

**IMPLEMENTING SUSTAINABILITY BETWEEN TENSIONS AND STRATEGIES:  
THE CASE OF HIGHER EDUCATION**

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## INTRODUCTION

“We, the undersigned presidents and chancellors of colleges and universities, are deeply concerned about the unprecedented scale and speed of global warming and its potential for large-scale, adverse health, social, economic and ecological effects. [...] Campuses that address the climate challenge by reducing global warming emissions and by integrating sustainability into their curriculum will better serve their students and meet their social mandate to help create a thriving, ethical and civil society. (The Signatories of the American College & University Presidents’ Climate Commitment, <http://www.presidentsclimatecommitment.org>)

Higher Education Institutions are increasingly endorsing sustainability by implementing different strategies to improve their processes and structures. The above quote from an American association is just one example of the several agreements signed by Rectors and Presidents around the world, showing the intended commitment of universities towards sustainability (e.g. AASHE, 2011; ACUPCC, 2011; UNEP, 2014). Further examples of universities’ increasing interest towards sustainability are dedicated rankings, such as the UI GreenMetric World University Ranking<sup>1</sup>, where universities openly provide data to benchmark their sustainability performances against other international universities. Another example is the relevance of green parameters within the QS World University Ranking or the development of the Platform for Sustainability Performance in Education<sup>2</sup>.

At the very high level, the concept of university sustainability recalls the globally diffused notion of the triple bottom line (Elkington, 1997; Bowden et al., 2001), where economic, environmental and social objectives should be pursued. Referring to one of the most comprehensive definition of sustainability in Higher Education (Cole, 2003), it is suggested that a sustainable campus should address ecological and social challenge by mobilizing the specific knowledge of the community university with the final aim of facing present and future change. This definition highlights a distinctiveness in higher education sustainability: the emphasis on environmental and social dimensions, with economic goals put in the background. This is reflected also in universities sustainability strategies and practitioner contributions. At the practitioner level, another related, element emerges: the positive and unproblematic attitude about possible tensions in conceptualizing and implementing sustainability strategies (ACUPCC, 2011; UNEP, 2014).

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<sup>1</sup> <http://greenmetric.ui.ac.id>

<sup>2</sup> <http://www.eauc.org.uk/theplatform/home>

Moving to scholars in the higher education sector, contributions on sustainability are slightly more critical, showing possible problems in the implementation process (Hoover et al., 2014), such as controversies between universities stakeholders (Brinkhurst, 2011; de Lange, 2013) or tensions in defining the approach to sustainability communication (Dade and Hessenzahl, 2013). Yet even these articles overlook the problem of tensions in a broader view, which seminally starts from possible conflicts among the three dimensions of the triple bottom line. To enhance previous literature this paper endorses a “problematic” angle and aims first at analysing tensions in articulating sustainability in higher education and then at investigating which resolution strategies are applied to manage these conflicts

To develop our arguments we first review more broadly literature on sustainability. Tension in sustainability articulation is in fact widely discussed in corporate sustainability researches (e.g. Yuan et al., 2011; Strand, 2014). In particular, two types of tensions have been recounted: tensions at the conceptual level and tensions at the implementation process level (Chiu and Sharfman, 2011; Gao and Bansal, 2013; Klettner et al., 2014). Conceptual tensions refer to potential conflicts between the three dimensions of sustainability and their prioritization. Implementation tensions instead refer to problems arising during the enactment of actions or the institutionalization of new processes. These researches, although not sectorial, allow investigating conflicts more broadly without taking for granted that the financial dimension has a lower priority for universities. This is particularly relevant for universities in the majority of western countries, which have been recently subjected to state fund reduction, in face of the prolonged financial crisis.

At the empirical level, the research is based on a multiple case study carried out in Italy. Ten universities have been selected searching for diversification in terms of number of students, establishment year, and geographical location. The analysis was framed drawing upon Hahn et al. (2014b) work, which articulates tensions around these elements: conceptualization, level, change and context.

The remainder of the paper is structured as follows: the next section reviews extant literature on sustainability tensions and resolution strategies, with a particular focus on higher education literature. The framework of analysis is then presented followed by the methodology, which details the characteristics of the selected universities, data sources and the process of data analysis. The result section discusses the findings from the analysed universities focusing on tensions and resolution strategies adopted. Finally, discussions and conclusions highlight the academic and practitioners contribution of this research, suggesting avenues for further studies.

