Journal of Organizational Change Management

The value of disclosing intellectual capital in Spanish universities: A new challenge of our days

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The value of disclosing intellectual capital in Spanish universities

A new challenge of our days

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Abstract

Purpose – This paper aims to provide a better understanding of the relationship between intellectual capital (IC) reporting and transparency in Spanish universities. The purpose of this paper is to obtain new empirical findings and an enhanced understanding of the role of IC in an organizational change process is obtained.

Design/methodology/approach – In this study the authors developed a questionnaire which was sent to members of the Social Councils of Spanish public universities in order to analyse the views of university stakeholders in relation to the university's annual reports and the adequacy and potential of IC reporting to meet their information needs.

Findings – From the results of this study the authors are in the position of confirming the need for universities to offer information on IC in their accounting information model.

Practical implications – All these results lead us to assert that to improve the information contained in the current university annual reports, it is necessary to make accounting regulators aware of the need to extend the information provided in the current accounting statements. Giving users access to a type of information relevant for good decision making constitutes a healthy exercise in transparency for universities.

Originality/value – Although the scientific and professional literature has provided numerous studies about reporting a firm's IC, further research is still needed for universities. This need is especially relevant when considering empirical supported IC models.

Keywords Stakeholders, Intellectual capital, Disclosure, Universities

Paper type Research paper

1. Introduction

Intellectual capital (IC), also known as intangible assets or knowledge assets, has been a subject to study since the early 1990s (Marr and Chatzkel, 2004). There is a high degree of consensus on the idea that, under the new paradigm of the knowledge-based economy, wealth and economic growth are "driven primarily by intangible (intellectual) assets" (Lev, 2001, p. 1). Consequently, measurement, management and reporting of IC is becoming more and more critical (Zhou and Fink, 2003; Luethge and Byosiere, 2006; Tan *et al.*, 2008; Lönnqvist *et al.*, 2009; Kujansivu and Lönnqvist, 2009; Veltri *et al.*, 2014).

Although the IC concept was first developed as a framework to analyse the contributions of intellectual resources in for-profit enterprises, it was soon adopted by public and non-for-profit organizations, such as universities and research centres, due to its global importance (Mouritsen *et al.*, 2004; Kong and Prior, 2008; Ramírez, 2010; Melián-González and Bulchand-Gidumal, 2009; Bezhani, 2010).

Journal of Organizational Change Management
Vol. 29 No. 2, 2016
pp. 176-198

0953-4814
DOI 10.1108/JOCM-02-2015-0025

In the last decade, there has been a growing interest in applying an IC approach in universities (Leitner, 2004; Sánchez and Rivera, 2009; Brătianu, 2009; Nava and Mercado, 2011; Veltri *et al.*, 2014; Wu *et al.*, 2012), since their main goals are the production and the diffusion of knowledge and their more important investments are in research and human resources (Elena 2004; Pircher and Risku, 2005; Sánchez and Elena, 2006). Universities produce knowledge, either through scientific and technical research (the results of investigation, publications, etc.) or through teaching (students trained and productive relationships with their stakeholders). Their most valuable resources also include their teachers, researchers, administration and service staff, university governors and students, with all their organizational relationships and routines (Warden, 2003; Leitner, 2004). So, it is true to say then that universities' input and output are largely intangible (Cañibano and Sánchez, 2008, p. 9). Higher education institutions are, therefore, an ideal framework for the application of the ideas related to IC theory.

Our universities must be characterized by some attributes and values that enable them to meet the challenges of a global market. Globalization of the political economy, and the attendant reductions in government funding, liaisons with business and industry, and marketing of educational and business services, has been changing the nature of academic labour (Slaughter and Leslie, 1997). Society requires us quality training focused on values and fosters critical thinking and ethical behaviour. But also demands a commitment to innovation, knowledge transfer to society and that the university is a key tool for social, cultural and economic. Undoubtedly, all directly affect the conceptualization and functioning of these institutions and their reporting model.

The structure of the contemporary university is changing rapidly and, in recent years, everybody trying to understand what precisely these changes will mean. Universities are turning into transnational corporations, and the idea of culture is being replaced by the discourse of "excellence" (Readings, 1997). Public higher education in general, and business schools in particular, are undergoing fundamental transformations including massive expansion of non-academic administrative structures, growing salary differentials between administrators and faculty, the occasionalization of the faculty, sub-contracting many campus services, and re-conceptualization of students and private sector actors as customers rather than as learners or beneficiaries of education and research (Chomsky *et al.*, 1997; Fuller, 2002; Folbre, 2010; Ginsberg, 2011). The European public higher education institutions, with these changes, are trying to approach to the concept of excellence, which is linked to meeting the needs of the society in which the university is immersed.

The necessary changes can be arranged under four main objectives (Michavilla and Calvo, 2000): first, to improve the organization of the university (adjust the structure, achieve better governance, assessing the quality, training teachers and researchers apply new information and communications technology); second, to educate for human development (educate free, creative and caring citizens, prioritize values, cultural values recover); third, to generate wealth, employment and social progress (to prepare for the world of work, developing lifelong learning, contribute to regional development, research support); and finally, to participate in European integration (developing academic mobility and university networks, to cross and humanistic education, promoting European citizenship).

To achieve all these changes we can paraphrase Jemielniak and Greenwood (2015, p. 74), "the political economy and the cultural systems of higher education must now change radically away from old-fashioned Taylorism and also away from the latest incarnation of free-market fanaticism. University faculty members must study and teach in relationship to the complex, dynamic, multi-dimensional problems that affect

global society now". Therefore, the relationship between universities and their environment and their stakeholders should be increased.

The change in the mission of the university, the need for improvement, the increasing complexity of institutions of higher education, competitiveness and diversification at national and international level, make a greater inclination of university systems to society can be a powerful means to stimulate the sensitivity of institutions to meet the demands of the society (Neave and van Vught, 1991; Meek *et al.*, 1996; Dasborough *et al.*, 2015).

