# Social value analysis: the case of Pompeu Fabra University



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## Abstract

**Purpose** – This paper aims to explore how to quantify the social value generated by higher education from a social accounting perspective. The proposed approach is integrated social value (ISV) analysis, a social accounting model that considers both the economic value and the social value created by an organisation for its stakeholders.

**Design/methodology/approach** – The ISV analysis has been applied to Pompeu Fabra University, following a participatory action research process with representatives of the university and its stakeholders.

**Findings** – The final ISV includes not only the social value created through the university's economic activity – captured by economic and financial accounting indicators – but also the specific social value created for the different stakeholders by means of non-market relationships, which were monetised through the use of indicators and financial proxies.

**Research limitations/implications** – Like other social accounting methodologies, ISV analysis suffers from some limitations regarding data availability and economic pricing, that partly will be resolved with maturation of the methodology and increasing standardisation.

**Practical implications** – By using appropriate proxies, the non-market value of the university can be monetised and integrated with university's market value. The social value results become a valuable tool for developing useful indicators for internal management and external communication.

**Social implications** – The process of measuring the social value created by universities provides a way to meet the rising demands for greater accountability and transparency and facilitates engagement with stakeholders on how these institutions are contributing to a sustainable society.

**Originality/value** – ISV is a recently proposed social accounting model that combines an organisation's economic and social results into a single concept of value creation and thus contributes to advance the field of social accounting.

**Keywords** Sustainability, Social value, Social impact, Social accounting, Economic impact, Monetisation, Stakeholders, Universities, Higher education

**Paper type** Case study

## Introduction

In contrast to other institutions, universities already have an implicit social purpose, given that their core activities of teaching, research and knowledge transfer clearly aim to serve

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society. However, conventional value indicators, which focus on financial parameters such as profitability or economic value, fail to reflect the social value created by universities through their work in educating future professionals, carrying out research and applying the research outcomes (Brennan *et al.*, 2013). Attempts to assess universities' impact on society have been largely limited to calculating the economic effects, without resolving the issue of how to assess the wider social benefits created by the higher education sector (Kelly and McNicoll, 2011).

Social value analysis of universities is a relevant issue within the growing tendency to integrate sustainable development principles in higher education. Literature on sustainability in higher education institutions has focussed mainly in education for sustainable development (Karatzoglou, 2013; Wu and Shen, 2016), sustainability assessment tools (Bullock and Wilder, 2016; Caeiro *et al.*, 2013) and sustainability reporting (Ceulemans *et al.*, 2015; Fonseca *et al.*, 2011; Lozano, 2011). Different approaches have emerged with the aim of measuring sustainability performance of universities with regard to its different activity domains: education, research, campus operations and community outreach (Berzosa *et al.*, 2017). However, current emphasis is put on defining strategies and monitoring progress according to some specific criteria and indicators (Alghamdi *et al.*, 2017; Larrán Jorge *et al.*, 2016), and to a much lesser extent on assessing the impact or value created by universities for society.

Universities' impact studies in turn have focussed on their contributions to the economic activity, such as multiplier effects of its expenditure, or impacts to the labour market and scientific innovation, and have overlooked other valuable effects on society. The wider benefits generated through teaching, research, knowledge transfer and societal engagement are not captured in any systematic way and are usually reported trough case study evidence and narrative accounts (Adams, 2013; Kelly and McNicoll, 2011; NEF, 2011). This entails the risk of underestimating the value of higher education, a sector that depends on public support for investment[1].

In this paper, we aim to explore how to quantify the social value generated by higher education from a social accounting perspective. Specifically, we provide a case study of a Spanish university, Pompeu Fabra University (*Universitat Pompeu Fabra*, UPF), in which we analyse its integrated social value (ISV). ISV is a recently proposed social accounting model that combines an organisation's economic and social results into a single monetary concept of value creation (Retolaza *et al.*, 2014; Retolaza *et al.*, 2015; Retolaza *et al.*, 2016). We applied the ISV analysis to the case university, following a participatory action research process with representatives of the university and its stakeholders. After identifying qualitatively the value perceived by university stakeholders, we quantified this value by developing indicators and financial proxies to monetise it. As a result, we were able to calculate for UPF a consolidated ISV of €247,757,999 for the year 2015, a figure that represents more than four times the amount received from public funding in that year.

The contributions of our study are twofold. First, we extend the application of the ISV model (so far applied to other kinds of organisations) to a higher education institution and verify its effectiveness in measuring social and economic value. In capturing the university impacts through the eyes of those stakeholders that experience them, the ISV approach overcomes some limitations of other social accounting methodologies that have been applied to the higher education sector. Second, we add to existing research on social accounting – a field that has been largely theoretical and can be enriched with practical approaches of social value monetisation (Deegan, 2017; Gray *et al.*, 2014). ISV presents an integrated approach that synthesises the measurement of social impact with conventional accounting.

The paper is structured as follows. The next section reviews the current approaches generally used to measure a university's socioeconomic value. The following section sets out

the methodology and the process for analysing the case study and the findings obtained. Thereafter, we present a discussion of the findings and, finally, the conclusions drawn from the study.

## Review of socioeconomic studies of universities

Universities have many different impacts on the economy and society and play a key role in the economic, social, cultural and technological progress of the area in which they are rooted. The literature on universities' effects on their socioeconomic environment reveals a number of individual and collective benefits (Brennan *et al.*, 2013). Previous studies on universities' impact have focussed on tangible economic benefits that can be valued in monetary terms, that is, market effects. From a methodological perspective, these economic impact studies can be divided into two major groups: studies on demand-side effects and studies on supply effects (Drucker and Goldstein, 2007; Garrido-Yserte and Gallo-Rivera, 2010).

