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The determinants of intellectual capital disclosure: Evidence from French stock exchange

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Abstract

The objective of this paper is to identify the determinants of voluntary intellectual capital disclosure (ICD) by analyzing a panel of French listed companies observed over the period 2006-2010. The results confirm that ownership structure, size, debts and the weight of activated goodwill are the determinants of voluntary ICD which allows managers to reduce agency conflicts and solve the inadequacy of financial reporting by disclosing relevant information (signals) for investors. However, our results disprove that voluntary ICD could be a process of legitimizing targeting other stakeholders.

Keywords: Voluntary disclosure, Intellectual Capital, determinants, France.

1. Introduction

In this new economy, intellectual capital appears a new theme of disclosure in companies' annual reports because of the transformations in traditional production systems that incorporate more intangible elements, such as knowledge and skills in the value creation‘s process.

IAS / IFRS, became mandatory since 2005 in Europe for listed companies, allow better integration of intangible assets in the stock prices in France (Boulerne and Sahut 2010) and require more detailed information than the French GAAP. However, such information concerns only intangible assets, i.e. intangible elements which satisfy the conditions of activation. For this, the majority of intellectual capital’s components is excluded from financial statements due to the absence of control of economic benefits (Bessieux-Ollier et *al.* 2006). In addition, the Financial Markets Authority (AMF), established in 2003 that is responsible for safeguarding investments in financial instruments and ensuring that investors receive material information, has not issued, so far, specific recommendations for intellectual capital disclosure which is entrusted to the market self-regulating. Therefore, this disclosure is essentially voluntary, giving wide latitude to managers in choosing their companies’ communication strategy.

The literature review on voluntary disclosure reveals the emergence of a new research trend focusing on “intellectual” information. Initially, most studies were exploratory and descriptive (Guthrie and Petty 2000, Goh and Lim 2004, April et *al.* 2003, Olsson 2001, Brennan 2001, Bontis 2003). More recently, some authors have adopt a hypothetical-deductive approach by introducing quantitative models to identify the determinants of voluntary intellectual capital disclosure (ICD) (Bozzolan et *al.* 2006, Bukh et *al.* 2005, Oliveira et *al.* 2006, Cordazzo 2007, White et *al.* 2007, Guthrie et *al.* 2006, Petty and Cuganesan 2005, Kang and Gray 2011).

Compared to Anglo-Saxon and Scandinavian contexts, the French one is very little explored by this new research trend. Moreover, despite the important relationship between the Corporate Social Responsibility (CSR) and the creation of intangible assets, it is surprising to remark the lack of studies which present the voluntary ICD as a process of legitimating and a way to manage different stakeholders’ expectations, especially in a context characterized by the development of CSR such as France.

The contribution of this study is that it is the first one to adopt two approaches of analysis: shareholders versus stakeholders to identify the determinants of voluntary ICD. The results show that ICD is justified by its financial utility since it‘s made in order to reduce information asymmetry, overcome the inadequacies of accounting reporting and create a financial value for shareholders. The results also confirm that voluntary ICD does not seem to be a legitimation’s process aimed at the creation of social value.

This paper is organized as follows: the second section presents the theoretical framework and study’s hypotheses. A third section is devoted to the methodology and the use of content analysis method. The results and their discussion are provided in a final section.

2. Literature Review and Hypotheses

2.1 Intellectual capital and voluntary disclosure

In this modern economy characterized by the development of activities which require a growing proportion of knowledge, skills and technologies, intellectual capital becomes the main source of value creation. However, we remark his absence in the financial statements since the capitalization of intangible investments demands the presence of their control. So, the greatest stakes of intellectual capital is its appropriation. Therefore, the increase of intangible investments and the inability of accounting reporting to provide reliable information on intellectual capital have generated a significant difference between the book and market value of firms and the development of new informational needs for stakeholders who must have other sources that the financial statements. This situation has led some countries and institutions to produce guidelines for improving the reporting of intangible assets (Edvinsson and Malone 1997, Meritum 2002). Conversely, no model so far is made obligatory. Intellectual capital disclosure is essentially voluntary.

