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Pestana, Maria Helena; Parreira, Artur
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Human resources' student's sensitivity to factors of sustainability

Maria Helena Pestana ^a Artur Parreira ^b

Abstract

This paper analyzes the sensitivity of college students to sustainability factors, including their definition of the concept and their perception of human resources management as a factor of sustainability. The prospects of the construct of sustainability – from the United Nations Conference in 1972, in Stockholm, to contemporary achievements and theoretical explorations-are reviewed as a conceptual framework. The research among college students has been developed along two lines: the study of their idea of sustainability; and the assessment of people's management practices as a factor of sustainability. The research combined the use of a semantic differential questionnaire and a focus group to collect data and to complement the quantitative data with a more qualitative vision and understanding. The results consolidate the idea that: it is interesting to use the sustainability concept in combination with the complexity level of contexts; students of HRM are well informed about the concept; and that their attitudes on the subject are positive, as they are motivated to lead companies to adopt sustainable practices in human resource management, as an effective sustainability factor.

Keywords: Employment. Work. Complexity. Social responsibility. Sustainability.

1 The problem of sustainability

The problem of human sustainability decisively became a sociopolitical concern: managers, educators, politicians and the general public became aware of it. The importance of the issue led the authors of this paper to explore it in the light of the complexity paradigm (Gödel apud GOLDSTEIN, 2005; LE MOIGNE; MORIN, 1999). They conducted a research among HRM students, a group whose

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^a Instituto Universitário de Lisboa (ISCTE-IUL), Departamento de Métodos Quantitativos para Gestão e Economia. Lisboa, Portugal.

b Universidade Lusófona de Humanidades e Tecnologias (Portugal), Núcleo de Pesquisa na Faculdade Paraíso, Rio de Janeiro, RJ, Brasil.

education combines disciplines of Management and Social Sciences, at a private university in Portugal. In this study, sustainability was mainly focused at the level of micro and meso-systems, the students' context.

2 The concept of sustainability

The term 'sustainable' comes from the latin Sustentare (sustain, support, maintain, care) and now belongs to our vocabulary and concerns of every day. The concept was shaped at the UN Conference on the Human Environment (UNCHE) held in Stockholm between 5 and 16 June 1972. The Stockholm Conference drew international attention especially on issues related to environmental degradation and pollution, which are not limited to political boundaries, but affect people located in regions eventually far away from their point of origin. The expression 'sustainable development' was not used then, but the item 6 of the declaration already addressed the need to 'defend and improve the human environment for present and future generations'.

The concept had a connotation mainly economic and financial; and the definition forged in the 1980s, following the aforementioned conference ("meet the needs of the present generation without affecting future generations" (WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT, 1987, p. 39) kept, despite the incorporation of new dimensions, transforming the concept in a more complex one.

The ECO-92, in Rio de Janeiro, consolidated the concept of sustainable development, putting together the two terms. The concept of sustainable development – a development that meets the needs of the present without compromising the ability of future generations to meet their own needs- was designed to reconcile the claims of proponents of economic development with the concerns of sectors interested in ecosystems and biodiversity. Biodiversity and over passing of political borders directly appeal to paying attention to complexity: so, complex thinking appears as an adequate frame to a grounded and embracing understanding of sustainability.

ECO-92 generated an important outcome: the Agenda 21, a comprehensive action program aimed at global sustainability in the twenty-first century (BRASIL, 2004). The Earth Summit on Sustainable Development held in Johannesburg (ONU, 2002) reaffirmed the commitments of Agenda 21, proposing further integration of the three dimensions of sustainable development (economic, social and environmental) through policies and programs on social issues. In 2005, UN Secretary General Kofi Annan, in coordination with the Finance Initiative of UNEP (United Nations Environment Program), invited a group of twenty large institutional investors from twelve countries to draw up the Principles of Responsible Investment (SACHS, 2005). This work received support in successive events related to the theme: the 2010 and

2013 Summits, and the 2015 UN Agenda on the Millennium Development Goals (UNITED NATIONS, 2015) confirmed the commitment to eight broad sustainable development standards for the first quarter of this millennium: to eradicate extreme poverty; to achieve universal primary education; to promote gender equality and maternal health; to reduce child mortality and epidemic diseases; to ensure environmental sustainability (namely drinking water and sanitation).

