

PERCEPTION OF BRAZILIAN STUDENTS OF AGRARIAN SCIENCES ON SUSTAINABILITY INDICATORS FOR DAIRY FARMING



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1. Introduction

The perception of future professionals dealing with farms sustainability indicators is fundamental for the adoption and implementation of better agricultural practices.

The objective of the research was to assess the perception of Agrarian Science students (Agribusiness, Agronomy, Agronomic Engineering, Agricultural Engineering, Biosystems Engineering, Veterinary Medicine and Animal Science) from Brazilian higher education institutions about the importance of sustainability indicators for dairy farming.

2. Material and Methods

We used online surveys to find out students' perceptions about sustainability indicators. Sustainability indicators evaluated are presented in Figure 1.

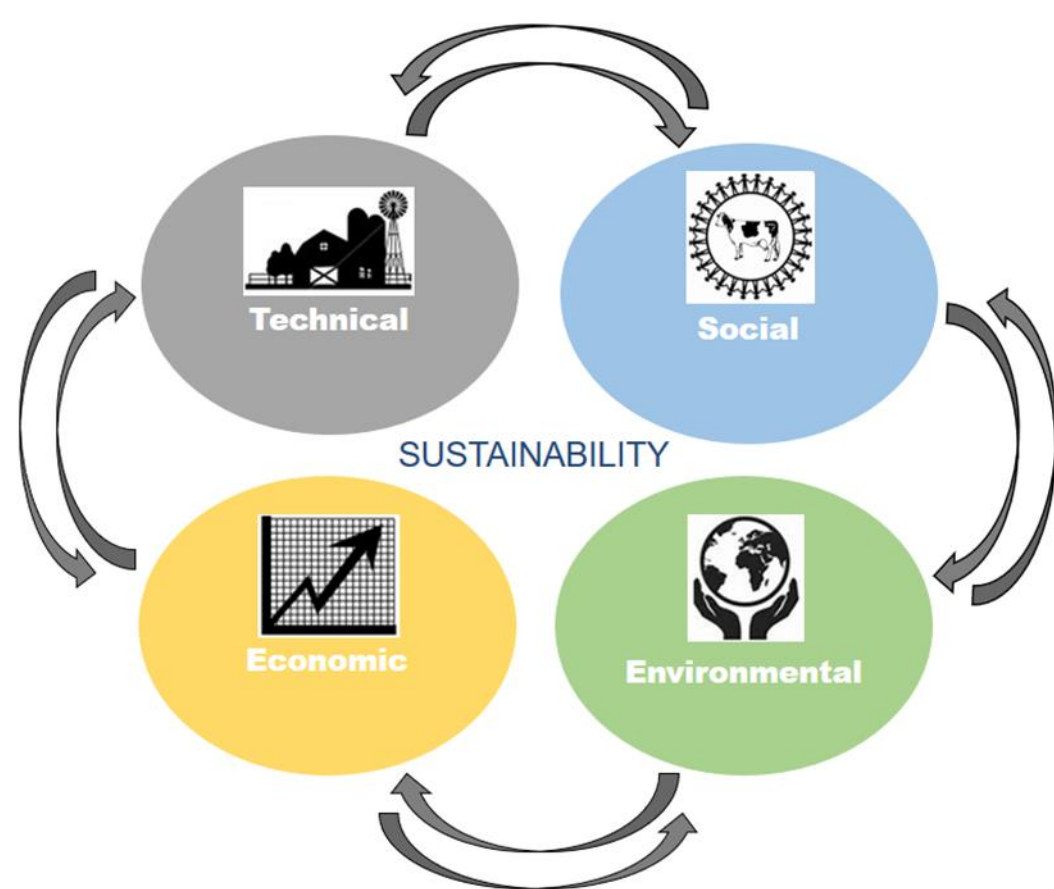


Figure 1 – Sustainability indicators applied in the research

The total number of survey respondents was 351 students.

Among these, 70.09% were students from public institutions and 29,91% from private institutions.

Students were classified into groups: 1- studying in a private or public institution; 2- had and did not have previous contact with rural production; 3- performed and did not perform internship or work with dairy cattle.

A total of 99 variables were used to generate the sustainability indicator by exploratory factor analysis – EFA.

The mean factor scores of each sustainability indicators were compared between the students' groups. The difference between the groups was measured by analysis of variance and Tukey test ($p < 0.05$).

3. Results

➤ Students from public higher educational institutions rated the technical and environmental indicators as among the most important ($p < 0.05$). And for students from private institutions, the technical and environmental indicators were pointed out as those of lesser importance ($p < 0.05$) (Table 1 and Figure 2).

➤ Students who had previous contact with rural production evaluated environmental indicators with lower scores (less important), and economic and technical indicators with higher scores (more important) ($p < 0.05$) (Table 2 and Figure 2).

➤ Students who performed internships or work with dairy cattle considered economic and technical indicators as the most important ($p < 0.05$) (Table 3 and Figure 2).

