FUTURE SRJ
FUTURE STUDIES RESEARCH JOURNAL: TRENDS AND STRATEGIES

PROFUTURO: FUTURE STUDIES PROGRAM
Scientific Editor: James Terence Coulter Wright
Evaluation: Double Blind Review, by SEER/OJS
Review: Grammatical, normative and formatting

SOCIAL AND ENVIRONMENTAL MANAGEMENT PRACTICE OF BRAZILIAN FOOTWEAR-EXPORTING COMPANIES

Flavia Luciane Scherer
Associate Professor, Department of Administrative Sciences
Santa Maria University (UFSM), Brasil
flaviascherer@globo.com

Clandia Maffini Gomes
Associate Professor, Department of Administrative Sciences
Santa Maria University (UFSM), Brasil
clandia@smail.ufsm.br

Cristina Ceribola Crespam
Master's Degree Candidate - Postgraduate Business Administration Program
Santa Maria University (UFSM), Brasil
criscrespam@yahoo.com.br

ABSTRACT

The present study aims to analyze social and environmental management practices adopted by Brazilian footwear-exporting companies. To that end, we reviewed the literature on the Brazilian footwear industry and its socio-environmental management, which serves to frame our empirical survey of Brazilian footwear manufacturers having international operations, according to the Brazilian Footwear Association [ABICALÇADOS]. We undertook a descriptive study by using the survey method as a data collection procedure. The data obtained from responding companies showed the predominance of firms with proven market experience, mostly large-sized and with at least two decades of activity. The factorial analysis enabled us to reduce and group the practices studied into two factors, which we termed "environmental" and "social." The descriptive analysis allowed us to verify that whereas their investments in environmental practices usually have low to medium intensity rates, these investments nonetheless stand out when compared with investments in social issues.

Key-words: Social and environmental practices. Brazilian footwear-exporting companies

FUTURE SRJ
FUTURE STUDIES RESEARCH JOURNAL: TRENDS AND STRATEGIES

PROFUTURO: FUTURE STUDIES PROGRAM
Scientific Editor: James Terence Coulter Wright
Evaluation: Double Blind Review, by SEER/OJS
Review: Grammatical, normative and formatting

PRÁTICAS DE GESTÃO SOCIOAMBIENTAL ADOTADAS POR EMPRESAS BRASILEIRAS EXPORTADORAS DE CALÇADOS

RESUMO

O presente estudo tem por objetivo analisar as práticas de gestão socioambiental adotadas por empresas brasileiras exportadoras de calçados. Para tanto, foram revisados temas relativos à indústria calçadista brasileira e à gestão socioambiental, de modo a orientar a pesquisa empírica realizada com empresas brasileiras fabricantes de calçados com atuação internacional, relacionadas pela Associação Brasileira das Indústrias de Calçados. Também realizou-se pesquisa descritiva, com levantamento. Os dados obtidos revelam que as empresas pesquisadas são de grande porte e possuem experiência no mercado, haja vista que significativa parte delas tem cerca de duas décadas de atividade. Por meio de análise fatorial, reduziu-se e agrupou-se as práticas estudadas em dois fatores, denominados como ambiental e social. A partir da análise descritiva, verificou-se que os investimentos em gestão socioambiental são, de modo geral, de baixa e média intensidade, dentre estes, sobressaem-se os investimentos em práticas ambientais.

Palavras-Chave: Práticas de gestão socioambiental. Empresas brasileiras exportadoras de calçados.

1 INTRODUCTION

Ever-demanding social changes and needs make the management of social and environmental issues a key factor for company development and competitiveness. Firms play a major role in the sphere of sustainable development by building socio-environmental management practices. According to Ashley (2003), these arise not only from external pressures from governments and environmental legislation; the consuming public; stockholders; environmental movements; and financial institutions; but also from internal factors that bring benefits for firms through waste reduction or recycling, lower energy consumption, and replacements of inputs.

Thus, one of the emerging themes in the field of administration has been socio-environmental management and its practice by firms. Sustainability and sustainable development are the expressions often used and are becoming topics of growing interest in the academic milieu.

The footwear companies studied in this article are part of an industry which, according to Andrade, Tachizawa, and Carvalho (2002), is responsible for producing higher-impact environmental damage when compared to firms in the commercial and service areas. In addition, the footwear industry is identified as a large polluter and a toxic residue producer (RGC): the shoe-making process involves—according to Cultri, Barbosa, and Manfrinato (2007)—practices harmful to the environment and to human health, such as those occurring in the leather tanning stage, when highly polluting elements are used, and in the product finishing stage, which at times requires the processing of raw materials other than leather (such as rubber and plastic), also with polluting agents. Also, the volume of water used as an input, mainly in leather processing, is extremely high, as Câmara and Gonçalves (2007) point out.

The focus of our study within the footwear industry was on exporting firms, insofar as they are supposedly more interested in adopting practices to manage environmental impacts so as to comply with the great number of requirements for participation in the foreign market. Also, it is an important industry for the country, in terms of export revenues.