These concerns are viewed by several authors under a more theoretical perspective, either mainly pointing to the resources waste and lack of regulation of capitalist organization of economy (BAKARI, 2014); or focusing mostly the integration of economic externalities, within the concept of 'embedded sustainability', as a way to enhance economic rationality (LASZLO; Zhexembayeva, 2011). Both views lead to a convergent solution: a more accurate regulation of production factors and of consumption behavior. To ensure this purpose we must deeply understand the complex relationships between social actors and nature (MADHAVAN et al., 2013).

The proposed SRI (Socially Responsible Investing) by Koffi Anann is one basis for a sustainability idea broader than a mere economic concern: investment decisions must aim to develop the connections between sustainability and financial performance, promoting the adoption of best sustainability practices, at all levels and contexts, in the four currently proposed criteria:

- Ecological (environmental protection)
- Economic (viability of wealth creation)
- Social (responsibility in relational action)
- Cultural (acceptance of existing diversity).

But the current financial crisis has shown that Amartya Sen was right in saying that there was no significant change in the understanding of the determinants of progress, prosperity and development. They continue to be seen as a direct result of economic performance (SEN, 2003).

Nowadays, however, things are changing: young people, as this research demonstrates, have become more aware of the complexity involved in sustainable functioning and development. Climate threats, water supply difficulties, population migrations and culture clashes require an accrued attention and more complex decisions, equating not only present variables, but also time and space variety and movement, increasingly not linear (EMAS, 2015). The real problem is holding all these variables in adequate pace and timing. It is not an easy task.

The integration of the four dimensions into the sustainability construct gives way to introducing a new characterization of it in the light of the theory of complex living systems (MILLER, 1978; SCHNEIDER; SOMERS, 2006).

In the light of complex systems theory, sustainability always refers to a system: small systems (individuals, families, small productive units); meso-systems (great industrial and commercial organizations, medium size towns); macro-systems (global organizations, megalopolis, national states). The complex paradigm evaluates the complexity of these systems on four criteria, whose configuration depends on the size of the system:

- the level of reasoned information practiced in the system (openness to data input, knowledge, more or less precise concepts and descriptors of reality) (LE MOIGNE; MORIN, 1999);
- internal variety of the system (diversified experiences and fields interpreted by the system, range of behaviors);
- external variety (diversity of the entities with which the system has continuous relations, diversity of competences required by these relationships (FIEDLER-FERRARA, 2013);
- Integration of diverse structures, processes and patterns of behavior, enlargement of conceptual borders; coherence with flexibility, ability to deal with the uncertainty principle¹.

These criteria show different configurations in micro, meso and macro-systems: as a consequence, it is expected that the four sustainability criteria present a different behavior and that they are differently represented by people, depending on the complexity of the system.

3 The empirical research

Based on these considerations and on the conscience that new approaches to complex problems will have young people as protagonists, a research was conducted with students of the Human Resources Management Course, guided by the following questions:

- Do students have a sustainability concept approaching the one proposed by the principal authors on this subject?
- What concepts do students include in sustainability? When the focus is micro-system, does this impact on the definition of sustainability? Do students view these concepts and practices as useful for practice?

¹ Fiedler-Ferrara (2013) although using different terms, makes a similar description of these dimensions of complexity.

Two hypothesis guide this research:

- Hypothesis one: HRM students are well informed about sustainability, their language and reasoning adhere to what experts say about the subject (BARBIERI et al., 2010);
- Hypothesis two: the sustainability factors focused and valued by people depend on the system, if a micro, a meso or a macro-system (MAIA; PIRES, 2011).

4 Methodology

The methodology followed in the study was divided into two paths: a more quantitative data collection, using a semantic differential scale (Osgood; Suci; Tannenbaum, 1957), applied to HRM students; and a more qualitative approach, using a focus group, to capture student's spontaneous understanding of sustainability and their perception of the relationship between the practices of human resources management and sustainability.

Both the semantic differential and the focus group are extensively represented in the literature (SULBARAN, 2009; FLICK, 2005). Measuring the perception of an object, person or concept – through pairs of opposite adjectives- became customary in the behavioral sciences: in measuring attitudes, in cross-cultural research, and even in clinical psychology. According to the conducted study, there are several field variations in applying a semantic differential; but the technique becomes an important auxiliary tool, when the goal is to know the perception and the meaning of different objects (ANDRADE et al., 2009).

Osgood himself and his colleagues submitted the results of semantic differential scales to factor analysis and found three main factors in the semantic space of the used scales, which were designated as follows: 'an evaluative factor': characteristic adjectives that imply valuation of a concept: good-bad; worthy unworthy; 'a power factor': from the scales using terms linked to the notion of power and intensity: strong-weak; bigger-smaller; and, 'an activity factor', the bipolar scales that somehow relate to movement: active-passive, fast-slow.

