Eixo Temático: Inovação e Sustentabilidade

ENVIRONMENTAL STRATEGIES FOR SUSTAINABILITY

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ABSTRACT

The objective of this study is to propose and demonstrate the applicability of the analysis a relationship model between organizational resources, environmental strategy and performance. The theoretical framework deals with environmental management, environmental strategies, resource approach coming from the Resouce Based View and organizational performance. The work constitutes an exploratory study, reported on the approach and qualitative but which uses some quantitative nature of constructs to elucidate the relationship between the variables and consists of a case study. It was found from the application of the model that the Swine and Poultry division at first presents reactive environmental strategies to meet the legal requirements. However, actions such as the existence of committees and continuous improvement teams and rank environmental issues as strategic to the organization, indicates the concern of the company to go beyond, to create a culture focused on sustainability and awareness of its workforce to an era pioneering and environmental proactivity. Certainly, associated with competitive gains and preference at the time of purchase by customers.

Keywords: Sustainability. Environmental strategy; Resource Based View; Perfomance.

1 INTRODUCTION

The frigorific sector processes and industrializes foods that make it representative in the exports context wherein de year 2010 Brazil exported US$ 4,795,356 of beef (in natura, industrialized, giblets, guts, and cured).

In any way it is considered that independently from the acting sector of the companies, the environmental strategies consist of actions that the company takes in response to the external and internal pressures. The environmental strategies implementation becomes a tool that aims at the continuous improvement through new procedures, mechanisms, arrangements, and behavioral patterns less harmful for the environment. Specially or by the administrative or operational processes improvement, by the clean technologies incorporation or the waste reuse, the organizations can obtain economies that would not have been conquered in case they would not have been incorporating the environmental variable in its business strategy. In order to make viable the environmental strategy it is necessary to mobilize resources in the company, which in turn corroborate for an environmental and economic performance achievement.

Considering the exposed context the article aims at answering the following question: **How does the integration between environmental strategy, economic and environmental performance in frigorific industrial units happen?**

The following hypothesis for the plants validation of the frigorific belonging to the Frigorific pork and poultry division were established.

Hypothesis 1: the more evolved the environmental strategies, the more tangible resources are mobilized and the better the economic and environmental development.

And,

Hypothesis 2: the more evolved the environmental strategies, the more intangible resources are mobilized and the better the environmental and economic performance.

2 MATERIALS AND METHODS

The study was developed from the collected data analysis in AGRO, in the pork and poultry division that comprehends 30 industrial units, which corresponds to 6 distinct Brazilian marks. The criteria for choosing the companies were the company internationality and representativeness for the country. The frigorific X was chosen because it is an internationalized company and that is found on an advanced stage regarding the environmental aspects, having environmental quality policies, principles and implemented environmental management systems and in some industrial units they have the certification according to ISO 14.001 Standard.

The choice of industrial units that work under the aegis of the same organization (AGRO) is associated with the fact of having a company that grew from acquisitions made mainly in the last 3 years. So, it is formed from a group of companies that were acquired and that performed under a policy, mission, vision and distinct values. Moreover, the fact that the analyzed units belong to the same business group does not necessarily mean that they share a common group of tangible and intangible resources because they were built in different times and have distinct technological resources. The geographic location is also an aspect that influences as well as the culture and the human resources profile.

This choice of large companies is justified in the studies of Christmann & Taylor (2001 *apud* Alperstedt & Quintella & Souza, 2010) González-Benito & González-Benito (2006) and Abreu & Santos & Rados (2008) who verified that the size, measured by the great number of active employees is one of the structural variables which most seems to influence on the companies environmental actions. These authors arguments are justified in the following aspects: 1) bigger companies have more available resources to invest in the environmental management; 2) they are organizations that receive higher pressure from social and economic environment and are frequently a primary objective of local government and environmental NGOs; 3) the scales of these organizations allows that their management becomes indivisible from the environmental management, requiring investments in technology, human resources or certifications that are similar to all companies no matter its size; and 4) the big companies environmental efforts have a positive impact on a great amount of clients.

Having 30 units in Brazil, AGRO permitted to administer de questionnaire in 6 units. The criteria for the sample choice of the industrial units to be researched constituted in identifying the oldest poultry industrial unit; one that was acquired or built between 1996 and 2000 and one belonging to the last acquisition made by the multinational group. In the pig's sector the oldest industrial unit and in the plants of industrialized, also the oldest industrial unit, and an industrial unit that belongs to the last company acquired by the multinational Group. This criterion was used to guarantee that the sample was heterogeneous. The units to be researched were recommended by the Sustainability and Technology Director of AGRO *holding*.