Universities must acquire a model of governance to strengthen institutional autonomy, but also with greater transparency towards society and greater control over the results. The governance of university institutions has to be based into a model in which all university staff and employees, as beneficial owners, hold the organizations in trust on behalf of society as a whole (Boden *et al.*, 2012, p. 20). This new concept of government requires new information requirements for all stakeholders. Therefore information sharing, as efficient knowledge, improves the competitive advantage of institutions to meet the needs of their environments (Kettunen, 2009, p. 8).

If the administrations of public universities want the support of the public, they cannot continue to operate as if the pressure the public places on them is an irritation to shrug off. We must actively link multi-disciplinary teaching, research, and direct social action, in concert with extra university stakeholders of many types and show and demonstrate our worth through our actions in working with them to solve their most pressing problems (Greenwood, 2007, p. 262).

Governments wish to assure that the actions of publicly funded universities are consistent with the social values of efficiency, equity and academic quality (Dill, 2001, p. 22). Therefore, from our point of view, autonomy and accountability are two sides of the same coin. What is needed in this sensitive area, then, is a suitably sensitive buffer mechanism which can reconcile the Government's legitimate need for accountability and the universities' vital need for maximum autonomy consonant with that accountability (Berdahl, 1990). When we talk about autonomy, we mean organizational autonomy, financial and management, independent management of personal and academic structure. An instrument to carry out an effective accountability is evaluation, a proper system of assessment, must be fair and differentiator to ensure fulfilment of the objectives of the university.

Therefore, if we want to guarantee the autonomy we have to ensure proper accountability. It is essential that the university reports impacts and the results achieved, taking into account the context variables, the process in which it operates and the more commonly accepted international standards. In this situation, the proper presentation of institutional communication becomes currently one of the main mechanisms of statement of accounts for higher education institutions.

Given this situation the information transparency of university institutions acquires even greater significance. A need exists to conduct a profound reform and modernization of the university system with regards to the presentation of information which takes into account the new information demands of its stakeholders. In this scenario, IC reporting has become of prime importance in institutions of higher education. Below are some of the reasons why it is a major necessity for these institutions to start including information on IC in their current accounting systems:

- The existence of stakeholders' continual demands for greater information and transparency about the use of public money (Warden, 2003), mainly due to the fact that most of the funding for public universities is handed over by the government (Sánchez and Elena, 2006).

- The greater independence of universities regarding their organization, management and budget distribution requires greater social responsibility which will lead universities to prepare accounting information to report to society as well as to facilitate and satisfy the information needs of participants in the institution itself (González, 2003, p. 401).
- The implementation of the European Space for Higher Education promotes the mobility of both students and teachers within the territory of Europe, while at the same time encouraging both collaboration and competition between universities. This environment of greater competition and necessary collaboration means that these institutions are now committed to accessing citizens and transmitting relevant information on their activities. All this could well play an important role in the decision-making processes of the users of the accounting information, for example, in the case of potential students choosing where to study.
- The IC reporting can enhance competitiveness. For instance, when a university needs to renew a grant or attract additional funds of research, assessing performance is of crucial importance. Accordingly, the IC report can facilitate the presentation of results, which could contribute to attracting funds to the detriment of other lower-performance competitors (Elena and Warden, 2011).
- The increasing cooperation between universities and firms has resulted in the demand for similar processes of evaluation for both players. Accordingly, universities would have to implement new management and reporting systems, which necessarily incorporate intangibles (Secundo *et al.*, 2015). Also, it strengthens the links between universities and the business environment by using a common language (Suciu *et al.*, 2011). Therefore, implementing IC reports to diffuse information could have a positive impact on university-industry collaborations and third mission activities (Elena and Warden, 2011).
- The IC reports would allow comparing different rating systems form other universities (Suciu *et al.*, 2011).
- Lastly, it is important to point out that universities are now facing growing competition due to lower funding, which puts them under greater pressure to communicate their results. External agencies and governments are supervising academic outputs and linking public funding to research results through new performance and funding agreements. Accordingly, IC reporting can facilitate the presentation of results, which could help to attract funds to the detriment of other lower-performing competitors (Elena and Warden, 2011, p. 197).

In this scenario, and given the growing social concern about establishing processes of accountability in public higher education institutions and ensuring information transparency in these institutions, there is a need for major changes in the existing communication systems, such as the information on IC that these institutions should provide. So, through the presentation of this new information the external stakeholders may have at their disposal reliable and comparable information on the performance of institutions of higher education in all their areas of activity and may thus form judgements and take decisions.

However, accountability in the public sector has traditionally been somewhat short-sighted (Xerri *et al.*, 2015) since the tools of transparency have always focused on financial and budget information (Martín and Moneva, 2009), ignoring other types of

information such as data on the social responsibility of their activities (Melle, 2007) or the key intangible elements in their value creation (Ramírez, 2010). Public universities are a prime example of this, since the information provided focuses on ensuring financial control of the organization without paying attention to the needs of other groups of interest (Martín, 2006). Gray (2006) considers that the information supplied in traditional financial reports is not enough, highlighting the need to establish more extensive communication and accountability mechanisms which take into account the needs of the different groups of interest. Also, Coy *et al.* (2001) recommend extending the limits of US universities' annual accounts and defend a new paradigm for the annual accounts which provides more wide-ranging information on teaching and research, by including effort indicators and achievements, with more attention being paid to the social responsibility of institutions of higher education.

By means of a questionnaire survey, this paper ascertains and analyses the views of Spanish university stakeholders in relation to the university's annual reports and the adequacy and potential of IC reporting to meet their information needs.