The creators of the instrument recognized that it has never been demonstrated that pairs of antonyms are authentic opposites, in a psychological sense; nor it was proved that the two poles are equidistant from the center point of the scale, a zero point in the continuum, where they are located. In Osgood's words (OSGOOD; SUCI; TANNENBAUM, 1957, p. 321):

One of the methodological problems that we have faced without success until now was to demonstrate that there is true psychological opposite, i.e. located at equal distances from the source in opposite directions of the semantic space.

However, the majority of authors accept the hypothesis that thinking by opposites is natural in humans; and this more or less implicit hypothesis led ethno linguists to agree that semantic opposition is common to most if not to all language systems.

It therefore seems a suitable tool to measure concepts and perception of objects, as in this study, where the obtained results and the interpretative model present good validity and reliability scores.

The focus group is another qualitative procedure used in this research, as a complement to data comprehension. As Morgan (1988 apud FLICK, 2005, p. 122), said

The hallmark of the focus groups is the explicit use of the group interactions to produce data and get prospects that would be less accessible without this interaction.

Focus groups can be used in combination with other methods:

Focus groups create diversity and difference, both within the group and between groups, showing the dilemmatic nature of everyday reasoning (BILLIG 1996, apud FLICK 2005, p. 124) [...] They can be understood as simulations of the speeches of everyday life, as an almost naturalistic method of social representations and social knowledge in general (FLICK, 2005, p. 123).

In this study, this qualitative procedure sought to give expression to the intuitions of informants and to get interpretations out of the participants, enhancing the comprehension of numerical figures obtained by a questionnaire, following Bancaleiro's idea (2006): quantitative data always bring a qualitative story.

5 Sample and Survey Procedures

A total of 200 questionnaires were distributed to the students of the Human Research Management course at a Portuguese private university: the questionnaire focused work and employment management as factors of sustainability. The data were

collected through a proportional sampling method covering students of the course, whose anonymity was assured to be kept.125 questionnaires were collected within three weeks, a return rate of 62.5%. Rejected questionnaires – due to missing data on demographic or other vital variables for analysis – reduced our sample to 105 questionnaires (52.5%), which were sufficient for Structural Equation Modeling (BENTLER; CHOU, 1987).

The most motivated students by the subject spontaneously manifested their willingness to integrate groups for more deeply discussing the subject. About 15% of the respondents integrated three groups, which were conducted with focus groups methodology (BERENGER; ELLIOT; PARREIRA, 2012) and were carried out in a sequential way, within the school hours. The ideas that emerged in the first group were fed to the second group and then to the third, similarly to delphi technique (BUCKLEY, 1995). In this way, the participants could confront the ideas from other groups, providing a more complete synthesis of what HRM students think about the construct sustainability.

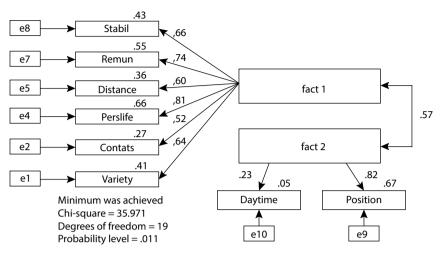
The aggregated data are presented below, through text analysis techniques for survey (SPSS StAFS), centered on the manifest content (KRIPPENDORF, 2004; BARDIN, 2008).

6 Quantitative Data Analysis

The data from the 8 items of the questionnaire were submitted through exploratory factorial analysis (EFA) for studying the dimension of the constructs. This was followed by structural equation modeling (SEM) via Amos (IBM-SPSS 23), using confirmatory factorial analysis (CFA) to assess the measurement of the proposed model, which is shown in figure 1.

The EFA led to the delection of 4 observations due to violation of normality and to the existence of extreme outliers. For the remaining 101 observations, all the items are normaly distributed. The value of skewness was around (-1.96–1.96), the critical region (CR) of skewness does not exceed 8.0; the CR of kurtosis was lower than 3 and the value of multivariate kurtosis was lower than 50 (BYRNE, 2010; AWANG, 2012; PESTANA; GAGEIRO, 2014).

The EFA with quartimax rotation shows that the correlation between variables is good and statistically significant (Bartlett test); and the criterion of Kaiser and the steepening of the screen plot corroborate the reduction to two factors that explain 57.7% of the variance of the data. The first factor (fact1) has a good internal



Source: authors' research (2015).