Guided by this selection criterion the three selected poultry industrial units were Unit A/SC; Unit C/RS; and Unit D/MG. The pig industrial unit is B/SC and the industrialized ones are the industrial units of F/MS and E/SP.

A questionnaire was applied to 5 people per plant including the following departments: production, environmental, human resources, financial and management of the industrial unit. They showed indicators that allowed measuring the relation among the study variables.

After receiving the questionnaires back the data were tabbed and the respective analysis was made guided by the theoretical provisions mapped. For the data organization Excel software was used.

The Excel electronic figures enables the creation of tables and figures and by its operationalization facility, which the linear regression was made as follows the formula:

$$y_i = \alpha + \beta x_i + \varepsilon_i$$

Where

Y_i is the explained variable (dependent); it is the targeted value;

α is a constant, that represents the interception of the line with the vertical axis;

β is another constant, that represents the line gradient;

X_i is the explained variable (independent), represents the explanatory factor in the equation;

ε_i is a variable that included all residual factors plus the possible measurement errors.

Their behavior is random due to the factors nature. For this formula to be applied the errors must satisfy certain hypotheses, which are: being normal variables, with the same variance σ^2 (unknown) and independent form the explanatory variable X.

Such indicators were measured through a questionnaire with structured questions in interval scales. After the data collection tool they were tabbed and descriptive statistic, correlation, and regression techniques were applied. The regression technique aimed at studying the relation between the explanatory variables, which show on a linear way, and a metric dependent variable, in this case the performance.

The correlation and the variance analysis were also made.

It is highlighted that the analysis units comparison levels were: if the environmental investments mediate the relationship between tangible resources and the economic and environmental performance in the same intensity in different industrial units, and, if the environmental strategies mediate the relationship between intangible resources and the environmental and economic performance.

The Analysis Framework showed on Figure 1 foresees that the used resources interfere in the environmental strategies development level and in the organization performance.

Figure 1: Analysis Framework.
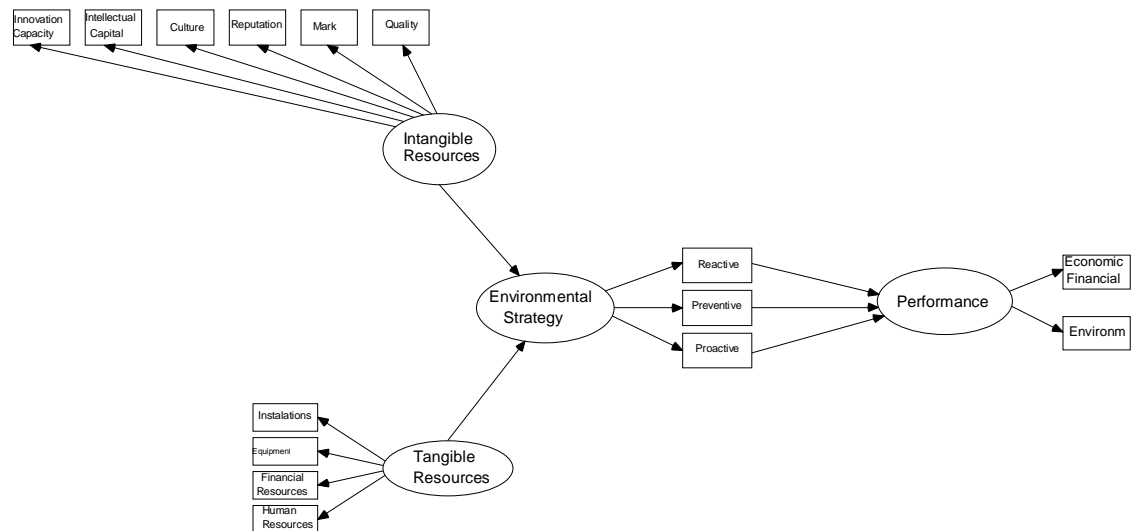
Source: created by the authors

OBS: the first order constructs, showed by the smaller ellipsis – are measured by the reflexive indicators observed to identify the intangible resources (innovation capacity, quality management capacity, intellectual capital, culture, reputation, experience, network, satisfaction level, intelligence, freedom of speech, etc.) and the tangible resources (building, equipment, finances, technology, stock maintenance, storage and distribution, location, human resources) used by the company to enable different environmental strategies.

The elaborated Analysis Framework   allows identifying the evolutionary stage in which the company is in in terms of environmental strategy. In this case, identifying if the company is reactive (only fulfills the present environmental legislation), preventive (acts with prevention), or proactive (acts on a pioneer way and is considered a leader in the environmental behavior). The same way, in relation to the economic-financial indicators (total assets, net equity, operational net earnings, gross profit, profit before taxes and income tax and net profit).