Data were collected from the members of the Social Councils of Spanish universities. It was thought that these participants would provide a good example of the attitude of university information users since they represent the different social groups connected with universities. Once the different opinions were recorded and analysed, we were in the position of confirming the need for universities to offer information on IC in their accounting information model.

The paper is structured as follows: Section 2 describes the Spanish university system; in Section 3, we briefly explore the concept of IC in higher education institutions and justify the importance of measuring and disclosing their IC; in Section 4, we relate the design of our research and analyse the data obtained from the members of the Social Council of Spanish universities.; final conclusions are drawn in Section 6.

2. Spanish university context

Spanish universities represent an interesting area of investigation because they are considered critical players in the knowledge-based society and are at the core of the policy agenda at national and European Union level. Accordingly, universities are key actors in the pursuit of the European Agenda (Lisbon Strategy and Europe 2020). The "Europe 2020" strategy recognized explicitly the central role of universities in helping Europe to become a smarter, greener and more inclusive economy by 2020 (European Commission, 2010). Moreover, universities have a pivotal role in regional development (Secundo *et al.*, 2015). In this sense, Spanish university institutions are currently immersed in a process of profound change, the intention of which is to enhance the effectiveness, efficiency and transparency of these institutions with the eventual aim of contributing to the development and improvement of the competitiveness of the Spanish economy.

Since the late 1980s the Spanish university system has undergone a profound change, led by the structural transformations driven by the Bologna Process aimed at increasing the quality of the research system and to make university more comparable, competitive, dynamic and transparent. However, this process of adapting to the European Higher Education Area (EHEA) has been prolonged and difficulted due to the economic crisis that hit the country, and so far has not been fully settled. In fact, the context in which the Spanish university system operates has changed significantly in recent years. Some of the most significant changes the Spanish universities is facing are: new methods for measuring the performance and efficiency of universities; the creation of accreditation agencies; new assessment processes and systems to ensure quality which in turn

strengthen transparency and accounting statements; the institutionalization of new financing mechanisms; reforms of national legislation to increase the level of universities' independence and the implementation of new tools to improve internal management. The Spanish public higher education institutions, with these changes, are trying to approach to the concept of quality and excellence. In this sense, an important step was the formal organization and recognition of the evaluation and accreditation activities in the Organic Law on Universities (LOU) (2001) and in its partial modification in 2007 (called LOMLOU). This reform introduced a new legal framework in accordance with the EHEA and promoted the creation of the National Agency for Quality Assessment and Accreditation in 2002. A great change was introduced in this legal reform: Spain moved from improvement-oriented evaluation to evaluation with formal consequences. Also, the new political mantra is to have some Spanish universities ranked the 150 best in the world. As a consequence, institutional excellence has become the most cited goal of higher education policy in Spain. To achieve this objective, the International Campus of Excellence Programme began in 2008 within the framework of the University Strategy 2015 (a national policy framework for universities). The main objectives were to promote strategic aggregations between universities and other institutions (research centres, science parks, technology centres, productive environments and other agents), and to modernize Spanish universities.

In other hand the Spanish universities are under constant pressure from the society to increase their effectiveness and quality with fewer resources, while simultaneously being expected to show greater accountability and transparency in processes.

Traditionally, Spanish universities has been mainly supported on public funding (OECD, 2014). The reduction in public funding, as a consequence of the economic crisis of recent years, has affected the university both in their educational role and its role as a generator of knowledge and transformation of cultural, social and economic values (Grau, 2012). In this scenario, new financing schemes has been discussed, particularly those related to the intensification of university services for the private sector. Moreover, the Spanish university reforms have prompted the introduction of a managerial culture focused on performance, driven by strategies and objectives, where the funding allocation system has been partially associated with results.

Also, as a consequence of the limitation of public budgets and corruption scandals related to public organizations, society and public administrations have more concern about the efficient use of resources. An example is the Law of Transparency, Wing Public Information Access and Good Governance (Law, 2013), according which transparency and objectivity should prevail in proceedings the determination and allocation of public resources.

Accordingly, Spanish universities have to be more transparent and, thus, to disseminate more information to stakeholders (researchers and teaching, students, funding bodies, governmental agencies, labour market, and society as a whole).In this sense, two major processes in relation to the importance of the transparency of university information have been initiated at a national level in Spain:

- The 2015 University Strategy, which specifically details one of the objectives to be reached as a "greater transparency in its accounting to society" (Secretary of State for Universities, 2008).
- The document on university funding presented by the Ministry of Education at the Council of Universities on 20th January 2010, which specifically requests that university managers provide more rigorous accounting. It also mentions the need for Spain's universities to move forward in the area of information transparency

through an integrated system which facilitates immediate information to any agent according to their needs, which will help them to make always the best possible decisions (Council of University Coordination, 2010).

Finally, note that actually Spanish universities are provided with more autonomy to manage their own affairs, not only academic but also financial, to redefine their own internal structures, which necessarily requires new management and reporting systems. So, the increasing autonomy and competition among universities will obligate these institutions to position themselves strategically, raise new financial resources and find new ways of accounting for their investments and expenditures.

In our opinion, the IC approaches seem to be a potential answer for Spanish universities to deal not only the new managerial needs but also with the transparency and accountability requirements.

3. IC reporting in higher education institutions

The term IC, when referred to a university, is a term used to cover all the institution's non-tangible or non-physical assets, including processes, capacity for innovation, patents, the tacit knowledge of its members and their abilities, talents and skills, the recognition of society, its network of collaborators and contacts, etc. The IC is the collection of intangibles which "allows an organization to transfer a collection of material, financial and human resources into a system capable of creating value for the stakeholders" (European Commission, 2006, p. 4).