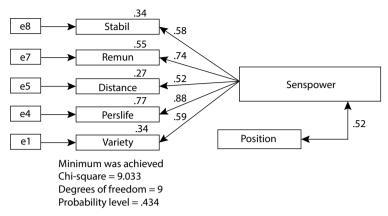
Figure 1. Proposed Model.

consistency (alpha Cronbach = 0.83), but the second (fact2) has an inadmissible internal consistency (Cronbach's alpha = 0.4). The fact1 has six items (stability, renuneration, distance, percieve fife style, contacts, variety) and the factor 2 has 2 items (daytime and position).

After EFA was apllied, CFA was used in order to evaluate the level of fit, the dimensionality, reliability, the validity of the latent constructs, and also to test the specified hypotheses supported on theory. The sample size to aply SEM, suggested by Hair Jr. et al. (2010), needs at least 100 responses for models up to 5 latent constructs. This restriction was fulfilled in the current research for models up to 2 latent constructs with 101 valid answers.

7 Reliability and Validity Assessment

The model fit of 8 items does not achieve the required level by SEM (Chi-square = 35.971, p = 0.011). Two items, daytime and contacts, with the lowest factor loading (< 0.6) were deleted one at a time, and the model was run again; the procedure was repeated until the fitness was obtained. After removing these items, the fitness was achieved (Chi-square = 9.033, p = 0.434) obtaining the final model (figure 2).



Source: authors' research (2015).

Figure 2. Final Model.

The factor sense of personal power (Senspower), was labeled based on the common characteristics of the included items, all classified in a Likert scale from 1, nothing important, to 7, very important: stability, remuneration, distance, personal life and variety. All items were statistically significant (p < 0.01), with positive and greater than 0.6 factor loadings (NORHAYATI et al., 2015).

The final model is reliable because Senspower has a good internal consistency (alpha Cronbach = 0.83), and the composite reliability (CR) exceeds 0.6.

The validity of the model is shown in Table 1, where the results of the choosen model in figure 2 (default), is compared with the best (saturated) and the worst (independent) models. The best model has a perfect fit, with no restrictions, with df = 0. The worst model assumes no relationship between variables.

The choosen model has convergent, construct and discriminant validity, because all the fitness indexes achieved the standard values criteria (HaIr JR. et al., 2010). In fact, the Root Mean Square of Error Aproximation (RMSEA) = 0.006 (< 0.08), with p = 0.619 indicating the acceptance of RMSEA \leq 0.08. The Comparative Fit Index (CFI) = 1 (> 0.9); Tucker-Lewis Index = 1 (> 0.9); Chisq/df = 1.004 (\leq 3); NFI = 0.95 (> 0.9); RFI = 0.917 (> 0.9); confidence interval for NCP include zero (0; 0.114,43); the confidence interval for Fmin and FO includes zero (0; 0.114), meaning that the sample and population covariances are similar for whatever dimension. According to Hoelter, the final model with 101 respondents would also not be rejected for p = 0.05

Table 1. Validity of the Final Model.

MODEL	Default model	Saturated model	Independent model
1			·
NPAR	18	27	12
CMIN	9033	0.000	181.560
DF	9	0	15
Р	0.434	-	0.000
CMIN/DF	1.004	-	12.104
2			
NFI	0.950	1.000	0.000
Delta1	0.930	1.000	0.000
RFI	0.917	_	0.000
rho1			
IFI Delta2	1.000	1.000	0.000
TLI			
rho2	1.000	-	0.000
CFI	1.000	1.000	0.000
3			
PRATIO	0.600	0.000	1.000
PNFI	0.570	0.000	0.000
PCFI	0.600	0.000	0.000
4			
NCP	0.033	0.000	166.560
LO 90	0.000	0.000	126.824
HI 90	11.435	0.000	213.750
5			
FMIN	0.090	0.000	1.816
F0	0.000	0.000	1.666
LO 90	0.000	0.000	1.268
HI 90	0.144	0.000	2.138
6			
RMSEA	0.006	-	0.333
LO 90	0.000	-	0.291
HI 90	0.113	-	0.377
PCLOSE	0.619	-	0.000
7			
HOELTER 0.05	188	-	240
HOELTER 0.01	14	-	17

Source: authors' research (2015).

because the sample is \leq 188. The latent construct has also discriminant validity, indicating thein existance of redudant items, due to Modification Indices (MI)

having values < 15 and the correlation between exogenous contructs that do not exceed 0.85, avoiding multicolinearity problems. The goodness of fit tests obtained by bootstrap for 1000 samples shows that the model could be replicated for similar research settings.