## **SUSTAINABILITY AND TENSIONS: A LITERATURE ANALYSIS**

The specific focus of this paper is the analysis of tensions in conceptualising and implementing sustainability strategies in higher education, a setting traditionally characterised by a social mission. To set the basis for the investigation, following an analysis of previous scholarly contributions is presented, with the specific focus on tensions. First, this issue is recounted with reference to the wider literature on corporate sustainability, and then a specific review for higher education is provided.

Conceptually, tension refers to the idea of contraposition between two opposites within the same entity. More specifically, “*tension results from the presence of contradictions and attempts to resolve such contradictions*” (Das and Teng, 2000: 84). The notion of tension, often analysed in terms of paradox, is particularly recurrent in social science to explore the complexity of organizational change (Lourenco and Glidewell, 1975; Poole and Van de Ven, 1989; Ford and Ford, 1994). Extant literature on tensions in corporate sustainability can be distinguished into two different areas: tensions at the conceptual level and tensions at the implementation process level (Table 1).

The first type of tensions occurs at the *conceptual level* and it is attributable to the triple bottom line (Elkington, 1997; Bowden et al., 2001), which conceptualizes sustainability as the concurrent achievement of financial objectives while maintaining high environmental and social standards. The coexistence and simultaneous evolution of these three dimensions has led to the emergence of conflicts when choosing priorities and sustainable actions. This duality leads managers to struggle “with how to conceptually reconcile demands for prosociality with the requirements of long-term maximization of shareholder’s value” (Sabadoz, 2011: 78). In response to this tension between the different sustainability dimensions, some studies showed that companies respond by adopting an instrumental perspective according to which a hierarchical approach is introduced when defining priorities for sustainability actions. In the corporate area, this hierarchy is dominated by the financial logic: how firms’ economic results can benefit from the implementation of social and environmental interventions (Margolis and Walsh, 2003). It has also been showed that the financial dimension dominates until company’s profitability remains high and the company is not under scrutiny by external stakeholders (Chiu and Sharfman, 2011). This hierarchical approach to sustainability has been criticized by Gao and Bansal (2013) because of its inability to account for the simultaneous interaction between sustainability dimensions. The authors called for an integrated approach to sustainability in order to jointly manage the emergent tensions between the financial, social and environmental

aspects. Following an integrated logic, sustainability dimensions become part of a unique interrelated system rather than being sequential within a hierarchy.

The second type of tensions instead addresses conflicts at the *implementation process* level by discussing problems when organizations are in charge of institutionalizing sustainability actions (e.g. Siebenhüner and Arnold, 2007). Yuan et al. (2011) pointed out tensions between the external context and internal business pressures highlighting the divergence between requirements for sustainability from external stakeholders and the need to generate economic value asked to managers. The same authors also addressed the tension that generates from the need for internal consistency between new sustainability oriented practices and the core business of a company. Depending on this level of consistency, companies can respond with routinize or occasional sustainability actions. David et al. (2007) discussed the tension between stakeholders in terms of managerial resistance to external pressures for corporate sustainability. The authors identified two opposite responses to these stakeholders' tensions: a symbolic and a substantive managerial response. The former consists of demonstrating conformance to the new challenges while continuing making resistance. The latter relates to the actual implementation of sustainability actions. Strand (2014) further details the issue of stakeholders' engagement by posing the attention on tensions between individuals and organization. He discussed the impact of introducing a Chief Sustainability Officer in order to promote and maintain high level of commitment on the sustainability issue. Although the effectiveness of this strategy is questioned given the evidence provided by the case study of several sustainable positions that were introduced and removed after a few time, the study suggests the introduction of bureaucratic structures as a possible managerial strategy to increase leadership when implementing sustainability actions.

Kettlner et al. (2014), addressing more in general the governance of sustainability practices in Australian companies, highlighted tensions at the communication level in terms of how sustainability is communicated outside the company. A contraposition exists between ad hoc communication and an integrated reporting, which includes, among the others, also sustainability disclosures.

Type of tension	Detail	Managing strategy	Author
Conceptual level	Contradictions among the financial, social and environmental dimension	Integrated approach to sustainability	Gao and Bansal, 2013
		Hierarchical approach to sustainability	Chiu and Sharfman, 2011
Implementation process level	Stakeholders' tension	Managerial activisms vs symbolic response	David, 2007
	Context: requirements by external stakeholders vs internal priorities	/	Yuan et al., 2011
	Internal consistency: sustainability actions vs core business	Routinized vs occasional sustainability actions	Yuan et al., 2011
	Commitment: individuals vs organization	Formalized and dedicated structure to address sustainability (Chief Sustainability office)	Strand, 2014
	Communication: Ad hoc vs integrated reporting	/	Klettner et al. (2014)

Table 1 – Type of tensions in sustainability articulation

These papers discuss tensions when organisations deal with sustainability actions and they propose, in some cases, also managing strategies. However, these contributions maintain the perspective of the corporation, without analysing tensions and their implications in other core fields, where profit goals are less central, such as higher education.

