

Sustainability Management and Reporting in the University of Torino

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Abstract

This paper is based on the case study of the University of Torino (UniTo), one of the largest Italian Universities, open to international research and training. It describes how UniTo has recognized its social responsibility through the adoption of the Organizational Change Management for Sustainability (OCMS). Even though there are no legal requirements concerning social and environmental information, the University of Turin has initiated alternative form of stand-alone sustainability reporting. Its Sustainability Report collects and accounts the progress and performances in terms of economic, social and environmental sustainability within the framework of collaboration between the Universities, the industry and the government, the so-called triple helix. In this paper main managerial and organizational changes and sustainability tools introduced by UniTo are analysed.

Key words: USR; sustainability reporting; university; HEIs; OCMS.

1. Introduction

As described by Leydesdorff, the revolution from a university system founded on *laissez-fair*, to a model of cooperation and trans disciplinary within institutional subjects and the public brought significant innovative elements in the area of its social legitimacy (Leydesdorff, 2013). The so called triple helix model, based on the relations between the three actors (Universities, the industry and the government) is giving a pivotal role to the Universities. The change in the requests from the external environment is changing the processes through which the Universities try to respond to the needs, and this represents a piece of the broader process connected to the legitimacy of the relations (Cisi & Corazza 2016, Filho, W. (2011)).

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The starting point is the main mission of the Universities, linked to the achievement and improvement of the cultural, didactic and research position, according to the standards that the global academic communities apply in the various disciplines. In this respect, the institutional expectations of local communities, at different levels, concern aspects such as (Cisi & Corazza 2016):

- the qualification and attraction of human capital
- the economic and social development of the territory
- internationalization and social innovation
- the regeneration of the civic fabric
- the conjunction between school and companies
- the technology transfer
- the creation of virtuous networks between producers of knowledge and entrepreneurial system.

As highlighted by Ceulemans et al (2015), Higher Education Institutions (HEIs) have a pivotal role in disseminating and mainstreaming sustainability thinking within society.

As scholars show, the field of sustainability in higher education encompasses many themes, with a particular focus on the role of HEIs in providing solutions to current challenges facing the world that must prepare future generations, leaders and policy makers to understand their world and make effective decisions for the benefit of the society as a whole (Alonso-Almeida et al., 2015; Disterheft et al., 2014; Lozano, 2011). Moreover, "University social responsibility" includes HEIs' impact on society and the use of natural environment in research and teaching activities (Godeman et Al, 2014).

To be credible in this guidance role, the university has to behave responsibly and wisely in response to sustainability issues in the management of the energy and human resources of the campuses (Sonetti et Al 2016). A sustainable university can be defined as an institution that addresses, involves and promotes, on a regional or a global level, the minimisation of negative environmental, economic, societal, and health effects generated in the use of their resources in order to fulfil its functions of teaching, research, outreach and partnership, and stewardship in ways to help society make the transition to sustainable lifestyles (Hordijk, 2014).

The Universities are configured as multifaceted institutions with different functions and declined on different specific missions. Universities, as multi-product organizations whom activities affect the growth of society should describe all these activities carried out (Siboni et al 2013). In other terms, in a knowledge-based society, the main knowledge producers should be more accountable for their activities and policy measures are needed to encourage research institutions and universities to measure and manage for example their Intellectual Capital (Cañibano and Sánchez, 2009).

The increasing need of accountability to key stakeholders, and the demand for new tools that are useful for governance at universities, have led to the development of new forms of reporting, including sustainability reporting, which, using an holistic approach, takes economic, social, and environmental dimensions into account.

The main goal of these tools is helping the implementation of knowledge and awareness of sustainability issues seeking legitimacy in the respect of their multiple social contracts.

Reporting in a stand-alone sustainability report is considered a beneficial way to be perceived as a socially responsible organization by society, and consequentially legitimize its operations in the community where it operates (An et al, 2017).