8 Quantitative Results

The majority of the 101 respondents are women (71.4%) with age between 19 and 22 years old (54.3%).

The final model, tested with SEM, shows a good fit, with empirical maximum likelihood estimates statistically significant (p < 0.001), presented in tables 2 and 3. These results show the relative importance that students attach to each feature, as a factor of sustainability, where personal life (0.877) and remuneration (0.739) are the attributes with the greatest impact. Variety, stability and distance have lower and similar importance on sustainability.

Table 2. Regression weightsof Senspower.

		Unstard	ardized coef	ficients	
	Estimate	S.E.	C.R.	Р	Label
Perslife < Senspower	1.638	0.269	6.083	***	par_1
Distance < Senspower	0.785	0.187	4.190	***	par_2
Remun < Senspower	1.362	0.252	5.397	***	par_3
Stabil < Senspower	0.917	0.202	4.531	***	par_4
Variety < Senspower	1.000	-	-	-	-
		Standa	ardized coeffi	cients	
	Estimate				
Perslife < Senspower	0.877	-	-	-	-
Distance < Senspower	0.517	-	-	-	-
Remun < Senspower	0.739	-	-	-	-
Stabil < Senspower	0.582	-	-	-	-
Variety < Senspower	0.586	-	-	-	-

Source: Authors' research (2015).

Table 3. Regression weight of Position.

	Estimate	S.E.	C.R.	Ь	Label	Position	Stabil	Remun	Distance Perslife Variety	Perslife	Variety
Position	5.208	0.117	44.452	* * *	par_11	ı	1	1	1	1	1
Factor score weights											
Senspower	ı	ı	ı	ı	ı	090:0	0.076	0.121	0.064	0.279	0.072
Covariance											
Position <> Senspower	0.439	0.119	3.675	* * *	par_5	ı	1	1	1	1	1
Correlation											
Position <> Senspower	0.517	1	1	1	,	,	1	1	'	'	,

Source: authors' research (2015).

There is a positive moderate association (0.517), statistically significant (p < 0.001), between Senspower and Position, meaning that on average the more importance given to one of the concepts reflects the more importance on the other.

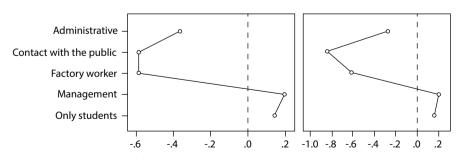
The relationship between sense of personal power and function hold on work, shows through ANOVA only significant differences in the variables distance ($p \le 0.08$), on the left side of the figure 3, and in personal life ($p \le 0.022$), on the right side of the figure 3, valued above average by full-time students and by those who play leadership positions. The assessment of job characteristics is connected with the experiences of each student: full time students attach great importance to time schedules and distance from where they work/study; who has leadership positions naturally enhances status, as sustainability factors of personal life.

These results support the idea that evaluation of sustainability depends on the experience of people in context: micro and meso-contexts lead to value employment stability, remuneration level and work position, time and distance to work: the experienced factors. As it is shown above, they correlate with the sense of personal power, a feeling which is the core of perceived sustainability by the students.

9 Qualitative Results

The collected data through the focus group make more visible the construct of sustainability by the students and their feeling about how human resource management practices contribute to sustainability.

The concept of sustainability is represented by students on the basis of the categories emerged in focus groups and registered in Table 4. The results show that students have an idea of sustainability consistent with that of distinguished



Source: authors' research (2015).

Figure 3. Evaluation of short distance and personal life.

authors: efficiency of use, not wasting resources; commitment to diversity, not only focus on the economic and financial support; self-regulation in using resources, paying attention to space and time dimensions; inclusion of social, cultural and personal achievement.

10 Management of Human Resources and Sustainability

The role of HR management was seen by students as a sustainability factor (table 5): their understanding of HRM practices makes the data shown in Table 2 (quantitative results more explicit.

11 Analysis of results

The results of this study seem to confirm hypothesis one: the students on Human Resources Management have a perspective of sustainability largely coincident with that proposed in the literature; this indicates that HRM students are aware of the issue and are well informed (RAOUF, 2001).

Table 4. Sustainability Categories.

Categories	Students' speech
Efficiency and balance	Ensuring efficiency and balance in the use of material resources
Efficiency and balance	Ensuring efficiency and balance in the use of human resources
Balance between dimensions	Ensuring balance between economic growth, social equity and environmental protection.
	Using resources in a conscious and responsible way
Setting limits	Maintaining resources for future generations
secting initial	Ensuring the permanence of a definite level of resource utilization
People dignity	Setting conditions that guarantee dignity to individual life
Ensuring quality Ensuring Renovation	The balanced use of material resources has mostly to do with the quality of the environment protection and the renewal of the resources we use.