According to a shareholders' approach which limits company's relationship with its only shareholders, the voluntary ICD theoretical framework is based on agency theory and signaling theory. The common hypothesis of these theories is the presence of asymmetric information problem which reduces the firm financial value (Botosan 1997). In this regard, voluntary ICD is justified by its financial value since it reduces agency costs, allows to managers to signal their business's performance and to differentiate from competitors. Otherwise, voluntary ICD allows companies to have cheaper funding and improves forecasting investors (Diamond and Verrechia 1991).

According to a stakeholders' approach, the company performance includes not only its financial results, but also its global behavior (Carroll 1979). Shareholders are not exclusively concerned by the firm's activities, but other stakeholders could be harmed in case of company's malfunction. In this sense, voluntary ICD can be a means of gaining legitimacy. it allows to the company to demonstrate to different social actors, its involvement in a behavioral social responsibility (Patten 1991, Roberts 1992). On this approach, the research of explanatory factors of voluntary ICD is based on the contributions of two widely used theories to justify societal disclosure.

The first is the legitimacy theory. Suchman (1995) considers that "*legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions*." Thus, legitimacy theory has the role of explaining voluntary ICD in order to fulfill a social contract which permits to firms to approve their objectives and consequently assure their continued existence in a jumpy and turbulent environment (Lindblom 1994).

The second is the stakeholder theory which suggests that the purpose of a firm is to create value for all stakeholders (Freeman 1984). To succeed and be sustainable over time, managers must keep the interests of suppliers, employees, customers, communities and shareholders aligned and going in the same direction. Thus voluntary ICD can be a way

allowing to firms to establish a dialogue through which it seeks to respond to pressure of different stakeholders (Roberts 1992).

2.2 Hypotheses: financial utility versus legitimacy

2.2.1 Ownership structure

Within agency theory, the separation ownership/control leads to interests 'conflicts between managers and shareholders (Fama and Jensen 1983). Indeed, more the capital is dispersed more leaders are incited to communicate to reduce the information asymmetry and agency conflicts (Gelb 2000). Different empirical studies have shown divergent results in terms of the association between ownership structure and ICD. Studies as Oliveira et *al.* (2006), Li et *al.* (2008), Williams and Firer (2003) found a negative relationship between ownership structure and voluntary ICD. However, in a Portuguese context, Ferreira et *al.* (2012) overturned the presence of relationship between these two variables.

H1: There is a negative association between managerial ownership concentration and the level of voluntary ICD.

2.2.2 Size

A second hypothesis arising from the agency theory indicating that bonding costs are expected to increase with size. According to Jensen and Meckling (1976), control (monitoring) becomes more difficult and expensive in large firms. Prior studies that considered size as a determinant of voluntary ICD produced different and contrasting results.

Several authors have confirmed a positive effect of size on the ICD (Guthrie et *al.* 2006, White et *al.* 2007, Oliveira et *al.* 2006, Taliyang et *al.* 2011, Ousama *et al.* 2012, Ferreira et *al.* 2012, El-Bannany 2013). Cordazzo and Vergauwen (2012) did not find any significant relationship where they analyzed the IPO of UK companies operating in the biotechnology sector. Atan and Rahim (2012) found that size does not have any significant relationship with the level of ICD, in Malaysia.

H2: There is a positive association between size and the level of voluntary ICD.

2.2.3 Leverage

Jensen and Meckling (1976) argue that agency costs increase with debt. Fama and Miller (1972) assert that voluntary disclosure allows the leaders to reduce these costs which are associated with reliance on outside financing. The positive relation between ICD and debts was confirmed in Australia (White et *al.* 2007 Brugen et *al.* 2009, Oliveira et *al.* 2013) and Malaysia (Haji Mohd and Ghazali 2013). While, in Portugal, Oliveira et *al.* (2006) and Ferreira et *al.* (2012) found leverage is not a significant determinant of ICD.