2. The case of University of Turin

Located in Piedmont, in the heart of the Alps, the University of Turin carries out scientific research and organizes courses in all disciplines - except for Engineering and Architecture - in 26 Departments, one Inter-athenaeum Department with Polytechnic of Turin, and several research centres.

UniTo operates in its 120 buildings in different areas in Turin and in key urban places of the entire Region. In UniTo, there are more than 70 university libraries comprising about two million books: 100.000 are antique volumes. Furthermore, UniTo includes the Botanic Garden and several University Museums. Promoting culture and producing research, innovation, training and employment for the surrounding environment, UniTo operates also at an international level through partnership arrangements with more than 600 international universities and 150 international research centres and associations in India, China, developing countries in Asia, Latin America, Eastern Europe, the Mediterranean Area and with a number of international organizations operating in the region.

Alongside teaching and research activities, UniTo has publicly recognized its “third mission” of technology transfer and dissemination and communication of the research outcomes for the societal outreach. The so-called third mission of UniTo refers to the need of identify the role of the University in the surrounding environment. It refers to the ability of UniTo to offer a concrete contribution to the social, cultural and economic development of the context itself.

Starting from the consciousness that the higher education sector should play a key role in disseminating the concept of sustainability since it is a central place to educate future leader, UniTo, have made great efforts to integrate the concept of sustainability into its core values and its strategy. According to the Dean *“A profound engagement of local development actors is fundamental to achieve international global standards in terms of quality of the services and dimension of the spaces. Even historical Italian universities were located in cities and not in isolated campuses, nowadays, Universities need to be aware of their impacts over their territories and to be part of the metropolitan development plan and strategies”*.

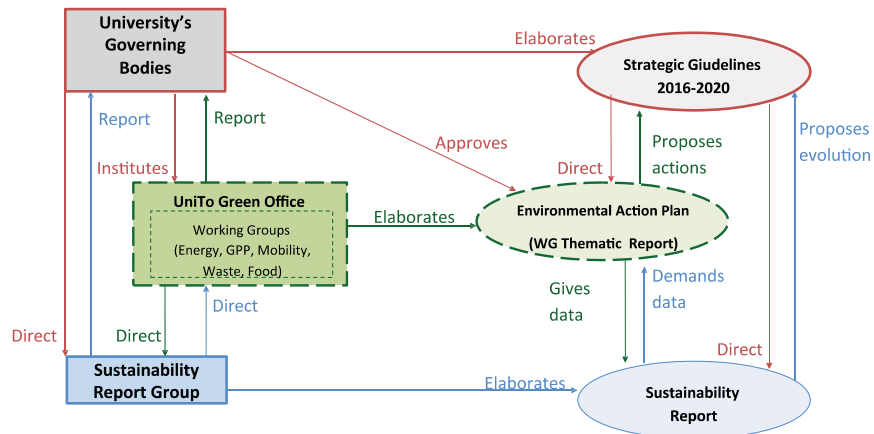
In this context, UniTo’s strategic purposes, as described in its strategic plan, are:

1. Recognise UniTo’s “social responsibilities”
2. Enhance the quality of the research and its international dimension
3. Enhance the quality and the effectiveness of the training offered and its international outlook

4. Assure the quality, the innovation, the simplification and the sustainability of the University.

The sustainability framework is described in Figure 1.

Figure n.1 - UniTo sustainability framework



In particular, UniTo has recognized its social responsibility mainly at two levels:

- 1) Management/organizational, with the establishment of a sustainability office, responsible for the sustainability issues and has attempted to report its sustainability initiatives and efforts,
- 2) Accounting/Reporting, with its annual Sustainability report that collects and accounts the progress and performances in terms of economic, social and environmental sustainability.