The studies in the first group analyse the flows in demand created in an area because of the existence of a university. These impacts come from the university's spending as a result of its activity as an institution and spending by students, teaching and research staff, administrative and service staff and visitors. This expenditure has direct and indirect effects on local demand and, as a result, creates an economic impact on the short-term production of goods and services such as office material, laboratory material, transport services, restaurant and hotel services, etc. Impact studies on university expenditure tend to use input-output models, which allow to calculate how the stimulus of university activity translates into a series of direct, indirect and induced effects on end demand, production, gross value added, employment and other relevant economic variables. In America and Europe, many studies have now analysed the economic impact of universities on the local, regional or national economy (BiGGAR Economics, 2017; London Economics, 2018).

The studies in the second group aim to analyse the effects related to the knowledge created and supplied by universities, that is, the effects of a university's three core missions: teaching, research and knowledge transfer. These effects are produced by the university's results – graduates, scientific production, technological development, etc. – and only reveal themselves over the long term; they also lead to positive externalities that help boost economic growth and social wellbeing. Calculating the effects of the knowledge created by universities is a complicated and contentious task, given the lack of precise data and the need to make a series of assumptions about the relationship between a university's activities and the circumstances of its socioeconomic environment, among other reasons. By way of illustration, some of these studies aim to analyse universities' contribution to the provision of human capital to the local and regional economy and the resulting externalities for society (for example, the effects on the labour force participation rate, tax revenue, demand for healthcare and social services, productivity or citizens' standard of living, among others) (Indecon, 2019; Oxford Economics, 2017; Zhang *et al.*, 2017). In the case of Spain, the research conducted by Pérez *et al.* (2015) estimated Valencian public universities' long-term contribution in terms of creating human capital.

Compared with studies on universities' economic impact, analysis of their non-market benefits has been far less systematic. Several authors provide evidence of the social impacts of university activity, while at the same time signalling the need for a better understanding of the variables and causality involved in these relationships (BIS, 2013; DeClou, 2014; McMahon, 2009). Generally, these studies offer qualitative evaluations of specific aspects. For instance, this is the case in the latest report of the Catalan Association of Public Universities (ACUP), which analysed the impact of the Catalan public university system on five specific areas (the job market, innovation and transfer, internationalisation,

entrepreneurship and social responsibility), based entirely on existing sources of information and statistics (ACUP, 2017). When it comes to the field of social responsibility, ACUP's report stresses the difficulty of obtaining homogeneous data for universities as a whole, which hampers attempts to carry out a rigorous assessment of their social value. This problem persists, despite the growing number of universities that now include information on social responsibility on their institutional website or in their annual academic report, or that even produce a specific social responsibility or sustainability report containing the main quantifiers of their impact on society in accordance with the indicators recommended by the Global Reporting Initiative (GRI) (Adams, 2013; Lozano, 2011; Bice and Coates, 2016).

To examine social impacts alongside economic impacts, several noteworthy initiatives in the UK have set out to measure the social value created by universities in monetary terms. The New Economics Foundation applied social return on investment (SROI) principles to estimate some of the ways in which universities contribute to British society (greater political interest, higher interpersonal trust and better health) and to quantify the value created for local communities in the case of two specific universities: Manchester Metropolitan University and the University of Warwick (NEF, 2011). Similarly, Kelly and McNicoll (2011) proposed a holistic approach to calculate the value of universities by means of a socially modified economic valuation (SMEV), which they applied to pilot projects in several British and Irish universities: University of Strathclyde, University of Manchester, Dublin City University, University of Kent and University College Dublin, among others. However, the above attempts to quantify social value of universities are for an isolated number of community engagement programmes of just a few universities, and thus give only partial accounts of the wide array of benefits delivered to society.

Table I summarises the benefits considered by the different study approaches by categorising them along the two dimensions proposed by Brennan *et al.* (2013): the type of benefits (market or non-market) and the level at which benefits are manifested (individual or societal level). It becomes clear that there is a need for assessing a higher education institution's overall value to society – both market and non-market effects – in a robust and methodologically sound way. We propose to do it by analysing its ISV.

## Integrated social value methodology

The methodology for analysing ISV was developed by Retolaza *et al.* (2014) as a social accounting model combining qualitative and quantitative analysis. The qualitative analysis aims to identify the value that an organisation creates or destroys by studying the value

**Table I.** Studies on universities' impacts and benefits they consider

| Approach | Examples | Market benefits | | Non-market benefits | |
|---|---|---|---|---|---|
| | | Individual | Society | Individual | Society |
| Economic studies on demand-side effects | BiGGAR Economics (2017), London Economics (2018) | | X | | |
| Economic studies on supply effects[a] | Indecon (2019), Oxford Economics (2017); Zhang *et al.* (2017) | X | X | | |
| SROI[a] | NEF (2011) | | | X | X |
| SMEV[a] | Kelly and McNicoll (2011) | | | X | X |

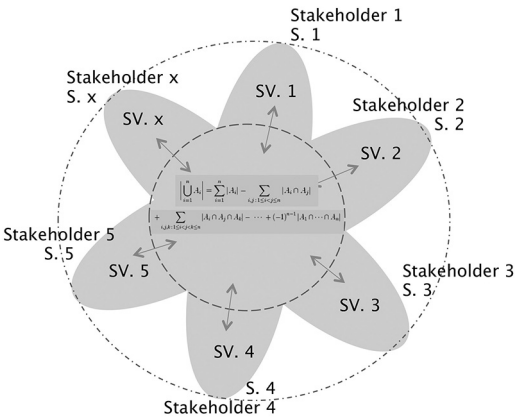
**Note:** [a]so far, studies have only been applied to specific university activities/impacts

perceived by its stakeholders; the quantitative analysis centres on quantifying this value by developing indicators and financial proxies to monetise it.