Besides, Diamond and Verrecchia (1991) confirmed a negative association between voluntary disclosure and the cost of equity capital, consequently, disclosure may raise the level of equity financing. Based on a sample of large firms belonging to emerging markets, this conclusion was confirmed by Kang and Gray (2011) who demonstrated a negative relation between leverage and voluntary disclosure of intangible assets.

H3: There is an association between leverage and the level of voluntary ICD.

2.2.4 Profitability

The findings of previous studies regarding the relationship between profitability and voluntary ICD are inconclusive. Studies like Garcia-Meca et *al.* (2005), Ferreira et *al.* (2012) and Haji and Mohd Ghazali (2013) found a significant and positive relation. Other authors confirmed a negative association (Williams and Firer 2003). Bozzolan et *al.* (2006), Yau et *al.* (2009), Taliyang et *al.* (2011) and Atan and Rahim (2012) found that profitability does not have any significant relationship with the level of ICD.

H4: There is a positive association between the profitability and the level of voluntary ICD.

2.2.5 Age

Stinchcombe (1965, cited by Chabaud *et al.* 2005) argues that young organizations present a low level of legitimacy. Haniffa and Cooke (2002, cited by Woodcock and Whiting 2009) confirm that young organizations are trying to increase the level of communication to reduce scepticism and amplify the trust of investors who can perceive them as more risked.

In prior researches, results concerning the impact of the firm's age on voluntary ICD are inconsistent. Researches like Li et *al. (*2008), Rimmel et *al.* (2009) and Rashid et *al.* (2012) found a negative association. In the research of White et *al.* (2007), was found a positive relationship. Bukh *et al.* (2005) confirmed that firm's age does not have any significant relationship with the level of ICD.

H5: There is an association between age of the firm and the level of voluntary ICD.

2.2.6 Status of listing

A higher level of information could be attributed to regulatory differences between countries. Compared to those of the continental countries, the Anglo-Saxon markets are more developed and their disclosure obligations are more restrictive. Several studies confirmed that a second listing on foreign stock markets increases the level of voluntary ICD (Oliveira et *al.* 2006, Entwistle 1999, Ding and Stolowy 2002).

H6: Firms listed on both French and American stock markets publish more information on intellectual capital than those listed on only French stock market.

2.2.7 Stakeholders' pressure

Under stakeholder theory, firms with high stakeholders' pressure disclose more on the intellectual capital. This study is the first one to examine the relationship between the level of ICD and stakeholders' pressure, as measured by Damak-Ayadi and Pesqueux (2005) in their study focusing on societal disclosure of French companies. This measure based on the idea of Mitchell et *al.* (1997), stating that "*the importance of stakeholders is the degree of attention that managers give to the claims of each group*."

H7: There is a positive association between stakeholders' pressure and the level of ICD.

2.2.8 Industry

Wong and Gardner (2005) assert that the informational needs of investors vary from industry to another. The authors found that the demand for additional intellectual capital information is more intense for firms which belong to industries characterized by significant earnings volatility. Different studies that considered industry as an independent variable of ICD have shown different results. De Silva et *al.* (2014) and Branco et *al.* (2011) have not found industry as determinant of ICD. However for Cordazzo (2007), Oliveira et *al.* (2006) and Whiting and Woodcock (2011) industry has appeared to be a significant determinant of ICD.

H8: Firms belonging to a high-tech sector publish more information on intellectual capital than others.

3. Methodology

3.1 Sample and period

At first, our sample consists of companies belonging to the SBF 120 index. The choice of firms with the largest market capitalization is justified by the importance of their intangible elements which are not included in financial statements, but incorporated into the market value. In addition, they are followed by large number of analysts and need to publish more information to obtain financial resources at a lower cost (Bessieux-Ollier 2002). From this sample, we have excluded financial institutions because of their specific activities and their financial reporting's rules.

