

# Intellectual Capital and Transparency in Universities: An Empirical Study

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**Abstract**—This paper shows the general perceptions of Spanish university stakeholders in relation to the university's annual reports and the adequacy and potential of intellectual capital reporting. To this end, a questionnaire was designed and sent to every member of the Social Councils of Spanish public universities. It was thought that these participants would provide a good example of the attitude of university stakeholders since they represent the different social groups connected with universities. From the results of this study we are in the position of confirming the need for universities to offer information on intellectual capital in their accounting information model.

**Keywords**—Intellectual capital, disclosure, stakeholders, universities, annual report.

## I. INTRODUCTION

EUROPEAN university institutions are currently immersed in a process of profound change the intention of which is to improve the effectiveness, efficiency and transparency of these institutions with the aim of contributing to the development and improvement of the competitiveness of the European economy. Some of the most significant changes are: new methods for measuring the performance and efficiency of universities; the creation of European-wide 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. 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.

It is useful to remember that accounting research is currently focused on the utility paradigm, which stresses the need for accounting information to be truly relevant to good decision making by its users. In this respect, in the framework for the presentation of accounting information for higher education institutions, GASB 35 "Basic Financial Statements

—and Management's Discussion and Analysis— for Public Colleges and Universities" highlighted the need for supplying more useful information to the growing range of users, who, it was found; hardly refer to financial reports [1]. At national level (Spain) the most important reference is that of the document on university funding presented by the Ministry of Education at the Council of Universities on 20 January 2010, which calls for university management teams to be more rigorous when they are presenting accounts. Spanish universities need to provide more transparent information by way of an integrated system facilitating immediate information to each agent according to their needs, thus allowing them to make the best possible decisions [2]. However, accountability in the public sector has traditionally been somewhat short-sighted since the tools of transparency have always focused on financial and budget information [3], ignoring other types of information such as data on the social responsibility of their activities [4] or the key intangible elements in their value creation [5]. 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 [6]. While [7] 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, [8] 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 intellectual capital 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 analyzed, we were in the position of confirming the need for universities to offer information on intellectual capital in their accounting information model.

The paper is structured as follows: in Section II, we briefly explore the concept of intellectual capital in higher education

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institutions and justify the importance of measuring and disclosing their intellectual capital. Then we relate the design of our research and analyze the data obtained from the members of the Social Council of Spanish universities. Final conclusions are drawn in Section V.

## II. IMPORTANCE OF INTELLECTUAL CAPITAL REPORTING IN HIGHER EDUCATION INSTITUTIONS

Specifically, the term intellectual capital, when referred to a university, is a term used to cover all the institution's non tangible or nonphysical 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 intellectual capital 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" [9].

The components of a university's intellectual capital have been categorized in diverse ways, although undoubtedly, the tripartite classification is the most widely accepted in specialized literature [10]-[18]. Intellectual capital is represented as being formed by the following three basic and closely interrelated components:

- 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.
- 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, licenses, software, databases, etc.
- 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.

The need for universities to have a greater involvement with their wider community and the general concern to ensure the informational transparency of these institutions so as to satisfy the information needs of their users makes it advisable to present information on intellectual capital. Below are some of

the reasons why it is a major necessity for these institutions to start including information on intellectual capital in their current accounting systems:

- Knowledge is the principal output and input of higher education institutions. 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 [19], [10]. It is true to say then that universities' input and output are largely intangible [13].
- The existence of continual demands for greater information and transparency about the use of public money [19], mainly due to the fact that most of the funding for public universities is handed over by the government [20].
- 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 [21].
- 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.
- 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.

However, despite all this, in most countries there exists no obligation or recommendation for universities to present information on their intellectual capital. The only exception is in Austria, where universities have been obliged to present a report on intellectual capital since 2007.

Current accounting regulations restrict the recognition of intangibles. Only acquired intangible assets may be reflected in an organization's balance sheet [22]. For this reason international regulatory bodies, like the Financial Accounting Standard Board [23] or the International Accounting Standard Board [24] tend to recommend that additional information on intangibles be published apart from financial statements so as to avoid the inclusion of accounting criteria which could endanger the quality and reliability of the financial information [25]. So, numerous international regulatory bodies, agencies and academic institutions recommend the

development and presentation of the so called Intellectual Capital 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 [26] recommends the voluntary drafting and publication of a report on intellectual capital by following the guidelines of the Meritum Project [27], 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 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 Intellectual Capital Report. A set of indicators would show the information most demanded by different stakeholders regarding the institution's intangible resources.