The methodology is based on the perspective of stakeholder theory (Freeman, 1984; Freeman *et al.*, 2010; Retolaza and San-Jose, 2011) and uses a broad concept of the value created by an organisation: on the one hand, it not just focuses on value created for its shareholders but includes the value distributed among all the organisation's stakeholders and, on the other hand, it includes positive and negative effects that might not be directly economic in nature. This leads to a more comprehensive conception of value than the conventional shareholder value, which may be called triple bottom line (Elkington, 1997), blended value (Emerson *et al.*, 2003), shared value (Porter and Kramer, 2006; Porter and Kramer, 2011) or ISV.

The proposed social accounting system rests on the polyhedral model (Figure 1), which makes it possible to objectivise and visualise the value an organisation creates for its stakeholders as a whole (Retolaza *et al.*, 2015; Retolaza *et al.*, 2016). Starting with the premise that the result of an activity is only transformed into value when there is someone to value it, this model takes a phenomenological approach to analysis (Moustakas, 1994). This means that the phenomenon of social value is approached through the perceptions of the people who receive this value, that is, the organisation's different stakeholders. Instead of defining the value dimensions based on a prior categorisation of the social good, the researcher approaches the phenomenon without interpretative criteria and lets the stakeholders themselves express about the value generation they perceive from the organisation. The resulting social value perceptions can be considered from a fuzzy logic perspective, which makes it possible to identify the entire social value created for the various stakeholders without having to assume that there is a single, objective value[2].

In Figure 1, the different areas shaded in grey represent the social value created for each stakeholder (S). Whereas the inner circle represents the value shared by all stakeholders, the outer "petals" represent the values generated for particular stakeholders that do not match with those of other stakeholders. The total value generated by the organisation corresponds to the total shaded area. Since the figure is a simplification, it does not show the value that is shared only partially among some of the stakeholders but not among all of them, but in the calculation these values are taken into account and quantified.




**Source:** Retolaza *et al*. (2016)

**Figure 1.** Polyhedral model of social value analysis

In accordance with the polyhedral model, the ISV analysis process comprises four basic phases:

(1) identify the stakeholders;
(2) identify the value variables;
(3) monetise the indicators; and
(4) calculate and visualise the value created (Retolaza *et al.*, 2016).

The first phase aims to identify the stakeholders for which the analysed organisation creates value. Unlike the criteria proposed by the extensive literature on stakeholder categorisation (Clarkson, 1995; Mitchell *et al.*, 1997; Tashman and Raelin, 2013), here the objective is to identify the individuals or groups that receive some kind of value created by the organisation, be it monetary or non-monetary (e.g. emotional, linked to improved skills or well-being). The second phase pretends to identify the perceived value variables, that is, the ways in which the organisation creates value for third parties. In accordance with the phenomenological perspective, this analysis is carried out in dialogue with the different stakeholders that receive value by means of in-depth interviews. The analytical structuring of the information gathered during the interviews follows the steps of the phenomenological approach: delineation of "meaning units" expressed by the interviewees, re-expression of the meaning units in the third-person and transformation into scientific language (Giorgi and Giorgi, 2003). The third phase involves quantifying and monetising the value variables found. Once the indicators and proxies for monetising all the variables are agreed upon, the monetary value of each variable can be calculated using the corresponding formulae or algorithms.

The research approach is based on action research, a form of research that seeks to initiate an action and simultaneously create knowledge or theory related to that action (Lewin, 1946; Chein, 1948; Curle, 1949). One of the main features of action research is that the practitioner or practitioners under study are actively involved in the research, in contrast to traditional research, where they are simply the object of study (Coughlan and Coghlan, 2002). In our case, where the practitioner under study is an organisation, the researcher or researchers should keep in close, active contact with the organisation's practitioners: both groups should form part of the research team and should interact constantly during the research process (Reason and Bradbury, 2008). In the following section, we shall see how the research project was carried out collaboratively, not only with practitioners at the university under study but also with the affected stakeholders.

The ISV model has been empirically applied to more than 50 organisations of different sizes and industries, both profit and non-profit (Retolaza and San-Jose, 2018). As ISV analysis is still at the development stage, there are many methodological issues which lack standardisation. However, while increasing standardisation will offer guidance on how to conduct the analysis and reduce the need for discretion and subjective judgement, ISV will remain a customised approach that considers the specific characteristics and context of the organisation in question. As a consequence, classical criteria of reliability and validity are not fully appropriate for judging the quality of conducted social accounting analyses (Maier *et al.*, 2015). Instead, to assess the soundness of the analysis, it is more appropriate to use criteria of interpretative social research such as intersubjective transparency of the process, indication and appropriateness of procedures, clarification of limitations and reflected subjectivity (Steinke, 2004). Additionally, the resulting values cannot be compared with the results of other organisations unless they have very similar features and underlying assumptions.