As far as the issue of sustainability tensions in higher education is concerned, this represents an emerging field of studies given the prominent role of universities in contributing to society development and education (Waas et al., 2010; Sedlacek, 2013; Karatzoglou, 2013). However, studies in higher education, do not directly tackle the issue of implementation tension. Rather, they mainly investigate the implementation process by identifying implementation drivers and barriers. Some research addresses the entire implementation process while some other addresses specific aspects of the organizational change process.

With respect to the analysis of the entire implementation process, Velazquez et al., (2006) proposes a sustainability framework constituted by four main phases, namely development of sustainability vision, mission, committee through the setting of policy, targets and objectives,

finally arriving at the practical implementation of actions. In the same vein, Krizek et al (2012) by exploring the experience of an American university defined a sustainability implementation process based on the phases of grassroots, executive acceptance of the sustainability strategy, the visionary campus leader and fully self-actualized and integrated campus community.

Some other studies on higher education focus instead on specific aspects of the implementation process, specifically the commitment level and communication of sustainability strategies. For example, Lee et al. (2013) explores the commitment level when implementing sustainability practices within universities, by investigating how education for sustainable development is communicated through vision and mission statement. The authors indirectly tackle the problem of coherence between the commitment exposed in public documents such as vision and mission and practical achievements arguing the importance of ensuring alignment between the strategic and the operational level. The importance of commitment when implementing sustainability practices has been explored also by Helferty and Clarke (2009), with a specific attention on the crucial role of students as leader of climate change initiatives with different potential levels of engagement. The trade-off between a top-down or bottom up approach to implementing sustainability has been instead the core of the research by Brinkhurst et al. (2011), who underlined the importance of a middle level composed by staff and faculty members as critical leaders of the change process. Although with a focus on education for sustainable development, de Lange (2013) also discuss the crucial role of university stakeholders as responsible leaders for implementing sustainability. Sustainability communication has also been underlined as crucial issue within higher education, with studies that explore specifically external communication through the analysis of university websites (Dade and Hassenzahl, 2013) and some others that investigate the importance of internal sustainability communication in order to maintain engagement from all the campus community members (Franz-Balsen and Heinrichs, 2007).

These studies in the higher education field provide an array of potential obstacles to the sustainability implementation process. However, literature that specifically addresses tensions and conflicts when implementing sustainability at the university level is still scant. A notable exception is the study by Hoover et al. (2014) that adopts a meta-ethnography methodology to review problems universities face when implementing sustainability practice. This paper highlights nine different issues, ranging from power, to commitment, communication that can generate tensions when approaching sustainability change, which can serve as a roadmap to

universities. Yet, the question on how to manage conflicts is left unanswered calling for more research in this field.

## **FRAMEWORK OF ANALYSIS**

To investigate tensions that may arise in Higher Education sector when universities implement practices of sustainability, we drawn on the framework proposed by Hahn et al. (2014b). Although applied to the private sector and to the notion of corporate sustainability, the framework is applicable also to the Higher Education field: the identified dimensions of analysis, in which conflict may arise, are, in fact, related to the process of defining and implementing sustainability that also universities engaged with sustainability should deal with. The framework is developed according to an integrative view of sustainability (Gao and Bansal, 2013), in which sustainability is conceived as a complex concept in which the economic, environmental and social perspective are complementary. However, the adoption of such an integrative view, in which the three perspectives are equally relevant and they should be emphasized in the same way, is suggested inevitably to lead to tensions and conflicts at different organizational level. Therefore, the key task of the decision-makers and the top management is to manage the multi-level tensions enacting different strategies (Hahn et al., 2014b). The framework is reprinted in Figure 1.