3. Implementations at the managerial/Organisational level

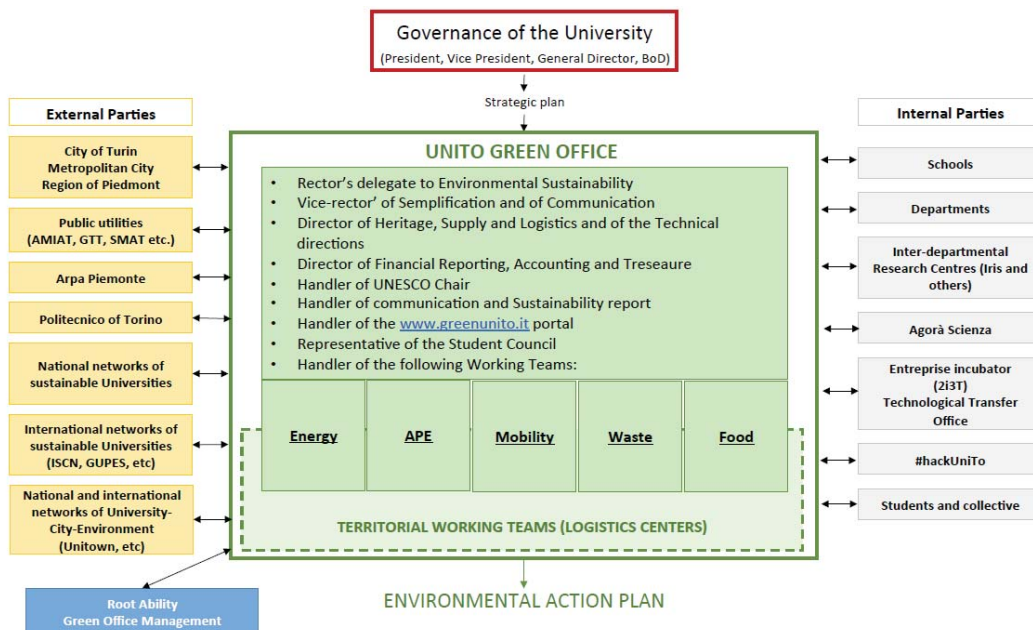
With the aim of moving the entire organization from the status quo to a more sustainable state a “Green Office” (UniToGo) is coordinating the structure of the University’s environmental responsibility (see Figure 2).

UniToGo was born with the mission to submit a proposal for the Environmental Sustainability Action Plan (ESAP), a document identifying the University’s environmental sustainability objectives for the next 5 years, its actions and the Indicators for measuring the results, to the University’s Governing Bodies. Once approved, Green Office coordinates and supports its operational implementation.

Its function is to link the Strategic Guidelines, the Sustainability Report, and the initiatives launched to promote plans, projects and actions towards environmental sustainability. Coordinated by one of the Dean’s Delegate for Environmental Sustainability. It also brings together and creates synergies between teachers,

administrators and students, in order to produce new knowledge and solutions on the subject.

Figure n.2 - Sustainability at the managerial/organisational level



The Green Office is intended as a “channel” with the aim of:

- declaring the strategic objectives of the University in terms of concrete actions and tools;
- encouraging internal communication on these areas and on on-going or planned initiatives;
- enhancing the skills of the involved faculty and administrative staff;
- coordinating activities and explore possible synergies between different thematic groups;
- introducing or reinforce the link between research and administration.

In addition, the Green Office is an interlocutor for timely projects and collaborations on environmental sustainability with regard to external stakeholders. In particular, it undertakes to:

- accreditation of the University as sustainable, enhancing national and international visibility;
- facilitate networking with sustainable universities at national and international level;
- encourage the activation of partnerships with local authorities and public utilities involved.

