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Impact of Business-Students Subconscious in Ethical-Decision-Making

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Abstract

A usual management task in organizations is decision-making, and some of the most important decisions made by business leaders involve ethical components. Our behavioral-ethics-field research explores the business students (BS) subconscious influence in the ethical decision-making processes applying cases reporting ethical dilemmas. A questionnaire with neutral or non-neutral images acting as subliminal stimuli was administered to 30+30 BS trying to find out about the ethical maturity level in decision-making processes and the subconscious influences in these decisions. Cognitive biases and BS metacognitive strategies were identified when non-neutral images were present. The effects of subconscious in BS ethical decision-making are discussed.

Keywords: Business students, Ethics education, Business Ethical decision-making biases

Introduction

After so many corporate scandals in the global economic scenario, research on ethical behaviour has progressively growing within the business general area. Ethical decision-making (EDM) has increasingly gained significance in the management literature (Tenbrunsel and Smith Crowe, 2008) and now a broad and consistent body of research exist, either with a theoretical or an empirical approach. Business scholars and social psychologists nowadays are dealing with the emotive, instinctive, and intuitive reactions importance in EDM process (Dane and Pratt, 2007) and it seems that these intuitive and emotional processes (the moral intuition expression) deeply and firstly influence the decision maker in such contexts (Provis, 2015). In contrast, conscious and rational processes (the moral reasoning expression) in such situations may instead occur in a later phase to offer a 'rationale' or a 'sense' for behaviors and decisions undertaken (Haidt 2001).

Findings of Damasio (1995) clearly point to the fact that emotions are part of the decision-making process and they are necessary to make the decision choice itself. Other studies show

a link between emotional intelligence and decision-making process (Lumina, Scott and Bulent, 2011) as well as a relation of decision-making process and analytical-intuitive style of decision making (Sarmány-Schuller, Kuračka, 2012). Murphy and Zajonc (1993) studied the influence of subliminal stimuli in the ethical decision. Other author's evaluation addressing influence of subconscious in EDM in business find that under pressure, emotions rather than rationality affect the process of decision-making and without them, the decision would take a long time (Baron, Zhao and Miao, 2015).

The ethical decision-making in business, either as an intuitive process (moral intuition) or a traditional rational approach, might generate a conflict in a business strategic decision, between adding value and causing no damage. In fact, unethical behaviour might be a very attractive short cut to organisational success despite practice codes, regulation and social pressure (Bazerman and Tenbrunsel, 2011; De Cremer, 2010).

While the motivation for taking the most strategic decisions in business originates from various sources (such as competition, social responsibility, lost opportunity cost, sustainable policies, effect on resources, return on investment, image and brand impact, stakeholders, international policy), the final decision still resides with the main organizations' decision-makers. These deciding managers seek and evaluate information and alternatives before concluding. However, do the unconscious thoughts of those individuals affect the EDM process when dealing with complex decisions, delaying the aware conscious experience?

Rather than deriving from conscious deliberation or cognition, the EDM is often drawn almost automatically. It is like an instinctive impulsion, rather than a reasoned or calculated inclination. This type of impetus is consistent with large bodies of research on the prevalence of powerful, instinctive drives whose origins (be they psychological, genetic, epigenetic, evolutionary, or environmental) tend to elude consciousness (Dijksterhuis and Aarts, 2010; McManus, 2016; Zeni, Buckley, Mumford and Griffith, 2016).

Ethical decisions involve learning and knowing what is correct or incorrect, and only then does a sustained decision addressing the circumstances in evaluation arise. However, the *correct thing* is not as easy to find as the business ethics literature appears to state. So, how to increase the next generation of managers' consciousness towards sustainability and business ethics? Can ethics be taught and learned? EDM is an extreme learning-goal to achieve in BS formation because there is a latent BS tendency to instil a certain level of non-rationality into their decision-making when facing real business situations and it is deeply influenced by priming, subjectivity, and bias in one's memory and feelings (Huang and Ho, 2018). Thus, cognitive biases resulting from BS subconscious influence the EDM processes.