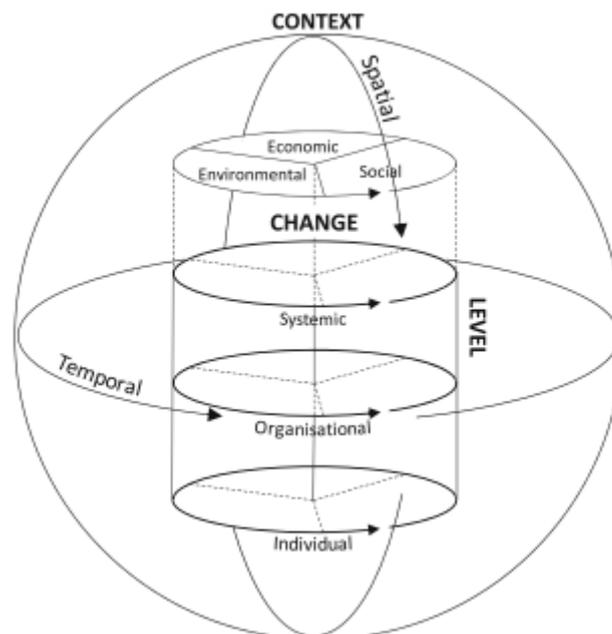


Figure 1 – Framework of analysis Source: reprinted from Hahn et al., 2014b

Hahn and colleagues (2014b) distinguish between three dimensions of tensions (i.e. level, change and context) that can occur during the implementation process.

*Level*, intended as the different organizational articulation of an institution, is the first dimension on which tensions can emerge. Indeed, sustainability as a multi-level concept, can assume different connotations and its understandings may be different across individual, organization and systemic level (Hahn et al., 2014b). Specifically, two levels of tensions have been identified: (1) individual-organization tensions, in which the individual interpretation and endorsement of sustainability could be different from the strategy defined at the top organizational level and (2) organization-systemic tensions that arise when sustainable initiatives and activities are incoherent with the broader organizational strategy.

The second area of tensions is related to *change*. Tensions, in this case, arise during the implementation process, in which traditional organizational patterns and responsibility, as well as working practices, should be changed and replaced with more sustainable dynamics. To date, Hahn et al. (2014b) identified two different patterns in which change could occur: *creative deconstructions*, in which existing organizational forms are eliminated and replaced by new forms, and *dialectical processes* through which existing organizational forms are re-organized as to be used as the basis for new process. As an example of change tension, the authors quoted the types of innovation, patterns of technological and structural changes and effectiveness of sustainable strategy (Hahn et al 2014b).

Finally, we can find tensions at the *context* level. Hahn et al. (2014b) distinguished between spatial and temporal contextual tensions: the former refers to the tension between short-term and long-term objectives to be privileged and implemented, while the latter is focused on what the author called “intragenerational equity” (Hahn et al., 2014b), defined as the equitable development opportunities on the local territory (in particular between developed and underdeveloped regions).

As described, this framework, with its macro-categories, is considered appropriate to investigate sustainability tensions in higher education. Furthermore, its application in a context characterised by non-profit goal provides ground for theoretical improvements, which can then inform future research in other non-profit sectors.

## **METHODOLOGY**

This study aims to investigate tensions that arise when universities engage with sustainability and resolution strategies applied to manage these conflicts. In order to answer these questions, a qualitative approach based on a comparative case study [Yin, 2003] has been adopted. According to Yin [2003], the case study approach is the most appropriate methodology of analysis when “how”, “why” questions have to be answered. In addition, a multiple case study was designed since this approach facilitates the comparative analysis of trend, pattern and practices implemented in different contexts (Corcoran et al., 2004). Ten universities were selected adopting theoretical sampling (Eisenhardt and Graebner, 2007) in order to have variety in the cases at issue. Hence, we selected the universities searching for variety in the following issues: 1) number of students, which can be considered as a proxy of the dimension of the university and it can be related to different attitudes in implementing sustainability initiatives; 2) establishment year, which could be related to particular initiatives of amelioration of buildings or energy savings; 3) geographical location that can be associated to particular contingency factors (i. e. culture). This selection gave us the possibility to have a significant representation of the variety of Italian universities along with the national territory. The characteristics of the universities and their clusters are provided in Table 2.

<b>University</b>	<b>Dimension</b>	<b>N. of students</b>	<b>Year of establishment</b>	<b>Location</b>
University A	Small	14.310	1982	North
University B	Small	18.898	1868	North
University C	Small	17.858	1391	North
University D	Small	5.164	1926	North
University E	Large	58.743	1924	North
University F	Small	11.529	1990	South
University G	Medium	38.788	1863	North
University H	Medium	30.258	1859	North
University I	Medium	26.477	1955	South
University L	Small	15.144	1617	South

Table 2 – Universities’ main characteristics

Sources of data include document, website, social media (e.g. Twitter account) and semi-structured interviews. The analysed documents comprise official reports, internal presentations and informal documents about sustainable projects implemented by the universities.