This intellectual capital report would provide accounting information which is not only reliable but is also relevant for decision making by the users of the accounting information.

### III. EMPIRICAL STUDY

The two fundamental objectives of this research are: 1) to know the general level of satisfaction of university stakeholders with the information contained in Spanish universities' annual reports, and 2) to know the importance given by Spanish university stakeholders to the intellectual capital reporting.

#### A. Methodology and Data Collection

Data for this paper arise from a study of the opinion of the members of the Social Councils of all Spanish universities for 2013.

A summarization of the study's methodology is highlighted below:

TABLE I  
TECHNICAL DETAILS OF THE STUDY

Analyzed Collective	Users of accounting information from the Spanish public universities
Universe (Population)	Integral members of the Social Councils of the Spanish public universities (1,164)
Sample size	327
Technical information collection	Online survey
Observation Period	September-December 2013
Computer software	SPSS® v. 19

#### B. Demarcation of the Population and Sample Selection

Two important factors were used to select the population to be studied: (1) 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; (2) 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 analyzing the composition of the Social Councils of the Spanish universities, the members were categorized into seven groups: 1) university governors (president, vice-chancellor, general secretary and manager), 2) teaching and research staff, 3) administration and services staff, 4) students, 5) representatives of business organizations, 6) representatives of union organizations, and 7) 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: 1) University Government: includes the Rector, General Secretary, Council Secretary and Manager; 2) External Users: includes students and representatives of business organizations, trade unions, and public administrations; and 3) 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.

#### C. Information Collection and Treatment

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: 1) analysis of current accounting information model in Spanish universities, and 2) importance of intellectual capital reporting. In the first section, two blocks of questions were designed: a) the first block includes a set of questions related to qualitative characteristics of the annual reports; and b) 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: a) the first block includes a set of questions related to demand for intellectual capital reporting; and b) the last block of questions aims to identify the primary benefits of disclosure of intellectual capital in Spanish universities.

A descriptive analysis of the replies was conducted according to the characteristics of each of the questions. Also, a Nonparametric test (the Kruskal-Wallis test) was used to see

if there were differences in responses by type of accounting information user.

TABLE II  
COLLECTIVE RESPONSE LEVEL

	University Government	Teaching staff	Administration staff	Students	Business Organisations	Union Organisations	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%

#### IV. RESULTS AND DISCUSSION

##### A. 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 II). In total, 327 usable questionnaires were returned, resulting in a response rate of 28.09%. The size of the sample was considered sufficient, since in a binomial population the estimation error would be 4.87% for a reliability level of 95%.

Table II 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%. Consequently, our sample can be considered fully representative and our findings can be extended to all users of the Spanish university system. 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. 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 relevant, reliability, comparability and usefulness of current accounting information to the university stakeholders. The evidence suggests widespread dissatisfaction with current accounting information practice (see Table III). For example, over 80% of respondents either disagreed or strongly disagreed that current university's annual reports were verifiability (82%) and/or reliability (76%). Also, 65% of respondents expressed little satisfaction with the usefulness of current annual reports. While 23% of respondents found current accounting information to be in some way useful. Only four per cent of respondents perceive that annual reports provide feedback. A high percentage of respondents (78%) feel that annual reports do not provide relevant information on the university's activities. And, 74% of respondents expressed that annual reports do not allow university stakeholders to make comparisons over time and with other universities. Only 5% of respondents perceive

benefits of current reports exceeding costs and either agreed or strongly agreed that current university's annual reports are neutral between stakeholders and preparers, and providing information valuable to making predictions. Finally, only over 10% of respondents expressed that annual reports are understandability and timeliness. 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 IV, 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 [28], [12], we established a total of 21 items.

The data arrayed in Table IV 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. 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. 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 analyzed 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 V).