In literature, the extent to which subjective feelings (as the ones related with political ideals aversion/sympathy) influence managers and EDM moral judgements remains unclear. This constitutes a gap, which we address. This, along with the significance of EDM education in Business Schools, and the importance of subconscious in EDM of business students, who will be future managers, makes room to the following research questions:

RQ1. Are BS able to apply moral principles to business ethics issues in sustainability or corporate responsibility?

RQ2. Do subliminally presented stimulus influence ethical decision making in BS?

With these questions in mind, the purpose of our exploratory research is to identify biases in BS perceptions (under subliminal stimuli) and ethical decisions towards business ethics and sustainable operations in cases reporting ethical dilemmas. The chosen analysis tool utilized is an adaptation of the one developed by Brenner and Molander (1977).

Literature review

Ethics in business world

Ethics is an “inquiry into the nature and grounds of morality where the term morality is taken to mean moral judgments, standards and rules of conduct” (Hunt and Vitell, 1988). It deals with what is morally correct and incorrect. In business, ethics embraces not only the moral values and responsibilities of the profession itself, but also the existing values and expectations of the larger society (Michael, 2006). Considering business ethics (BE) all decisions should be made, taken and defended based on underlying moral philosophy and these moral philosophies present guidelines that allow both, conflicts resolution and the optimization of mutual benefit of people living in groups (Ferrell and Fraedrich, 1991).

The ethical decision-making process consists of (i) ethical awareness, (ii) ethical judgment, and (iii) ethical action (Lumina et al, 2015). The first step involves recognizing the ethical nature of the situation at hand, a task that activates specific parts of the brain associated with emotional processing. Awareness will more likely arise if prompted by social environment, ethical language “framing” the situation, or the potential for serious harm to others. As with awareness, neuroscience research is finding that ethical judgment is a unique form of decision-making. Cognitive biases often block an ethical judgment, impairing how to gather facts, how to think about consequences, how to evaluate integrity, and how use intuition. Unconscious biases affect how to value different people (e.g young/old, black/white), and emotions while necessary for ethical judgment can interfere with good decision-making when they overcome the rational ability (Lumina et al, 2015; Robert et al, 2015; Vykinta et al, 2013). Managers should use these cues to promote ethics.

Doug Wallace and John Pekel (2006) explain that attention to business ethics is critical during times of fundamental change – times much like those faced nowadays by businesses, either non-profit or for-profit. In this context, values that were previously taken for granted are now strongly questioned and many of these values are no longer followed. Consequently, there is no clear moral compass to guide business managers and leaders through complex dilemmas about what is right or wrong. Nevertheless, ethics in the workplace should be part of decision making of both leaders and staff. Perhaps, most important, attention to ethics in the workplaces helps to ensure that when leaders and managers are struggling in times of crises and confusion, they retain a strong moral compass.

The business world today and its related scientific and technical professions have a special responsibility both in this regard and in operations under a TBL approach. In fact, the knowledge and technologies that are developed have huge impacts on natural environments, economies, and on the empowerment of citizens and societies. Moreover, their efforts to succeed in a highly competitive, global context and the attained achievements continue to produce both positive and negative effects, at present, as well in the future.

Numerous issues are threatening businesses – from financial crises, to climate change from local land issues to financial lobbying. Companies face difficulties to set appropriate strategies and operations for sustainable innovation in an environment of tough competition. Moreover, several issues can cause a breakdown in business ethics, such as lack of integrity, organizational relationship problems, conflicts of interest, and misleading advertising. Thus, companies need guidance on how to evaluate the implementation of a strategy, both for disclosure purposes, for strategic planning and for sustainable business managing.

An ethical culture might support sustainable growth by adding value to a brand, whereas failure in ethics may cause social, economic and environmental damage, undermining the

company's long-term development. Thus, ethics must be embedded in business models, organisational strategy and decision-making processes. Despite business people awareness of the requirements for ethical decision rules and moral behaviours, some contexts are sufficiently compelling for almost anyone to engage in unethical behaviour (De-Cremer, 2010). Short-term gains, incentives and temptation may promote an ethical dilemma in the decision and decision process of an individual (Tenbruse and Smith, 2008). Despite codes of practice, regulatory oversight and ever-increasing public pressure, multiple control and monitoring systems, the decision-making process in many firms routinely ignores ethical considerations (Bazerman and Tenbrunsel, 2011). This can undermine the wider economy, the society values and cause irreparable damage. Therefore, the resulting massively profitable entities, despite their impressive initial results, may turn out to be unsustainable.