Regarding the environmental performance, indicators that allow verifying if the company is environmentally efficient or not (water use, energy use, greenhouse effect gases emission, emission of ozone layer boosting substances, total amount of waste emitted).

This proposed Analysis Framework does not intend to be exhaustive but to make an initial incursion in the identification of the elements that explain the relation amongst these resources, environmental strategies, and performance. This includes some variables that have been mentioned on a higher frequency in the literature as being important in the environmental scope.

3 RESULTS AND DISCUSSION

Table 1 describes the resources, environmental strategies and performance of the researched industrial units.

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Table 1: Resources, environmental strategies and performance evaluation

Numerical Rating	Performance Level in the Evaluation	Meeting Legal Requests	Mobilized Resources Perception	Environmental Strategies	Impact on the Organizational Performance
1	Awful	Vague traces	Weak mobilization of resources	Does not meet	High negative impact
2	Bad	Precarious	Precarious resources mobilization	Reactive strategy	Medium negative impact
3	Partial	Partial and reactive	Partial resources mobilization	Full reactive strategy	Light negative impact
4	Good	Based on control/correction	Good resources mobilization	Full preventive strategy	Light positive impact
5	Very good	Proactive	High resources mobilization	Proactive strategy	High positive impact
6	Full	Full	Full resources mobilization	Full proactive strategy	Full positive impact
0*	Null	Did not meet	Does not mobilize	Does not meet	Does not impact

Source: created by the authors

The evaluation through the Resource, Environmental Strategies, and Organization Performance Analysis Framework (FAREADO) may be beaconed through criteria that are consistent with the level of the managers' environmental consciousness. The higher the environmental consciousness level, the higher the probability of having full accomplishment of the proactive environmental strategies and show positive impact on the economic and environmental performance.

As follows, calculations of the average through evaluated variables were made considering the blocks of questions created in the questionnaire, according to Table 2.

Table 2: Evaluated aspects and averages reached per Plant

	Evaluated Aspects	A	B	C	D	E	F
1	Reactive strategies	5.46	5.0	4.53	4.58	4.08	3.66
2	Preventive strategies	5.11	3.74	3.68	3.67	3.25	3.68
3	Proactive strategies	3.46	3,0	2.0	3.20	1.4	2.28
4	∑ Environmental strategies	4.68	3.74	3.17	3.70	2.66	3.06

5	Intangible resources	4.87	4.66	4.46	4.55	3.80	3.23
6	Tangible resources	4.98	4.12	4.56	4.87	3.80	3.38
7	∑ resources	4.92	4.42	4.50	4.69	3.80	3.29
8	Economic performance	3.60	3.70	4.98	3.39	4.05	4.32
9	Environmental performance	5.03	4.48	5.23	5.08	5.08	4.03

Source: created by the authors

From Table 2 it is possible to see that in the understanding of the interviewees of the studied sample from Multinational Group Division of Pig and Poultry, the industrial unit A has the most advanced environmental strategies evolutionary stage with an average 4.68. Coincidently it is the only researched unit that has ISO 14.001 implanted, with makes evident the importance of a formal and certified by ISO 14.001 environmental management system for the improvement of the organization environmental behavior.

The industrial unit E showed the lowest performance in the environmental strategies aspect, totaling an average of 2.66, followed by C which obtained an average of 3.17.

All the evaluated units obtained a superior performance in the reactive strategies, followed by the preventive strategies and the worst performance in the proactive strategies. It can be inferred that the Pig and Poultry Division is moving towards a more proactive behavior in the environmental management as there is a concern about using practices that go further than meeting the legislation, preventive and corrective measures, as an example of the installation of renewable energy capitation; tanks use; water reuse; use of vehicles moved by alternative energy; green energy contracts; suppliers education program about responsible environmental practices; suppliers auditing; amongst others.

Regarding the mobilized resources to enable the current environmental strategy again unit A showed higher average, totaling 4.92. That evidences that in the interviewees the installations, equipment, human resources, and financial resources are the ones that have higher importance to enable the current environmental strategy. Only unit B mobilized more intangible than tangible resourcesin the perception of the interviewees to implement the current environmental strategy, which denotes a higher attribution of importance for the quality management capacity, the innovation capacity, the intellectual capacity, the culture, the reputation, and the mark.