To meet this study's goal of analyzing the socio-environmental management practices adopted by Brazilian shoe exporting firms, this article is structured in five parts. This Introduction is followed by our theoretical

framework, which includes a section about socio-environmental management, highlighting the indicators used in this research, adapted from the instrument proposed by the Brazilian Institute for Social and Economic Analyses [IBASE], as well as a section about the Brazilian footwear industry. Part 3 presents the method guiding the present research to later describe, analyze, and discuss the results obtained. Part 4 is divided into two parts, the first describing the firms studied, and the second analyzing them. In the closing section, we expound some considerations on the theme addressed here.

2 THEORETICAL FRAMEWORK

Our theoretical framework entails two aspects: socio-environmental management and Brazil's footwear industry. The first addresses issues related to corporate social responsibility (CSR). The second describes the industry studied by building a synthesis table that groups the most relevant information and addresses the environmental issues specifically related to the footwear industry.

2.1 SOCIO-ENVIRONMENTAL MANAGEMENT

The concept of socio-environmental management comprises two dimensions. On the one hand, it addresses environmental management, which concerns environmental problems. On the other hand, it approaches social management, which encompasses a wide range of actions. The social management dimension used to be included as a variable of environmental management, an association arising from the repercussion of environmental actions and damage on the social scope (Nascimento, 2005).

With respect to the social issue, Carroll (1999) considers Bowen the "Father of Corporate Social Responsibility," insofar as he was responsible for launching the discussion on this theme with his 1953 work *Social Responsibilities of the Businessman*. Bowen (1953, p. 6) initially defined social responsibility as "an obligation to pursue those policies, to make those decisions, or to follow those lines of action that are desirable in terms of the objectives and values of our society" (http://www.forestprod.org/06-Feb.pdf).

According to Carroll (1999), the 1980s were marked by a growing attempt to formalize or, more precisely, to express the meaning of corporate social responsibility. Davis (1960) was the most preeminent author, stating that the decisions and actions of businessmen are based on reasons that go beyond economic or technical aspects. In the same vein, McGuire (1963) asserted that companies should not limit themselves to fulfill economic and legal obligations, but also have responsibilities towards society (Carroll, 1999).

The next decade witnessed a proliferation of definitions, which became more specific, like Carroll's (1979, p. 500): "The social responsibility of business encompasses the economic, legal, ethical and discretionary expectations that society has of organizations at a given point of time." From this concept arises the conceptual model of corporate social responsibility comprising four elements proposed by Carroll in 1979.

In the 1980s, still according to Carroll (1999), interest in social responsibility did not fade away, being instead reformulated in alternative concepts and theories. In the subsequent decade the concept changed significantly to encompass topics such as the stakeholders theory, the ethical theory of business and corporate citizenship (Carroll, 1999). No consensus exists concerning the conceptualizations of the term. For this reason, and aiming at a wider concept, we refer to the definition of the World Business Council on Sustainable Development [WBCSD]:

> Corporate social responsibility is the commitment of business to contribute to sustainable economic development, working with employees, their families, the local community and society at large to improve their quality of life (WBCSD, 2000).

In addition, Cetindamar and Husoy (2007) point out that corporate social responsibility refers to a voluntary initiative taken by the business community to act responsibly toward all stakeholders and can be characterized through three aspects: voluntariness, management of stakeholders, and networking. The first aspect regards the encouragement to act responsibly through voluntariness instead of being compelled by punishment. Thus firms can adopt socially responsible attitudes through more efficient and productive conduct if they accept doing them voluntarily instead of in response to government rulings.

The second aspect of social responsibility, management of stakeholders, means that firms should take into consideration the impact of their actions on all parties influenced by their operations, including consumers, employees, suppliers, and partners. Finally, an important aspect of many activities of corporate social responsibility concerns potential effects when firms are participants or members of a network that favors the dissemination of information, technologies, and management practices. Thus firms can share experiences arising from projects already carried out (Cetindamar and Husoy, 2007).

Awareness of environmental questions increased during the 1960s and 1970s through the active participation of groups that started to demand more attention to environmental issues on the part of firms (Ashley, 2003). This gives us a hint that the business sector, considered to be one of the main culprits behind existing environmental problems, is being required to assume greater responsibilities concerning the quality of life, a value that replaced the ones hitherto adopted of material progress and economic growth (Dias, 2003).

The factors that can drive firms to adopt environmental management policies, according to Ashley (2003), can be classified in two groups: external factors, including governments and environmental legislation, the consuming public, stockholders, environmental movements, and financial institutions; and internal factors, referring to savings arising from reducing waste or promoting recycling, lower consumption of energy and replacement of inputs.

In turn, Rosen (2001) presents three reasons why companies adopted measures aimed at improving their environmental performance: first, the regulatory framework is changing to include growing requirements related to environmental protection; second, the market is changing, both with respect to factors and product attributes; and third, knowledge is changing, with a massive number of discoveries and attendant publicity about the causes and consequences of environmental problems.

Thus, firms can no longer ignore the environmental question; poor management of environmental resources influences the cost of end products, also affecting production process. Also, firms must comply with the environmental legislation in force, which, in the Brazilian case, was based on the Federal Constitution of 1988 and subsequent State Constitutions (1989) and Municipal Organic Laws (1990) (Dias, 2003).