## Analysis of Pompeu Fabra University's integrated social value

*Case study context*

UPF is a Spanish public university, founded in Barcelona in 1990. In its three urban campuses located across the city centre, the university offers studies around three areas of knowledge (social sciences and humanities, health and life sciences, and ITC and communication sciences) to its over 12,000 students, and uses over 1,200 staff. As a public university, UPF is funded by the autonomous community in which it is based, Catalonia. The Government of Catalonia establishes by law homogeneous tuition fees for all Catalan public universities that cover about 25 per cent of the real students costs, and as such, university fees are much lower than those of their private counterparts. As the youngest of the four public universities of Barcelona, it stands out in its research output and scientific productivity (Buela-Casal *et al.*, 2017). UPF has been awarded with the label of "International Excellence Campus" by the Spanish Ministry of Education in 2010, and has been ranked by The Times Higher Education as best Spanish university, both in the general world ranking and the young universities ranking (THE, 2019).

Since 2012, issues related to social responsibility have been a growing priority at UPF, and it has launched several initiatives to put this commitment into practice, including setting up a Social Responsibility Programme and a specific vice-rector's Office for Social Responsibility and Promotion (Figueras-Maz and Ayuso, 2018). In early 2016, UPF wanted to assess its socioeconomic impact in a way that went beyond the economic impact of its expenditure and captured the university's overall value to society. The motivation for conducting such a study was ultimately threefold:

(1) first, as an accountability exercise;

(2) second, for better strategic planning; and

(3) third, for more effective stakeholder dialogue (Ayuso *et al.*, 2017).

In accordance with the project's action research focus, a mixed research team was put together out of the project's academic researchers and several high-level members of the university.

*Integrated social value analysis process*

To identify the stakeholders of UPF, a stakeholder map was drawn up by reviewing reference documentation (the 2016-2025 Strategic Plan and the 2015-2016 Report) and through discussions between members of the mixed research team. To the initial list of internal stakeholders reflected in the university documents (students, alumni, staff, education and research centres of UPF Group), several external stakeholder groups were added in subsequent discussions (students' families, suppliers and contractors, public administrations, other academic institutions, social organisations, companies, media and social environment). Table II gives a brief description of each stakeholder and illustrates the different types of relationships UPF has with its stakeholders, bearing in mind that different relationships may entail different perspectives on the creation of social value.

For identifying the perceived value variables, the UPF representatives on the research team prepared a list of people who would act as representatives of the different stakeholders, and the academic researchers contacted them to carry out in-depth interviews between March and June 2016. In total, 35 people were interviewed individually, either face-to-face or by phone, belonging to almost all stakeholder groups. In addition, a group interview was held with six students who were members of different UPF student associations. We did not interview representatives of students' families because they were difficult to access, and we

| Stakeholder | Description |
|---|---|
| Students | Bachelor's degree students, postgraduate (master's) degree students and PhD students; overseas students |
| Former students (alumni) | Holders of a bachelor's or postgraduate degree from UPF |
| Students' families | Parents or other members of students' families (who cover the costs of a university education) |
| Teaching and research staff | Full-time professors and lecturers; part-time lecturers and researchers; visiting scholars |
| Administrative and service staff | Staff who support and assist students and teaching staff |
| Suppliers and contractors | Companies offering maintenance, cleaning, security, cafeteria and vending services, etc. |
| Public administrations | Public administrations that provide public finance, fund competitive research projects and assess universities |
| Institutions in the UPF Group | UPF Group centres for teaching, research and knowledge transfer |
| Other institutions and university schools | Institutions at other universities |
| Social organisations and institutions | Cultural, artistic, sporting institutions, etc.; NGOs and associations that work with UPF |
| Companies | Companies that take on graduates and internship students; companies that take part in research or knowledge transfer projects; sponsors; spin-offs and start-ups |
| Media | Printed press, radio, TV |
| Social environment | Neighbours near UPF campuses; local businesses; specific groups, such as the elderly and secondary students |

**Table II.**
UPF's stakeholders

assumed that their value perception would match that of the students. Neither did we interview representatives of other academic institutions because we anticipated that it would be difficult for them to attribute a specific value created by UPF for them. Table III shows the details concerning the interviewees.

The purpose of these interviews was to determine the main ways in which the stakeholders considered that UPF added value for them, both personally and, if applicable, for the organisations they were representing. Therefore, the interview protocol contained the single question "Indicate the main aspects in which you feel that the university creates value for you/your organisation/society in general". However, this question was adapted to the profile of the interviewee, by asking him/her for the relationship maintained with the university and for examples of positive/negative changes and ways to improve/reduce these changes. The interviews lasted between 20 min and an hour (on average 40 min), and information gathered during the interviews was documented in the form of post-interview notes. To ensure the soundness of this qualitative research phase, we triangulated the information gathered during the interviews with UPF's internal and external reports and discussions with university members.

In accordance with recommendations from the literature on qualitative methods (Gioia *et al.*, 2013; Miles and Huberman, 1994), in a first stage, the authors analysed the interviews independently to identify the thematic blocks related to the different value dimensions perceived by the stakeholders: by putting together the individual coding, an initial list of 45 first-order concepts or variables were identified, which adhered closely to the interviewees' terms and expressions, such as "better understanding of the world", "better access to the labour market", or "sense of belonging to university community". In a second stage, the