The components of a university's IC have been categorized in diverse ways, although undoubtedly, the tripartite classification is the most widely accepted in specialised literature (Leitner, 2004; Elena, 2007; Ramírez *et al.*, 2007; Cañibano and Sánchez, 2008; Sánchez *et al.*, 2009; Bezhani, 2010; Bodnár *et al.*, 2010; Casanueva and Gallego, 2010; Secundo *et al.*, 2010). In general, the IC is represented as being formed by the following three basic and closely interrelated components:

(1) Human capital: it is the sum of the explicit and tacit knowledge of the university staff (teachers, researchers, managers, administration and service staff), acquired through formal and non-formal education and refresher processes included in their activities.

(2) Structural capital: it is the explicit knowledge relating to the internal processes of dissemination, communication and management of the scientific and technical knowledge at the university. Structural capital may be divided into:

- Organizational capital: this refers to the operational environment derived from the interaction between research, management and organization processes, organizational routines, corporate culture and values, internal procedures, quality and scope of the information system, etc.
- Technological capital: this refers to the technological resources available at the university, such as bibliographical and documentary resources, archives, technical developments, patents, licences, software, databases, etc.

(3) Relational capital: this refers to the extensive collection of economic, political and institutional relations developed and upheld between the university and its non-academic partners: enterprises, non-profit organizations, local government and society in general. It also includes the perception that others have of the university: its image, appeal, reliability, etc.

It has frequently been observed that IC is largely excluded from the traditional accounting framework (Lev, 2001; Wyatt, 2008; Skinner, 2008; Davison, 2014). Current accounting regulations restrict the recognition of intangibles. Because economic intangibles are cumulative, synergistic and frequently inseparable from other tangible assets and/or economic intangibles not owned by any single entity, it is usually futile to estimate a separate accounting value for individual intangibles (Basu and Waymire, 2008, p. 171). Only acquired intangible assets may be reflected in an organization's balance sheet (Cañibano *et al.*, 2008). For this reason international regulatory bodies, like the Financial Accounting Standards Board (FASB) (2004) or the International Accounting Standard Board (International Accounting Standards Board, 2005) tend to recommend that additional information on intangibles be published apart from financial statements. So, numerous international regulatory bodies, agencies and academic institutions recommend the development and presentation of the so-called IC reports which contain a set of indicators that contribute to improving the quality of accounting information in organizations. In this line, at a national level in Spain, the Commission of Accounting Experts of Ministry of Economy (Instituto de Contabilidad y Auditoría de Cuentas, 2002) recommends the voluntary drafting and publication of a report on IC by following the guidelines of the Meritum Project (Cañibano *et al.*, 2002), consisting of three parts: a vision of the company, a summary of intangible resources and activities and a system of indicators.

Taking these considerations into account, we believe that complementary non-financial information is the most appropriate form to supply information on universities' non-tangible elements, so as to avoid the inclusion of accounting criteria which could endanger the quality and reliability of the financial information. In this sense, Artz *et al.* (2012, p. 456) find evidence that the effect of performance-measure use for accountability is positive and significant for high levels of performance measure reliability. Also, Wyatt (2008) evaluates what we have learned about the relevance and reliability of financial and non-financial information on intangibles from the value-relevance literature. Wyatt (2008) states the possibility that giving management discretion, with regulatory guidance, to report intangibles might facilitate more value-relevant information on intangibles. In our opinion, an improvement in university accounting systems would be achieved by the drafting and presentation of a new report complementary to the current financial statements – the IC report. A set of indicators would show the information most demanded by different stakeholders regarding the institution's intangible resources.

This IC report would provide accounting information which is not only reliable but is also relevant for decision making by the users of the accounting information. The obligatory presentation of this IC report in the higher education system is a crucial step towards new university management, thereby achieving a dual objective: to identify and measure intangibles for management purposes, and to provide useful information to stakeholders. In this sense, the benefits of using the IC report fall into two categories (European Commission, 2006; Elena and Warden, 2011): first, one category is its potential to function as a management tool to help to allocate resources, define a strategy, prioritize challenges, monitor performance and facilitate decision making; the other category is its potential to function as a communication device to link the institution to its main stakeholders and to attract resources: financial, human and technological. So, an IC model can be a useful tool for change management as it helps to ensure the alignment of the change content with the strategic goals of the organization (Lönnqvist *et al.*, 2009). Drawing from this trend, during the last decade in Europe

several initiatives have been launched to support the dissemination of IC management and reporting practices with reference to universities (Leitner, 2004; Fazlagic, 2005; Observatory of the European University, 2006; Sánchez *et al.*, 2009; Bezhani, 2010; Secundo *et al.*, 2010; Veltri *et al.*, 2014; Siboni *et al.*, 2013; Ramírez and Gordillo, 2014). The European Union issued a specific recommendation to encourage IC reporting on the part of universities and research institutions (European Commission, 2006). However, in most countries there exists no obligation or recommendation for universities to present information on their IC. The only exception is in Austria, where universities have been obliged to present a report on IC since 2007.

4. Research design and method

Data for this paper arise from a study of the opinion of the members of the Social Councils of all Spanish universities for 2013. Two important factors were used to select the population to be studied: first, members of the Social Councils of Spanish public universities were considered to provide a good sample of the feelings of university information users, as they represent the various social groups with links to the universities; second, these members are familiar with the accounting information published by the universities since they are responsible for approving the universities' annual reports. We identified a total population of 1,164 members of the Social Councils of Spanish universities. After analysing the composition of the Social Councils of the Spanish universities, the members were categorized into seven groups: university governors (president, vice-chancellor, general secretary and manager), teaching and research staff, administration and services staff, students, representatives of business organizations, representatives of union organizations and representatives of the public administrations (the regional government, the regional parliament, the town council, the federation of municipalities and provinces, etc.).

In order to carry out a further analysis of contrast that allows us to know if there are differences in the opinions of the different groups, the members of the Social Councils have been grouped in the following three collectives: first, university government: includes the rector, general secretary, council secretary and manager; second, external users: includes students and representatives of business organizations, trade unions, and public administrations; and finally, employees: teaching/research staff and administrative/services staff. Although the employees are part of university governing bodies through the University Senate, it is considered interesting to know their opinion individually.