Andrade et al. (2002) argue that firms' environmental concerns result from punishments arising from lack of compliance with legal norms, and thus:

> The future perspective is that issues relative to environmental preservation no longer remain as mere legal problems, with emphasis on legal punishments, but rather evolve to a business context full of threats and opportunities, in which environmental and ecological events start to mean competitive positions that will dictate the very survival of the organization in its market of performance (Andrade et al., 2002, p. 45).

This article analyzes companies in the industrial sector because, according to Andrade et al. (2002), in this sector the environmental impact exists right from the start of the production process, and it is most pronounced, insofar as these companies transform production inputs into final products. One concludes from this that the environmental impact caused by the industrial sector is greater that that caused by the commercial and services sectors.

Aimed at measuring socio-environmental questions, we used indicators proposed by the IBASE, adapted to fulfill the objective of this work. Table 1 illustrates the social and environmental dimensions of management practices.

SOCIAL INVESTMENT
Food: restaurant, meal voucher, snack, food stamps, and/or other related to employees' meals
Social security: special plans for retired people, social security foundations, and/or supplementary benefits to retirees and their descendants.
Education: regular education at all levels, education reimbursement, scholarships, magazine subscriptions, library expenditures (excluding personnel), and/or other expenditures in education are attitudes of the firm.
Health: health plans, medical assistance, preventive medicine programs, quality of life programs, and/or other expenses with health, including that of retirees.
Culture: artistic events and performances (music, theater, cinema, literature, and other forms of arts).
Capacity-building: training, courses, internships (excluding salaries), and/or expenses specifically related to training-related activity carried out by employees.
Family assistance: in-company crèche (day care) and/or crèche support to employees.
Profit-sharing: additional forms of remunerations based on company results.
ENVIRONMENTAL INVESTMENT
Monitoring the quality of residues/effluents.
Clean-up program/project or introduction of non-polluting methods.
Environmental auditing.
Environmental education for employees.
Stimulate continual improvement of environmental quality in the firm's production and operation activities.
Ecological campaigns and socio-environmental education for the external community/society at large.
Environmental goals established by firms, civil society organizations, and/or international parameters.
Management of environmental impacts caused by the firm's activity.
ISO 14001 certification.

Table 1: Socio-environmental management practices

Source: Adapted from IBASE (2007).

2.2 BRAZILIAN FOOTWEAR INDUSTRY

The Brazilian footwear industry has a large number of suppliers of raw material, machinery, and components. Investments in technology and innovations in product development have positioned the sector as one of the most important worldwide. In addition, it is an industry that uses modern concepts of production management, maintaining a high degree of specialization in all kinds of footwear. Over 1,500 component industries are established in Brazil, including over 400 enterprises specialized in leather tanning and finishing, currently processing more than 30 million hides per year (ABICALÇADOS, 2008).

Another aspect of this industry is found in the Brazilian footwear machinery industry, which comprises some 100 companies and represents a key factor in Brazil's competitiveness in this area. Approximately 90% of the machinery and equipment used in the Brazilian footwear industry is designed and developed in Brazil, with "know-how" based on research and training in other countries.

Concerning the supply chain in the shoe industry, Brazil is considered the only country to have self-sufficiency across all processes involved in shoe production. This was only possible because the country developed the largest footwear conglomerate worldwide; cattle herds and tanneries for leather production; industries responsible for manufacturing every component used in shoe production; educational institutions for the development of human resources; and research centers for developing new projects and technologies.

With regard to production, in 2004 the country set a record with over 900 million pairs of shoes produced, in contrast with decreased annual production in subsequent years—for instance, in 2007 Brazil produced 808 million pairs of shoes (ABICALÇADOS, 2008).

Since the early 90s, the number of countries that purchase Brazilian shoes has increased, from 78 countries in 1990 to 99 in 2000. In 2008, however, there was a small decrease in the number of purchasing countries from the previous year. In 2007, Brazilian shoes reached 146 countries, but only 141 in 2008, a variation of -3.42%. Shoe exports in 2008 earned the country almost US$1.9 billion, with the sale of 165.8 million pairs, both values lower than those of the previous year. Nevertheless, since 2004 the average price has increased, showing sustained exported values despite a decrease in total of pairs exported (ABICALÇADOS, 2009a).

Increases both in the number of countries of destination and the average price of exports are results of strategies of market diversification and product differentiation, with the country's shoe enterprises adding value to the products (ABICALÇADOS, 2009a). Brazilian enterprises have quickly adapted to the world's fashion trends, thereby producing shoes with different specificities to supply external markets. Besides having easy access to raw materials, models created can be produced in large scale to meet the demands of importers (ABICALÇADOS, 2008).

The United States remains the top country of destination of Brazilian exports, despite a decrease in the number of pairs exported to them, as well as in values obtained with these transactions in recent years. Exports to the United States in 2008 accounted for 22.74% of Brazil's total export volume (pairs), whereas in 2007 it had accounted for 27.73%. This reduction is gradual; in 1990 the US took 70% of Brazil's total exports and in 2000 it accounted for 60.93%, and continued to drop drastically until 2008. Other major importers of Brazilian footwear include the United Kingdom, Argentina, Italy and Venezuela (ABICALÇADOS, 2009a).

The reduction in shoe imports by the United States is due to the performance of countries such as China and Vietnam, the main countries of origin of US imports, which market low-value shoes. In 2007, China accounted for 86.17% of the United States' total volume of shoe imports, whereas the volume acquired from Brazil represented only 2.9% (ABICALÇADOS, 2008).