| Stakeholder | Interviewees |
|---|---|
| Students | 6 students of different studies and belonging to different UPF student associations (group interview) |
| Former students (alumni) | 3 UPF graduates working in different types of organisations (UPF Foundation, private sector, public sector) |
| Students' families | – |
| Teaching and research staff | 7 faculty members: 2 vice-rectors, 3 members of the university senate with different profiles (permanent professor, visiting professor and researcher), 1 member of the works council and 1 member of the teaching and research staff board |
| Administrative and service staff | 4 employees: 1 vice-manager, 1 member of the university senate, 1 member of the works council and 1 member of the administrative and service staff board |
| Suppliers and contractors | 4 representatives from different types of organisations (Consortium of University Services of Catalonia, maintenance, cleaning and security company) |
| Public administrations | 3 representatives of different agencies: Catalan Secretary of Universities and Research, Agency for the Quality of the University System of Catalonia and Agency for Management of University and Research Grants |
| Institutions in the UPF Group | 1 representative of a UPF Group higher education institution and 1 representative of a UPF Group research institution |
| Other institutions and university schools | – |
| Social organisations and institutions | 2 representatives of foundations that collaborate with the UPF (cultural and social) |
| Companies | 4 representatives of companies that have different relationships with UPF (collaboration in research, sponsoring, start-up company that received university support and university spin-off) |
| Media | 2 representatives of media (press and TV) |
| Social environment | 1 representative of a neighbourhood association, 1 representative of a business association, 1 representative of a secondary school and 1 representative of the training of the elderly programme |

**Table III.** Interviews conducted with stakeholder representatives

authors jointly discussed this list of first-order variables and reformulated them into an agreed list of second-order variables that allowed to identify possible indicators and proxies for their quantification, such as "students' academic education", "knowledge creation", or "supply of volunteers for social projects". This restructuring process was carried out jointly by different members of the mixed research team, both academic researchers and representatives of the organisation under study. In addition, the resulting list of 34 value variables was checked by four persons with extensive management experience in the university sector (ex-deans and general managers). All steps of the data collection and analysis procedure have been carefully documented and can be retrievable to interested researchers. Table IV shows the resulting value variables grouped into different categories.

To objectify each of the values that had been perceived subjectively by stakeholders, the corresponding outputs created by UPF were identified by means of potential indicators provided by the university, as well as suitable proxies for monetising them. During the monetisation process, the market price of the output or a similar product or service was used wherever possible; where not, options such as the costs incurred by the university or valuations made by public administrations or experts were used. By way of example, Table V lists the indicators and proxies used to quantify the UPF value variables corresponding to the category "Educating qualified professionals". To bolster the intersubjective agreement when deciding upon the indicators and proxies used for UPF,

**Table IV.** Value variables identified by UPF's stakeholders

| Category | Value variables |
|---|---|
| 1. Educating qualified professionals | 1.1 Students' academic education |
| | 1.2 Support for students with special needs |
| | 1.3 Educational discounts |
| | 1.4 Employability/Access to professional talent |
| | 1.5 Support for finding employment |
| | 1.6 Education and training for specific groups |
| 2. Educating committed and participative citizens | 2.1 All-round education and training* |
| | 2.2 Interconnecting talents (creating networks) |
| | 2.3 Support for students' international education |
| | 2.4 General-interest activities for the university community |
| | 2.5 General-interest services open to the public |
| 3. Research | 3.1 Knowledge creation |
| | 3.2 Support services for teaching and research staff |
| 4. Knowledge transfer | 4.1 Research project collaborations/alliances |
| | 4.2 Innovation and development |
| | 4.3 Transfer contracts |
| | 4.4 Creation of spin-offs and start-ups |
| | 4.5 Access to industrial PhD students |
| | 4.6 Research impact evidence |
| 5. Benefits for the university community | 5.1 Social benefits for UPF staff |
| | 5.2 Measures to boost teaching and research staff's international mobility |
| | 5.3 Subsidised services and activities (cafeteria, sporting facilities, languages, etc.) |
| | 5.4 Discounts on products and services |
| 6. Emotional value | 6 Emotional rewards for UPF employees* |
| 7. Suppliers' competitive edge | 7 Competitive edge and social advantage thanks to university links |
| 8. Support to projects in society | 8.1 Joint funding for social projects |
| | 8.2 Supply of volunteers for social projects |
| | 8.3 Supply of internship students/preselection of talent for companies |
| | 8.4 Making venues available to NGOs |
| 9. Benefits for UPF affiliated centres | 9.1 Visibility of the UPF brand for UPF affiliated centres |
| | 9.2 Supply of academic management services (e.g. SIGMA) |
| 10. Urban impact and local regeneration | 10.1 Support for local businesses (neighbourhoods near university campuses) |
| | 10.2 Preservation of historic buildings |
| 11. UPF prestige | 11 Value of the UPF brand (quality/excellence) |

**Note:** *not currently measurable

these indicators and proxies were agreed upon by a panel of four professors of Catalan public universities. Finally, the valuation table was drawn up to calculate the monetary value created for each variable.

*Findings of integrated social value analysis*

The information gathered during the first three phases of the ISV analysis process and the main data on UPF's economic activity were used to calculate both types of social value that make up the ISV:

(1) The social value created by economic activity (also named economic value with a social impact or social economic value [SEV]), which represents the wealth that an

| Value variable | Indicator | Proxy | Source |
|---|---|---|---|
| 1.1 Students' academic education | Number of credits earned by bachelor's and master's degree students, number of enrolled PhD students, number of students enrolled on summer courses | Cost of credit on bachelor's and master's degree courses/annual PhD tutorials in Catalan universities | Catalan Government Decree 118/2015; market study |
| 1.2 Support for students with special needs | Amount awarded in grants and scholarships, number of hours dedicated to students | Hourly rate for student support | Servei d'Ocupació de Catalunya (SOC) training and education rate |
| 1.3 Educational discounts | Value of discounts for administrative and service staff and alumni | – | – |
| 1.4 Employability/ Access to professional talent | Number of students with a bachelor's degree, master's degree or PhD | Higher salary for UPF graduates with respect to postsecondary courses | UPF (AQU Catalunya), INE |
| 1.5 Support for finding employment | Number of hours dedicated to users | Hourly rate for employment advice | Servei d'Ocupació de Catalunya (SOC) training and education rate |
| 1.6 Education and training for specific groups | Number of attempted credits for UPF mature students, number of students enrolled on the Junior Campus Programme | Cost of credit on bachelor's degree courses (1.1), price of Junior Campus Programme courses | Market study, UPF |

**Table V.** An example of the indicators and proxies used to quantify UPF's social value

organisation creates, both directly, through its market activity, and indirectly, through the impact that its actions create in other organisations (e.g. suppliers).