We chose to analyze the annual report due to its high degree of credibility (Neu et *al.* 1998), wide distribution and consistency of its production (Lang and Lundholm 1993). Annual reports have been downloaded from the websites of the selected companies. To obtain the maximum of the variance in the distribution of dependant variable, we eliminated companies that provided their annual reports as a reference document. This has reduced our sample to 55 firms observed during the period 2006-2010 (Appendix 1). 2006 was the second year of the obligatory adoption of international standards in France and represents the last year for which the annual reports were available on the web when we started collecting data.

3.2 Variables and model

3.2.1 The dependent variable

Measuring the level of voluntary ICD was based on manual content analysis (White et *al.* 2007, Guthrie et *al.* 2006, Bozzolan et *al.* 2003). This method requires the identification of categories and THE choice of analysis unit.

The categories used for classification and counting information on intellectual capital are those developed by Guthrie and Petty (2000). Their research paper is one of the early pioneering studies to examine intellectual capital disclosure practices. The authors have employed a list developed from Sveiby's (1997) model.

The items' list of the study is summarized in table 1:

Table 1. The items' list of the study

Structural Capital	Relational Capital	Human Capital
1-Patents	11-Brands	19-Know-how
2-Copyrights	12-Customers	20-Professional qualifications
3-Trademarks	13-Customer Loyalty	21-Professional Knowledge
4-Innovation	14-Distribution Channels	22-Professional Skills
5-R&D	15-Business Relationships	23-Employee Satisfaction
6-Managerial Philosophy	16-License Agreements	
7-Corporate Culture	17-Franchise agreements	
8-Management process	18- Financial Relations	
9-Information Systems		
10-Networked Systems		

The level of voluntary ICD was measured by the number of words. Krippendorff (1980) argued that word minimizes the subjectivity of the coders and gives a robust measure of the quantity of information. To verify the reliability of our content analysis 'results, we adopted the procedure of Bozzolan et *al.* (2003) which refers to the three dimensions of reliability (accuracy, reproducibility and stability) previously mentioned by Krippendorff (1980).

3.2.2 The independent variables and models

In this study, the dependent variable is measured by the number of words related to intellectual capital. It is a discrete count variable which can take only non-negative integers, does not satisfy the condition of normality and follows other probability distributions. Consequently, classic models of linear regression can lead to inefficient, inconsistent and biased estimations (Long and Freese 2003). Moreover, we have verified that the dependent variable does not follow the normal distribution by the use of Shapiro-Wilk test.

To mitigate the limits of linear models, we resorted to count data models (Zéghal et *al.* 2007, Baccouche et *al.* 2010). The main is the Poisson model. However, its use is based on the equality between the mean and variance of the dependent variable which is not very frequent in studied samples (generally, statistical tests show, that the variance exceeds significantly the average: over-dispersion). Using two strong tests which are deviance and Pearson Chi^2, an over-dispersion was proved. So, results indicate that at 1% level, these tests allow to confirm that the use of Poisson model is not possible and it must be substituted by a less restrictive model such the negative binomial model (Appendix 2).

Model: $Ln\,[E\,(INF\_CI)] = \beta_0 + \beta_1\,P\_DIR + \beta_2\,LOG\_TA + \beta_3\,ENDT + \beta_4 Q\_TOBIN + \beta_5\,ROE + \beta_6 AGE + \beta_7\,COT\_AM + \beta_8\,PPC + \beta_9\,PPD + \beta_{10}\,HT + \beta_{11}\,INC\_AT + \beta_{12}\,GDW\_AT + \varepsilon$

Where:

INF_CI: Number of words or groups of words disclosed on the intellectual capital;
P_DIR: The part of the capital kept by the leaders;

