
SUSTAINABLE DEVELOPMENT AND CONSCIOUS CONSUMPTION: A PERCEPTION OF UNDERGRADUATE INTERNS IN THE REGION OF CAMPOS GERAIS, PARANA, BRAZIL

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SUMMARY

Sustainable development is a model that aims to integrate economy, society and environment. It has the potential to address fundamental challenges of economic growth, considering social inclusion and environmental protection. The purpose of this paper is to identify the perception of students about sustainable development and conscious consumption. To this end, an exploratory research was conducted, with a qualitative approach. The data was obtained from interns majoring in Business Administration, Pedagogy, Industrial, Mechanical, Electrical and Chemical Engineering, and Systems Analysis

and Development. The results indicate that these future professionals reveal themselves to be conscious about the concepts of sustainable development and sustainability, but their wish to consume showed incoherence: when purchasing a product or service, the social, ecologic and environmental matters are not considered. In the case of these future professionals, the higher education institutions do not contribute to the creation of a sustainable behavior and do not exhibit visible actions that would lead to a future that is sustainable in social, economic and environmental ways.

Introduction

The discussion on sustainable development and sustainability, particularly in the context of mass consumption economies that generated a world of abundance for many in the 20th century (Gardner *et al.*, 2004) faces a different challenge in the 21st century: to focus not on the indefinite accumulation of wealth and, instead, do it on a better life quality for everyone and with minimum environmental damage, since the heavy use of natural resources and the state of the ecosystems' health show that natural areas are under stress created by the growing pressures of consumption.

Sustainable development has the potential to address fundamental challenges for

humanity, both now and into the future. However, to do this, it needs more clarity of its meaning, concentrating on sustainable livelihoods and well-being rather than well-having, and on long-term environmental sustainability, which requires a strong basis in principles that link the social and environmental to human equity (Hopwood *et al.*, 2015).

Although 'sustainable development' is a widely used phrase and idea, it has many different meanings and therefore provokes many different responses. In broad terms, the concept is an attempt to combine growing concerns about a range of environmental issues with socio-economic issues. The concept of sustainable development results from of the growing awareness of

the global links between mounting environmental problems, socio-economic issues that have to do with poverty and inequality, and concerns about a healthy future for humanity. It strongly links environmental and socio-economic issues (Hopwood *et al.*, 2015).

In Brazil, 183.5 thousand metric tons of solid wastes are gathered every day. Organic matter represents 51.4% of the daily garbage and only 31.9% constitute recyclable materials (aluminum, plastic, paper, steel, metals and glass). The formation of solid waste in cities tends to increase due the population growth (IPEA, 2012) and reduced prices.

A number of OECD countries have noted the serious challenge of decoupling economic growth and deve-

lopment from the overall increase in consumption of natural capital (OECD, 2012). Economic growth and development establishes challenges in managing the waste occasioned by this growth, as it also induces a new standard of economy, where materials reduction is in focus, along with choosing materials that are recyclable and whose life cycle has less environmental impact. A large amount of actions have been taken in order to develop production alternatives that are less aggressive to the environment and paired to economic wealth production and to society's common welfare (Tonelli *et al.*, 2013).

Currently, though, the most commonly practiced action is 'greenwashing', where marketing a product is done in such

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DESARROLLO SOSTENIBLE Y EL CONSUMO CONSCIENTE: LA PERCEPCIÓN DE PASANTES DE GRADO EN LA REGIÓN DE CAMPOS GERAIS, PARANÁ, BRASIL

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RESUMEN

El artículo identifica la percepción de los alumnos de los cursos de Gestión, Educación, Ingeniería Industrial, Ingeniería Mecánica, Ingeniería Electrónica, Ingeniería Química y de Análisis y Desarrollo de Sistemas, en dos Instituciones de Educación Superior - IES, en el desarrollo sostenible y el consumo responsable. Un estudio exploratorio se llevó a cabo con un enfoque cualitativo. Los resultados indican que estos futuros profesionales revelaron que ser consciente en relación a

los conceptos de desarrollo sostenible y la sostenibilidad, pero el deseo de consumir inconsistencia revelada, ya que al comprar un producto o servicio no tienen en cuenta los aspectos sociales, ecológicos y ambientales practicados por las organizaciones. Y, sin embargo, que las IES no han contribuido en su formación para el comportamiento sostenible y tampoco mostraron prácticas visibles, con miras a una sostenible social, económica y ambientalmente futuro.