(2) The specific social value (SSV), which refers to the non-market value that an organisation distributes among its different stakeholders, encompassing the set of value variables identified by the stakeholders.

The SEV is the value that UPF as an organisation generates and distributes to society through its financial transactions, and consists of salaries, taxes, interests on loans, depreciation and surplus; all information that can be retrieved from the financial statements. In addition, it considers the value generation triggered by first tier suppliers by means of their value added in proportion to the amount of purchases[3]. The SSV comes out of the value variables perceived by UPF's stakeholders, and the allocation of its monetary value to the different affected stakeholder groups. Figure 2 presents UPF's results for each type of social value for the 2015 financial year, as well as the consolidated ISV[4]. Consolidated ISV – similar to the equivalent accounting concept – represents the combined value created, thus avoiding duplicating the shared value created simultaneously for various stakeholders or various types of value.

In 2015, UPF created a consolidated ISV of €247,757,999. Although this is an initial estimate with only partial data, it should be highlighted that the SSV (non-market value) that UPF created for its stakeholders that year (€170,222,157) easily exceeded the social value created by its economic activity over the same period (€110,462,908). In the case of publicly funded organisations like UPF, it is interesting to identify the amount of the SEV

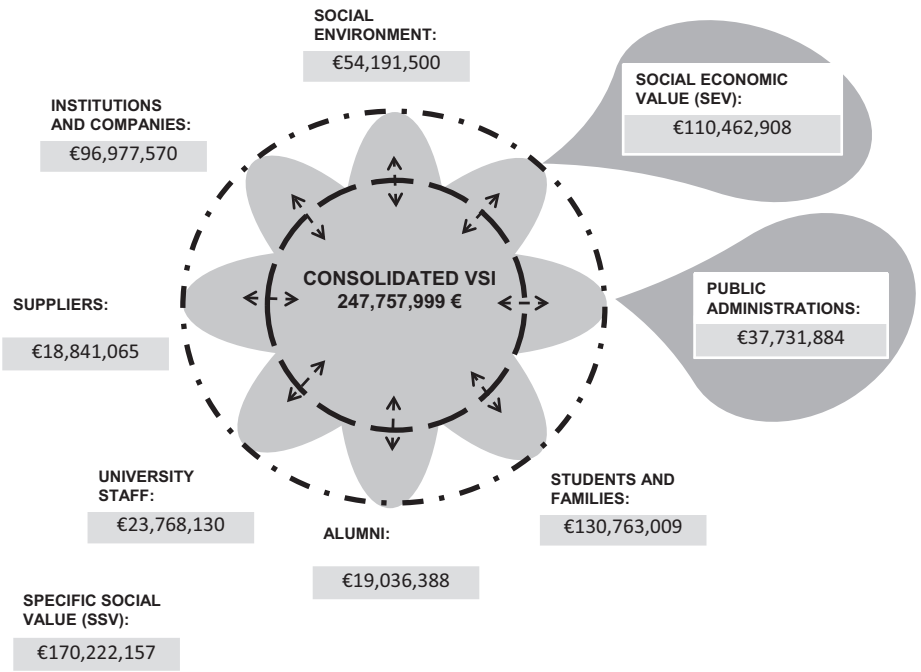



**Figure 2.**
ISV results of UPF (2015)

that is distributed to public administrations. The economic return for public administrations encompasses the return through taxes derived directly from organisation's activity and indirectly from suppliers' activity. With regard to this economic return for public administrations, UPF paid €37,731,884 to public administrations, against the €57,927,363 it received in subsidies that year. If we divide the consolidated ISV by the amount received in public funding, we obtain a ratio for social return over subsidies of 4.28; that is, for every €1 UPF receives in public funding, it creates €4.28 in social value for society as a whole[5]. Other ratios that may be of interest for annual monitoring can be calculated by relating the figures obtained with data such as the university budget, the number of students, or the number of lecturers/researchers.

Figure 2 also shows the SSV allocated to each stakeholder group in accordance with the polyhedral analysis format. To aid comprehension, stakeholders with similar interests (such as students and their families) have been grouped together. In addition, the media was omitted as a stakeholder, since no specific value variables were identified for this group. When it comes to distributing SSV to UPF's different stakeholders, students and their families are the stakeholders that receive the greatest value (€130,763,009), followed by institutions and companies (€96,977,570) and the social environment (€54,191,500)[6]. As can be noted from Table V, the total value created by the different types of value exceeds the amount of consolidated ISV. This difference represents the shared value created by UPF and is attributable to the value variables that coincide partially or fully for the different stakeholders (duplicated values). An example of shared value is the improved employability, which benefits undergraduate, master's and doctoral students (through the salary premium of the university degree obtained) and the companies and entities that access their

professional talent (and are willing to hire them by paying the salary premium). Another example is the shared value of volunteering, which provides gratification to volunteer students and staff, while at the same time contributes to societal improvements through the conducted projects.