LOG_TA: The log there bases 10 of the active accountant;
ENDT: Long-term liabilities / Equity capitals;
Q_TOBIN: [Market capitalization + book value of debts] / Active accountant;
ROE: Net profit / Equity capitals;
AGE: Age of the firm;
COT_AM: Dummy taking 1 if firm is listed on French and American stock markets and 0 otherwise;
PPC: Number of contractual stakeholders mentioned in the president's message;
PPD: Number of diffuse stakeholders mentioned in the president's message;
HT: Dummy taking 1 if firm operates in a high-tech sector and 0 otherwise;
INC_AT: Intangible assets/ total assets;
GDW_AT: Goodwill / total assets.

We used as control factor, the intensity of activated intangibles (measured by the weight of intangible assets and goodwill) which is, a priori, very related to the level of voluntary ICD. Indeed, according to signaling theory, when intangible investments are important, the firm is more incited to reveal information about its intellectual capital, especially as most of these investments are not recognized by the international accounting standards.

4. Presentation and discussion of results

4.1 Results of Descriptive Statistics

Figure 1 shows the structure of voluntary ICD.

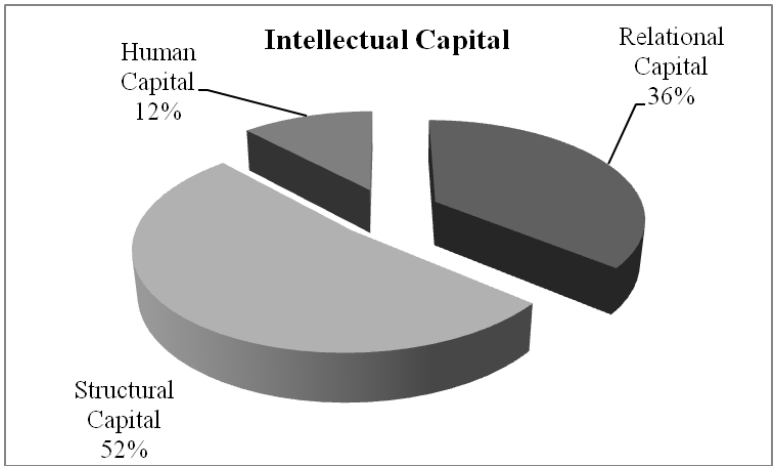

Figure 1. The structure of voluntary ICD

The Figure 1 shows that the structural and relational capitals represent the main disclosed categories on IC. Indeed, firms disclose more about the structural capital (52% of total disclosure), then relational capital (36%) and lastly the human capital (12%).

This result is in accordance with the findings of Whiting and Miller (2008) who argued that human capital often represents the lowest disclosed category in many researches and this despite of diverse contexts and methodologies used.

Table 2 shows the structure of ICD relieved by some previous studies which are conducted in different contexts.

Table 2. The Results of negative binomial regression (RE model)

	Period	Context	Structural Capital	Relational Capital	Human Capital
Bozzolan et *al.*	2003	Italy	49%	30%	21%
Goh and Lim	2004	Malaysia	41%	37%	22%
Guthrie et *al.*	1999	Australia	40%	30%	30%
Oliveras and Kasperskaya	2005	Spain	51%	28%	21%
Sujan and Abeysekera	2007	Australia	48%	31%	21%

Source: Abhayawansa and Abeysekera (2008, p.6)

The content analysis of annual reports reveals the presence of several forms of information disclosed which can be conveyed by: narrations (descriptive/qualitative and quantitative), tables, photos or graphics. The photographic form has not been widely studied in previous researches. Few authors have examined this form. In New Zealand, Steenkamp (2005) found that photos represent 35% of all information disclosed on intellectual capital, against 3% for graphs and 62% in narrative form.

Figure 2 shows the different forms of ICD and their importance.