Regarding the economic performance, in the interviewees' perception the industrial unit C showed higher performance, totaling an average of 4.98, followed by F which was 4.32. This shows that these interviewees believe that in their industrial units shows high impact on the economic performance the aspects level of absenteeism, turnover, total of training hours, worked hours versus reached targets, technologies used in the production process, company equipment, company installations, mark, new products development, quality management system, materials recycling, use of renewable energy, water reuse, organic and dry waste separation, environmental efficiency projects, monetary values of

environmental taxes, and the non-conformity with environmental laws and regulations. On these evaluated aspects, the interviewees scored mostly 5 and 6 for each of the evaluated aspects, except the Production Manager, who was more critical and scored mostly 3 and 5 for each of the items.

In the environmental performance category Caxias do Sul showed a higher average of 5.23, followed by B that obtained 4.48. This shows that in these units the impact level of the following elements on the environmental performance is high: the interested ones involvement in the environmental disclosure process; the energy use monitoring in the company; the efficient use of water; the emissions monitoring to the atmosphere; the generated waste monitoring; the natural resources preservation around the company; the monitoring of the products and services environmental impact; the monitoring of the environmental non-conformities (incidents, accidents, and disasters); the environmental innovations; the new technologies in the production process; the environmental education, and the internal environmental auditing. In the case of C there was a predominance of 5 and 6 scores assigned to each of the nominated ones previously described, which shows the high level of importance given to them.

The data evaluation performed from the comparison between the performances obtained amongst the researched organizations was made from the discrepancy of what would be considered an excellence performance, according to Table 3.

Table 3: evaluated aspects evolutionary stage

	Evaluated Aspects	A	B	C	D	E	F
1	Reactive strategies	Full	Very good	Very good	Very good	Good	Good
2	Preventive strategies	Full	Good	Good	Good	Good	Good
3	Proactive strategies	Good	Partial	Bad	Good	Bad	Partial
4	∑ Environmental strategies	Very good	Good	Good	Good	Partial	Good
5	Intangible resources	Very good	Very good	Very good	Very good	Good	Good
6	Tangible resources	Very good	Very good	Very good	Very good	Good	Good
7	∑ resources	Very good	Very good	Very good	Very good	Good	Good
8	Economic performance	Good	Good	Very good	Good	Good	Very good
9	Environmental performance	Full	Very good	Full	Very good	Very good	Good

Source: created by the authors

From Table 3 it is possible to notice that the evolutionary stage of the environmental strategies in the Pig and Poultry Division was seen as very good, being unit A the one that showed full performance in the reactive and preventive strategies and the units of B, C, and D very good performance in the reactive strategies. This shows a predominance of reactive and preventive strategies in the researched industrial units.

About the mobilized resources the performance was good and very good, with predominance of the very good indicator for the tangible resources as well as for the intangible resources. This shows a mobilization balance of the different resources to enable the current environmental strategy.

Regarding the economic performance only units C and F reached a very good performance and all the other ones were placed in the good performance. This shows that there is a possibility of improving on this aspect.

In the environmental performance aspect the units A and C reached full performance and the units B, D, and E very good. It is observed that the current continuous improvement policy in the company may have contributed so that the environmental performance was evaluated with such excellence in the researched industrial units.

As follows, on Table 4 it is described the rule adopted to analyze and on Table 3 the results obtained for the correlation levels.

Table 4: Practical rule used to interpret the statistically meaningful correlation coefficient

Coefficient Variation	Association Strength
± (0.91 to 1.00)	Very Strong
± (0.71 to 0.90)	High
± (0.41 to 0.70)	Moderate
± (0.21 to 0.40)	Weak but defined
± (0.01 to 0.20)	Light, almost unnoticeable

Source: adapted from Hair Jr. et al (2005)

Hereafter Table 5 shows the correlation of the proposed Analysis Framework constructs.

Table 5: Correlation of the proposed Analysis Framework constructs

	Ea	Resources	EconPerform	EnvirPerfom	TangResour	IntangReso
Ea	1					
Resources	0.712306	1				
Performance	0.420437	0.546412	1			
EnvirPerfor	0.655436	0.849078	0.779702	1		
TangResour	0.726229	0.986457	0.562602	0.863295	1	
IntangResour	0.68939	0.9923	0.524326	0.823605	0.958556	1

Source: created by the authors

From Table 5 it is possible to highlight that the correlation level existing amongst resources and environmental strategy is high. However, the correlation between performance and environmental strategy is moderate. And between performance and resources this correlation was equally moderate, keeping the same behavior in the correlation between environmental performance and environmental strategy. While the correlation between environmental resources and resources and environmental performance and economic performance were considered high. The variation of the coefficient that was closer to 1 was the correlations established between intangible resources and resources, tangible resources and resources, and intangible resources and tangible resources. This result is as expected considering that the variable resources is formed by the sum of the tangible and intangible resources. And all the coefficients are directly proportional.