Applying ethics to business and to operations management is a particularly vital endeavour, as this field provides one of the few forces that can serve as a counterweight to profit seeking and self-interest by balancing the ways in which managers' act, the policies they approve and the role companies play in society (Brenkert 2010). This is, therefore, an attempt to ensure that the operations function is taking a forward and progressive sustainable approach, not damaging the consumer or the society and ensuring an economic welfare. This is far from being a simple, easy and peaceful task.

Moral Decisions and the Subconscious Effect in EDM

Moral decisions abound in organizations: builders choose between durable and cheap materials; salespeople choose to reveal or conceal available discounts; and accountants decide when creative becomes deceptive. The adverse effects of unethical-decisions upon individuals, organizations, businesses, and society are substantial: employees lost jobs, retirement funds, and health benefits; stockholders lost share value; consumers' corporations boycotts increase; and suppliers lost significant business.

Corporations' scandals such as the Volkswagen's emissions or the Facebook scandal drew attention from public to unethical business conduct and heightened the interest in EDM, raising obvious questions about the basic, underlying causes of these corporations' decisions. Research on EDM in operations-management (OM) is incipient. EDM is a very complex process and even though some influencing factors have already been recognized (such as gender, culture, and organizational aspects), an effort to identify all factors that contribute to ethical decisions in corporations – and which may be relevant in OM – is not readily apparent in the literature, which constitutes another knowledge gap.

Master's Business-Students (BS) are the future generation of managers and constitute an important group with strong potential impact on the everyday business practice. Therefore, it is essential to identify on BS, (a) the ability to draw up and defend arguments on specific business ethical decisions; (b) the potential barriers to these decisions; and (c) the factors that may short-circuit the EDM process through reductions in moral issue recognition, minimization of moral judgments or the feeling of no obligation to act upon a moral issue.

Some authors argue that Ethics-Education in-Business-Schools could improve the students' moral reasoning, which is an essential driver of EDM (Almeida and Silva, 2016), and foster the ability to ethically evaluate questionable situations, and to make ethical-decisions, by taking appropriate actions (Baker, 2017). However, as we state earlier, EDM is a very hard achieving learning goal due to the influence of priming, subjectivity and individual's memories that involuntary bias the decisions (Huang-and-Ho, 2018). This irrationality further generates a dilemma in decision-making in ethically questionable issues

because such decisions are associated with an individual's empathetic and emotional responses towards the situation.

In addition, biased beliefs frequently lead to wrong decisions, discriminatory action, and inhibit emotional, ethical and cognitive development. Such beliefs also serve as perceptual screens that constrict thoughts, limit experience, and diminish the possibilities of constructing useful meaning about real circumstances (Greene, 1995). The process of making meaning which supports the EDM regarding ethical issues, is a situation that it is limited by previously associated positive, negative or neutral connotations (moral, social, cultural, political, or environmental values, among others) held in one's mind (Almeida and Silva, 2016). To propose problematic business situations in a class, which raise strong ethical issues vs economic development importance, provides dissonance (Jarcho, Berckman, Elliot and Lieberman, 2011), and contradiction (Newark, 2018) if a quick decision regarding the problem is requested to the students. Such dissonance is an internal imbalance that causes students to seek new understandings to restore cognitive equilibrium (Piaget, 1970).

Our interest in finding dissonances and contradictions amid a BS ethical decision-making process comes from the established view, that behavior, in general, and decisions, in particular, are directed by goals (Dijksterhuis and Aarts, 2010) that if not well defined or not, they could be triggered by underlying factors. The concept is simple: goals drive persons to pursue required end states, such as improving life quality, the accomplishment of a duty or find an answer for a dilemma. Research on goals has highlighted the intentional, conscious search of end states. For a long time, it was nearly contradictory to propose that goal pursuit may well occur outside of consciousness since all decision-making process were placed at the level of consciousness. Still, some authors have demonstrated that goals can be inevitably activated by environmental/external cues and then shape behaviours and decisions without any apparent intent or awareness (Bargh et al., 2001). Also, such nonconscious goal pursuit and the related decision-making process are widely considered to be an example of a class of mental processes not reachable to conscious awareness (Dijksterhuis and Aarts, 2010).