Starting from the strategic planning of the University, UniToGO coordinates the activities of 5 themed Working Group (WG) that, through public research and consultations with various internal and external actors, address and develop initiatives and projects, formulating proposals for an action plan based on five main thematic:

- *Energy*
- *Green public procurement*
- *Mobility*
- *Food*
- *Waste*

The Working Group Energy has monitored the energy consumption and elaborated the University's Energy Plan, which aims to rationalize the consumption of primary resources, improve the energetic efficiency of buildings, reduce dispersion, increase the production of energy from renewable sources, prepare energy balances on an economic basis and end-use parameters, and publicize energy data. In addition, collaborating with a number of private companies and start-up in the city of Turin, it implements interdisciplinary research projects aimed to improve the energy efficiency of buildings and comfort of people. It also organizes awareness-raising initiatives and involvement of UniTo students. The Energy Working Group aims to propose further concrete actions to improve the energetic efficiency of the University's facilities and buildings: from consumption of renewable energy to building renovation, improvement of walls thermal insulation to replacement of buildings obsolete equipment with other more efficient.

Public Administrations, with their own supply choices, play an important role in stimulating the market: favouring low environmental impact purchases the Green Public Procurement Working Group (GPP) encourages the diffusion of environmentally innovative technologies and "green" products. It also contributes to sustainable development by becoming an example for employees and users. The Green Public Procurement Working Group aims to develop an action plan to increase the share of purchased goods and services with a small impact on the environment. The group promotes training sessions for staff with the dual aim of updating regulatory developments and collecting collections of how to acquire green purchasing data to become part of customary administrative practices.

The Sustainable Mobility Working Group aims to propose a mobility plan to encourage the adoption of eco-friendly modes of transport (public transport, bicycle or pedestrian and car sharing, bike sharing or car pooling) from, to and between the UniTo offices, which are distributed throughout the city and in the surrounding first belt. The Sustainable Mobility Working Group also proposes concrete actions along with short-term and long-term projects at marginal cost or incremental organizational and financial complexity. This is inspired by good practices developed in Italy and abroad, launching an investigation into university accessibility and mobility choices adopted by the UniTo community in relation to their needs. At the same time, it realizes engagement initiatives to identify potentialities and areas of intervention that are considered priority by users of different locations, and identifies a network of interlocutors at the national level, with particular attention to

institutional and associative subjects, and nationally through the Network of Mobility Manager at the University.

The Working Group Food aims to develop an action plan to improve the sustainability and quality of food consumed within UniTo's facilities. The achievement of these goals depends on a process that takes into account possible concrete actions and projects, on a short and long term prospective, cost-free or growing organizational and financial complexity, based on the analysis of good practice in Italy and abroad and evaluations on the feasibility and effectiveness of the actions themselves. The Working Group Food, in this first phase of work, is identifying, in collaboration with internal / external and/or UniTo interlocutors, the areas to be addressed to improve access to and consumption of a Quality food (gourmet, organoleptic, environmental, social, and territorial) at economically acceptable conditions. The in-depth study focuses in particular on the management of university catering, bar points inside the facilities and vending machines.

The Waste Working Group aims to propose and define strategies and actions to prevent waste production, increase its collection and manage the cycle of waste as safely as possible within the structures and buildings of the University of Turin. Starting from the recognition of good practices and experiences of sustainable Italian and foreign campuses, the Working Group proposes pilot experiments, in some locations, through a reconstruction and an estimation of the quantities of waste produced and the methods of collecting and disposing, with censuses and measuring flows of energy and materials related to the University's waste metabolism. The Waste Working Group proposes specific training initiatives and information campaigns on proper waste management for staff and student component to increase the involvement of the academic community.

4. Implementations at the Accounting/Reporting level

According to Shriberg (2002), the main three reasons for organisational alignment with the principles of sustainability (or social and environmental responsibility) are: morality and intergenerational equity, long-term survival of life on Earth, and organisational benefits and risks (improved reputation, decreased economic and social liability, and possibly increased efficiency). Nowadays, it is quite undisputed that these rationales should lead all organisations and especially higher education institutions (HEIs), which hold the responsibility to be an engine of sustainable development.

Universities Social Responsibilities (USRs) require ad-hoc policies, resources, tools and processes for their management, organisation and control. In this framework, the role of accounting can play an important role in explaining to the large public how and why HEIs are able to fulfil their USRs (Corazza, 2018).