So, the result shown on Table 5 allows validating Hypothesis 1 because the correlation established between the tangible resources and the environmental strategy is high (coefficient 0.726229) and between intangible resources and environmental strategy is moderate showing a coefficient variation of 0.68939. However, the correlation level between economic performance and environmental strategy is moderate, showing a coefficient value of 0.420437. This behavior is similar to the correlation existing between environmental performance and strategy which correlation coefficient was 0.655436. Considering that Hypothesis 1 stated that "The more evolved the environmental strategy, the more tangible resources are mobilized and the better the economic and environmental performance" it is possible to infer that the proposed Analysis Framework applied in the studied frigorific elucidates that the environmental strategies have high correlation with the tangible resources but show moderate correlation with the economic and environmental performance.

About Hypothesis 2 which consists in "The more evolved the environmental strategies, the more intangible resources are mobilized and the better the environmental and economic performance" it was validated from the use made in the X company frigorific because it was checked that the correlation that is established between intangible resources and environmental strategy was moderate, showing coefficient 0.68939, keeping a similar behavior in the existing correlation between intangible resources and economic performance, which coefficient was 0.524326. Moreover, the existing correlation between intangible resources and environmental performance was high, with a coefficient 0.823605. There is evidence in these results that the intangible resources impact on a more intense way in the environmental performance as it was on the intersection of these both variables that the proposed Analysis Framework had a higher adherence.

Medeiros *et al* (2008) assure that the correlation coefficient r can be used for measuring the correlation level. In this case, r measures the correlation between the dependent variable (y) and the foreseen values. The authors also highlight that when two variables are observed the covariance and the correlation can be used to measure the linear relation between the variables. "The covariance gives a non-patterned measure of the level in which the variables relate linearly. The covariance signal shows

the kind of relation that both variables have" (Medeiros *et al*, 2008, p.148). Based on this presupposition, the positive signal indicates that both variables have the same tendency and a negative one indicates they have opposite tendencies.

Especially, the FAREADO demonstration and validation allow making an analysis that meets what Aragón & Sharma (2003) state that the positive relationship between environmental strategies and organizational performance comes from the complex, valuable, and rare resources and capacities development. In the case of the frigorific sector the higher emphasis is on the intangible resources development. And Sharma & Vedrenburg (1998) highlight that the resources development gives a competitive group of benefits, such as processes and raw material cost reduction, processes, products, and systems innovations and at last, reputation improvement. So, in the context of the triad in analysis (resources, environmental strategy, and performance) the Resources Based View enables understanding which way the resources and capacities can improve the company's reputation, the market opportunities discoveries through the innovative products offer and the managing of its operational efficiency.

In the sequence, Table 6 shows the regression between the resources and performance variables.

Table 6: Resources and performance regression

Regression statistics	
R multiple	0.140919631
R-Square	0.019858342
R-square adjusted	-0.017839414
Standard error	20.09563433
Observations	28

Source: created by the authors

Table 6 shows an adjusted R-square -0.017839414 indicating that the dependent variable variation is not attached to the independent variable. As follows, the Graph 1 of dispersion shows the existing correlation between resources and performance. It can be observed that if the use of resources grows (axis x) the performance grows (axis y), showing a relation between the variables. The Figure 2 show the dispersion with lindear tendency line.
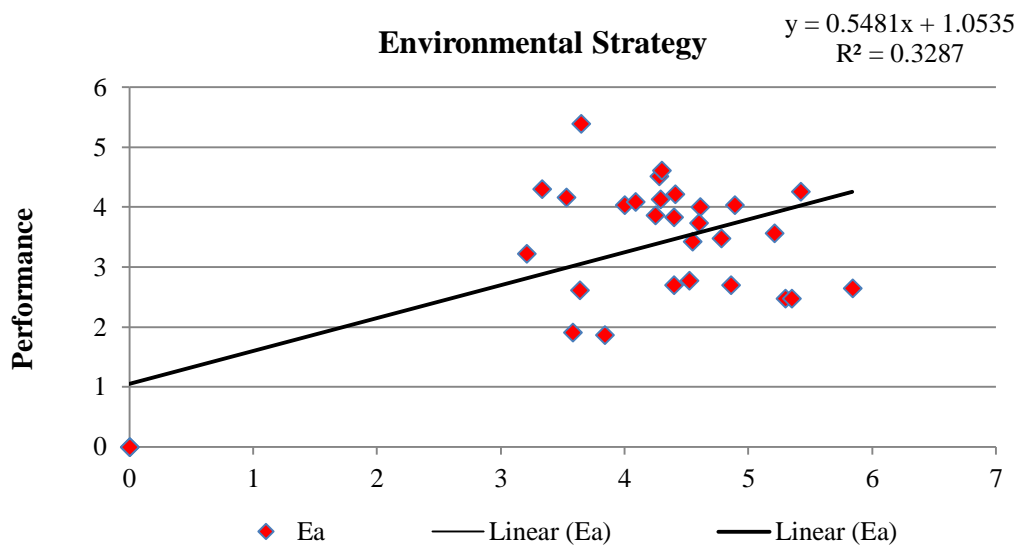
Figure 2: Dispersion graph with lindear tendency line – resources and performance