Official reports refer to documents made available to the general public through the university website. They usually include annual sustainability reports that were available for four out of the ten analysed universities and also the green metric report on the university position on this international ranking system. Internal presentations and informal documents refer to documents

not made available to the public. These reports are usually represented by slides and word files discussed during internal meetings. Furthermore, each university prepared a synthetic word report sent to the research group to synthetically describe their initiatives related to sustainability. This document synthesizes the main sustainable initiatives in place and provides references to sustainability websites or to publicly available documents on sustainability issues and particular actions in place in the campus.

Websites represent another source of data. They have been analysed distinguishing between webpages on sustainability issues on the institutional webpage of the university or ad hoc websites on sustainable campuses. In addition, a social media analysis on universities sustainability accounts was applied. This analysis was performed for those universities that have a dedicated social media account for sustainability. This was the case of University B, with both a Facebook and Twitter account on sustainability initiatives, University E and University G, which have a common Twitter account for their sustainable initiatives. The software Nvivo was adopted to download posts containing the keywords “sustainability” and “sustainable campus”. Posts were analysed using the features proposed by the software Nvivo that allowed performing a cluster analysis on the most common hashtag for Twitter and identifying those posts that generate the highest debate and interactions. Documents collected and websites analysed are summarized in table 3.

University	Public documents		Reserved documents		Dedicated website	Social media dedicated page
	N.	Type	N.	Type		
University A	--	--	4	Technical relations	--	--
University B	2	Sustainable reports	--	--	7	2
University C	2	University Statute Social Balance	--	--	2	
University D	--	--	1	Draft of the social balance	--	--
University E	1	Sustainable campus report	3	Technical relations	1	1
University F	1	Strategic plan	1	Technical relation	--	
University G	1	Sustainable campus report	--	--	1	1
University H	4	Sustainable campus report Report on sustainability Green metrics survey Specific document	--	--	--	--
University I	--	--	1	Technical relation	--	--
University L	6	Description of specific projects	--	--	--	--
<b>Tot.</b>	<b>18</b>		<b>11</b>		<b>11</b>	<b>4</b>

Table 3 – Data sources: documents and websites

This material has been qualitatively analysed in order to understand how each university conceptualizes and implements sustainability actions. In addition, the analysis of archival data

gave a preliminary vision of the strategic vision of sustainability and which sustainable goals were pursued by each institution.

The analysis of documents and websites was followed by semi-structured interviews in each of the universities within the sample. We asked the university to interview the responsible person for sustainable activities within the campus in order to understand the process of implementation, the degree of commitment and which problems they had to face during the process. Interviews last from half-hour to one hour. Table 4 summarizes the number of interviews and the interviewed within each university.

<b>Univerisity</b>	<b>Interviewed</b>
University A	<ul style="list-style-type: none"> <li>• General Director</li> <li>• Energy Manager</li> <li>• Mobility Manager</li> </ul>
University B	<ul style="list-style-type: none"> <li>• General Director</li> <li>• Delegate for Sustainability</li> <li>• Sustainability Office (5 person)</li> </ul>
University C	<ul style="list-style-type: none"> <li>• General Director</li> <li>• Energy manager</li> <li>• Delegate for social sustainability</li> </ul>
University D	<ul style="list-style-type: none"> <li>• General Director</li> <li>• Delegate for Sustainability</li> </ul>
University E	<ul style="list-style-type: none"> <li>• General Director</li> <li>• Delegates for Sustainability (social and environmental)</li> </ul>
University F	<ul style="list-style-type: none"> <li>• General Director</li> <li>• Energy Manager</li> </ul>
University G	<ul style="list-style-type: none"> <li>• General Director</li> <li>• Head of Sustainability Office</li> </ul>
University H	<ul style="list-style-type: none"> <li>• General Director</li> <li>• Delegate for sustainability</li> <li>• Energy Manager</li> </ul>
University I	<ul style="list-style-type: none"> <li>• General Director</li> <li>• Energy Manager</li> </ul>
University L	<ul style="list-style-type: none"> <li>• General Director</li> <li>• Energy Manager</li> </ul>

Table 4 – Data sources: interviews and interviewed

## Results

This section discusses conflicts and strategies related to sustainability implementation in the ten investigated universities. Tensions arose during the operational implementation within the campus are presented according to the dimensions identified by Hahn et al. (2014b). When analysing cases, we found different problems and different resolution strategies moving from one university to another. Hence, not all the universities faced tensions for all the dimensions

of level, change and context. Given the purpose of the study to explore tensions and related strategies, results will be presented looking cross-cases in order to discuss specific tensions and the resolution strategy adopted by the university.