TABLE III  
SOCIAL COUNCIL MEMBERS' OPINIONS OF ANNUAL REPORTS QUALITATIVE CHARACTERISTICS

Characteristics of current university's annual reports	Mean	SD	Percentage that strongly agree or agree with the statement (%)	Percentage that strongly disagree or disagree with the statement (%)
Decision usefulness	3.52	1.01	23	65
Reliability	4.03	1.06	5	76
Feedback value	3.95	0.96	4	67
Relevance	4.06	1.04	3	78
Verifiability	4.11	0.89	4	82
Comparability (with other universities)	4.02	0.92	3	74
Timeliness	4.23	0.95	9	56
Predictive value	4.01	0.94	5	80
Neutrality (between stakeholders and preparers)	4.00	0.90	5	79
Understandability	4.19	1.06	10	52
Benefits greater than costs	4.15	1.03	5	60

Notes: 1 = strongly agree; 2 = agree; 3 = neither agree nor disagree; 4 = disagree; 5 = strongly disagree; SD = standard deviation.

TABLE IV  
SOCIAL COUNCIL MEMBERS' OPINIONS OF ANNUAL REPORTS DISCLOSURES

Report disclosure	Actual	Expectations	Gap
	Mean (max=5)*	Mean (max=5)**	
Budgetary information	4.19	4.52	0.33
How much surplus or deficit was made	4.14	4.26	0.12
What the institution is achieving in quantitative terms	4.12	3.90	-0.22
How the institution has been faring financially	4.06	4.26	0.20
University's economic and financial position	3.87	4.15	0.28
Size and composition of the student body	3.80	3.50	0.30
The revenues of the various services	2.90	3.75	0.85
Understand the objectives of the institution	2.76	3.91	1.15
What the institution is achieving in qualitative terms	2.62	4.00	1.38
How effective the institution is	2.61	4.12	1.51
What human and physical resources are available	2.45	3.50	1.05
The costs of the various services	2.36	3.95	1.59
What research the staff are engaged in	2.34	3.54	1.20
How the institution is faring educationally	2.32	4.05	1.73
How successful the students have been	2.12	3.39	1.27
How human and physical resources are distributed	2.10	3.05	0.95
The overall future plans of the institution	2.08	3.68	1.60
How efficient the institution is	2.05	3.60	1.55
Quality of teaching, research and services	2.01	3.88	1.87
How resources will be distributed in the future	1.95	3.79	1.84
Social and corporate responsibility	1.95	3.30	1.35
<b>Mean</b>	<b>2.80</b>	<b>3.81</b>	<b>1.01</b>

Notes: \* 5-point Likert scale (1=annual reports provide little information; 5=annual reports provide a lot of information). \*\* 5-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).

The results of the Kruskal-Wallis test demonstrate that statistically significant differences (sig. <0.05) exist in most of the informational aspects analyzed (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.

TABLE V  
DIFFERENCES IN PERCEPTIONS OF ANNUAL REPORTS DISCLOSURES AMONG USER GROUPS (KRUSKAL-WALLIS TEST)

Variables	Chi-square	df	Asymp. Sig.
Budgetary information	1.345	2	.709
How much surplus or deficit was made	3.927	2	.228
What the institution is achieving in quantitative terms	5.377	2	.085
How the institution has been faring financially	1.029	2	.552
University's economic and financial position	2.376	2	.488
Size and composition of the student body	2.009	2	.366
The revenues of the various services	7.610	2	.013
Understand the objectives of the institution	18.373	2	.000
What the institution is achieving in qualitative terms	16.371	2	.000
How effective the institution is	8.710	2	.013
What human and physical resources are available	4.376	2	.088
The costs of the various services	1.199	2	.049
What research the staff are engaged in	4.376	2	.088
How the institution is faring educationally	2.009	2	.036
How successful the students have been	3.136	2	.108
How human and physical resources are distributed	6.103	2	.032
The overall future plans of the institution	15.604	2	.000
How efficient the institution is	12.567	2	.000
Quality of teaching, research and services	12.287	2	.000

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

TABLE VI  
DEMAND FOR INTELLECTUAL CAPITAL REPORTING (ICR)

Demand for ICR	Mean	SD	Percentage that strongly agree or agree with the statement (%)	Percentage that strongly disagree or disagree with the statement (%)
I would like to see Spanish universities to engaging in extensive levels of ICR	1.45	0.86	95	5
ICR would make the content of the current university accounting information model more relevant	1.52	0.88	90	5
ICR should be mandatory requirement for all Spanish universities	1.96	1.01	74	8

Notes: 1 = strongly agree; 2 = agree; 3 = neither agree nor disagree; 4 = disagree; 5 = strongly disagree; SD = standard deviation.