Consistently with the legitimacy theory - which suggests that the reporting of information demanded by society is a useful medium for organizations to obtain the status of "legitimacy" - UniTo reports its sustainability efforts using the GRI (Global

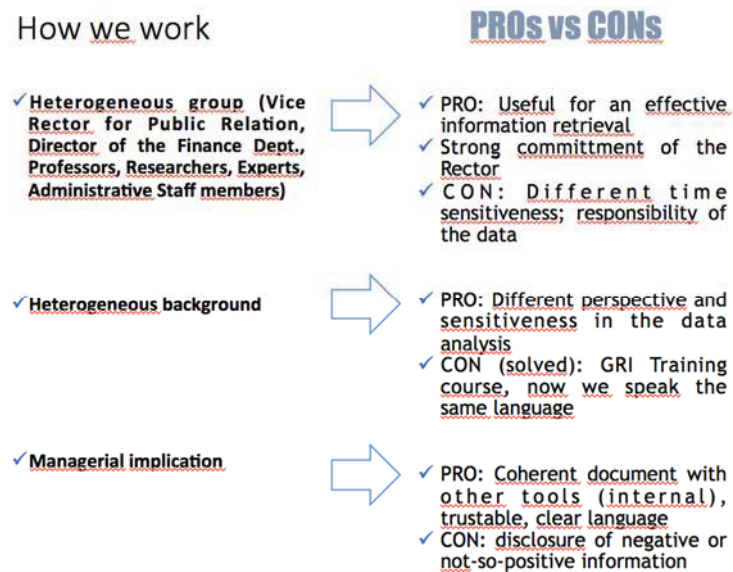
Reporting Initiatives) guidelines, the most widely accepted guidelines for sustainability reporting for organizations (1).

According to the “multiple bottom lines” HEIs have, the Report narrates as the human, intellectual (2), natural and relational capital are embedded in UniTo. It disentangles the complicated managerial governance that orients the knowledge production and the achievement of social responsibilities following a strategic plan.

From an organisational perspective, the Sustainability Report Group is characterised by the Dean’s strong commitment and is heterogeneous in terms of roles, having the following members: Dean’s Delegate for Public Relation, Budget, Accounting and Treasury Director, Professors, Researchers, Experts, and Administrative Staff members. This feature is useful for an effective information retrieval, but difficult to manage due to different time sensitiveness and problems of data responsibility.

The heterogeneous background of the group’s members allows the observation of facts from various perspectives and with different sensitiveness in the data analysis, while the problem of speaking “different languages” has been solved thanks to the GRI training course (see Figure 3).

Figure n.3 - The sustainability reporting group



¹ The Report has been edited using the GRI (Global Reporting Initiative) guidelines version G4. The first report prepared “in accordance” with the GRI Guidelines (Core) was the Italian version 2014/2015.

² Intellectual capital is intended as the generation and production of human capital, structural capital (organisational and technological) and relational capital (Martín-de Castro, 2014).

4.1. The reporting process

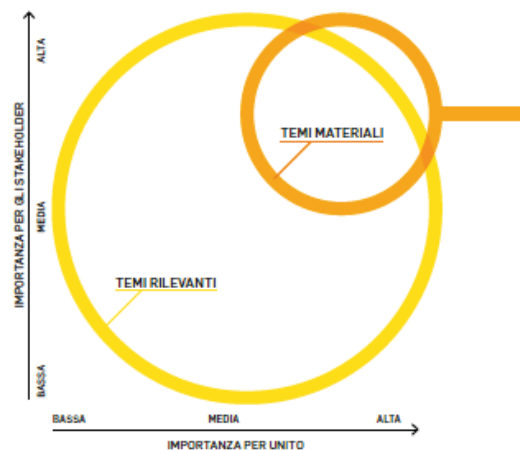
The social responsibility of the Universities and the multidimensionality of the output requires a consideration on the reporting process, so that the Sustainability report can be both effective and credible. It has been affirmed that the University sustainability report is called to account for a multifaceted and complex reality, which produces effects on stakeholders, but in quantities and qualities that are difficult to assess, at least in the short and medium term (Mion & Melchiori, 2011).