Based in the literature review about understanding the nonconscious goal pursuit and EDM process (Bargh, Gollwitzer and Oettingen, 2001; Carlson, Tanner, Meloy and Russo, 2014), two most common proxies could be identified: (i) explicit behaviors known to be driven by the goal in question, and (ii) reaction to goal-related words or images in a lexical decision task. While such proxies are enough for underpinning that a nonconscious activated prime trigger a hypothetical change in behavior (response and decision making), they are less useful for identifying which specific goal, from a potentially large set of possibilities, was activated by a congruent or incongruent environmental stimulus, such as vivid situation (Craig, 2004), visual threats (Liu et al, 2018), or any stress-leading condition (Janak & Tye, 2015). In Business, individuals do differ noticeably in their ability to recognize and deal with managerial and ethically divergent questions, a difference that has been linked to variability in perceived arousal (Barrett, Quigley, Bliss-Moreau, and Aronson, 2004), emotional awareness (Craig, 2004), and emotional intensity (Herbert, Pollatos, and Schandry, 2007). According Schnall, Abrahamson, and Laird (2002), individual differences in the perceptual abilities influence the way people experience emotions that trigger the making of decisions.

Ethical Business Teaching in Business Schools and its impact in BS

Ethics involves learning what is correct or incorrect, and then make a sustained decision addressing the correct thing. However, the correct thing is not as easy to find as the business

ethics literature appears to state. So, how to increase the next generation of managers' consciousness towards business ethics and sustainability? Can ethics be taught and learned?

Business schools are important drivers of the economy, government, business and the whole society (Vilas-Boas and Leandro, 2014). Consequently, business schools should pay attention to the world's important issues as their graduates play an important role as initiators and managers of the global society (Araç and Madran, 2014; Vilas-Boas and Leandro, 2014). Accordingly, business schools have the intellectual capital, creativity and entrepreneurial vision to contribute to powerful solutions that are globally needed (Maurizio et al, 2013).

The business world not only has a financial crisis issue, but it also struggles with problems such as resource depletion, deforestation, climate change, wealth/power distribution, poverty, hunger, social and gender exclusion, domination by corporations, market domination, religious conflicts, media domination, mass epidemics, decreasing biodiversity, and lack of education (Almeida and Craveiro, 2011; GI, 2015). In this framework, business schools have a critical role to play in choosing whether to focus on market share, international opportunities, competition and increasing profit, or emphasising social benefits and a caring society to solve urgent global issues (Rayment and Smith, 2013).

Knowledge, skills and attitudes are significant components of management education for fulfilling both paradigms: business ethics and sustainability in operations. The main expected outcomes from these components, are as follows: graduates that comprehend business ethics issues, that have the skills to act in an ethical framework, and that have the right attitude to make a better world, both personally and as business people (Stubbs, 2013).

Case Study - Methodology

Design approach

This research purpose is exploratory, mainly because the scope of the study focus on the situation under analysis and no concerns for generalization are made explicit at this stage.

The study was conducted using a purposeful sample of 60 business students from first-year masters' (MMSTⁱ) students in ISCTE Business Schoolⁱⁱ. ISCTE-IUL is a medium-size Public University located in Lisbon, and its Business School has already been recommended for AACSB accreditationⁱⁱⁱ. A short case-study regarding corporation's ethical, sustainability issues and final corporation decision was purposefully introduced in a coursework to seek the extent of the influence of subjective feelings in moral judgments and in EDM of BS, when faced with a corporation ethical dilemma. BS were randomly assigned to two groups before being subjected to case study presentation which presented subliminal stimulus, i.e., either neutral (Group and scenario A) or highly politicized (Group and scenario B) images concerning the topic under discussion. A questionnaire developed for a business case study was designed considering the RQs described above. BS ethical decision taken under competitive pressure in business (the case study), influenced by political feelings triggered by subliminal images, was operationalized as a manipulated variable while the variables were self-reported. This approach allowed us to analyse each of the observed variables in both Groups, with high and low subliminal-induced competitive pressure in decision-making. In the case study presentation, we used a vignette approach with two scenarios representatives to manipulate competitive pressure and examine students' responses to a typical ethical dilemma in global world: to drill or not to drill oil in an environmental protected area, source of regional wealth through fisheries and ecotourism. Business managers often must balance their responsibility to meet the profit goal of the organization they are working for with the