Three Brazilian states stand out as the main footwear exporters: Rio Grande do Sul, Ceará and São Paulo, together accounting for over 90% of Brazilian exports in US dollars. The State of Rio Grande do Sul is Brazil's principal shoe manufacturer. It has factories in hundreds of cities, each typically being home to between one and ten companies. According to 2007 data, this state has some 3,000 shoe enterprises, which generate 126,000 direct jobs. Approximately 45% of Brazilian shoe exports originate in Rio Grande do Sul (ABICALÇADOS, 2009b).

São Paulo concentrates three important Brazilian shoe conglomerates, each with different characteristics: one produces shoes for men, another for children, and the last for women (ABICALÇADOS, 2009b).

Currently, the state of Ceará holds the third position in the ranking of Brazilian shoe hubs. Behind Rio Grande do Sul and São Paulo, the state has 518 industries that together exported US$117,255,000 from January to June 2008. In Ceará's balance of trade, shoes play a major role, accounting for 25.2% of all products sold to the external market. Major buyers include the United States, Argentina, the United Kingdom, Mexico, and Paraguay (ABICALÇADOS, 2009b). In the State of Rio Grande do Sul, in 2007, shoe exports totaled 69.8 million pairs and generated revenues of US$1.25 billion.

Secondary data thereby show the importance of the footwear industry in the national economic scenario, particularly due to its strong international activity.

A summary table (Table 2) presents the points addressed in this section, with a focus on the industry's features, supply chain, production, and exports of Brazil's shoe sector.

INDUSTRY'S FEATURES
- large variety of suppliers of raw material, machines, and components; - high technology and innovations in product manufacturing; - uses modern concepts of production administration; - highly specialized in all kinds of shoes; - machines and equipment used in manufacturing are made in Brazil.
SUPPLY CHAIN
- self-sufficiency in all processes of shoe production; - largest industrial conglomerate of footwear worldwide .
PRODUCTION
- Record shoe production in 2004: 900 million pairs; - 2007: 808 million pairs.
EXPORTS
- number of countries of destination: 1990 (78 countries), 2000 (99 countries), 2007 – record year (146 countries) and 2008 (141 countries); - value exported in 2008: US$ 1.9 billion; - increase in average price since 2004, even after fall in number of pairs exported; - USA is main country of destination, followed by the UK, Argentina, Italy, and Venezuela; - main shoe exporting Brazilian states: Rio Grande do Sul, Ceará and São Paulo (accounting for 90% of Brazilian exports in US$).

Table 2: Synthesis of the Brazilian footwear industry

In view of the objective of the present article, some aspects of the environmental impacts caused by the Brazilian shoe industry, which also influence the social environment, must be mentioned. One cannot neglect, in the case of this industry, the main input suppliers of the shoe supply chain, which include tanneries, when the issue of environmental degradation is under analysis. During the three phases of leather processing—preparatory stages, tanning, and crusting—large quantities of water are used as input and effluents rich in toxic chemical elements are produced as well as solid and gaseous residues, as explained by Câmara e Gonçalves (2007).

According to the Cetesb Guide (2005), leather production causes significant environmental impacts, including: water consumption (according to the Leather Technology Center of the National Industrial Training Service (SENAI) of the State of Rio Grande do Sul, the volume of water used in the process is estimated at 25 – 30 m3 of water/t per salted skin); energy consumption; the use of chemical products already banned in some developed countries due to their high toxicity; the generation of various liquid effluents that are harmful to the environment; air emissions, responsible for producing perceptible odors even at a distance from the enterprise; and the production of solid residues, such as tanning residues and mud from treatment stations, which can contain significant amounts of pollutants, and can contaminate soils and surface and underground waters.

A significant threat to the environment is posed not only by the leather tanning stage, as pointed out by Cultri et al.(2007), but also by the final phase of product development, which employs potentially polluting raw materials such as rubber and plastic.

In an interview for the SEBRAE News Agency in 2008, Heitor Klein, executive director of ABICALÇADOS, acknowledged that there is an environmental impact in the production of leather and shoes; in leather production due to residues from chemical products, and in shoe production due to solid residues. However, the director states that:

> [...] this situation is well resolved in Brazil. Tanneries have had water treatment stations for over ten years. In the area of shoes in the Northeast, this aspect has to be better worked. But in the South, all residues are adequately stored; therefore they are not a risk to groundwater and things of this nature. We are still seeking an economic solution for these industrial residues, to transform them, for instance, into materials for civil construction and other sectors.

The description of the industry demonstrates its social and economic importance, besides pointing out the main aspects included in the concern with processes of socio-environmental management, which confirms its choice as object of study.

3 METHOD

We used a descriptive research design which, according to Mattar (1997), describes the characteristics of groups, estimates the proportion of elements in a specific population with certain characteristics or behavior, and discovers or verifies relationships among variables.

To this effect, we conducted a survey to collect primary data. To complement the study, we gathered information from secondary sources such as the news and reports published on the institutional website of ABICALÇADOS. We collected primary data through a questionnaire that we designed based on the related literature. We appointed three specialists to analyze the questionnaire, and after corrections were made, we applied it from July to November 2008. The survey's target population was represented by 150 exporting enterprises of the Brazilian footwear industry, affiliated to ABICALÇADOS. The questionnaire was electronically distributed and gave a return rate of 28.67%.