R² = 0,5532
y = 0.7913x + 0.743
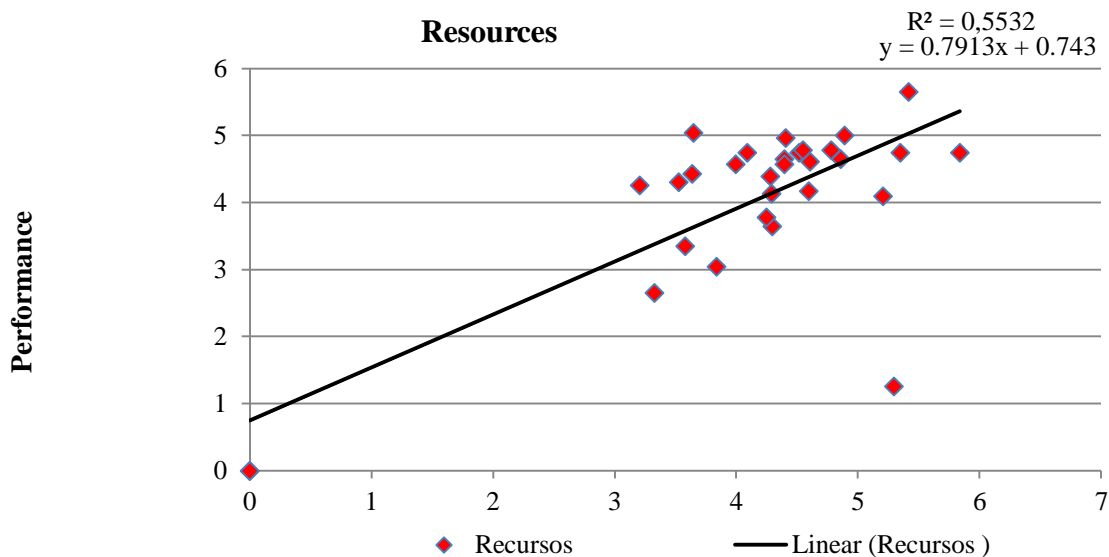
Source: the authors

Right after, Figure 3 shows the correlation between environmental strategy and performance.

Figure 3: Dispersion graph with lindear tendency line – environmental strategy and performance

y = 0.5481x + 1.0535
R² = 0.3287

Source: the author

Likewise on Figure 3 it is possible to be noticed that there is a correlation between environmental strategy and performance. After, Table 7 shows the coefficients, the standard error, the Stat T and Value-p.

Table 7: Coefficients, standard deviation, Stat T and Value-P

	Coefficients	Standard deviation	Stat t	Value-P	95% inferior	95% superior
Intersection	110.8163805	17.58140801	6.303043562	1.13193E-06	74.67727916	146.9554819
Perform	-0.142159191	0.195866966	-0.725794626	0.474447778	-0.544769501	0.260451119

Source: created by the author

From Table 7 it is possible to describe the regression equation which is y = 110.8163805+ -0.142159191x. As the interval with 95% of reliability for α is [0.583562999; 3.214680468], the value of α is 1.899121733, which is inside the interval. For β the interval with 95% of reliability is [74.67727916; 146.9554819]. The value of β is -0.142159191, which is not inside the interval. In the sequence, Table 8 shows the resume of the environmental strategy and performance regression.

Table 8: Resume of the environmental strategy and performance strategy regression results

Regression statistics	
R multiple	0.302433174
R-Square	0.091465825
R-square adjusted	0.056522203
Standard error	19.49539807
Observations	28

Source: created by the author

The adjusted R-square was 0.056522203 showing an almost unnoticeable linear relation between the independent variable and the dependent variable. According to Vieria (2010, p. 129) "the regression line was incorporated to the statistics to show the line that gives the variation of any variableas a function of the other". In the sequence, Table 9 shows the coefficients, standard deviation, the Stat T and Value-p for the variable performance.