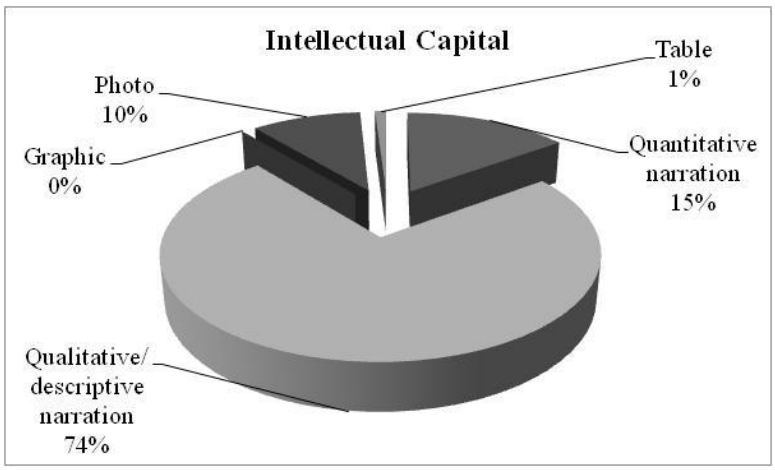

Figure 2. The forms of voluntary ICD

The figure 2 shows that voluntary ICD is mainly narrative and descriptive since this form represents 74% of total volume. Companies use less quantitative form which represents only 16% of the total disclosure and is split into 15% quantitative narration, 1% graphic and an insignificant proportion as table. Photographic form represents only 10%.

These observations are consistent with prior studies that have confirmed the predominance of qualitative form IC (Brennan 2001). Guthrie and Petty (2000) found that intangible capital is expressed in a rather qualitative than quantitative form.

4.2 Results of multivariate analysis

Before operating multivariate analysis, we have verified the absence of correlation problem between independent variables which can distort coefficients estimations of the multivariate regressions (Gujarati 1988). Moreover, as we analyze panel data, a problem of heterogeneity arises. To model this heterogeneity, we firstly used a Fixed Effect Model (FE) and, secondly, a Random Effect (RE) Model. The choice between these models was resolved by the use of Hausman test which determines if the both estimations' coefficients (FE and RE models) are statistically different. The Hausman test's results are provided in table 3.

Table 3. Hausman test's results

Khi-deux	1,34
P-value[2]	0, 954

The Hausman test confirms that the quality of RE model's estimations is better than that of FE model. (Appendix 2).

The results of the model estimation in the negative binomial regression (random effects model) are summarized in table 4:

Table 4. The Results of negative binomial regression (RE model)

	Predicted sign	β	Sig.
Constant		4.830	0.000
P_DIR	-	-1.172	**0.055***
LOG_TA	+	0.320	**0.019****
ENDT	+/-	-0.262	**0.052***
Q_TOBIN	+	-0.089	0.201
ROE	+	0.039	0.920
AGE	+/-	0.002	0.195
COT_AM	+	-0.256	0.183
PPC	+	0.088	0.292
PPD	+	0.072	0.252
HT	+	-0.093	0.250
INC_AT	+	0.428	0.581
GDW_AT	+	1.18	**0.050****
Test de KHI^2 (Sig)		18.25	0.1*
Pseudo R^2 de Cragg et Uhler		0.295	

** Significant at the 5% * Significant at 10%

The results confirm that only H1, H2 and H3 were accepted. This leads us to conclude that ownership structure, the firm's size and debt are the determinants of the level of voluntary

ICD which seems to be justified by its financial utility. In fact, it represents a way to reduce agency conflicts that arise in contractual relations opposing shareholders- managers and shareholders -creditors.

4.3 Discussion

The negative relationship between the proportion of capital owned by managers and the level of voluntary ICD confirms that more capital is concentrated, more majority shareholders (managers) are encouraged to retain information and keep it inside the company. Because they have direct access to information, they will try to reduce the voluntary disclosure in order to appropriate private benefits and expropriate minority shareholders. This finding is entirely inserted in "civil law" countries such as France, characterized by little protection of minority investors.