DESENVOLVIMENTO SUSTENTÁVEL E CONSUMO CONSCIENTE: A PERCEPÇÃO DE ESTAGIÁRIOS DE GRADUAÇÃO NA REGIÃO DOS CAMPOS GERAIS, PARANÁ, BRASIL

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RESUMO

O artigo identificou a percepção dos estagiários dos cursos de Administração, Pedagogia, Engenharia Industrial, Engenharia Mecânica, Engenharia Eletrônica, Engenharia Química e Análise e Desenvolvimento de Sistemas, em duas Instituições de Ensino Superior - IES, sobre desenvolvimento sustentável e consumo consciente. Foi realizada uma pesquisa exploratória, com abordagem qualitativa. Os resultados indicam que estes futuros profissionais revelaram estarem conscientes em rela-

ção aos conceitos de desenvolvimento sustentável e sustentabilidade, mas o desejo de consumir revelou incoerência, uma vez que ao comprarem um produto ou serviço não consideram as questões sociais, ecológicas e ambientais praticadas pelas organizações. E, ainda, que as IES não contribuíram na sua formação para uma conduta sustentável e também não apresentaram práticas visíveis com vistas a um futuro sustentável socialmente, economicamente e ambientalmente.

a way that it leads the consumer to think, mistakenly, that the company behind the product is sustainable, which is a wrong perception. Due to such market strategies, a critical thinking and a sharper comprehension to recognize what is and what is not sustainability is necessary from society as a whole. This implies establishing a new tier of civilization, one that loves life more, eco-friendlier and more respectful of nature's rhythms, capacities and limits (Boff, 2012).

Green products exemplify what has been done to avoid, limit and decrease the environmental impacts that are harmful to water, air and soil; they are at least a manner of solving problems related to residual waste, noise and other elements detrimental to the ecology and, they are a path to the conscious consumption of beneficial products and services. Although a large amount of effort has been invested in

making the green products' ecological labeling more effective and efficient, their participation in the market is still low (Rex and Baumann, 2007).

That meltdown has direct implications for business leaders. The vast majority of industrial platforms, designs, chemicals and habits of commerce were developed without consideration of their ecological impacts. The discipline that deals with these impacts, industrial ecology, is but a decade or two old. It measures the manifold consequences of any product with an engineer's precision. The main method, life cycle assessment, renders values for the environmental, health and, more recently, social impacts of an item over the course of its entire life cycle (Goleman, 2009).

Standard practices in industry and commerce today are largely the legacy of an ecologically innocent time, before such impacts could be as-

essed. Now that it is possible to measure those impacts, we need to rethink and reinvent almost every man-made object. We need to innovate on a vast scale, finding new technologies that are at least neutral in their ecological impacts and, ideally, technologies that replenish our debts to nature (Goleman, 2009).

This leap requires going beyond today's business practices of identifying inefficiencies to save money and involves creating a marketplace where ecological impacts of every kind become a basis for gaining or losing market share. Leading this change in the most basic habits of business and industry will require leaders with daring, great vision, remarkable persuasive and collaborative skills, and a keen business sense (Goleman, 2009).

The current reality is based on the assumption that the organizations, government and people are committed to a

socially, economically and environmentally sustainable future and that they understand the purpose and worth of the equilibrium between economic activities and social and environmental concern.

The aim of this paper is to identify the understanding of sustainability, sustainable development and conscious consumption by university interns. In this context, the paper contributes by presenting the perception of future professionals on the sustainability theme, and whether their conscious consumption attitudes meet the concepts of sustainable development.

Methodology

An exploratory study was conducted, where it was sought to identify the perception of college students about sustainability, sustainable development and conscious consumption, using a qualitative approach.