## Discussion

In this paper, we sought to quantify the social value generated by a case study university. The social accounting results calculated according to the ISV model include the economic and non-economic value created for the different stakeholders. Unlike other economic impact analysis methodologies reviewed in the beginning of the paper (e.g. input-output multipliers), the SEV is not derived from sector averages but from specific organisational data. In fact, SEV uses information from the financial accounts of an organization and refers to the value added by its labour and capital providers, and also to the value added triggered proportionally by its suppliers of externally purchased goods and services. Thus, in a similar way than a Value Added Statement, it takes into consideration the economic value generated and distributed to the different stakeholders necessary to sustain the organisation (Mook *et al.*, 2003).

Economic value is complemented with SSV, which comes out of the perception from the consulted stakeholders. In contrast to qualitative attempts of social accounting such as GRI, ISV is not based on categories or indicators defined by external experts (or the organisation itself) with a top-down focus. Instead, ISV follows a bottom-up approach by identifying the social impacts perceived as relevant by the groups and/or individuals affected by the organisation, that is, stakeholders (Arvidson *et al.*, 2013; Costa and Pesci, 2016). Although the adoption of a stakeholder approach and the consultation with the organisation's stakeholders to assess social impact from their perspective is a common feature shared by social value measurement methodologies (Mook *et al.*, 2015), the ISV model relies explicitly on the identification of social value by means of a phenomenological analysis of stakeholder perception. This process becomes a sort of filter to collect the relevant value variables from the perspective of the recipients of organisational value. In the case of UPF, these value variables can be grouped into different categories encompassing both the university's core mission (education, research and knowledge transfer) and other aspects such as benefits to the university community, suppliers' competitive edge, support for projects in society and benefits for UPF affiliated centres, as well as UPF's urban impact, its boost to the local area and its prestige.

In this respect, the ISV model differs from the SMEV approach proposed by Kelly and McNicoll (2011). SMEV seeks to examine the value of universities by focussing on the higher education institutional outputs – what the university actually produces or delivers. This comprises an identification, quantification and economic pricing of all university outputs, e.g. in the case of the pilot study with the University of Strathclyde over 220 separate outputs were identified such as undergraduate BSc teaching, contract research projects for industry or advisory work for government (Kelly *et al.*, 2005). Instead, ISV considers only those organisational outputs that lead to value perception by stakeholders and allows to concentrate on accounting for the relevant items – in the case of UPF 34 value variables. Additionally, ISV allows to uncover intangible value dimensions which are difficult to collect through an output-based measurement approach.

The process of identifying the value variables by the organisation's stakeholders also differs from the SROI approach. SROI is focussed on attributing financial value to inputs and outcomes of activities or interventions (Nicholls *et al.*, 2012). Less straightforward than identifying outputs, the mapping of outcomes and impacts is underpinned by a theory of change that holds assumptions about how impact is achieved and requires careful

judgement about its materiality (Arvidson *et al.*, 2013). Judgment is also required in deciding where to stop extending the chain of events and put the limit on the "ripple effect" of social impact evaluation (Moody *et al.*, 2015). For instance, within its SROI study, NEF (2011) related higher education to better self-reported health based on the conducted case studies and the reviewed literature. In contrast, ISV analysis focuses on the shorter-term and close-in outcomes, since it asks stakeholders directly about the perceived value impact attributable to the organisation in question. Thus, the identified UPF value variables mainly reflect the impacts experienced directly by stakeholders and leave aside any medium- and long-term indirect impacts on society, such as social mobility or driving innovation in the area. Consequently, the followed approach avoids the difficult task to adopt a series of assumptions concerning the contribution of the organisational activities to the measured impacts by means of concepts such deadweight, displacement and drop-off (Arvidson *et al.*, 2013; Mook *et al.*, 2015).

The obtained results rely partly on the action research process aimed at identifying stakeholders and value variables. With regard to the process of participatory action research, we can make some observations. As already mentioned, interviews with stakeholder representatives allowed to identify the issues that are perceived as relevant by affected parties (and not according to the organisation's or the researchers' view). Regarding the collaboration with organisation's practitioners, the researchers found it relatively easy to approach the reality perceived by the university representatives, because they are themselves university members. However, the involvement of university representatives in the research process could have been more active, and it was reduced mainly to the research team meetings at different stages of the project. Anyway, it should be remarked that in these meetings university practitioners did make key decisions for the conducted research such as definition of the stakeholder map, identification of stakeholder representatives to be interviewed and agreement on the value variables, indicators and proxies to be used.

From a technical viewpoint, ISV analysis faces challenges regarding the availability of output data and finding the "economic" prices for the outputs. Though most of the identified value variables could be quantified with suitable volume measures of corresponding university outputs (e.g. cost of credits or hourly rates for student support), not all these data were recorded and collected centrally by UPF (e.g. conferences held by teaching staff or hours of student volunteering). Furthermore, it was difficult to find measures which described some of the intangible effects. It should be noted that the SSV results do not include the monetary value of two important value variables: the all-round education and training and the emotional value created for employees. Whereas the all-round education and training refer to the experience of being part of the university community and mixing with people from different social and cultural backgrounds, the emotional value refers to the emotional rewards reported by university employees, especially by teaching and research staff, such as being in the job by vocation or the awareness of making an impact on students' lives and contributing to society's progress. In a lack of any available survey data about these experienced feelings, we were not able to quantify these issues. In addition, it was not always easy to find suitable economic prices for non-market or non-commercial work such as publication of academic research papers or patent applications. Generally, we used conservative estimates and provided a detailed description of the assumptions behind the calculations.