Our results are consistent with those found in the study of Bougacha and Khoufi (2010), realized on 26 French listed firms belonging to Information Techniques and Communication's sector and media sector. Similarly, our results corroborate those found by Williams and Firer (2003) confirmed that the voluntary ICD is higher when the participation of managers in the capital is lower. Also, Oliveira et *al.* (2006), Li et *al.* (2008) have argued that such disclosure is stronger when capital is more dispersed. In contrast, in the researches of White et *al.* (2007) and Woodcock and Whiting (2009) made in Australia, ownership structure proved to be insignificant as a determinant of intellectual capital disclosure. Their result is in accordance with that found by Kang and Gray (2011) when they analyzed the voluntary ICD of 200 largest firms from emerging markets.

Several researches argued a positive relationship between size and the level of voluntary ICD in different contexts (Williams and Firer 2003, Oliveira et *al.* 2006, White et *al.* 2007, Guthrie et *al.* 2006, Petty and Cuganesan 2005). Kang and Gray (2011) and Williams (2001) found that size does not have any significant relationship with the level of voluntary ICD. The different sorts of results obtained can depend on the interaction of various factors specific to studies 'contexts.

Our results showed a negative and significant relationship between debt and the level of voluntary ICD. This result is justifiable since firm's indebtedness can substitute the role of voluntary disclosure in reducing agency costs arising from the contractual relationship between managers and shareholders. Indeed, the payment of debt's financial charges at fixed intervals reduces the value of cash flow and consequently the opportunities to achieve a sub-optimal investment by the manager (Diamond 1984). Also, in a French environment characterized by strong financial intermediation, banks use, less than investors, public information in annual reports to learn about the economic situation of indebted firms. They have other private channels and have access to privileged information sources.

Indeed, the disclosure of any information relating to the creation or development of intangible elements may embarrass current creditors and increase the future debts cost since intangible investments are riskier than others and will, therefore, impose to lenders more risk level and lower repayment's probability.

The results of the multivariate analysis show that profitability is not a significant determinant of voluntary ICD and lead us to reject H4. This is inconsistent with the findings of Garcia-Meca et *al.* (2005) and Kang and Gray (2011) as they found a positive and significant association between the level of voluntary ICD, return on equity and price-to-book ratio in Spain and emergent markets. However, our results are in accordance with those of Williams (2001) who found that the performance of UK firms is not a determinant of the voluntary ICD.

Similarly, studies of Whiting and Miller (2005) and Brennan (2001) confirmed the absence of a significant relationship between the hidden value and the level of voluntary ICD in New Zealand and Irish contexts.

In this sense, a result deserves emphasis is that the goodwill which represents intangible elements which are not individually identified and separately recognized in the balance sheet, proves to be a determinant of voluntary ICD. Consequently, this disclosure seems to be a signalling mechanism enabling not the most efficient firms to differentiate themselves but the firms with more important intellectual capital. So, this finding allows us to conclude that, in the absence of an accounting recognition of a very relevant component in the firms' valuation, French companies are encouraged to voluntarily publish information in order to overcome the shortcomings of financial reporting and positively affecting the market value. This confirms the argument of the financial utility of the ICD.

Our study has dismissed the legitimacy's argument of the voluntary ICD and this by rejecting H5, H6 and H7 and arguing that firm's age, status of listing and stakeholders' pressure are not significant determinants of disclosure level.

The absence of relationship between age and voluntary ICD was confirmed by several authors (Bukh et *al.* 2005, Woodcock and Whiting 2009, Kang and Gray 2011). This result supports the hypothesis of communication policy's stability over time which was demonstrated in many researches (Gibbins et *al.* 1990, Botosan 1997).