The sample was made up by interns from two higher education institutions located in the region of Campos Gerais: the Universidade Tecnológica Federal do Paraná, Campus Ponta Grossa (UTFPR-PG) and the Faculdade Educacional de Arapoti (FATI). They were selected by their accessibility. The two higher education institutions have 181 students with valid internship contracts, 86 in from UTFPR-PG and 95 in FATI. They study Business Administration, Pedagogy, Industrial, Mechanical, Electronic and Chemical Engineering, and Systems Analysis and Development.

Activities of the media, opinion makers, environmental movements and governmental organizations have determined increasing institutional pressures and induced companies to adopt standards more compatible with these new social demands associated to the concept of sustainable development (Barbieri *et al.*, 2010). It is thus justified to know the interns' understanding of sustainability, sustainable development and conscious consumption, as they are those ones who will be acting in the future, in many different fields, from within the companies.

For data gathering, a questionnaire was developed, semi-structured on Google Docs™. The questionnaire consisted of 20 statement-questions based on different authors (see Appendix), to be agreed or not, or to be answered. It was built around four basic dimensions referring to the intern's understanding: the first relates to sustainable development and sustainability (Questions 1 to 9); the second refers to actions undertaken in the company where they carry out their internship (10-14); the third refers to their consumption behavior (15-18) and, finally, we question whether the respective higher education institution contributes to their construction of a sustainable conduct and whether it practices sustainable actions (19-20). The questionnaire was sent to the students via e-mail, at their

respective higher education institutions' departments. Among the 181 students with a current internship contract, 100 responded. After gathering the data it was transferred to Excel™ spreadsheets for analysis.

Results and Analysis

Table I shows the sample profile, including the age, period of professional internship in the company and gender. There is a prevalence of women (61 of 100) and of ages between 21 and 25 years (59 of 100). Among the latter, 41 (77%) have less than a year of professional internship in the company.

Regarding the first basic dimension, comprising Questions 1 through 9, the results can be seen on Table II. A high percentage of concurrence was observed, demonstrating a marked degree of consciousness about the concepts of sustainable development and sustainability. However, answers to Questions 5 and 6 revealed a small divergence, indicating that more than 30% of the interns are indifferent to those statements. Question 5 is about

greenwashing in order to sell and obtain profit, and that there is often certain ecological fake when using the word sustainability to conceal problems of aggression to nature, chemical contamination or just commercial marketing. Among the respondents, 59% agree and 9% disagree, the latter showing that they do not notice the existence of ecological fake; 32% neither agree nor disagree, showing a high percentage of indifference towards this issue.

On Question 6, 57% of the interviewed agree that sustainable development is based on the assumption that the organizations and the people are committed to the sustainable development of society, due to the shortage of resources. Only 8% disagree, presenting the notion that organization and people are not committed to sustainable development. Finally, 35% neither agree nor disagree, being indifferent to the existence or non-existence of this commitment.

The second basic dimension was approached in Questions 10 to 14 of the questionnaire. In Question 10 the interviewees informed that, in their compa-

nies, the practice or concepts of sustainable development are always practiced (26%) or known (26%), or sometimes practiced (36%). This is to say that a considerable part of the sample believes that their companies are able to answer a need, generate profit and, simultaneously, cause a positive impact on the social, environmental and political spheres (Rocha Loures, 2008).

It is important to emphasize the need to create a plan in the corporative world regarding the commitment to sustainable development. The answers to Question 10, whether the company where the internship is carried out practices or knows

TABLE II
ANSWERS TO QUESTIONS
1 TO 9*

Question	Disagree	Neither	Agree
1	2%	21%	77%
2	4%	26%	70%
3	10%	16%	74%
4	3%	16%	81%
5	9%	32%	59%
6	8%	35%	57%
7	2%	11%	87%
8	12%	16%	72%
9	7%	7%	86%

See Appendix.