## Conclusions

In this paper, we have shown how ISV analysis can be effective to assess the social value generated by a higher education institution. By applying the ISV model for the first time to

university, we quantified in monetary terms the economic and non-economic value created for the different stakeholders in a comprehensive way. The ISV analysis conducted for the case study university followed a participatory action research process with representatives of the university and its stakeholders (students and their families, alumni, teaching and research staff, administrative and service staff, suppliers, institutions, companies and its social environment). By engaging in dialogue with the different stakeholders, we were able to systematically identify the perceived value variables or dimensions, building on the legitimate perspective of the recipients of organisational value. In capturing the university impacts through the eyes of those who experience them, the ISV approach overcomes some limitations of other social accounting methodologies that have been applied to the higher education sector, such as Socially SMEV and SROI. Nevertheless, like these other forms of social accounting, ISV relies on elements of discretion and subjective judgement that partly will be resolved with maturation of the methodology and increasing standardisation (Hendriksen *et al.*, 2016; Maier *et al.*, 2015).

The final ISV includes not only the social value created through the university's economic activity – captured by financial accounting indicators – but also the SSV(s) created for the different stakeholders by means of non-market relationships, which were monetised through the use of indicators and financial proxies. Compared to other socioeconomic impact analysis methodologies that treat social value analysis as a supplemental process (Mook *et al.*, 2015), ISV presents thus an integrated approach that synthesises the measurement of social impact with conventional accounting and adheres, at least in part, to generally accounting principles (Retolaza and San-Jose, 2018).

Like other social accounting methodologies, ISV analysis suffers from some limitations regarding data availability and economic pricing, that partly will be resolved with maturation of the methodology and increasing standardisation. In addition, the considered value variables reflect the impacts experienced by stakeholders and leave aside the university's effect on the environment. While we acknowledge that environmental issues (e.g. greenhouse gas emissions, waste, water, energy and transport) are crucial aspects in sustainability assessment and reporting of higher education institutions (Berzosa *et al.*, 2017), we have to stress that ISV analysis focuses on the positive and negative effects that organisations have on people and society. Future studies could explore how to integrate results of environmental assessment tools (e.g. Life Cycle Assessment) into the social accounting model of ISV (Antheaume, 2018; Bicalho *et al.*, 2012).

The results of the study have several practical implications for UPF and higher education institutions in general. The fact of assigning a monetary value to the non-market social value, allows its integration with the university's market value and transformation into useful indicators for internal management and external communication. On the one hand, the process of measuring the social value created by universities provides a way to meet the rising demands for greater accountability and transparency and facilitates engagement with stakeholders on how these institutions are contributing to a sustainable society (Adams, 2013; Ceulemans *et al.*, 2015). On the other hand, quantifying universities social value may help to transform conventional financial accounting and improve institutions' internal strategy and management according to sustainability principles (Lange and Kerr, 2013). In this regard, ISV may represent an effective instrument of internal control for universities for improving efficiency and sustainability (Romero and Miret, 2017), since it can shed light on any possible inefficiencies and show room for improvement in actual management practices. The approach can deliver relevant indicators, that linked with traditional quality indicators, allow to monitor the social efficiency of universities. This, in turn, can have implications for public policy and can lead to the consideration of social value

criteria in the allocation of funding and the design of frameworks that recognise and reward universities' contribution to positive social impact (Straub, 2019). An example is the "Pathways to Impact" of the UK Research Councils that asks researchers to account for the demonstrable contribution of their proposed research to society and economy.

The conducted ISV analysis has also theoretical implications, as it improves understanding of societal impact of organisations and contributes to advance the field of social accounting in general (Deegan, 2017; Gray *et al.*, 2014; Lehman and Kuruppu, 2017). Research on social accounting, understood as all forms of "accounts which go beyond the economic" (Gray, 2002, p. 687) has been largely theoretical and can be enriched with practical approaches of social value monetisation. Future research should address the current limitations of the ISV methodology by further application to other organisations. Although the resulting social metrics will depend always on the specific characteristics and context (stakeholders' perceptions) of the analysed organisation, it is feasible to standardise protocols and range of monetisation values. In case of sector-wide application, for example, in higher education, it is possible to define a set of standardised indicators and proxy values that allow for an aggregation of results and an assessment of the overall contribution of the sector.

## Notes

1. As suggested by one of the anonymous reviewers, there is also a possibility of an overestimation of the value of higher education in narrative accounts, since organizations may use impression management tactics in social reporting (Sandberg and Holmlund, 2015).
2. Fuzzy logic is a form of many-valued logic, which is employed to handle the concept of partial truth, where the truth value may range between completely true and completely false (Gil-Aluja, 1999; Zadeh, 1965). Build on the observation that people make decisions based on imprecise and non-numerical information, fuzzy models or sets are mathematical means of representing vagueness and imprecise information.
3. The corresponding data were consulted for the most representative suppliers (suppliers that accounted for 80 per cent of the total purchase volume of UPF) in the SABI (Iberian Balance Sheets Analysis System) database, and average data were extracted in proportion to annual turnover.
4. Ayuso *et al.* (2017) contains full data and detailed calculations for the different types of social value under consideration (in Spanish).
5. This ratio is similar to the concept of Social Return on Investment (SROI); however, we would like to stress that rather than the return on subsidies aimed at investment, it reflects the return on subsidies aimed mainly at operations.
6. As mentioned previously, these findings may be seen as an initial estimate of specific social value, as they only processed the data available at the time the study was carried out.

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