legitimate interests of other stakeholders (Lund, 2000). The scenarios depict the conflict of interests of local fishermen's, ecotourism entrepreneurs and residents that are interested in higher standards for the environment and safety versus the vested interest managers and stockholders have in the economic success of their Oil company investment. Subjects had to decide whether to allow the prospection, which could be destructive to the environment and potentially hazardous for marine ecosystems. Two scenarios reflected different degrees of competitive subliminal pressure (CSP) for this decision. The two vignettes contained the following basic information: Whereas the impact of the decision to drill or not to drill for oil is the same in both scenarios for the ecosystem and the local community, the CSP was designed to be higher in scenario B. All subjects were presented with both scenarios allowing us to analyse their responses in both high and low CSP situations. Each questionnaire (A and B), with the same questions and the same case, contained the respective scenario (Group A: low-profile images, with a null political connotation; Group B: powerful images, with a strong extreme political connotation) and a total of 5 questions. It took most respondents between 30 and 45 minutes to complete the answers.

The undertaken evaluation used a framework to analyse the contents of BS considerations. The research follows a grounded approach, emphasizing the understanding of the subjective feelings effect in BS perceptions from qualitative data gathered as shown above.

Sample and Data Gathering

The data were collected in 2019, few months after the social upheaval that resulted from the approval given by Portuguese Environment Agency (PEA) to the ENI/Galp consortium to carry out an oil prospecting survey in 46 km off the coast of Aljezur, in a protected area, without Environmental Impact Assessment^{iv}. It was not a blind-prospection since a study made by the consortium for the exploration of the Vicentina coast estimates a potential recoverable volume of oil ranging between 1,000 and 1,500 million barrels, equivalent to 17 years of oil imports, with a clear impact on Portuguese trade balance.

In a class of the 1st semester, BS were asked to answer a few questions about a business ethics situation, and to give their opinions about the presented case. The administration of the questionnaire included a cover story of the case suggesting that the purpose of the study was to survey students pertaining to global business issues. Participation was mandatory.

Findings

There are three dimensions' individuals should bear in mind to make ethical decisions (Betzgen, 2007; Lumina, 2015). (i) Awareness, i.e. the ability to define and describe ethical issues and, to recognize and analyse the impact of the ethical decisions, which concerns the ability to anticipate second and third order effects a very important element of strategic thinking (addressed in RQ1); (ii) Judgement, i.e. the ability to objectively look at alternatives, and reasonably decide what is adequate to the specific situation (RQ2).

Next subsections present the findings obtained within the research scope.

Preliminary Data Analysis

A manipulation check was conducted to evaluate the ability of the vignettes to increase perceived CSP. Data were treated and examined by using the content analysis framework of Brenner and Molander (1977). Our conceptual approach was based on behavioural models. We created a coding scheme with two main categories: 1) The BS identify and interpret conscientiously ethical issues; 2) Presence of cognitive biases due to influence of CSP on BS

EDM. The BS analyse and appraise ethically the decisions in the business case study. The sub-categories were derived inductively from the data. Inductive coding was used to ensure that our analyses comprehensively represented the content written by the BS. The categories were ordered within a taxonomy, where each category received a specific definition. The codes were developed successively and were revised or deleted and new codes added as the analyses proceeded. Table 1 contains the comparison of mean scores for the two scenarios. For all four variables, respondents perceived significantly more CSP in scenario B, indicating a successful manipulation.