Source: Authors' research (2015).

But as the second hypothesis states, students' answers focus the concept of sustainability primarily on a personal and family level: they view sustainability as an essential result from good management practices and their impact in people's daily life. The categories obtained by content analysis clearly design a micro view of sustainability factors: 'management and organization methods; organization's social climate; leadership positive influence'.

This idea of sustainability is aligned with hypothesis two, which can be considered as confirmed: personal life and remuneration were most valued in the quantitative analysis, which was expected from a micro-context oriented view.

Table 5. The Human Resources Management as a Sustainability Factor.

Components	Students' speech		
	Recruiting talented people for key areas		
	Developing the skills of people		
	Increasing the ability to solve problems, particularly in crisis		
Management and organization	Practicing motivating policies and methods of management		
methods	Ensuring quality of life, good physical, psychological and environmental conditions		
	Adequate management of working hours		
	Ensure employment security		
	Practicing a positive leadership		
	Protecting personal and family life		
	Increasing confidence in the company		
Organization's social climate	Helping workers to feel more valued		
	Promoting the organization's social responsibility		
	Giving attention to solidarity between people		
	Spreading the idea of respect for all		
Leadership positive influence	Offering support to other sectors in the company		
	Disseminating good management practices		
	Helping people to avoid consumerist attitudes		
	Being an example of saving and waste reduction practices		
	Fostering attitudes of cooperation in problems		
	Helping to transferthese indicators to global society		

Source: Authors' research (2015).

At qualitative level, a representation of sustainability as a life state was obtained from group discussions, stressing the characteristics referred above:

- Search for talented people to solve problems in critical situations;
- quality of work life: healthy timetables, safety conditions;
- socially responsible organizations;
- respect between people, solidarity inside and outside the organization;
- increased confidence in organizational leadership, sufficient security level, value recognition;
- helping people to avoid consumerist and wasting attitudes.

At this micro perspective, the sense of stability is perceived as fundamental for sustainability. It seems obvious, since employment has been a key instrument to gain access to the wealth for large population masses. The categories from focus groups include some ideas about how to ensure this stability: systematic skills development; support networks, including organizations providing employment; systematic information about workplace offers; planning flexible careers, lifelong learning; linking personal sustainability more directly to work and not necessarily to employment.

Underlining these points, students show the importance of information for the micro-sustainability dimension: knowledge and competence are seen as the main factors

The social responsibility as supporting attitude to personal and social sustainability emerged in the focus groups as another specific contribution of human resource management. Social responsibility is explored in the Human Resources Management Course in connection with cooperative problem-solving orientation; it includes the provision of reliable information on the issues of sustainability and transparency in all decisions involving the future of individuals and families.

This topic is clearly a core concern in complex thinking about sustainability: social responsibility is one of the most important factors in the relationship of firms with their support context (UNEP FINANCE INITIATIVE, 2005; DOWBOR, 2009). It is distinctly referred to proposals such as Gaiger (2000) on transparency processes, and Chiavenato's (2005) on the respect for people: to treat people as persons, not just as customers or other purely economic role.

The students also emphasized another significant aspect: thinking on sustainability, political government and managing organizations must be guided by the same

principle: governance attentive to systems' complexity (MORIN, 2013). This would help to prevent perverse outcomes in political decisions, a macro-perspective in sustainability. As they accentuated, only creative solutions, respectful of the diversity of sustainability factors, will bring effective answers to present challenges.

It became also evident that young people are willing to engage in projects promoting economic and social sustainability, at micro, meso and macro levels, even if they feel confused about how to engage in the construction of that desired future.

The authors hope to continue this first exploratory essay, and to explore in a deeper way the concept of the three levels of sustainability.

Estudantes universitários: sensibilidade para os fatores da sustentabilidade

Resumo

O artigo analisa a sensibilidade dos estudantes universitários aos fatores de sustentabilidade, incluindo a percepção da gestão de recursos humanos como fator de sustentabilidade. Como enquadramento conceptual, abordam-se as perspectivas do construto, desde a conferência das Nações Unidas em 1972, em Estocolmo, até realizações e reflexões na contemporaneidade. A pesquisa entre estudantes universitários foi desenvolvida em duas linhas: o estudo da sua representação da sustentabilidade; e a sua avaliação dos princípios e práticas de gestão de pessoas como fator de sustentabilidade. A pesquisa utilizou um questionário do tipo diferencial semântico e o grupo focal para a coleta de dados, de forma a complementar o tratamento quantitativo dos dados com uma visão mais qualitativa e compreensiva. Os resultados da pesquisa consolidam a ideia de que é interessante utilizar o conceito de sustentabilidade em associação com os níveis de complexidade do contexto; mostram que os estudantes de Gestão de Recursos Humanos estão bem informados sobre o tema e que estão motivados para levar as empresas a adotar práticas sustentáveis na gestão dos recursos humanos.