We performed a descriptive data analysis by applying univariate and multivariate analysis techniques. First, we identified descriptive measures to characterize the sample. The socio-environmental management practices were analyzed both by using univariate descriptive measures aimed at verifying, in a general manner, the intensity of adoption of these practices, and also by applying factorial analysis, which according to Hair, Babin, Money, and Samoel (2005, p. 388) is "a multivariate statistical technique that can synthesize information from a great number of variables into a much smaller number of factors."

We tabulated and organized the data using Excel and SPSS and conducted a descriptive analysis.

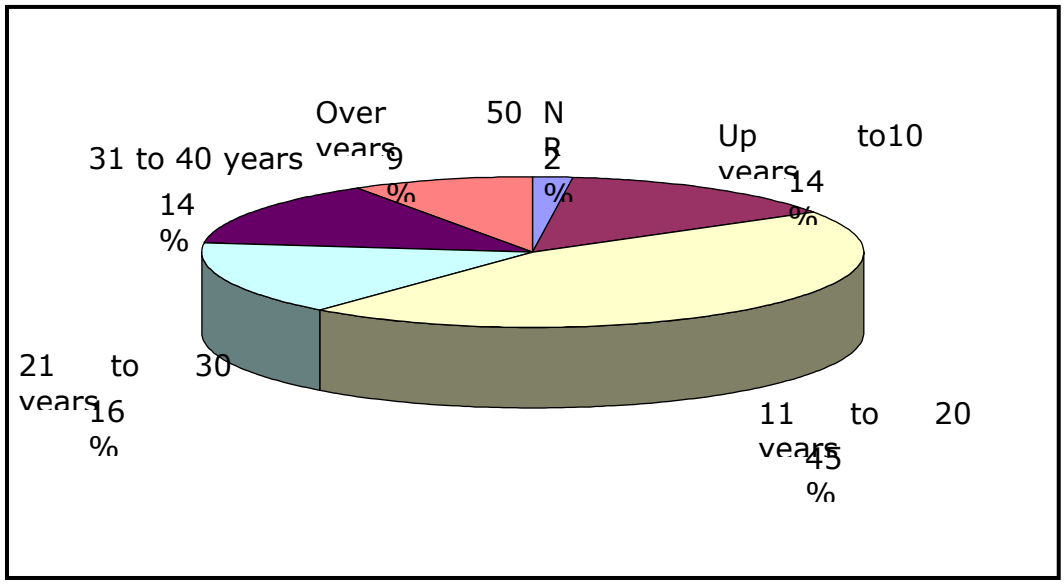
4 RESULT ANALYSIS AND DISCUSSION

Results are presented according to the objectives and basic assumptions underlying the elaboration of this research in order to characterize and identify the set of enterprises analyzed and their socio-environmental management practices.

4.1 SAMPLE CHARACTERIZATION

To characterize the sample we evaluated the variables "length of company's time in the sector," "number of employees," and "company size."

With relation to "length of company's time in the sector" (Graph 1), data showed a majority of enterprises with experience in the market, most with at least two decades of activity. The existence of mature enterprises predominated among the respondents (experience in the sector ranging from 11 to 40 years). The analysis of this data requires the consideration whether the enterprises studied operate in international markets, either through exports or through another strategy of greater involvement (such as licensing). The predominance of mature enterprises can indicate that these are the ones that have managed to survive the adversities peculiar to international trade, given the existing competitiveness requirements.



Graph 1: Time of performance in the sector

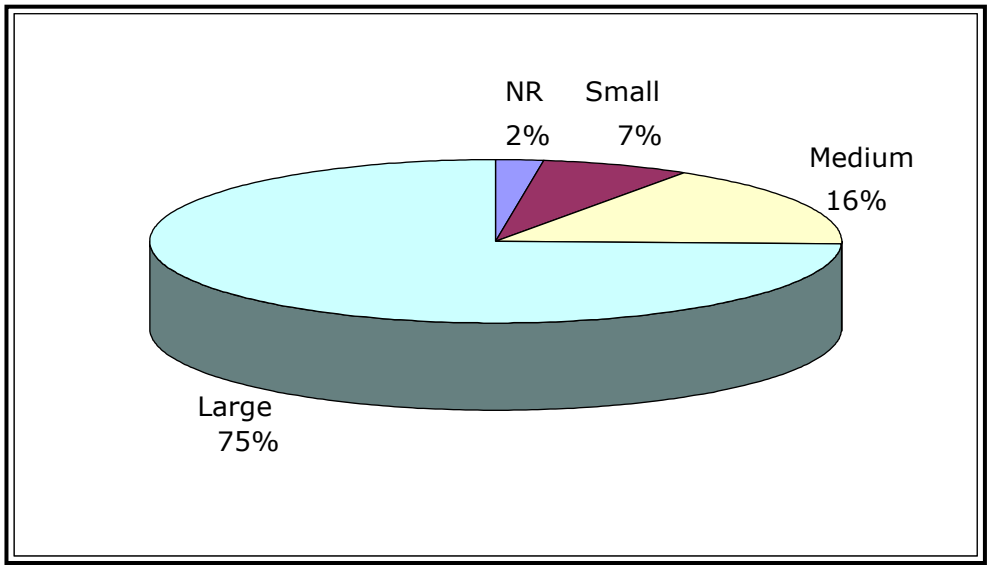
Next we present data relative to the "number of employees" so as to indentify size, as per the classification proposed by Brazil's Census Bureau (IBGE). Table 1 illustrates these findings.