The UniTo's sustainability reporting process is divided in different phases: materiality analysis, stakeholder engagement activities, interviews and data retrieval.

In the materiality analysis stakeholders engagement moments are put in place ⁽³⁾. The engagement process involves different categories of stakeholders over different issues, using different engagement policies (such as internal and external environmental experts, students, green public procurement responsible, disability manager, institutional stakeholder from the region and the city, companies, deans of departments). The identification of indicators and the content of the report is realised according to the materiality matrix and GRI guidelines. Additional indicators are recognised in order to produce a more transparent informative source.

The materiality matrix is elaborated following the process established by GRI on the basis of four steps: identification, prioritization, validation and review (see Figure 4). The outcomes of the process of stakeholder engagement of UniTo has been used as source of information for the elaboration of the matrix.

Figure n. 4 - The UniTo's materiality matrix



Feedback activities are displaced as essential part of the revision of the materiality analysis for following editions.

³ 18 as for the edition 2014/2015

The commitment of an enlightened person in UniTo has been represented firstly by the Dean, along with a pool of professors and researchers currently debating sustainability topics into their subjects in respective fields of study.

The recognition of several USRs implies several challenges: the implementation of purposes as ethical efforts is senseless if at the organisational level these purposes are not translated in objectives and actions. Especially in institution such public HEIs, administrative staff run day-by-day routine following precise processes and procedures. To be efficient in achieving proposed USRs, an institution should translate them into ordinary tasks and foster the commitment of the staff before all. After this, the next challenge should be how to manage and control the achievement of results. However this can be solved implementing management accounting techniques already in place, for instance for monitoring the university drop-out rate or in-time graduation rate. In addition, this step implies also a high level of coherence between sustainability reporting and other internal and external documents produced by the university in order to fulfil mandatory ministerial regulations.

The working group has involved governance members, academic and not-academic staff and it has represented: an easier access to internal datamining sources and internal documents analysis (codes, board of director's decisions, official statements and declarations); access to uncodified knowledge of processes and procedures in order to retrieve data effectively. Considering more than 4,000 people working in UniTo, the difficulties that might arise in contacting the right person for the right data were overpassed having in the working group members of the staff. On contrary, the role of scientific members in the working group is to verify the correctness of data processing and methodologies, playing institutional role in engaging stakeholders and claiming importance at the governance level. Not to be omitted is the role of practitioners of fundamental importance in bringing together the perspective of what currently happening in the market and the internal process of reporting. The organisational settlement of materiality analysis and stakeholder engagement process lasts months of work.

The GRI framework is arranged with intellectual capital indicators in order to fulfil information needs related to knowledge production and additional environmental KPIs deriving from Greenmetrics checklist we adhere.

The information retrieval involves more than 50 people from academic and not-academic staff. All the quantitative data collected and elaborate from raw databases needed much efforts and a strong review process implicates the selection of only trustable information based on shared data in order to support the communicative purpose of the document that allows people speaking clearly and translating complex administrative process in easy-to-understand contents.

The report is presented to the public during the opening academic year ceremony in a way to collect a wide attention from media and stakeholders as a whole. One of the managerial implication is represented by the cost-opportunity of having a social audit or a third-party assurance of the report.

4.2. The sustainability as reported

In its annual Sustainability report UniTo accounts the progress and performances in terms of economic, social and environmental sustainability. After 3 years of GRI Sustainability reports it is possible to compare results and trends.

From the perspective of economic sustainability, there has been a rise under various indicators, greater transparency and high value generated for the territory.