Data were collected from recipients using an online questionnaire. This questionnaire was designed specifically for this study and used primarily closed form questions, with responses requested on a five-point Likert scale. The questionnaire was accompanied with a detailed covering letter explaining the purpose of the research. Questionnaires were sent out in the first week of September 2013. A deadline date of 30 November for return of the questionnaire was stated in the covering letter.

The questionnaire was divided into two main sections. Each section contained a number of questions and addressed the following issues: analysis of current accounting information model in Spanish universities; and importance of IC reporting. In the first section, two blocks of questions were designed: the first block includes a set of questions related to qualitative characteristics of the annual reports; and the next questions are intended to analyse the gaps between the type of information provided in the annual reports published by Spanish universities and the importance stakeholders give to this information. In the second section, again two blocks of questions were designed: the first block includes a set of questions related to demand for IC reporting;

and the last block of questions aims to identify the primary benefits of disclosure of IC in Spanish universities.

A descriptive analysis of the replies was conducted according to the characteristics of each of the questions. Also, a non-parametric test (the Kruskal-Wallis test) was used to see if there were differences in responses by type of stakeholder.

5. Results

5.1 Response rates and tests for bias

The population to be studied therefore comprised the 1,164 members of the Social Councils of Spanish public universities (see Table I). In total, 327 usable questionnaires were returned, resulting in a response rate of 28.09 per cent. The size of the sample was considered sufficient, since in a binomial population the estimation error would be 4.87 per cent for a reliability level of 95 per cent.

Table I reinforces the fact that group structures (which are in line with the nature of the study) are as close as possible to the population despite similarities in each respective group's percentage, resulting in a maximum differential of 4 per cent. Consequently, our sample can be considered fully representative and our findings can be extended to all users of the Spanish university system.

5.2 Analysis of current accounting information model in Spanish universities

The first section of the questionnaire was devoted to discovering the level of satisfaction that university stakeholders felt with regard to current accounting information model in Spanish universities. The broad questions covered in this section aimed to know to what degree the university's annual reports are uses of information for public accountability and/or for making decisions.

In this sense, a series of statements were included that related to qualitative characteristics of the annual reports and disclosures of information that might be appropriate to persons inside and outside universities.

First, the members of the Social Councils of Spanish universities were asked to indicate how valuable the annual reports were. The questions of this block were intended to discover views of the sufficiency, credibility, relevant and usefulness of current accounting information to the university stakeholders. The evidence suggests widespread dissatisfaction with current accounting information practice (see Table II). For example, over 80 per cent of respondents either disagreed or strongly disagreed that current university's annual reports were sufficient (82 per cent) and/or credible (76 per cent). Also, 65 per cent of respondents expressed little satisfaction with the usefulness of current annual reports. While 23 per cent of respondents found current

	University government	Teaching staff	Administration staff	Students	Business organizations	Union organizations	Public administration	Total
Population	204	54	51	51	163	121	520	1,164
% of total population	17.53	4.64	4.38	4.38	14	10.40	44.67	100
Responses	51	31	19	15	42	21	148	327
% of total responses	15.6	9.48	5.81	4.59	12.84	6.42	45.26	100

Source: Compiled by the authors

Table I. Collective response level

Item	Characteristics of current university's annual reports[a]	Mean	SD[b]	Percentage who strongly agree or agree with the statement	Percentage who strongly disagree or disagree with the statement
CA1	Current annual reports in Spanish universities are useful	3.52	1.01	23	65
CA2	Current annual reports in Spanish universities are credible	4.03	1.06	5	76
CA3	There is ample opportunity and/or encouragement to supply feedback to the producers of annual reports	3.95	0.96	4	67
CA4	Current annual reports provide relevant information on the university's activities	4.06	1.04	3	78
CA5	The extent of the annual reports are usually sufficient to enable a user of such information to gain an overall understanding of the impacts of a university's activities	4.11	0.89	4	82
CA6	Current annual reports allow university stakeholders to comprehensively monitor university's activities	4.02	0.92	3	74

Notes: [a]Each answer matches the scale: 1 = strongly agree; 2 = agree; 3 = neither agree nor disagree; 4 = disagree; 5 = strongly disagree; [b]SD, standard deviation

Table II.
Social council members' opinions of annual reports qualitative characteristics

accounting information to be in some way useful. In all, 67 per cent of respondents did not perceive ample opportunities and/or encouragement to supply feedback to the producers of annual reports. A high percentage of respondents (78 per cent) feel that annual reports do not provide relevant information on the university's activities. Only 4 per cent of respondents either agreed or strongly agreed that current university's annual reports were usually sufficient to enable the university stakeholders to gain an overall understanding of the impacts of a university's activities. Finally, 74 per cent of respondents expressed that annual reports do not allow university stakeholders to comprehensively monitor university's activities.

Then an indication of the knowledge university stakeholders want that information to impart, explicitly from annual reports, can be inferred from responses to others questions we asked. These data are incorporated in Table III, in which we also present data about the level that annual reports achieved in respect of each item in the eyes of the members of Social Councils of Spanish universities, and the gaps between expectations and what annual reports are providing. Based on the works of Dixon and Coy (2007) and Ramírez *et al.* (2007), we established a total of 21 items.

The data arrayed in Table III indicate that in the opinion of Social Council members the universities' annual reports are fundamentally oriented towards budgetary issues, the size of the surplus (or deficit), the achievements expressed quantitatively, the institution's finances to date and the economic/financial position of the university. While that universities' annual reports provide very little information on social and corporate responsibility, future resource distribution, the quality of teaching and research or efficiency of the institution.