Although several studies have confirmed a positive relationship between the status of listing and the level of ICD (Entwistle 1999, Ding and Stolowy 2002), our result corroborates that found by Kang and Gray (2011). The absence of association can be explained by two reasons. The first is the small proportion of companies listed on the Anglo-Saxon markets composing our sample and the second is the convergence between U.S. GAAP and IFRS.

The absence of significant relation between stakeholders' pressure and voluntary ICD seems to be a surprising result in a French context where the objective of governance system is to protect all the stakeholders' interests and to create some societal value. This inconsistency may result from specific attributes of ICD.

Finally, the results show that industry is not a significant determinant of the level of ICD (reject of H8). This finding is consistent with that confirmed by Guthrie et *al.* (2006), Wong and Gardner (2005) and Branco et *al.* (2010) but contradicts the result of several authors who argue a significant effect of industry on the volume of ICD (Bozzolan et *al.* 2006, Woodcock and Whiting 2009, Oliveira et *al.* 2006, Cuganesan and Petty 2005, Kang and Gray 2011).

5. Conclusion

Despite its voluntary character, the ICD is operated by all the companies analyzed. Its presence reflects the inability of financial accounting to reflect the real firms' value. This also proves the need of investors to information that exceeds the legal reporting in order to judge performance and evaluate the "hidden value" of companies (Edvinsson and Malone 1997). The results of our study enroll completely into this logic by proving the predominance of shareholder's approach in which managers disclose on Intellectual capital to reduce information asymmetry, minimize agency costs and complete financial reporting. In fact, the importance of asymmetric information that envelops the intangibles has put forward the financial utility's argument to the detriment of legitimacy.

Intellectual capital disclosure is closely related to the problem of accounting standards. The accounting normalization should be built on corporate practices. Understanding why firms adopt particular strategies would lead to the obligation to publish a coherent set of elements in order to improve the relevance of accounting information through the revision of existing standards or the development of new rules of recognition and representation of intangibles.

There are now several managerial instruments for measurement, description and presentation of intangibles. However, one problem is the comparability and the reliability of such information as that they are not audited.

Certainly our multi-theoretical model offers an interesting framework for analyzing the behavior of managers in voluntary ICD but it is not enough to analyze all the determinants. Indeed, the impact of other corporate governance factors, such as size and Board's composition can be analyzed. On the empirical side, this research is based on the analysis of only communication's support (annual report). Other supports should be analyzed, as company websites and press releases.

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Appendix

Appendix 1. Distribution of sample firms across sectors

Sectors	Effective	% in sample
Aerospace and Defense	10	3,63%
Automobile	25	9,09%
Consumer goods	10	3,63%
Chemicals, pharmaceuticals and health	30	10,90%
Construction and building materials	15	5,45%
Distribution	10	3,63%
Electrical and electronic equipment	60	21,81%
Entertainment and Hotels	15	5,45%
Médias	15	9,09%
Energy, Oil and Gas	15	9,09%
Services	30	10,90%
Computers and telecommunications	20	7,27%
Total	**275**	**100%**

Appendix 2. Estimation of Poisson model and overdispersion results (déviance and Khi^{2}tests)

	β	Z	Signification
Constant	4.130	16.59	0.000
P_DIR	-0.917	-3.93	0.000
LOG_TA	0.304	-2.67	0.006
ENDT	-0.305	-7.36	0.000
Q_TOBIN	-0.064	-7.34	0.000
ROE	0.113	1.46	0.145
AGE	0.001	9.39	0.000
COT_AM	-0.193	0.80	0.431
PPC	0.041	4.11	0.000
PPD	0.052	4.90	0.000
HT	0.053	-7.95	0.000
P_CCE	-0.015	-3.39	0.001
INC_AT	0.400	0.50	0.621
GDW_AT	1.034	9.51	0.000
Deviance (sig.)	749.085 (0.000***)		
Pearson KHI2 (sig.)	798.506 (0.000***)		