Table 9: Coefficients, standard deviation, Stat T and Value-P

	Coefficients	Standard deviation	Stat t	Value-P	95% inferior	95% superior
Intersection	108.3363303	17.05627	6.351702	1E-06	73.27667	143.396
Perform	-0.307423492	0.190017	-1.61788	0.117758	-0.69801	0.083161

Source: created by the author

It is possible to notice that in Table 9 the regression equation that is y = 108.3363303+ -0.307423492x. As the interval with 95% of reliability for α is [73.27667; 143.396],the value of α is108.3363303, which is in the interval. For β the interval with 95% of reliability is [-0.69801; 0.083161]. The value of β is-0.307423492, which is in the interval. As follows, Table 10 describes the regression between environmental strategy and resources.

Table 10: Resume of the environmental strategy and resources strategic results

| Regression statistics	
R multiple	0.322215464
R-Square	0.103822805
R-square adjusted	0.069354452
Standard error	19.36236565

Observations	28

Source: created by the author

In Table 10, the value of adjusted R-square is observed, which is 0.069354452 showing a moderate linear relation between the variable environmental strategy and resources.

Figure 4 shows the waste analysis.

Figure 4: Waste analysis
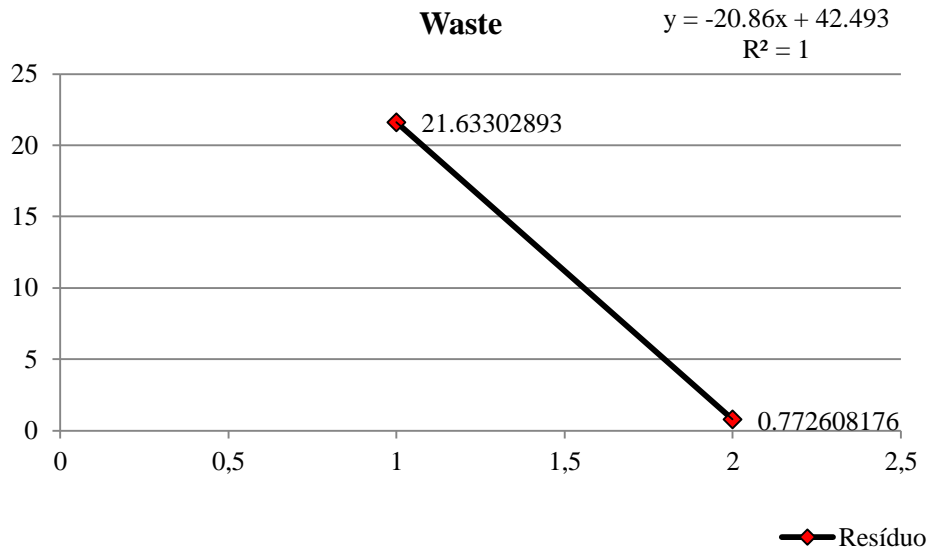
Source: created by the author

According to Figure 4 in the axis x there is the sample percentile and in axis y the failures quantity. By observing the waste Graph, apparently it can be verified that the errors have a positive average and constant variance for the fact that they do not tend to zero. Table 11 shows the coefficients, standard error, Stat T and Value-P.

Table 11: Coefficients, standard error, Stat T and Value-P

	Coefficients	Standard error	Stat t	Value-P	95% inferior	95% superior
Intersection	49.45862616	18.76042	2.636329	0.01395	10.89604	88.02122
Perform	0.324676277	0.187074	1.735546	0.094484	-0.05986	0.709213

Source: created by the author

From Table 11 it is possible to notice that the regression equation is y= 49.45862616+ 0.324676277x. Such finding is supported by the sayings of Medeiros *et al* (2008, p. 161) which highlights that "In the column coefficients there is an intersection line, which is the independent term of the regression, and in the performance line there is the linear coefficient of the regression". The referred authors also highlight that in the column F and in the column F of signification the statistics for the model validation are found. This validation is given by the hypotheses test with (1-α)% of reliability.

Null hypothesis (H$_0$): the model is not proper (all βi = 0)

Alternative hypothesis (H$_1$): the model is proper (there is some βi ≠ 0).

It is rejected H_0 if $F_{test} > F_{v1, v2, \alpha/2\%}$. This enables to ensure that the regression equation which is y = 49.45862616+ 0.324676277x. As the interval with 95% of reliability for α is [-10.89604; 88.02122],the value of α is 945862616, which is inside the interval. For β the interval with 95% reliability is [-0.05986; 0.709213]. The value of β is 0.324676277, which is inside the interval.