Item	Report disclosure	Actual (max = 5)[a] Mean	SD	Expectations (max = 5)[b] Mean	SD	Gap	Mean differences test Wilcoxon
RD1	Budgetary information	4.19	0.64	4.52	0.70	0.33	−4.016***
RD2	How much surplus or deficit was made	4.14	0.68	4.26	0.73	0.12	−1.431***
RD3	What the institution is achieving in quantitative terms	4.12	0.67	3.90	0.76	−0.22	−2.338**
RD4	How the institution has been faring financially	4.06	0.68	4.26	0.74	0.20	−2.264**
RD5	University's economic and financial position	3.87	0.64	4.15	0.81	0.28	−3.791***
RD6	Size and composition of the student body	3.80	0.64	3.50	0.91	0.30	−2.277**
RD7	The revenues of the various services	2.90	0.64	3.75	0.71	0.85	−8.507***
RD8	Understand the objectives of the institution	2.76	0.65	3.91	0.77	1.15	−9.527***
RD9	What the institution is achieving in qualitative terms	2.62	0.57	4.00	0.72	1.38	−10.098***
RD10	How effective the institution is	2.61	0.58	4.12	0.85	1.51	−10.290***
RD11	What human and physical resources are available	2.45	0.59	3.50	0.93	1.05	−8.707***
RD12	The costs of the various services	2.36	0.62	3.95	0.79	1.59	−10.313***
RD13	What research the staff are engaged in	2.34	0.61	3.54	0.71	1.20	−9.680***
RD14	How the institution is faring educationally	2.32	0.60	4.05	0.81	1.73	−10.546***
RD15	How successful the students have been	2.12	0.78	3.39	0.79	1.27	−9.355***
RD16	How human and physical resources are distributed	2.10	0.76	3.05	0.66	0.95	−8.252***
RD17	The overall future plans of the institution	2.08	0.74	3.68	0.61	1.60	−10.401***
RD18	How efficient the institution is	2.05	0.74	3.60	0.86	1.55	−10.117***
RD19	Quality of teaching, research and services	2.01	0.64	3.88	0.69	1.87	−10.587***
RD20	How resources will be distributed in the future	1.95	0.74	3.79	0.71	1.84	−10.445***
RD21	Social and corporate responsibility	1.95	0.76	3.30	0.72	1.35	−9.948***
	Mean	2.80		3.81		1.01	

Notes: [a]Five-point Likert scale (1 = annual reports provide little information; 5 = annual reports provide a lot of information); [b]Five-point Likert scale (1 = respondents give little important to the disclosure of this item; 5 = respondents give very important to the disclosure of this item); **,***Significant at the 5 and 1 per cent level, respectively

Table III.
Social council members' opinions of annual reports disclosures

Also, the results obtained show that the university stakeholders seek a broad spectrum of information. They particularly want information about effectiveness of the institution, education performance, qualitative information and financial information, costs of the various services, and quality of teaching, research and services.

The biggest knowledge gaps perceive by Social Council members between expectations and information in annual reports are in respect of: quality of teaching, research and services, future resource distribution; the overall future plans; how the institution is faring educationally; costs of the various services; and efficiency and effectiveness of the institution.

In any case, for each of these items, the actual opinion is significantly smaller than expectations. Wilcoxon signed-rank non-parametric test has been used to assess differences between both responses due to the assumption of multivariate normality was not met for some variables.

All these results lead us to assert that to improve the information contained in the current university annual reports, it is necessary to make accounting regulators aware of the need to extend the information provided in the current accounting statements.

On the other hand, it was analysed whether or not these opinions depend on the user group that members of the Social Councils represent. For this purpose, the Kruskal-Wallis test allowed us to check whether there were varying views amongst the different groups of users and whether they were statistically significant. This test is most appropriate for small groups' contrasts and when the variables do not meet the normality hypothesis (as it is our case). To carry out the Kruskal-Wallis test, the p-value (sig.) is obtained with a critical level of 0.05 to determine if the variables included in the analysis show significant differences between the three groups formed (see Table IV).

The results of the Kruskal-Wallis test demonstrate that statistically significant differences (sig. < 0.05) exist in most of the informational aspects analysed (specifically in 12 of them). Also, the results obtained show that for all the information items in which the user groups have differing opinions, it is the external users and employees who are more critical about the provision for this information than the members of the university government. In our opinion, these differences are a sign of the gap which exists between the information external users consider relevant so as to improve their decision making and the priority given by the teams of university governors to balancing the organization's financial and budgetary situation. So it is highly important to make those responsible for drafting universities' annual accounts aware of the need to improve the current model of accounting information since external users clearly feel that their information needs are not satisfied by the current accounting statements.

Item	Variables	χ^2	df	Asymp. sig.
RD1	Budgetary information	1.345	2	0.709
RD2	How much surplus or deficit was made	3.927	2	0.228
RD3	What the institution is achieving in quantitative terms	5.377	2	0.085
RD4	How the institution has been faring financially	1.029	2	0.552
RD5	University's economic and financial position	2.376	2	0.488
RD6	Size and composition of the student body	2.009	2	0.366
RD7	The revenues of the various services	7.610	2	*0.013*
RD8	Understand the objectives of the institution	18.373	2	*0.000*
RD9	What the institution is achieving in qualitative terms	16.371	2	*0.000*
RD10	How effective the institution is	8.710	2	*0.013*
RD11	What human and physical resources are available	4.376	2	0.088
RD12	The costs of the various services	1.199	2	*0.049*
RD13	What research the staff are engaged in	4.376	2	0.088
RD14	How the institution is faring educationally	2.009	2	*0.036*
RD15	How successful the students have been	3.136	2	0.108
RD16	How human and physical resources are distributed	6.103	2	*0.032*
RD17	The overall future plans of the institution	15.604	2	*0.000*
RD18	How efficient the institution is	12.567	2	*0.000*
RD19	Quality of teaching, research and services	12.287	2	*0.000*
RD20	How resources will be distributed in the future	15.377	2	0.000
RD21	Social and corporate responsibility	6.103	2	*0.032*

Table IV.
Differences in perceptions of annual reports disclosures among user groups (Kruskal-Wallis test)

Note: Test statistics: Kruskal-Wallis Test and Grouping Variable: 3 groups (university governance, employees, and external users)

5.3 Importance of IC reporting

This section of the questionnaire aims to analyse the importance given by university stakeholders to the presentation of information on IC. A five-point Likert scale with 1 representing strongly agree and 5 representing strongly disagree was used.