TABLE I
PROFILE OF THE SAMPLE

Age (years)	Period of professional internship in the company	N of interns		% - Period of internship	% - Age
		Male	Female		
16-20	Less than 1 year	2	6	50	
	More than 2 years	2	0	50	
	1 year	0	3	0	
	2 years	0	1	0	
	Subtotal	4	10	100%	10.3%
21-25	Less than 1 year	17	24	77.3	
	More than 2 years	0	4	0	
	1 year	2	8	9.1	
	2 years	3	1	13.6	
	Subtotal	22	37	100%	56.4
26-30	Less than 1 year	2	5	33.3	
	More than 2 years	3	0	50	
	1 year	1	2	16.7	
	2 years	0	0	0	
	Subtotal	6	7	100%	15.4
>30	Less than 1 year	2	4	28.6	
	More than 2 years	1	0	14.3	
	1 year	4	2	57.1	
	2 years	0	1	0	
	Subtotal	7	7	100%	17.9
Total		39	61		100.0%

well the concept of sustainable development, were: always (26%), sometimes (36%), never (11%) and I do not remember (27%). In Brazil, it took very long for national companies to internalize the concept of sustainable development (Teixeira and Bessa, 2009). Research on sustainable development was only boosted in Brazil during the 90's, due to the discussions and growing concern about environmental preservation and the social and economic conditions of society.

The perception of the respondents regarding the actions taken by the company is reflected in the answers to Questions 11 and 12, which refer to the sustainable actions carried out by the company. A list of such actions, shown in Table III, was provided allowing more than one selection, so that the sum of the options exceed the number of respondents. They were only answered by 62 interns, corresponding to the 62% who answered 'sometimes' or 'always', for obvious reasons. Among the answers, two options were considered especially important by the interns: "(The company) is conscious of its role and responsibility before the society" and "(The company) manages residues, that is, it separates the recyclable materials from the trash". In a general view of the results of Questions 11 and 12, a predisposition to exhibit more conscious actions and to take up an active role with sustainable development was

observed. Question 12 had the purpose of verifying if the sustainable actions inside the company had an effect on the behavior of the interns, and 81% of them agreed.

From the analysis of the two options given in Question 13, about the company's sustainable conduct, it is observed that 15% have the perception that sustainability is something related to philanthropy, corroborating with the percentage of 'disagree' and 'neither agree or disagree' answers presented on Questions 1 through 9, about the concepts of sustainable development and sustainability. Philanthropic actions are those practiced by the organizations in the social responsibility scope (Melo Neto and Froes, 2001).

Question 14 refers to the stock market and the Business Sustainability Index (ISE) of the São Paulo Stock Exchange (Bovespa). In 2005, BM & FBOVESPA launched the ISE, one of the market following indices based on the performance of actions committed to sustainability; this initiative aimed to improve good practices of corporative management of the companies, supporting sustainable development (Pinto, 2010). It was found that 36% do not know about the index (do not know/not remember or none) and 64% have low or medium knowledge of it. Considering the hypothesis that students with internships have low incomes, the percentage of the results about ISE may be related with their small or nil

participation in stock markets negotiations. Participants were not questioned about stock market investments.

The third basic dimension, from Question 15 through 18, concerned the consumption behavior of participants. It was verified in question 15 that only 16% are convinced that they are always conscious consumers, while 78% are only sporadically. Question 16 indicated that 71% don't have the habit of reading labels before deciding a purchase, and only 27% always require fiscal receipts when shopping and 57% do it sporadically, as was asked by Question 17.

The responses to Question 18 show that, when buying a product or service (more than one choice option from those in Table IV), out of the sample of 100 respondents, 85 choose quality products and 58, more economical ones. The options related to conscious consumption received percentages <30%, indicating that the desire to consume is incongruent with the commitment to sustainable development and confirms that the responsible consumption culture is not yet strong. Research carried out in the UK about the importance of the attitude-behavior gap, or values-action gap, when talking about green products revealed that 30% of the consumers report concern over environmental issues, but were slow to translate such concern into actually going green (Young *et al.*, 2009).

The options that represented products or services related to sustainability and sustainable development were seldom chosen. Such result focuses the responsibility about sustainability and sustainable development on the organizations, economists, legislators and environmentalists, who should develop creative options to answer people's needs and, at the same time, reduce the social-environmental costs associated with mass consumption (Todéro, 2009). According to Kennedy (2007), there is also the need of scientific efforts to assure those results. Besides helping people in finding the balance between too much and too little consumption, these measures would give higher emphasis to public goods and services, to services instead of goods, to goods with more recycled materials and, to genuine alternatives for the consumers. Additionally, they may help obtaining a better life quality with a minimum of environmental aggression and social inequality. The key is applying a critical eye not only towards the amount of consumption, but also at rationality (Gardner *et al.*, 2004).