### B. Importance of Intellectual Capital Reporting

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

Subjects were firstly asked to what extent they would like to see Spanish universities engaging in extensive levels of intellectual capital reporting. Ninety-five per cent of respondents either agreed or strongly agreed with the suggestion that Spanish universities should engage in more extensive levels of intellectual capital reporting (see Table VI). Also, a high percentage of respondents (90%) felt that publishing information on intellectual capital would make the content of the current university accounting information model more relevant. Only 5% 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 intellectual capital to be mandated with 74% of respondents strongly agreeing or agreeing that intellectual capital reporting should be mandatory for all universities.

Finally, subjects were also asked what they perceived as the primary motives driving intellectual capital reporting in Spanish universities. The perceptions of respondents measured

over a 5-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' intellectual capital.

The analysis of respondents' opinions concerning the possible beneficial effects of intellectual capital reporting shows (see Table VII) that great benefits are expected from the existence of an intellectual capital 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 intellectual capital 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). 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 analyzed 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 VIII).

TABLE VII  
BENEFITS DERIVED FROM UNIVERSITY DISCLOSURE ON INTELLECTUAL CAPITAL

Benefits of intellectual capital reporting	Mean	SD
Increased transparency	4.72	0.58
Supporting for long-term vision of the university	4.60	0.56
Increase in user satisfaction	4.59	0.59
Increased credibility and image of the university	4.57	0.60
Improved reputation of the university	4.56	0.63
Promoting public accountability	4.50	0.61
Increased comparability	4.45	0.75
Greater confidence among workers	4.41	0.71
Improved internal management	4.36	0.79
Benefits in terms of strategy	4.31	0.74
Reduction of asymmetric information	4.17	0.69

Notes: 5-point scale (1: not at all important, 5: very important); SD = standard deviation.

TABLE VIII  
DIFFERENCES IN PERCEPTIONS OF BENEFITS AMONG USER GROUPS  
(KRUSKAL-WALLIS TEST)

Variables	Chi-square	df	Asymp. Sig.
Increased transparency	18.391	2	.000
Supporting for long-term vision	8.710	2	.013
Increase in user satisfaction	15.377	2	.000
Increased credibility and image	1.199	2	.549
Improved reputation	4.376	2	.088
Promoting public Accountability	2.009	2	.366
Increased comparability	3.136	2	.208
Greater confidence among workers	6.103	2	.032
Improved internal management	5.604	2	.067
Strategic benefits	2.567	2	.277

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

The results presented in Table VIII 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 analysis of the descriptive statistics for each of the groups analyzed show that for the four beneficial effects (trust, long-term vision, transparency, and satisfaction) in which significant differences were found between the value assigned by the different groups of users, university governance offered a lower assessment than the one given by external users. It even gave the inferior assessment to that one given by employees to the case of the latter two benefits: transparency and user satisfaction.

## V. CONCLUSIONS

In the current context of the Knowledge Society European higher education institutions are immersed in a process of profound changes to improve effectiveness, efficiency and transparency, which directly affect the conceptualization of

the function of these institutions and their accounting information model. This situation, together with the growing social concern about establishing processes of accountability and ensuring information transparency in public higher education institutions, means there is a need for major changes in the existing communication systems. One of these changes concerns the information on intellectual capital disclosed by these institutions.

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 intellectual capital.

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 verifiability, usefulness, comparability, neutrality and reliability. A high percentage of respondents (78%) feel that annual reports do not provide relevant information on the university's activities. 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 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%) showed great interest in Spanish universities presenting information on intellectual capital. They felt that publishing information on intellectual capital would make the content of the current university accounting information model more relevant. And 74% of respondents expressed that intellectual capital 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 intellectual capital will become mandatory in universities. Also, the results indicate that the university stakeholders surveyed perceive the primary motive for intellectual capital reporting derives from universities' desire to increase the information transparency (75.3% 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 user 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 intellectual capital. 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. The employees and external users greatly valued the influence of intellectual capital 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.

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