### *Level*

The first tension that can be found when implementing sustainability actions in practice lies in the contraposition between different levels of the organization. We found tensions both between the whole organization and its stakeholders, but also between newly constituted organizational units and the pre-existing units. The tension between individuals and the organization occurred between governing bodies who decided the whole university sustainability strategy and individuals, including both students and operational staff that have to manage sustainable activities.

In this respect, the interview at University H revealed a tension between the figures in charge of leading the sustainability change, i.e. the academic governing bodies, and the broader community of students and staff. In this university, the top management decided to remove a car parking outside the campus in order to develop a green area for students, professors and staff. However, this decision generated the uprising of three categories of stakeholders, although some of the individuals within these three categories of stakeholders were actually involved in sustainability activities. This top-down approach generated tensions when turning the decision into action because of the lack of approval from the broad university community of students and staff. Starting from this experience, University H decided to change the approach, by adopting a participative approach, based on a preliminary decision from the top and then a subsequent discussion with students and staff in order to fine-tune and revise the proposal based on the requirements from the broad community. In this way, an acceptance strategy was pursued, which stimulated open dialogue and constructive debate rather than conflicts across universities stakeholders.

A second type of tension within the level dimension arose horizontally between newly constituted units and pre-existing offices that were in charge of dealing with sustainable projects, or specific interventions that are now under the responsibility of the Sustainable “office”. In this case, tensions emerged from the process fragmentation because information and responsibilities were diffused among pre-existing offices.

### *Change*

The second type of tensions occurs during the change process for institutionalizing sustainability practices and they are mainly related to resources management and top-level commitment.

Tensions on resources management were found in those cases in which, although the governing bodies of the university were promoting sustainability, limited specific resources were actually devoted to this objective. This was the case of University G and University I. In particular, at University G, the creation of a “sustainability unit” was planned and then implemented, but with less resources with respect to the initial plan. As a result, tensions appeared between the manager responsible for implementing operating activities and governing bodies. She complained about the difficulties to realise a real sustainable campus with two part time resources rather than with five full time units of staff as initially planned. Similarly, at University I, a formal strategic unit was created, under the supervision of an energy manager, but no human resources (apart from the energy manager himself) were devoted to that area as planned by the government units. The Energy Manager felt to be “left alone” in managing such activities, not only because of the reduced commitment from the top-level, but also because of the lack of support from students. Paradoxically, although students seemed interested in the topic, they were willing to be engaged in sustainability activities only in exchange for a financial reimbursement.

With respect to this tension between committed and actual resources, we did not find a proper resolution strategy. Rather, the response from universities to this problem reflects what Hahn and colleagues called “opposition” (Hahn et al., 2014b): organizations continue to live with the internal conflicts and no managerial strategies are going to be implement to solve the tension. This gave rise, in practice, to a ceremonial adoption of sustainability issues, with a high upper level commitment visible from the external communication, but in practice, with few internal dedicated resources.

During the sustainability implementation process, tensions can also arise with reference to the commitment level. In this respect, tensions appeared from the clash between a high initial commitment and a decrease of interest time by time from leaders of the sustainability change. We found this situation at University G and University I, in which, after a period of enthusiasm for sustainability issues, there was a gradual increase of indifference on these themes. During the interview with the Energy Manager of University I, the tension clearly emerged from his

words, according to which after the creation of the Sustainable unit, any meeting was organized with the governing bodies to monitor the performance of sustainable projects and to highlight future actions. Also in this case, a ceremonial adoption of sustainability initiatives seems to be the escaping strategy: external commitment from top roles appears high, but, inside the organization, there are in practice few efforts to make sustainability actually works.

This ceremonial approach to sustainability was particularly evident at University D, where they initiated a tough sustainability communication through reports and websites since 2005. However, when we asked about sustainable actions they implemented in practice, a few examples were provided and several initiatives have been defined under development yet. Nonetheless, the external communication still remain high, because they mainly re-labelled and reconfigured existent actions and practices that were in place even before the university decided to implement sustainability practices.

University B and University C, on the contrary, are example of cases in which, sustainability practices have always received high commitment during all the phases of the implementation process. To date, at University B, many of its sustainable activities have been implemented thanks to the commitment of the top management, who propose new ideas and collaborations with external stakeholders. According to this line, a Twitter page on sustainability was created both to increase stakeholders' involvement and to collect new proposal and sustainability activities. For example, in 2013 the university launched a Twitter hashtag called "M'illumino di meno" (shining less brightly), inviting the broad university community posting pictures on their sustainable behaviour with respect to the energy efficiency. This initiative stimulate an active engagement from the university students who posted their pictures, but also from the staff with some lecturers that used candles rather than lights for fifteen minutes of their teaching class. Indeed, several sustainable initiatives have been implemented thanks to the active participation and the support of the local community, intended both as restaurants and theatres, but also thanks to the citizenry. This strategy could be labelled "reinforced commitment" since the commitment not only increases over time, but the top management is the promoter of new initiatives.