The fourth basic dimension, relating to the contribution of the higher education institutions to the construction of a sustainable behavior and whether they practice sustainable actions, is contained in the Questions 19 and 20. The answers to Question 19 showed that only 36% agreed that the institution where they

TABLE III
ACTIONS CARRIED OUT IN THE COMPANY

	Number of choices
It is conscious of its role and responsibility before the society.	42
It manages residues, that is, it separates the recyclable materials from the trash.	34
It fights water waste, decreasing its consumption without losing efficiency and product or service quality.	23
It is concerned with the products life cycle.	20
It fights electrical energy waste, decreasing its consumption without losing efficiency and product or service quality.	19
It implements or supports projects of environmental education for the community.	19
It encourages clients to dispose correctly of packages and residues.	17
It practices the cleanest production (direct application of environmental preservation in processes, products and services in order to reduce risks for society).	15
Sustainability is considered in the strategic planning of the company.	15
When choosing a supplier, those who practice sustainable actions are preferred.	8

TABLE IV
CHOICES WHEN BUYING A PRODUCT OR SERVICE

When acquiring a product or service, do you usually opt for...	Number of choices
Quality	85
More economical	58
Fidelity	24
From socially responsible companies	21
Recyclable	20
That don't damage or risk the environment	19
I don't consume green products by lack of options in the market	16
From companies that invest in sustainability or that raise part of its profits to such ends	11
I don't consume green products by lack of information	10
With cleanest production	9
Green products, not minding the price	7

study contributes to their development as people with a sustainable behavior, while 51% demonstrated indifference. Likewise, when asked about the existence of sustainable actions in their institution (Question 20) only 32% confirmed said existence and 54% were indifferent, choosing the option 'neither agree or disagree'.

A more thorough understanding of the relationship between concern and behavior is necessary if marketers and public policy makers are to reduce environmentally negative behavior and address the attitude-behavior gap. As concern increases, consumption behavior might become more environmentally sensitive, and consumers may change purchase patterns, tilting them toward going greener (Kilbourne and Pickett, 2008).

Recent studies have shown that education institutions focused in business in Central and Eastern Europe have made significant improvements on the transformation of today students into the leaders of tomorrow, prepared to the future reality and heading for sustainability (Adom̂ent *et al.*, 2014), achieving this goal through systemic changes (Wals, 2014).

To better develop their students must be a part of the education institutions' philosophy, as well as encouraging the start of a commitment to the common good, which will result in professional development and shaping of leaders who may renovate society (Merino and Pastorino, 2013).

As with everything else, sustainability, more than any other value, must also be globalized.

If we look at humanity's and Mother Earth's future through the eyes of our children and grandchildren we will feel, immediately, the need of concerning ourselves with sustainability and of creating means of implement it in every field of reality (Boff, 2012), especially in higher education institutions, as their mission is to develop people for society.

Final Considerations

The companies where university interns work are conscious of their role and responsibility before society and manage residues; that is, the company separates recyclable materials from trash. The actions inside the company had an effect on the behavior of 81% of the interns. This effect on the behavior is not reflected yet on their behavior when consuming goods and services.

The results indicate that these future professionals are conscious about the concepts of sustainable development and sustainability. Part of this group realizes that sustainability is related to the matter of selling and profiting, and that organizations and people must be committed to society's sustainable development. However, this notion is not reflected on their behavior when consuming goods and services, which is not congruent with sustainable development and sustainability.

Part of this future professionals acknowledged that the organizations where they intern in know the concepts of sustainable development and their role and responsibility before society, and they are

predisposed towards exhibiting more conscious and sustainable actions. But while these future professionals reveal themselves to be conscious about the concepts of sustainable development and sustainability, their wish to consume showed to be incoherent. Their behavior when purchasing a product or service shows indifference with social, ecological and environmental matters. That means that the culture of conscious consumption is not yet entirely consolidated in society.