From the perspective of social sustainability, the main problem is the staff turnover (around 61%), depending on the national expenditure policy, so the average age of staff (especially faculty) remains high. Conversely, other interventions, which fall into the autonomy of the University, show positive results: investment in staff training on health, safety, well-being, and communication; business welfare initiatives and equal opportunities, disability services, and professional ethics. The University has also strengthened student services, especially entrance counselling and job placement. In contrast to the prevailing international trend, UniTo is implementing a policy of reduction of student contributions and limited enrolment degree programs for greater social inclusion. The University combines these actions with some policies aimed at reducing abandonment, supporting students over their academic path, increasing teaching offer in a foreign language, fostering students' international mobility, paying attention also in this field to the weak segments of students, traditionally excluded from international exchanges. All these aspects are joint with the effort to equip students with better spaces to enjoy teaching, studying, experimenting and research.

Therefore, the number of students, the ability to attract students from the rest of Italy and the internationalisation are growing. According to AlmaLaurea - ISTAT (2014), the employment levels of graduates in UniTo one year after graduation (around 63,5%) are higher than the national average (52,3%). Finally, half of the city's medical health care is the University's responsibility and has many excellence features.

From the perspective of environmental sustainability, the University has improved many performance indicators through UniToGO.

4.3. The social value created (and monetized)

There is increasing demand in society for the social impact generated by organizations to be measured. Monetizing it and integrating it with economic/financial information so as to optimize the sustainability of organizations themselves and of the socioeconomic system in which they operate is a major challenge (Retolaza et Al, 2015). In this context, UniTo has calculated the value generated for the territory: it is about 2.5 euros for each euro received from the Ministry of the University by UniTO (see Figure 5).

This index is calculated using the "Social return on investment" (SROI) approach. SROI is a term used by foundations, private investors and philanthropists,

government agencies, academics, private social service agencies and other non-profits working to help their communities. It is a performance measurement tool which is designed to understand, manage and report on the social, environmental and economic value created by an organization (Gair, 2000; Millar & Hall, 2013; Krlev et Al 2013; Arvidson et Al, 2015).

Figure n.5 - GDP generated by UniTo in proportion to public funds received

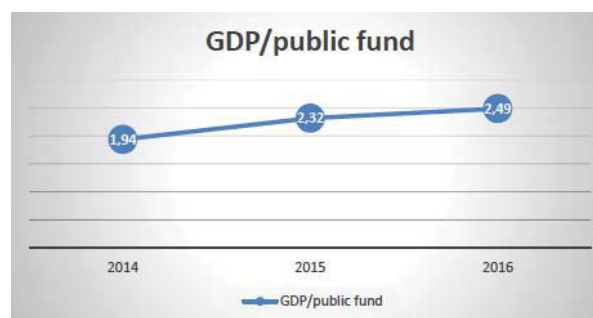


Figure n.6 - Direct economic value distributed to relevant stakeholders

	2016	2015	2014
Total Revenues as available funds (million euro)	448,32	478,60	467,40
A) Human Resources	316,12	322,90	338,70
Professors, lecturers, researchers, fellows, collaborations, administrative and technical staff	259,25	275,60	289,40
Others (students, Ph.D. students, Specialisation School students, independent contractors)	56,87	47,30	49,30
B) Suppliers	79,50	82,70	87,80
Intermediate operating costs	70,41	55,00	54,30
Scientific research transferal to partners	9,09	27,70	33,50
C) Providers of capital	3,17	7,50	7,60
D) Public administration	17,24	4,30	3,80
Economic value distributed	416,03	417,50	437,90
Economic value allocated for the conservation and restoration of the property	32,29	60,20	29,50

Starting from the assumption that many results of social mission-driven activities are beyond measurement, yet clearly are of value and worth affirming, UniTo measures the socio-economic value using economic value measurement tools: the aim is to quantify and monetize the elements of the University activity's social value according to Retolaza's monetization of social value approach (Retolaza et Al, 2015) ⁽⁴⁾. The organization creates socio-economic value by making use of resources,

⁴ In order to estimate the indirect economic impact generated by the sole presence of UniTo on local environment, a study conducted in 2003 (and periodically updated) by the Regional Observatory of the University Regional and Agency for the Right to Education has been used as a source of information. In this study, the average living allowance annual cost of a student has been accounted including: school

inputs, or processes, by increasing the value of these inputs, and then by revenues for the community (see Figures 6-7).

