).

Regarding ecological restoration and maintenance, it can be observed that when the C2B and C3C codes are perceived, entrepreneurs show concerns both for conversation and for the ecological restoration of the forest through incorporating traditional knowledge in the region.

"(...) The great deed which did it is not me. Great achievement, I stayed with my father. He and I stayed there and observed all the forest diversity. Moreover, this is the case. This property was his, his grandparents, so he a conserved area, He observed how the pollinator was, and then he began to see that the standing forest would be worth it, so he implanted cocoa, cupuaçu. Empirically, everything you can imagine from fruit trees is sustainable management, isn't it? (Entrepreneur 05).
Such arguments reflect the entrepreneurs' perception of the importance of including sustainable and sustainably exploited areas within restored landscapes and their key production species (Garibaldi and Turner 2004). In addition, they allow for the continuation of traditional practices that have shaped ecosystems for millennia, as well as helping project success by ensuring community support (Wehi and Lord 2017). Figure 3 presents a representative diagram of the perception of entrepreneurs.

As for the brand's strategic positioning prospects, the C4C code is perceived as "international" the main objective is focused on expanding sales to the international market, and such expansion represents the longevity of operations in the sustainable segment. In an environment of fierce commercial competition and breaking down of geographic barriers, introducing new inputs with individual brand equity, mainly those related to forest biodiversity and produced considering environmental sustainability, provides new markets and boosts the brand equity of small enterprises (Gupta 2016).

As for the performance of government agencies and NGOs (C1C), entrepreneurs see little performance in the context of sustainability in the regions where they operate.

"(...) In this sense of action, we are very far from that. Thus, it is very distant, and local people's perception about this is still not excellent. Always an image that is just assistance (Entrepreneur 04).

"(...) I got tired of welfare, you know? Welfare tired me, and I wanted to see beyond that (Entrepreneur 01).

When relating the C5A code to the use of renewable energy, most of the entrepreneurs interviewed have alternative sources, but most have the implementation of sources in their strategic plan.

"(...) No, not yet, but it is on our schedule. Today, I received a visit from a person making a budget for the factory to install and implement a photovoltaic system. They are also at the factory and home (Entrepreneur 02).

On the other hand, entrepreneurs who do not have plans to change the energy matrix, in addition to not having it either because there are no production sites that demand high-energy consumption or because the energy supplied in the Amazon region comes from hydroelectric plants, which still transfer at a favorable cost, and the implementation of an alternative matrix still demands a high cost.

"(...) No, not yet because we still do not have a physical space (Entrepreneur 01).

"(...) No, because we use very little electricity, (Entrepreneur 04).

"(...) We are trying to put solar energy, you know? However, it turns out that it still does not work for us financially. So, it is still not possible (Entrepreneur 05).

When reported on means of transport, those who depend on mobility to carry out their activities claimed the use of shared mobility and with peer-to-peer planned demand. These services allow people to use the necessary mobility as required (Shaheen et al., 2015; Santos, 2018). Therefore, shared mobility can be
seen as a tool to reduce road congestion, reduce demand on transport infrastructure, reduce CO\textsuperscript{2} emissions and the environmental impact of travel, as well as lower financing costs compared to personally owned vehicles (Guyader et al., 2021).

4. Conclusion

The qualitative study made it possible to demonstrate the perceptions of new entrepreneurs in the Amazon region regarding the importance of connecting their brand with the sustainable exploitation of the forest.

Firstly, it was possible to understand that entrepreneurs perceive environmental sustainability as dependent on participatory arrangements between the company, the forest, and the traditional communities in the region. This perception is especially related to the development of its branding, focused on building the participatory and cooperative image of the mentioned entities.

Active participation ranges from the sharing of knowledge by indigenous peoples, acting as an agent inspecting legal reserves and their potentially sustainably exploitable biological assets, valuing the existence of forest resources by the population in general, and a greater engagement of the public power in the face of support business on site. In this sense, the results suggest that, for local entrepreneurs, it is possible to increase the density of sustainable businesses – and, therefore, the creation of value – without introducing new linkages of resources through an extensive valuation of social resources associated with environmental resources they are existing.

Thus, all stakeholders in this development must create initiatives to promote environmental sustainability to create socially just and effective programs for the long-term existence of market-focused companies, including the creation of complex socio-ecological systems, sustainable ecological spaces, and more sustainable programs, effective rural education, as cultural values, are rarely included in the goals and priorities of restoration and environmental sustainability projects.

Secondly, codes described the difficulty of negotiating products with sustainable brand equity in the Brazilian market. This factor actively promotes the adaptation of enterprises to international consumer markets that are environmentally concerned with forest maintenance.

Although the population studied here reflects a small part of brands operating in the Amazon region, the results indicate that the perception of effective, sustainable action in the region depends on the conservation of the forest and its bio-inputs, on the native peoples and their traditional knowledge, both of which are strongly linked to maintenance of the forest.

**Declarations**

**INTEREST CONFLICTS**
The authors declare, for submission as a pre-print, that the article Entrepreneurs’ perception: the connection of your brand with the sustainable exploitation of the Amazon rainforest is original, unpublished, and has not been submitted to another journal, as well as express agreement about Submission and Editorial Policy, Publication Guidelines, and Copyright Statement, which will apply in case of publication of the work.

I also declare that all the authors presented here DO NOT HAVE CONFLICT OF INTEREST of order:

(X) staff,

(X) commercial,

(X) academic,

(X) political

(X) financial in the manuscript.

Moreover, all information that could lead to a conflict of interest has already been requested and manifested during the submission process of the manuscript as "supplementary information" or in agreement markings during the submission process on the Research Square platform.

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Figures
Figure 1

Geographic Map of the Legal Amazon region in Brazil and the locations of the participating entrepreneurs' brands
Figure 2

**Dendrogram of CHD classes**

- Property indicators against effective environmental sustainability
  - Understanding to the communities involved
  - Recognizing the importance of traditional knowledge

**Existence of indices**
Positive existence (Presence of Native peoples and knowledge traditional);
Inexistence (Absence of people origins and knowledge traditional).

**Resulting from perception**
- Sustainability effective
- Sustainability not consistent
- Degradation

Figure 3
Diagram on the perception of environmental sustainability indicators.