Additionally, attention must be given to the higher education institutions, especially in their contribution to the development of students with a sustainable behavior and sustainable practices. Regarding the sample of this study, the institutions do not contribute to their development as sustainable professionals and do not exhibit visible actions towards a sustainable future, socially, economically and environmentally. This illustrates the need of systemic changes and of a plan of action within the academic world, since these institutions are responsible for developing people for society.

The biggest challenge is making society realize that changes are necessary for a new philosophy, with organizations, government and people committed to a sustainable future, socially, economically and environmentally.

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APENDIX

Question	Author
1. Sustainable Development is a process of transformation in which the exploration of resources, the direction of investments, the orientation of the technological development and the institutional change harmonize and reinforce the present and future potential, in order to meet needs and aspirations of the future; that is, meeting present needs without compromising the ability of future generations to meet their own needs.	United Nations (1987)
2. The concept of sustainable development emerges to face the ecological crisis and at least two schools of thought contributed to this process. Sustainable development doesn't specifically refer to a limited problem of ecological adaptations in a social process, but to a strategy or multiple model for society, which must take into account both the economic and ecologic viability.	Jacobi (1999)
3. In your opinion, is Sustainable Development a synonym to Sustainability?	Limad <i>et al.</i> (2009)
4. Sustainability is the upkeep of well-being in the long term, which has environmental, economic and social dimensions, and encompasses the concept of administration, the conscientious management of the utilization of resources.	Rocha Loures (2008)
5. Often, a certain ideological falseness occurs when the word sustainability is used to hide problems of aggression toward nature, of chemical contamination of food and of commercial marketing, only in order to sell and profit. Most of what is said to be sustainable usually is not. At least in one stage of a product's life cycle, there is the presence of an element disturbing the toxins or of non-degradable residues.	Boff (2012)
6. Sustainable development is based on the premise that the organizations and people are committed to the sustainable development of society, due to the scarcity of resources. This is a world tendency and a challenge to the corporate management of companies, a decisive step toward sustainable governance.	Boff (2012)
7. The path to a sustainable society implies in knowledge, creativity and intelligence for the innovation of means of production and services.	Rocha Loures (2008)
8. Sustainable businesses are those in which there are acting competences that are able to, at least, create economic-financial value without causing damages to the environment or to third parties. In a higher level, it is possible to go further and make the business promote good in the world. That happens when the business is able to meet a need, generate profit and, at the same time, cause a positive impact in the political and social-environmental dimension.	Rocha Loures (2008)
9. Sustainability and profitability need to be in the strategic planning of the company.	Jacobi (1999), Rocha Loures (2008), Limad <i>et al.</i> (2009), Boff (2012)
10. Does the company where you do your internship practice or know well the concept of Sustainable Development?	Limad <i>et al.</i> (2009)

Question	Author
11. Which actions are practiced in the company where you do your internship? (See Table II)	Jacobi (1999), Rocha Loures (2008), Limad <i>et al.</i> (2009), Boff (2012)
12. The sustainable actions practiced by the company influence your behavior?	Jacobi (1999), Rocha Loures (2008), Limad <i>et al.</i> (2009); Boff (2012)
13. What is your perception regarding the sustainable conduct of the companies?	Tódero (2009), Boff (2012)
14. What is your knowledge about the Corporate Sustainability Index (ISE)?	Marcondes and Bacarji (2010)
15. Do you believe yourself to be a conscious consumer?	Jacobi (1999), Rocha Loures (2008), Limad <i>et al.</i> (2009), Boff (2012),
16. Do you usually read labels carefully before deciding on a purchase?	Tódero (2009)
17. Do you usually request receipts when you go shopping?	Tódero (2009)
18. When buying a product or service, you usually opt for: (See Table III)	Jacobi (1999), Rocha Loures (2008), Limad <i>et al.</i> (2009), Boff (2012), Penteadó <i>et al.</i> (2013)
19. Does the higher education institution where you study contribute for the formation of students with sustainable conducts?	Penteadó <i>et al.</i> (2013)
20. Does the higher education institution where you study practice sustainable actions?	Penteadó <i>et al.</i> (2013)