Table 1 – Manipulation Check of Competitive Subliminal Pressure (CSP) of Scenarios A and B

Variable	Group A Low CSP Mean	Group B High CSP Mean	t-value	Sig
Pressure to act in the best interest of the consortium	2.535	3.333	10.717	0.000
Pressure to be responsible for the well-being of Ecosystem	2.686	5.535	10.310	0.000
Pressure to act in the best interest of communities	2.478	2.937	6.162	0.000
Pressure to act in the best interest of stockholders	2.484	3.066	7.092	0.000

Ability to define and describe Ethics and Sustainability concepts (RQ1)

Prior to the presentation of the ethic case study, the business students exhibited awareness of Ethics and Sustainability concepts and related frameworks. The answers showed a good ethics notion (90.4 %, considering the answers with minor errors) *vis-à-vis* the result achieved when BS address the sustainability notion (71.3 %).

Ability to recognize and analyse the ethical decision impacts (RQ1)

One might conclude for a general agreement across the two BS groups, from the perceptions of students concerning ethics issues reported in the presented case study. The majority of students (89.8 %) clearly pinpoint the problems in the presented case studies. In contrast, 10.2 % fails to adequately address the problem. The “Yes” sample of students concerning their ability to analyse the ethical impacts of the decisions rooted in the case study scenario (89.8 %) was further detailed. The results identified the differences amongst students’ responses, as follows: more than half of business students (BS) succeeded in making a correct reasoning and around one third has also achieved good results, but with minor errors.

The Impact of CSP on Ethical Decision-making (RQ2)

Table 2 provides the data addressing RQ2 (Do subliminally presented stimulus influence ethical decision making in BS?). The increase in CSP had a major impact on students’ EDM behaviour and ethical appraisal of the case study resolutions.

In the Group A, with scenario A (low CSP) it was noticeable that there is a slightly advantage to supporting drill decision, with BS presenting reasonable/weighted arguments and evidence to justify their opinion. However, in the Group B (high CSP), the one with extreme political connotation images, only 30% of BS were willing to drill, against an overwhelming consensus among the BS that use strong arguments to reject the oil prospection, defending the environment and populations.

Table 2 – The Impact of subliminal stimulus in BS ethical appraisal of the case study resolutions

	<i>Group A Low CSP Mean</i>			<i>Group B High CSP Mean</i>		
	<i>Drill</i>	<i>Do not Drill</i>	<i>Total</i>	<i>Drill</i>	<i>Do not Drill</i>	<i>Total</i>
<i>All students</i>	16	14	30	9	21	30
%	53,3	46,6	100	30	70	100

The gender variable was not considered at the beginning of our research. However, a brief cross-tabulation analysis was conducted. Comparing male and female BS answers, it was found that in both low and high CSP situations males were more likely to drill than females.

Discussion

Ethical behaviour and intentional behaviour found two different scopes: individuals making both intentional and unintentional, and ethical and unethical choices (Tenbrunsel and Smith-Crowe, 2008). For instance, research in decision-making attitudes reveal that good people occasionally do bad things (Bersoff, 1999), and may not even understand that they are doing wrong decisions. Studies on ethical fading (Tenbrunsel and Messick, 2004) asserts that people do not see the moral components of an ethical decision, not because they are morally uneducated, but because psychological processes fade the ethics from an ethical dilemma.

Based on the findings, we argue that despite BS having revealed reasonable level of ethical maturity and perceptions towards sustainable practices in business (sustainable operations management, corporate and social responsibility, and organizational environmental impact) they do not display consistent answers and BS do exhibit notorious ambiguities concerning the perception of ethics importance in business. The BS answers related to the presented case study reveal a strong love-or-hate feeling and a compulsion to extreme their decisions considering the problem resolution if previously submitted to a specific subliminal stimulus.