### *Context*

According to the framework of Hahn et al., (2014b), tensions in the context dimensions could be analysed at two levels: time and space. Time refers to the contraposition between long term

and short term objectives that often leads to the necessity of privileging one dimension of sustainability over the others. Space instead relates to tensions that arise in relationship with the territory.

We found a time tension in the case of University B in which, although the awareness about the multi-dimensionality of sustainability, the university was pushed to focus, at the time they started to be engaged in the topic, the environmental dimension only. This aspect clearly emerged during the interview with the Sustainability Delegate, who stated that they were aware of the relevance of social sustainability both for the university and for the whole community, but pressures on environmental sustainability were stronger at the university level as well as with reference to external stakeholders. The university was forced to define its focus mainly because resources to devote to these activities were scant and, to implement action of success, all the efforts should go on the same direction. As a result, University B implemented a hierarchical strategy based on *tempification* according to which the focus was first on environmental sustainability and only once this process was defined and structured, the social sustainability was taken under consideration.

Another example of tensions emerged between short and long term occurred at University A. In this case, the tension between space tensions was solved through the implementation of a “minimization strategy”, in which the university define a minimum set of sustainable goals and implement focalized actions to achieve them. The minimization strategy of University A was focalized on the financial perspective of energy costs reduction and, the first step was an evaluation of energy costs and energy waste that, being too much high, lead to the implementation of sustainability interventions. Examples of former interventions at University A were energy interventions on buildings and photovoltaic installations, which were explicitly aimed at reducing energy costs at the university level. This strategy reflects the “translation” of the General Director of the sustainability strategy:

“I’m totally aware of the importance of environmental and social dimensions, but without a financially sustainable university we go nowhere. I start from financials, and in particular saving and then we see how we can pursue a green strategy”. (General Director at University A).

Space conflicts occurred in two universities: University F and University L. In both cases, tensions arose from the contraposition between the willingness to implement sustainable actions and the urgencies of dealing with structural problems of the local territory, e.g. the high unemployment rate in the local area, corruption problems for projects and contracts. When discussing with the General Director of University L, he underlined their initial intentions to

approach environmental sustainability by acting on the reduction of carbon emission, energy efficiency and the promotion of renewable energies. However, he continued, the main urgency of our area is the high unemployment rate: we have limited resources and we are devoting our efforts on pushing students abroad not to increase the unemployment rate, rather than assigning them to sustainability initiatives as initially planned. This decision to limit the sustainability effort was in contraposition with the urban plan, which clearly stated the leading role of the university in favouring energy efficiency strategies:

“The local administration [with reference to the municipality] signed agreements with local institutions that have a significant impact on the energy consumption within the local area and that, at the same time, can contribute to the sustainable development of our territory” (Sustainable energy action plan for the Municipality of “L” – name of the city of University L, 2013)

The resolution strategy adopted by University L was a ceremonial adoption of sustainability initiatives with formal documents that declared their involvement and commitment to sustainability while in practice limited actions were in place. As asserted by the energy manager, the only actions in place concerns traditional infrastructure maintenance with a further control on their impact from an energy consumption perspective. No additional resources, nor reports or analysis were in place.

The same situation occurred at University F, where the scant level of resources available was firstly devoted to solve structural problems of the institutions. This runs contraposition with the earlier commitment to build a green campus involved in both education for sustainable development, with ad hoc degree courses, but also with infrastructure interventions aimed at increasing energy efficiency. This contraposition emerged from the interview with the Energy Manager, who highlight the necessity of solving structural problem before devoting resources and energies to the development of a sustainable Campus. With this respect, in his words, the more pressing problem is the corruption contract for students’ residence and for infrastructural interventions on buildings. Also in this situation, the tension was generated by the contraposition between the initial commitment with the external environment to contribute to sustainable development and the limited actions in place because of the urgency to devote resources to contingency problems.

Tensions emerged during the process of implementation are summarized in table 5.