Table 1 - Means of factor scores for technical, economic, social and environmental factors whose participants study in private and public institutions

Factor	Type of institution	Nº	Mean	Standard deviation	p-value
F1_Environmental	Private	105	-0.168	0.991	0.039
	Public	246	0.072	0.997	
F2_Economic	Private	105	0.106	0.895	0.194
	Public	246	-0.045	1.040	
F3_Technical	Private	105	-0.198	1.220	0.015
	Public	246	0.085	0.879	
F4_Social	Private	105	0.021	-0.009	0.793
	Public	246	-0.009	1.270	

Table 2 - Means of factor scores for technical, economic, social and environmental factors whose students had and did not have previous contact with rural production

Factor	Contact with rural production	Nº	Means	Standard deviation	p-value
F1_Environmental	Yes	265	-0.079	0.975	0.009
	No	86	0.244	1.040	
F2_Economic	Yes	265	0.112	0.892	< 0.001
	No	86	-0.344	1.220	
F3_Technical	Yes	265	0.119	0.878	< 0.001
	No	86	-0.366	1.240	
F4_Social	Yes	265	0.005	0.972	0.882
	No	86	-0.014	1.090	

Table 3 - Means of factor scores for technical, economic, social and environmental factors whose students performed and did not perform internship or work with dairy cattle

Factor	Performed internship or work with dairy cattle	Nº	Means	Standard deviation	p-value
F1_Environmental	No	187	0.045	1.030	0.370
	Yes	164	-0.051	0.959	
F2_Economic	No	187	-0.111	1.070	0.027
	Yes	164	0.126	0.902	
F3_Technical	No	187	-0.168	1.120	< 0.001
	Yes	164	0.191	0.810	
F4_Social	No	187	-0.070	1.110	0.160
	Yes	164	0.080	0.860	

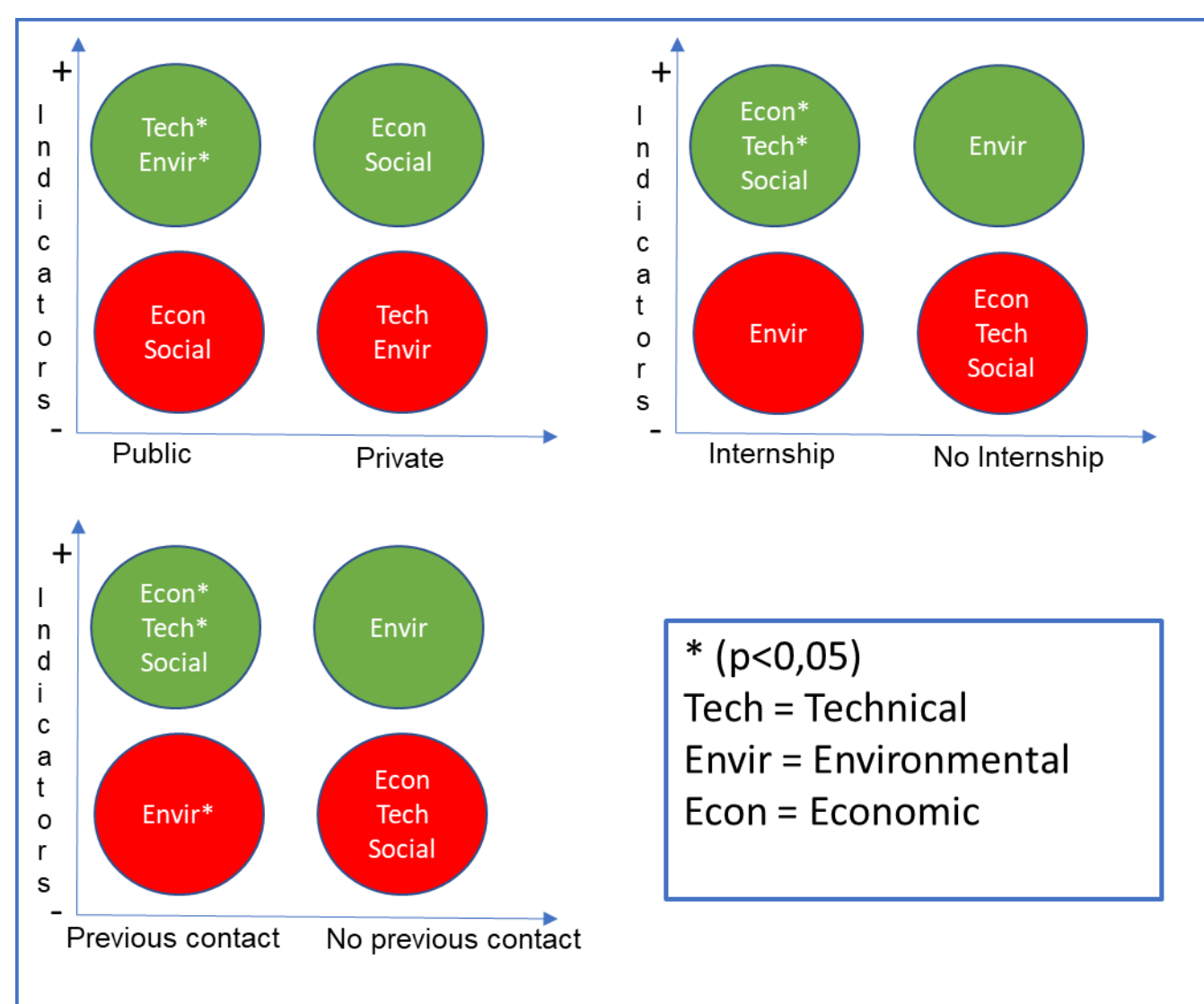


Figure 2 – Evaluation of sustainability indicators by each group of students

4. Conclusions

Finally, we conclude that the plurality of students' perceptions on sustainability indicators for dairy farming and the difficulty to building up a shared vision in their ponderation is mainly related to concrete experiences on farms, and to the public or private nature of the educational system. Technical, economic, and environmental indicators were rated as among the most important considering all the student groups evaluated. The social indicator did not represent as crucial in any group of students. This is an important conclusion to define actions toward the improvement in the undergraduate course for Brazilian agrarian students.

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