Table 1: Number of employees in Brazil

NUMBER OF EMPLOYEES	FREQUENCY	%
NR	1	2.3
From 20 to 99 employees	3	7.0
From 100 to 499 employees	7	16.3
Over 500 employees	32	74.4
Total	43	100.0

The IBGE classifies enterprises as micro, small, medium, or large, depending on the number of employees. A firm with up to 19 employees is considered a micro company; from 20 to 99 employees, small; from 100 to 499, medium; and with over 500 employees, it is classified as large.

The analysis of the total number of employees of each enterprise shows their size, as seen in Graph 2.



Graph 2: Company size

Most of the enterprises in our sample are classified as large-sized. It is worth mentioning, again, that responding firms have an international presence, which may lead to the conclusion that large-sized firms are those most involved, in the shoe industry, with international operations.

4.2 SOCIO-ENVIRONMENTAL MANAGEMENT

The socio-environmental management practices studied here were initially analyzed with univariate descriptive measures in order to verify the overall intensity of adoption of these practices. Next we applied factorial analysis to reduce and group the practices involved so as to facilitate the understanding of the conceptual model adopted.

4.2.1 Analysis of descriptive measures

In order to evaluate the socio-environmental management practices adopted by the group studied, we inquired into the intensity of corporate investments in social and environmental issues. Table 2 aggregates the results regarding the practices adopted.

Table 2: Intensity of Socio-environmental Management Practices

MANAGEMENT PRACTICES	INTENSITY (%)*						
	NR	1	2	3	4	5	TOTAL
Food	2.4	2.4	9.5	57.1	26.2	2.4	100
Capacity-building	4.8	14.3	21.4	57.1	2.4	-	100
Family assistance	4.8	21.4	16.7	57.1	-	-	100
Health	4.8	2.4	45.2	45.2	2.4	-	100
Profit-sharing	7.1	23.8	26.2	19.0	23.8	-	100
Culture	4.8	16.7	40.5	38.1	-	-	100
Education	4.8	28.6	47.6	14.3	4.8	-	100
Social security	2.4	45.2	40.2	11.9	-	-	100
Management of environmental impacts	4.8	-	11.9	78.6	2.4	2.4	100
Ecological campaigns and socio-environmental education for the external community/society at large.	4.8	2.4	4.8	54.8	33.3	-	100
Environmental auditing	4.8	4.8	7.1	38.1	45.2	-	100
Stimulus for continual improvement of environmental quality in the company's production/operation activities.	4.8	4.8	7.1	42.9	40.5	-	100
Environmental education for employees	4.8	7.1	11.9	66.7	7.1	2.4	100
ISO 14001 certification	4.8	-	28.6	54.8	7.1	4.8	100
Environmental goals established by firms, civil society and/or international parameters.	4.8	2.4	35.7	47.6	9.5	-	100
Monitoring quality of residues/effluents	4.8	14.3	40.5	16.7	23.8	-	100
Pollution clean-up program/project or introduction of non-polluting methods	4.8	19.0	59.5	11.9	4.8	-	100

Obs: Intensity scale: Very low= 1; Low = 2; Medium = 3; High = 4; Very High= 5.

Data in Table 2 demonstrate that investments in socio-environmental management have, by and large, low and medium intensity in the group analyzed, thereby representing a low level of commitment towards the adoption of such practices. These data also show that the most substantial investments in social issues involve basic issues such as *food, capacity-building*, and *family assistance.* Most environmental investments are directed towards: *management of environmental impacts*; *ecological campaigns and socio-environmental education for the external community or society at large*; and *environmental auditing and stimulus for continual quality improvement in production/operation activities.* Although one can observe higher investments in environmental projects as compared to those in the social area, companies' positions vis-à-vis both aspects still seems excessively weak and focused on interests related to basic operational and regulatory requirements.

It is noted that corporate commitment in the footwear sector in relation to residues/effluents/non-polluting methods was classified as a concern of only medium intensity. As shown earlier, the footwear sector is responsible for environmental degradation insofar as it generates solid, liquid, and gaseous residues and uses a high quantity of water in its production system. For this reason, we expected them to have a stronger concern with this specific issue.

By and large, results seem to show that the behavior of the enterprises analyzed with regard to the adoption of socio-environmental practices can be considered as being at an incipient level, and primarily concentrated on basic and regulatory aspects.

4.2.2 Factorial analysis

To analyze the characteristics of socio-environmental management we adopted a multivariate model of factorial analysis, so as to reduce the number of indicators in each variable by identifying the main components in each factor. The factors extracted, the indicators and their respective factorial charges, and the total variance explained are presented in Table 3.