<b>Dimension</b>	<b>Tension</b>	<b>Case</b>	<b>Detail</b>	<b>Strategy</b>
<i>Level</i>	Stakeholders	University H	Tension between the governing body and the community of students, professors and staff	Participative approach
<i>Change</i>	Resources management: committed vs actual resources	University G University I	Scant resources devoted to sustainable activities	Cerimonial adoption
	Commitment	University H University G University D University I	Initial enthusiastic commitment in the short time	Cerimonial adoption
		University B University C	Stable and high commitment	Reinforced commitment
<i>Context</i>	Time: long term vs short term objectives	University B	Imposed choice between environmental and social sustainability	Integrated: tempification
		University A	Clear choice on sustainable objective and focalized actions	Hierarchical: financial dimension
	Space: internal needs vs external constraints	University I	Internal need for sustainability vs external constraints	Cerimonial adoption
		University L University F	Internal need for sustainability vs external resources Need for sustainability vs limited resources	

**Table 5 – Implementation process: tensions and strategies**

## Conclusion

This paper is a preliminary contribution that sheds light on the complexity of managing tensions when implementing sustainability in higher education. While the issue of sustainability tensions is becoming important at the corporate level, it is still mainly neglected at the higher education level. This is a relevant gap given the significant role of universities in contributing to sustainable development (Waas et al., 20120; Sedlacek, 2013; Karatzoglou, 2013).

This study explores tensions and resolution strategies by investigating sustainability implementation processes in ten Italian universities, following the framework by Hahn et al. (2014). Contrary to the positive picture provided by practitioners and proponents in higher education (e.g. AASHE, 2011; ACUPCC, 2011; UNEP, 2014), implementing sustainability strategy is controversial and several tensions originate.

Tensions were visible in the contraposition between individuals and the organization, but also when looking at the resource management, commitment and context issues. In all dimensions, a peculiarity of higher education emerged from the cases is the presence and diverse attitude of the two professional roles involved: academic and administrative staff. Sustainability strategies originate from governing bodies, where academic staff is predominant and initially ambitious

and committed. Administrative staff is instead later involved during the implementation phase and their role is entailed as operational. Conflicts originate between the two realms especially when incoherence between the declared strategy and actual actions become visible.

We also found that the context tensions were often related to the geographical area in which universities operate. In less economically developed area, the implementation of sustainable activities, although identify as a key objective in strategic plans, was in practice obstructed by structural difficulties to solve more pressing tensions with the external context, such as the high unemployment rate.

Finally, it is interesting to note that several tension occur with reference to the time dimension, when deciding the prioritization between financial, environmental and social dimensions in setting short term and long term objectives. Indeed, implementing a sustainability strategy within a specific dimension in the short term, can affect performance in the remaining sustainability dimensions in the long-run. Contrarily to the positive picture provided by proponents and practitioner, conceptual trade-offs are visible also in the university field. In line with the findings from the private sector (e.g. Margolish and Walsh, 2003), also universities adopt either a hierarchical strategy or an integrated strategy aimed at pursuing simultaneously the three sustainability dimensions. However, unlike the evidence from corporate studies (Chiu and Sharfman, 2011), universities that adopt a hierarchical strategy seem not to privilege the financial dimension. On the contrary, the environmental perspective is enhanced and the effects on the financial dimension, focalized on energy costs in our case study, is often considered a consequence of environmental activities.

This study contributes to extant literature in several ways. First, it enhances literature on tensions during sustainability implementation, by highlighting possible resolution strategies that are applicable both at the higher education but also at the corporate level. These resolution strategies include the following: the introduction of ad hoc sustainable units, the adoption of a participative approach, the fostering of external communication and commitment through social media.

The introduction of formalized units in charge of managing sustainability initiatives was found particularly useful to facilitate the shared commitment throughout the university structure. The adoption of a participative approach, rather than a bottom-up or top-down approach was found useful to avoid debates between the broad community and top levels. At the same time, the participative approach facilitates the diffusion of a widespread commitment towards sustainability initiatives. In order to enhance the large community involvement while at the same time reduce conflicts in the selection of sustainability actions and their subsequent

implementation, the adoption of social media to communicate, involve and gain commitment was found particularly fruitful to reduce tensions.

Second, this study contributes to the higher education literature on sustainability by identifying tensions and resolution strategies that occur specifically when universities are in charge of implementing sustainability initiatives. This can also serve as a roadmap to university managers in charge of following the sustainability process.

These findings and contributions emerged from a case study on a sample of Italian universities. Investigations in other universities in other countries will be useful to corroborate these results. Furthermore, further research that links tensions derived from the sustainability implementation process with sustainability results would be useful to understand if there is a relationship between the “how” of sustainability (how the change process is managed) and results of the implemented actions.

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