Subjects were first asked to what extent they would like to see Spanish universities engaging in extensive levels of IC reporting. In all, 95 per cent of respondents either agreed or strongly agreed with the suggestion that Spanish universities should engage in more extensive levels of IC reporting (see Table V). Also, a high percentage of respondents (90 per cent) felt that publishing information on IC would make the content of the current university accounting information model more relevant. Only 5 per cent of respondents consider that publishing this information increases the ambiguity and the lack of relevance of the current accounting information model. Finally, there was a substantial demand for the disclosure of IC to be mandated with 74 per cent of respondents strongly agreeing or agreeing that IC reporting should be mandatory for all universities.

These results are similar to those obtained in the study of O'Dwyer *et al.* (2005) on sustainability reporting in Ireland.

Finally, subjects were also asked what they perceived as the primary motives driving IC reporting in Spanish universities. The perceptions of respondents measured over a five-point Likert scale (1 being "not at all important" and 5 being "very important").The purpose of this block of the questionnaire is to know from the Social Council members the main positive consequences that would result from the disclose information about universities' IC.

The analysis of respondents' opinions concerning the possible beneficial effects of IC reporting shows (see Table VI) that great benefits are expected from the existence of an IC disclosure policy. Such benefits that contribute to a positive, long-term vision of the university include improvements in credibility and reputation with increased transparency and user satisfaction. The high ratings that reach these beneficial effects (greater than 4.5), together with a low-valued standard deviation, indicate a high degree of consensus among all respondents about the important contribution that information on IC can do for user satisfaction and the image of the university. Also the benefits directly associated with promote public accountability and enhance the comparability between universities receive a significant valuation (greater than 4).

Item	Demand for ICR[a]	Mean	SD[b]	Percentage who strongly agree or agree with the statement	Percentage who strongly disagree or disagree with the statement
DIC1	I would like to see Spanish universities to engaging in extensive levels of ICR	1.45	0.86	95	5
DIC2	ICR would make the content of the current university accounting information model more relevant	1.52	0.88	90	5
DIC3	ICR should be mandatory requirement for all Spanish universities	1.96	1.01	74	8

Notes: [a]Each answer matches the scale: 1 = strongly agree; 2 = agree; 3 = neither agree nor disagree; 4 = disagree; 5 = strongly disagree; [b]SD = standard deviation

Table V. Demand for intellectual capital reporting (ICR)

Table VI.
Benefits derived from university disclosure on intellectual capital

Item	Benefits of intellectual capital reporting[a]	Mean	SD[b]
BIC1	Increased transparency	4.72	0.58
BIC2	Supporting for long-term vision of the university	4.60	0.56
BIC3	Increase in user satisfaction	4.59	0.59
BIC4	Increased credibility and image of the university	4.57	0.60
BIC5	Improved reputation of the university	4.56	0.63
BIC6	Promoting public accountability	4.50	0.61
BIC7	Increased comparability	4.45	0.75
BIC8	Greater confidence among workers	4.41	0.71
BIC9	Improved internal management	4.36	0.79
BIC10	Benefits in terms of strategy	4.31	0.74
BIC11	Reduction of asymmetric information	4.17	0.69

Notes: [a]Five-point scale (1: not at all important, 5: very important); [b]SD = standard deviation

Note the high value provided to the different benefits, which is again a proof of the huge interest and need for Spanish universities to publish such information.

On the other hand, it was analysed whether or not these opinions depend on the user group that members of the Social Councils represent. For this purpose, the Kruskal-Wallis test allowed us to check whether there were varying views amongst the different groups of users and whether they were statistically significant (see Table VII).

The results presented in Table VII show that there were statistically significant differences (sig. < 0.05) for four of the beneficial effects considered: supporting the long-term vision of the institution; helping to inspire trust/confidence among workers of the university and other stakeholders; increasing transparency and user satisfaction. The employees and external users greatly valued the influence of IC information on obtaining beneficial numbers to a greater extent than university governance. Specifically, external users perceive the existence of higher profits associated with increased transparency; increased user satisfaction; improved, long-term vision of the institution, and increased trust of workers more than members belonging to the university governance. There are also differences of opinion among university employees and university governance regarding the relative benefits of increased transparency and user satisfaction, since employees have higher valuations in both cases.

Table VII.
Differences in perceptions of benefits among user groups (Kruskal-Wallis Test)

Item	Benefits of intellectual capital reporting	χ^2	df	Asymp. sig.
BIC1	Increased transparency	18.391	2	*0.000*
BIC2	Supporting for long-term vision of the university	8.710	2	*0.013*
BIC3	Increase in user satisfaction	15.377	2	*0.000*
BIC4	Increased credibility and image of the university	1.199	2	0.549
BIC5	Improved reputation of the university	4.376	2	0.088
BIC6	Promoting public accountability	2.009	2	0.366
BIC7	Increased comparability	3.136	2	0.208
BIC8	Greater confidence among workers	6.103	2	*0.032*
BIC9	Improved internal management	5.604	2	0.067
BIC10	Benefits in terms of strategy	2.567	2	0.277
BIC11	Reduction of asymmetric information	2.287	2	0.319

Note: Test statistics: Kruskal-Wallis Test and Grouping Variable: 3 groups (university governance, employees, and external users)

Finally, in order to test the validity of the scale used for the different items, the obtained replies were subjected to a descriptive analysis based on the characteristics of each of the questions. An exploratory factor analysis has been applied in order to verify whether the selected dimensions form a single construct (Stevens, 1996) (see Table VIII). We used three measures of classical adjustment: the percentage of explained variance, the Kaiser-Meyer-Olkin (KMO) statistic and the Bartlett's sphericity contrast (Hair, 1999).