For short, it was possible to check that the FAREADO applies to the Multinational Group. Replicating it in all Brazilian frigorific of medium and large size will enable making an organizational diagnostic of the frigorific segment and certainly will produce important information for the decision taking of the managers from these agro industrial businesses. Improving the sample it will be also possible to obtain higher consistency of the analysis and results liable to generalization for the sector.

4 CONCLUSION

The contributions of this paper constitute basically in two relevant aspects in empirical studies of this nature, which means, practical and theoretical. The first one is associated to demonstrating how important for the company is the mapping of its tangible and intangible resources used for establishing its environmental strategy, and what notably reveals the continuous evaluation need as well as the acuity of its endogenous and exogenous actions. And on the second aspect, it refers to the applicability of recurrently used theories on the international academy, and that can be tested and evaluated in the national context. This way, new findings and results are aggregated to the scientific area. Mainly, it states that it is not the period of time that is taken to replicate the company's resources that defines a competitive advantage existence, but the inability of the potential and current competitors of doubling such resources that give a sustainable competitive advantage for the Multinational Group. Such premises are aligned with the sayings of Barney (1991). Likewise, the resources of a company of the frigorific sector able to generate competitive advantage are liable to be replicated by the competitors, however, require longer time for being copied. This shows that the competitive advantage of the company can be sustained for some time, which is positive.

In meeting in the interviewees answers its bigger tendency for intangibility related elements the factor of higher impact in the research was obtained, which revealed their concern with the people who integrate the organization and the organizational needs, considered its main resources generating source. So, as a recommendation for future studies the advance in the research on a comparative way between other companies form the same sector is suggested, such as the use of quantitative resources and more robust statistic techniques as an example of the structural equations and panel data. Furthermore, developing a study that verses about the strengths and weakness of the company's internal resources and the opportunities and threats that the company may derive in the environment in which it competes. Besides, identifying these resources considered strategic ones they are similar to the ones that industrial units located in other countries have. Another investigation possibility consists in identifying if the

company's internationalization process made that the resources that generate competitive advantages altered which would be liable to be measured through a longitudinal study. The insertion of environmental strategies is a need for the companies, as it is in the productive process that the waste and emissions are generated and it is there that the bigger improvement opportunities are found. Without proactive environmental strategies, however, there is not a way of guaranteeing the creation of competitive advantages that can be kept throughout the deadline.

REFERENCES

Abreu, M. C. S. de; Santos, S. M. dos; Rados, G. J. V. (2008). Environmental strategy evaluation model: study in the textile sector. *Cadernos Ebape.br.* v.6, n.1, Mar.

Alperstedt, G. D; Quintella, R. H; Souza, R, L. (2010). Environmental management strategies and its determining factors: an institutional analysis. *RAE.* São Paulo. v. 50. n. 2. Apr/Jun.

Aragón-Correa, J.; Sharma, S. (2003). A contingent resource-based view of proactive corporate environmental strategy. *Academy of Management Review.* vol. 28. n.1. p. 71-98.

Araujo, G. C.; Bueno, M. P. (2008). A study on business sustainability in the frigorific agro industry. *Revista Gerenciais.* São Paulo. v.7.n2. p.147-154.

Barney, J. B. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management,* v. 17, n. 1, p. 99-120.

Collis, J. C., Porras, J. I (1995). *Made to last long:* visionary companies well succeeded practices. Rio de Janeiro: Editora Rocco.

Cunha, J. V. A. de; Coelho, A.C (2007). Multiple linear regression. In: Corrar, L.J., E. Paulo, J.M. Dias Filho (Coord). *Multivaried Analysis for the Business, Accountancy, and Economy Courses.* São Paulo: Atlas.

Ferreira, M. A. M; Braga, M. J (2007). Cooperatives performances in the dairy companies in Brazil:a strategic groups approach.*RAUSP: Revista de Administração,* v. 42, p. 302-312.

Freeman, R. E. (2009). *Strategic Management:* a Stakeholder Approach**.** Boston: Pitman, 1984. Availabel in<http://www.corporate-ethics.org/pdf/Strategic_Management_A_Stakeholder_Approach.pdf>. Accesson: 7 Jul.

González-Benito, J. G.; González-Benito, O. G. (2006) A review of determinant factors of environmental proactivity. *Business Strategy and the Environment,* v.15, p. 87-102.

Medeiros, V. Z.; Caldeira, A. M; Pacheco, G. L.; Machado, M. A. S.; Gassenferth, W (2008). *Excel quantitative methods*. São Paulo: Cengage Learning.

Sharma S, Vredenburg H. (1998) Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities. *Strategic Management Journal* 19(8), p.729–753.