Palavras-chave: Emprego. Trabalho. Complexidade. Responsabilidade Social. Sustentabilidade.

Sensibilidad de los universitarios para el fenómeno de la sustentabilidad

Resumen

El artículo analiza la sensibilidad de los estudiantes universitarios a los factores de sostenibilidad, incluyendo la percepción de la gestión de los recursos humanos como factor de sostenibilidad. Como marco conceptual, se colocan las perspectivas del constructo de sostenibilidad, desde la conferencia de las Naciones Unidas en 1972, en Estocolmo, hasta los logros y reflexiones contemporáneas.

La investigación entre los estudiantes universitarios se ha desarrollado en dos líneas: el estudio de la representación de sostenibilidad; y la evaluación de las prácticas de los principios y de la gestión de personas como un factor de sostenibilidad. La investigación utilizó un cuestionario de tipo diferencial semántico y un grupos focal, para recopilar los datos y para complementar su tratamiento cuantitativo con una visión más cualitativa y más comprensiva. Los resultados consolidan la idea de que es interesante utilizar el concepto de sostenibilidad en combinación con los niveles de complejidad de los contextos; además muestran que los estudiantes de gestión de recursos humanos están bien informados sobre el concepto y que están motivados para llevar a las empresas a adoptar prácticas sostenibles en la gestión de recursos humanos.

Palabras clave: Empleo. Trabajo. Complejidad. Responsabilidad social. Sostenibilidad.

References

ANDRADE, A. L. et al. Construção de escalas de diferencial semântico: medida de avaliação de sons no interior de aeronaves. *Avaliação Psicológica*, São Paulo, v. 8, n. 2, p. 197-208, 2009.

AWANG, Z. Structural equation modeling using AMOS graphics. Shah Alam: Penerbit Universiti Teknologi MARA, 2012.

BAKARI, M. E. K. Sustainability's inner conflicts: from 'ecologism' to 'ecological modernization. *Journal of Sustainable Development Studies*, Edgecliff, NSW, v. 6, n. 1, p. 1-28, 2014.

BANCALEIRo, J. Scorecard de capital humano. Lisboa: RH, 2006.

BARBIERI, J. C. et al. Inovação e sustentabilidade: novos modelos e proposições. *ERA- Revista de Administração de Empresas*, São Paulo, v. 50, n. 2, p. 146-154, 2010.

BARDIN, L. Análise de conteúdo. 4. ed. Lisboa: Edições 70, 2008.

BENTLER, P. M.; CHou, C. P. Practical issues in structural modeling. *Sociological Methods & Research*, Beverly Hills, v. 16, p. 78-117, 1987.

BERENGER, M. M.; Elliot, L. G.; Parreira, A. M. Grupo focal. In: ELLIOT, L. G. (Org.). *Instrumentos de avaliação e pesquisa*. 1. ed. Rio de Janeiro: WAK Editora, 2012. v. 1, p. 229-279.

BRASIL. Ministério do Meio Ambiente. Comissão de Políticas de Desenvolvimento Sustentável e da Agenda 21 Nacional. *Agenda 21 brasileira*: resultado da consulta nacional. 2. ed. Brasília, DF, 2004.

BUCKLEY, C. Delphi: a methodology for preferences more than predictions. *Library Management*, Bradford, v. 16, n. 7, p. 16-19, 1995.

BYRNE. B. m. *Structural equation modelling with AMOS*: basic concepts, applications and programming. New York, NY: Routledge, 2010.

CHIAVENATO, I. Gestão de pessoas. Rio de Janeiro: Campus, 2005.

DOWBOR, L. Inovação social e sustentabilidade. *Revista Brasileira de Gestão Urbana*, Curitba, v. 1, n. 1, p. 109-125, 2009.

EMAS, R. The concept of sustainable development: definition and defining principle. Miami, FL: Florida International University, 2015. Working papers.