Figure n.7 - Indirect economic value generated for the community

Estimated consumption 2016 (values in euro)	Costs per capita 2016	Number of student 2016	Overall expenditure
Local area students	4378	40.215	176.061.270
Commuting students	5076	14.837	75.312.612
Outside the local area students	9614	12.336	118.598.304
Total estimated indirect effects			369.972.186
Direct economic value distributed directly by UniTo (resources to be allocated are excluded)			416.023.847
Total GDP 2016			785.996.033
Total GDP 2015			791.553.566
Total GDP 2014			792.309.466

5. Conclusions

This paper describes how UniTo has recognized its social responsibility through the adoption of the Organizational Change Management for Sustainability (OCMS) and through alternative form of stand-alone sustainability reporting.

In higher education institutions proactive processes in sustainability are still in its early stages (Ceulemans et al, 2015, Lozano et Al., 2014; Alonso-Almeida et al., 2015). It has been observed that there are a relatively small cohort of institutions that are seeking to put sustainable development at the heart of their teaching, research, knowledge exchange and operations (Godeman et Al, 2014) as well as although playing a leading role in promoting sustainable development movements, universities strongly lag behind on sustainability reporting due to missing reporting guidelines (Lopatta and Jaeschke, 2014).

Universities are making efforts, in more or less intensity, toward sustainability, but these initiatives are reported in fragmented ways such as on websites, in different reports or in university brochures therefore, universities may be failing to exploit opportunities to improve their positioning compared with competitors (Alonso-Almeida et Al, 2015).

At the Italian level it has been stated that universities have paid little attention on the reporting process, which is often hardly disclosed at all, and only occasionally presents a high level of stakeholder engagement and a structured approach (Siboni et

equipment, sustenance costs (50% for local area students), accommodation and transportation, and commodities. All the prices are updated according to the consumer price index.

al 2013; Moggi et Al, 2015; Sciarelli e Tani, 2016). Some of the reasons for this include the low number of HEIs publishing sustainability reports, the low quality of the reports, and the lack of consecutive reporting.

Moreover, researchers highlight that the practice of sustainability reporting in the university context is not widespread and the sustainability reports issued are mainly pivotal versions (Frey et Al., 2010). At the same time, it was found a lack of quantitative information and little attention on the disclosure of environmental aspects (Cassone and Zaccarella, 2009).

UniTo seems to overcome these limits of sustainability management and reporting processes. In particular, the practice of preparing a Sustainability report is aimed at enhancing the traditional forms of financial reporting, by providing proactively information relevant to the overall performance of the University.

In UniTo the Sustainability report is conceived as a tool for external accountability and communication aimed at explaining to all stakeholders, the university's outputs and resources, to allow citizens to assess universities' performance, as well as a tool for management control systems in universities, in line with Italian scholars suggestions (Speziale and Zanigni, 2007). In other terms, the sustainability reporting system at UniTo, while embracing social and environmental issues as well as producing social and environmental information, is useful for internal users in decision making processes (as stated by Riccaboni and Leone, 2010 and by Adams and Frost, 2008), as well as a tool for comparison between programmes and results on which the stakeholders' suggestions can contribute to improving the planning of future activities (Siboni et Al, 2013).

While Sustainability reporting in UniTo has been mainly driven by internal motivations, the process is coherent with the Inside-out approach described by Herzig & Schaltegger (2011), with internal performance measurement and strategic management for sustainable development as main drivers.

Finally, the report process is in accordance with Disterheft suggestion, that states that a better integration of the dimensions of participation into sustainability assessment practices can help in defining and establishing participatory approaches on institutional level, along with fostering a culture of participation in the transition to sustainable universities (Disterheft, et Al, 2014).

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