The coefficients of these tests show highly acceptable values, ensuring the validity of the obtained results. The Bartlett's sphericity coefficients and KMO statistic indicate a significant correlation between constitutive items of each category.

6. Conclusions

A greater autonomy of the university system, the emergence of a third mission (Molas-Gallart, 2005; Laredo, 2007), the need for alternative funds and the stakeholders' demand for more transparency on public spending increase competitiveness among research institutions and push universities towards the adoption of new management and reporting tools (Siboni *et al.*, 2013), which incorporate IC (Sánchez and Elena, 2006; Observatory of the European University, 2006).

In this scenario, this paper aims to obtain new empirical findings and an enhanced understanding of the role of IC in an organizational change process is obtained. Specifically, the main objectives of this study were to know the level of satisfaction of Spanish university stakeholders in relation to the current universities' annual reports and the importance given by these stakeholders to disclose information on IC.

From the results of our empirical study we found that simply publishing the current university's annual reports are not properly satisfy the information needs of stakeholders. Current university's annual reports are viewed negatively with regard to its credibility, usefulness and sufficiency. A high percentage of respondents (78 per cent) feel that annual reports do not provide relevant information on the university's activities. Also, findings include that annual reports do not provide valuable information for university stakeholders to make decisions and hold their universities accountable.

These results would seem to question, at least partially, the validity of the current model of university accounting information. In the opinion of Social Council members universities' annual reports are largely oriented towards information concerning the universities' budget, the size of the surplus (or deficit), the achievements expressed quantitatively, the institution's finances to date and the economic/financial position of the university. While universities' annual reports provide very little information regarding aspects such as social and corporate responsibility, future resource

Aspects analysed about disclosure of intellectual capital	Percentage of explained variance	KMO[a]	Barlett's sphericity[b]
Characteristics of current university's annual reports (6 items)	49.85	0.702	102.85 (0.000)
Report disclosure. Actual opinion (21 items)	42.84	0.684	1,674.26 (0.000)
Report disclosure. Expectations (21 items)	43.86	0.679	1,587.79 (0.000)
Demand for intellectual capital reporting (3 items)	52.00	0.698	40.89 (0.000)
Benefits of intellectual capital reporting (11 items)	64.81	0.724	153.533 (0.000)

Notes: [a]Adequacy test sample Kaiser-Meyer-Olkin; [b]*p*-value in brackets

Table VIII. Exploratory factor analysis of intellectual capital disclosure items

distribution, the quality of teaching and research or efficiency and effectiveness of the institution, which is highly demanded by university stakeholders.

If we look at the different groups, we see that it is the external users who are most critical of the current information model of Spanish public universities. We believe that the differences of opinion between the group of external users and that of the members of university government is a clear sign of the gap which exists between the information which external users consider relevant for their decision making and the priority given by the teams of university governors to balancing the organization's financial and budgetary situation. It can be concluded that, much as in the private sphere and in other public organizations, it is the external users who are especially critical with the information provided in universities' annual accounts.

All these results lead us to assert that to improve the information contained in the current university annual reports, it is necessary to make accounting regulators aware of the need to extend the information provided in the current accounting statements.

In this sense, a high percentage of respondents (90 per cent) showed great interest in Spanish universities presenting information on IC. This demand is primarily driven by a desire to ensure the informational transparency and to gain knowledge of Spanish universities accountability. The university stakeholders felt that publishing information on IC would make the content of the current university accounting information model more relevant.

On other hand, 74 per cent of respondents expressed that IC reporting should be mandatory for all universities. In this sense, we share the view expressed by the Observatory of the European University (2006) that in the near future the disclosure of IC will become mandatory in universities.

Also, the results indicate that the university stakeholders surveyed perceive the primary motive for IC reporting derives from universities' desire to increase the information transparency (75.3 per cent of respondents consider it to be very important). Specifically, the benefits identified as most important were: increased transparency; enhancement of the long-term vision of the institution; increased user satisfaction, improved university credibility, image and reputation of the university, and promoting public accountability. The high value provided to the different benefits is again a proof of the huge interest and need for Spanish public universities to publish such information. The existence of statistically significant differences by type of stakeholder is also interesting to note. With the results obtained, we generally conclude that employees and external users seem to perceive the existence of higher profits associated with the publication of information on IC. On the contrary, with the opinion of university governance, benefits are related to increased transparency; increased user satisfaction; improved long-term vision of the institution, and an increased confidence/trust of workers.

Despite the contributions of this empirical study, the authors recognize several limitations that suggest future lines of analysis. This study is exploratory and is limited by sample size, location and temporal specificity. So, one of the main limitations refers to the sample under study and the structure of the survey. The fact that only members of the Social Councils in Spanish universities were analysed means that there are other groups of users that have not yet been analysed (e.g. investors and suppliers of resources, media, etc.). Hence, it would be interesting in the future to expand the sample to a broader community of representation. Also, this study is based on the perceptions of Spanish university stakeholders. Different results might have been obtained if another countries and cultures have been selected.

Finally, some other lines of future research suggested by the results obtained in this study are: the validation of a standardized university report on IC in universities; identifying the components of IC which most contribute to achieving the strategic objectives of the universities; the creation of a structural equation model of IC for empowerment in universities; and exploring stakeholders' emotions during a structural change in the universities.

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