We suggest that, when specifically triggered, EDM could rise in BS from depths of nonconsciousness thought. BS behaviour and decisions are guided by targets and targets drive them to pursue. For the most part, research on goals has emphasized the intentional, conscious pursuit of targets toward end states (Dijksterhuis and Aarts, 2010). However, our results comply with other researchers demonstrating that decisions are activated, automatically, either by environmental cues or by subliminal stimulus, and then influence behaviours without any apparent intent or awareness (Bargh, Gollwitzer, Lee-Chai, Barndollar, and Trötschel, 2001). Some authors (Dijksterhuis and Nordgren, 2005; Hassin, 2005; Kastrup, 2017) state that the unconscious has the means to perform every fundamental high-level cognitive function performed by consciousness, such as cognitive control, pursuit of goals, information broadcasting, and reasoning. This large amount of unaware operations that the brain can perform is not disconnected from but has an important impact on the aware operations. Other findings show that subliminal information, such the above referred, can drive executive functions (Lau and Passingham, 2007) and that subliminal priming of stimuli changes how one's felt about an issue when he is dealing with (Monahan, Murphy and Zajonc, 2000). Other examples confirm the fact that the unconscious plays a significant role in shaping the conscious experiences, like attributions of agency (Aarts, 2007), actual choice (Strahan, Spencer and Zanna, 2002), and even political attitudes (Hassin, Ferguson, Shidlovski and Gross, 2007). Corroborating that premise, our results show answers with a

strongest reaction justified through sound reasoning, either supporting or rejecting the prospection, in the Group B, were non-neutral images stood present. The students use strong party-political claims either to reject the oil prospection, defending the environment and populations (most of the BS) as to defend the consortium and the need to explore Portuguese natural resources which could trigger the hoped-for economic development (30% of BS).

Stepping back to consider what we have previously presented as regards the answers and mental frameworks responsible for business students' EDM behaviour and ethical appraisal of the case study resolutions, the type of incidental emotion carryover observed appears most consistent with what Wilson and Brekke (1994) refer to as *mental contamination* and Arkes (1991) calls *association based errors* – processes wherein swaying, such as the BS cognitive biases resulting from subconscious influence (incidental emotion carryover) arises because of mental processing that is unconscious or uncontrollable. Thus, the best strategy for reducing such biases would be to control one's exposure to biasing information in the first place. This is a difficult task for the decision maker, mainly if it is a student, a BS, with all the immaturity inherent in his young learner status.

Conclusions

As regards RQ1, business students can use common sense to understand the idea of Ethics in its majority ($\approx 90\%$), while only $\approx 70\%$ showed awareness of the Sustainability concept. On the other hand, from the $\approx 90\%$ of the students that were able to recognize the problems in the presented case studies, more than 80% could make a correct reasoning and show potential to analyse the impact of ethical decisions. This exhibits a natural ability to apply ethical principles and ideas to business ethics.

As to RQ2, business students Groups exhibit stout ambiguities in the perception of the case issue revealed in different behaviours and shown in their answers. This leads us to conclude that the subliminally presented political stimulus influence students' EDM, and BS compliance or defiance with the decisions presented in the case study. We also intend to stress the hypothetical BS easiness feeling of take this "guts-feeling" as guarantee of a quick and fair decision without considering all the facts since, unconsciously, BS perceive some of them as not being in line with unconscious thoughts, memories, feelings, and wishes.

We suggest some syllabus developments in business schools, in order to introduce a robust conceptual basis concerning ethics, ethical decision and sustainability, the cornerstones of sustainable business models. The presentation and discussion of cases concerning corporate scandals and unethical behaviour corporations, could overcome this weakness. It will be also useful in order to minimise the problem of subconscious impact in ethical-decision making and the resulting cognitive biases.

Selected References

Almeida, I.D., Vilas-Boas da Silva, J. (2016), "Perceptions of Future Leaders Towards Business Ethics and Sustainability", In: Proceedings of 23rd EurOMA – Interactions, Norwegian University of Science and Technology (NTNU), 17th to the 22nd of June 2016.

The remaining references can be found in the following site: <https://euromabibliography.home.blog/>

ⁱ <http://ibs.iscte-iul.pt//programas/mestrados-full-time-portugues/mestrado-gestao-servicos-tecnologia>

ⁱⁱ <http://ibs.iscte-iul.pt/en/>

ⁱⁱⁱ Final stage of AACSB accreditation. Please check <http://accredited.aacsb.edu/faculty/becoming-aacsb-accredited> for details.

^{iv} <https://algarvedailynews.com/news/14246-no-environment-impact-assessment-needed-oil-drilling-to-go-ahead-off-aljezur>