Table 3: Factors extracted by factorial analysis of socio-environmental management practices

FACTORS	INDICATORS	FACTORIAL CHARGES	EIGENVALUES	% EXPL.VAR.
Environmental	Ecological campaigns and socio-environmental education for the external community/society at large	0.861	6.157	55.97
	Environmental auditing	0.839		
	Stimulus for continual improvement in environmental quality in the firm's production/operation activities	0.828		
	Health	0.799		
	Management of environmental impacts of the firm's activity	0.795		
	Environmental targets established by the firm, civil society organizations, and/or international parameters.	0.789		
	Environmental education for employees	0.776		
	ISO 14001 certification	0.699		
	Monitoring the quality of waste/effluents	0.684		
Social	Capacity-building	0.884	1.433	69.90
	Culture	0.843		

Obs. KMO index = 0.799; p = 0.000

The verification of the statistics related to the technique indicated the suitability of its use in our study, highlighting the existence of high and medium correlations among the indicators of each variable. The *KMO* index and the sphericity test ($p<0.05$) disclose the existence of a relationship among the indicators, which enable the continuation of the analysis. We performed factorial analysis and principal component analysis using as selection criteria the combination of two factors. The indicators selected in the adjusted model were those that presented high correlation with the factors generated (above 0.6). Not included in the initial analysis were indicators with high indexes of non-response. The solution converged on two factors which explain 69.90% of the data variance. The factors extracted were called "environmental" and "social" so as to be adequate for the conceptual model previously created, and can be visualized in Figure 1.

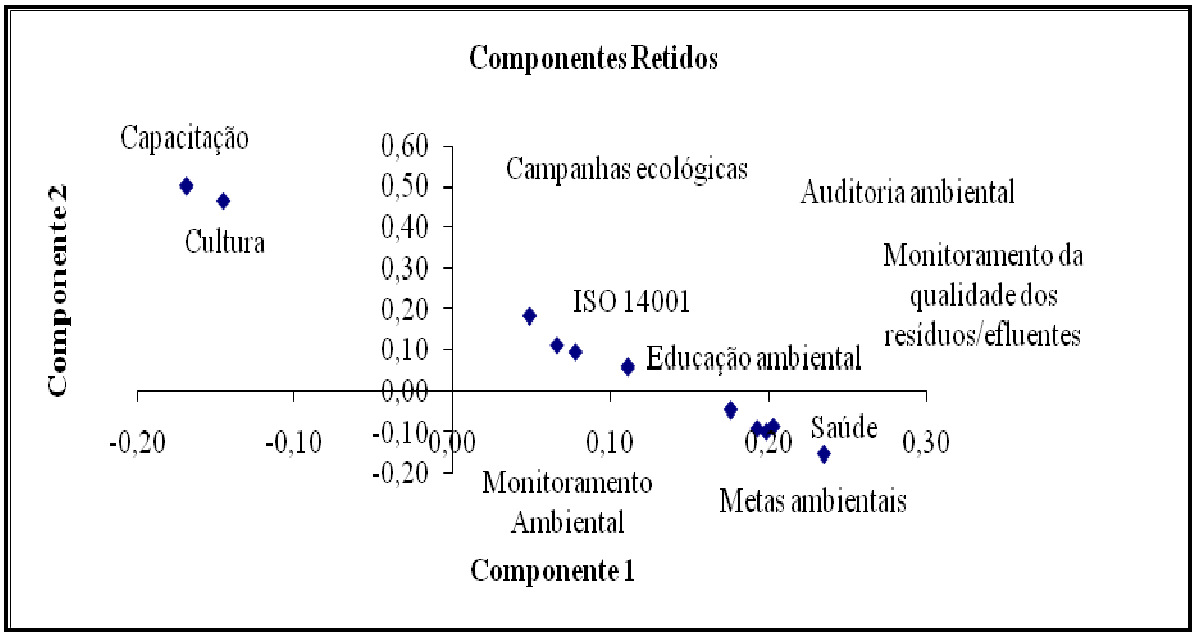


Figure 1: Factors extracted by factorial analysis

In reducing the 17 variables related to social and environmental aspects into 2 factors, this analysis reached its objective, as posited by Hair et al. (2005). A simplification was enabled so as to achieve a better understanding of the data.

5 CONCLUSIONS

The main goal of this article was to analyze the socio-environmental management practices adopted by Brazilian shoe exporting firms. First, it was possible to identify the profile of the enterprises studied, which showed the existence of mature firms (most operating in the sector for 11 to 40 years), most of which are large-sized. Once the respondents have international presence, it is possible to verify that large-sized companies are those most involved in operational operations in the shoe sector.

The analysis of the socio-environmental practices adopted by footwear companies, through descriptive analysis, disclosed that investments are, by and large, of low and medium intensity, revealing a low level of commitment to the adoption of these practices among the group of businesses studied. Investments relative to environmental issues were also perceived to stand out in relation to those in social aspects, albeit to a low extent.

In general, the results lead to the understanding that the behavior of the enterprises in relation to the adoption of socio-environmental practices can be considered as being at an incipient level, prioritizing only basic and regulatory aspects. Also, the shoe firms positioned themselves as having a middle-intensity level of commitment concerning the issue of residues/effluents/non-polluting methods. We expected a stronger concern from businesses regarding this issue because the shoe sector causes much damage to the environment due to the generation of solid, liquid, and gaseous residues, as well as the elevated use of water as a production input.