FIEDLER-FERRARA, N. Ciência, ética e solidariedade. In: CARVALHO, E. A. et al. *Ética, solidariedade e complexidade*. 3. ed. São Paulo: Pallas Athena, 2013.

FLICK, U. *Métodos qualitativos na investigação científica*. Lisboa: Monitor, 2005.

GAIGER, L. I. Sentidos e possibilidades da economia solidária hoje. In:

KRAYCHETE, G.; LARA, F.; COSTA, B. (Org.). *Economia dos setores populares*: entre a realidade e a utopia. Petrópolis: Vozes, 2000. p. 15-38.

GOLDSTEIN, R. *Incompletude:* a demonstração e o paradoxo de Kurt Gödel. Lisboa: Gradiva, 2005.

HAIR JR., J. F. et al. *Multivariate data analysis*. 7. ed. New Jersey: Prentice Hall, 2010.

KRIPPENDORF, K. *Content analysis*: an introduction to its methodology Thousand Oaks: Sage, 2004.

LASZLO, C. H.; ZHEXEMBAYEVA, N. *Embedded sustainability*: the next big competitive advantage. Stanford: Stanford Business Books, 2011.

LE MOIGNE, J. L.; MORIN, E. *L'intelligence de la complexité*. Paris: Edition l'Harmattan, 1999.

MADHAVAN, G. et al. (Ed.). *Practicing sustainability*. New York: Springer, 2013.

MAIA, A. G.; PIRES, P. S. Uma compreensão da sustentabilidade por meio dos níveis de complexidade das decisões organizacionais. *RAM. Revista de Administração Mackenzie*, São Paulo, v. 12, n. 3, p. 177-206, 2011.

MILLER, J. G. Living systems. New York: McGraw-Hill, 1978.

MORIN, E. A ética do sujeito responsável. In: CARVALHO, E. A. et al. *Ética, solidariedade e complexidade*. São Paulo: Athena, 2013.

NORHAYATI, M. N. et al. Psychometric properties of the revised Malay version Medical Outcome Study Social Support Survey using confirmatory

factor analysis among postpartum mothers. *Asia-Pacific Psychiatry*, Richmond, v. 7, n. 4, p. 398-405, 2015.

ONU. Centro de Informação das Nações Unidas. *Comunicado de imprensa do Departamento de Informação Pública - ENV/DEV/J/35*. Portugal, 4 de setembro de 2002

OSGOOD, C. E.; SUCI, G. J.; Tannenbaum, P. H. *The measurement of meaning*. Urbana: University of Illinois, 1957.

PESTANA, H.; GAGEIRO, J. *Análise de dados para ciências sociais*: a complementaridade do SPSS. 6. ed. rev., atual. e aum. Lisboa: Sílabo, 2014.

RAOUF, M. A. Environment, citizenship and sustainability. [S.l.]: Gulf News, 2001.

SACHS, J. D. *Investing in development*: report to the UN Secretary-General. New York: United Nations Development Programme, 2005.

SCHNEIDER, M.; SOMERS, M. Organizations as complex adaptive systems: implications of complexity theory for leadership research. *The Leadership Quarterly*, Greenwich, v. 17, p. 351-365, 2006.

SEN, A. A ideia de justiça. Coimbra: Almedina, 2003.

SULBARAN, D. *Medición de actitudes*. Caracas: Universidad Central de Venezuela. Escuela de Psicologia. Departamento Metodologico, 2009.

UNEP FINANCE INITIATIVE. A legal framework for the integration of environmental, social and governance issues into institutional investment. 2005. Available in: http://www.unepfi.org/fileadmin/documents/freshfields_legal_resp 20051123.pdf>. Accesso: 28 dez. 2015

UNITED NATIONS. *Transforming our world*: the 2030 agenda for sustainable development - A/RES/70/1. 2015. Available in: https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20 for%20Sustainable%20Development%20web.pdf>. Accesso:5 jan. 2016.

WORLD Commission ON ENVIRONMENT AND DEVELOPMENT. *Our common future*. Oxford: Oxford University Press, 1987. Also known as the Brundtland Report.



Informações dos autores

Maria Helena Pestana: PhD_ISCTE. Professora do Departamento de Métodos Quantitativos para Gestão e Economia do Instituto Universitário de Lisboa (ISCTE-IUL). Lisboa. Portugal. Contato: gageiropestana@gmail.com

Artur Parreira:PhD, CPES-Professor da Universidade Lusófona de Humanidades e Tecnologias, Núcleo de Pesquisa na Faculdade Paraíso, Rio de Janeiro, Rj, Brasil. Contato: arturmparreira@gmail.com