Pursuing the analysis of socio-environmental management practices, we performed a factorial analysis, which allowed us to reduce and group the variables (initially 17) into two factors, "environmental" and "social." The social factor grouped two categories relative to capacity-building and culture, whereas the environmental factors grouped nine categories. This simplification will facilitate new studies in this area.

For future studies, we suggest the expansion of the sample in both quantitative and qualitative terms so as to deepen the subject matter of this study. Likewise, the issue of the use of large quantities of water as a production input deserves greater attention in future research with the shoe industry as subject. Besides these themes, other important subjects which could be considered by future research works seeking to investigate—in a comparative manner—the treatment given environmental issues in different sectors could include whether or not there is environmental maturity in the shoe sector, and an examination of the trends of socio-environmental practices in this sector, abroad and in Brazil, assessing their impact on business activity. Thus a large field for research is presented.

REFERENCES

Agência Sebrae de Notícias. (2008). *Desafio chinês é estímulo para setor calçadista brasileiro*. Recuperado abril, 2009, de www.agenciasebrae.com.br/ noticia_pdf.kmf?noticia=7195991.

Andrade, R. O. B. de, Tachizawa, T. & Carvalho, A. B. de (2002). *Gestão ambiental: enfoque estratégico aplicado ao desenvolvimento sustentável* (2a ed.). São Paulo: Pearson Education do Brasil.

ABICALÇADOS-Associação Brasileira das Indústrias de Calçados. (2008) *Resenha estatística***.** Recuperado em fevereiro de 2009, de http://www.abicalcados.com.br/documentos/resenha_estatistica/Resenha%20Estatistica%202008.pdf.

ABICALÇADOS-Associação Brasileira das Indústrias de Calçados. (2009a). *Histórico das exportações brasileiras de calçados: período de 1990 a 2008.* Recuperado em abril, 2009, de http://www.abicalcados.com.br/documentos/resenha estatistica/Historico%20das%20Exportacoes%202009.pdf.

ABICALÇADOS-Associação Brasileira das Indústrias de Calçados. (2009b). *Pólo produtores*. Recuperado em fevereiro de 2009, de www.abicalcados.com.br.

Ashley, P.A. (2003). *Ética e responsabilidade social nos negócios*. São Paulo: Saraiva.

Bowen, H.R. (1953). *Social responsibilities of the businessman*. New York: Harper & Row.

Câmara, R.P.B. & Gonçalves, E.V., Filho (2007, janeiro/junho). Análise dos custos ambientais da indústria de couro sob a ótica da ecoeficiência. *Custos e Agronegócio on line*, *3* (1), 87-110.

Carroll, A. B. (1979). A three-dimensional conceptual model of corporate social performance. *Academy of Management Review*, *4*, 497-505.

Carroll, A. B. (1999). Corporate social responsibility. *Business and Society*, *38* (3), 268-295.

Cetindamar, D. & Husoy, K. (2007). Corporate social responsability practices and environmentally responsible behavior: the case of The United Nations Global Compact. *Journal of Business Ethics*, *76*,163-176.

Cultri, C.N., Barbosa, A.S. & Manfrinato, J.W.S. (2007, novembro). Análise da responsabilidade Socioambiental dos consumidores de calçado: reflexos do descaso com os problemas brasileiros. *Anais do Encontro Nacional de Gestão Empresarial e Meio Ambiente*, Curitiba, PR, Brasil.

Dias, R. (2003). A sustentabilidade nas organizações. In R. Dias; T. Zavaglia & M. Cassar. *Introdução à administração: da competitividade à sustentabilidade*. Campinas: Alínea.

Guia Cetesb Produção Mais Limpa-Curtumes. (2005). *Câmara ambiental da indústria de couros, peles, assemelhados e calçados.* Recuperado em abril de 2009, de http://www.cetesb.sp.gov.br/Tecnologia/camaras/ca_ativas/couro/couro.asp.

Hair, J.F., Babin Jr., B.; Money, A.H. & Samoel, P. (2005). *Fundamentos de métodos de pesquisa em administração*. Porto Alegre: Bookman.

IBASE-Instituto Brasileiro de Análises Sociais e Econômicas. (2008). *Balanço Social Anual/2007*. Recuperado em abril de 2009, de www.balancosocial.org.br/media/BS_Empresas2007_novo.pdf.

Malhotra, N.K. (2001). *Pesquisa de Marketing: uma orientação aplicada* (3ª ed.). Porto Alegre: Bookman.

Mattar, F. N. (1997). *Pesquisa de marketing: metodologia, planejamento* (Vol.1). São Paulo: Atlas.

Nascimento, L.P. (2005, setembro). Gestão socioambiental estratégica: a percepção de executivos de pequenas e médias empresas americanas. *Anais do Encontro Nacional da Associação Nacional de Pós-Graduação e Pesquisa em Administração***,** Brasília, DF, Brasil.

Rosen, C.M. (2001). Environmental strategy and competitive advantage: an introduction. *California Management Review*, *43*.

World Business Council on Sustainable Development. (2000). *Corporate Social Responsibility: making good business sense*. Recuperado em abril de 2009, de http://www.wbcsd.org/includes/getTarget.asp?type=d&id=MzE0.