

# THE RELATIONSHIP BETWEEN FINANCIAL COMMUNICATION AND FIRM PERFORMANCE: EVIDENCE FROM FRANCE

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## ABSTRACT

*This research identifies potential links between performance and the level of financial communication on the web. This study examines 216 firms quoted in 2010 on the Free Market of Paris. We use a content analysis of websites and scoring technique, to compute a score of financial communication for each firm. Based on mean scores, two groups are constructed. We measure performance for these two groups. The Probit model shows a negative relation between financial performance and the probability of having a higher score for virtual financial communication.*

**JEL:** M15, G10, C50

**KEYWORDS:** Communication, Internet, Performance, Web

## INTRODUCTION

Companies wishing to raise public money in France can choose between regulated and unregulated markets. Unregulated markets aim specifically at the small and medium-sized enterprises (SME), which, in most European countries, represent the major part of the economic landscape. There are 23 million SME in the EU representing 99% of businesses (<http://ec.europa.eu/enterprise/policies/sme/>). These unregulated markets include the Free market on which highly rated companies have only very few constraints, and no financial communication obligation. Any effort at financial communication on behalf of listed companies on the Free market is done voluntarily and not from a legal obligation.

This paper focus on 216 firms quoted on the Free Market of Paris in 2010. This market, to our knowledge, has not yet been the topic of such a research project. We want to identify the voluntary effort towards virtual financial communication on 216 websites of firms quoted on the French Free Market. The web site was chosen here as a privileged vector of financial communication between the listed company and its investors (and potential investors). This vector of communication is more and more widely used (Léger, 2008) and the Internet becomes a real management tool for investor relations within companies (Barredy and Darras, 2008; Almillia and Budisusetyo, 2008).

We also highlight the link between these communication efforts and firm performance. The performance is a recurrent determinant of on-line presentation by companies informing their investors (Xiao and al., 2004; Menses-da-Silva and Christensen, 2004; Debreceny and Rahman, 2005; Paturel and al, 2006; Arnone and al., 2010; Pozniak, 2010). The influence of performance on the level of disclosure of financial information on the web is still ambiguous. There is no consensus in the literature on this issue. This paper provides a unique perspective to this issue. The remainder of the paper is organized as follows. In the first section we provide a literature review. We will summarize the relation between performance and communication and we highlight the principles of financial communication on the web. These elements help us build our website analysis grid. The second section presents our methodology and data. The results are discussed in the third section. The paper closes with some concluding comments

## LITERATURE REVIEW

The signal theory explains the influence of performance on financial information disclosure. Managers of successful companies are likely to reveal more financial information to the public with the aim of ensuring their position within the company (Wallace & al., 1994; Inchausti, 1997) and reducing the risk of a bad company valuation (Grossman & Hart, 1980). So this theory argues for a positive relation between the performance of the listed company and the intensity of financial information disclosure. However, this positive influence is not validated empirically (Xiao & al., on 2004; Mendès da silva & Christensen, 2004; etc.). Some studies show a negative influence of performance on the level of voluntary disclosure of information on the web (Paturel & al., 2006; Pozniak, 2010; Amal & Faten, 2010). The main argument explaining this negative relation is the protection of the company against its competitors. The link between performance and the voluntary disclosure of information through the web is thus ambiguous. The first studies to examine voluntary disclosure of financial information on the web, are those of Ashbaugh & al. (1999) for the American market and Craven & Marston (1999) for the British market. Since the publication of these works, other authors have examined this problem and tried to identify determinants of voluntary financial information disclosure on the web. Debreceeny & al. (2002) as well as Ettredge & al. (2002) are two pioneering studies in this field.

The literature continues to be enriched by works concerning the identification of determinants of voluntary financial information disclosure on the web (Pozniak, 2010; Amal & Faten, 2010; etc.). In these studies, performance is often used as a variable of control in explanatory models (Ettredge & al., 2002; Xiao & al., 2004; Andrikopoulos & al. 2009; etc.). However, results concerning the influence of performance on the effort of financial information voluntary disclosure on the web remain statistically insignificant (Debreceeny & al., 2002). Xiao & al. (2004) demonstrate the statistical irrelevance of the performance variable ROA on the score of financial communication on the web for 300 large Chinese companies. The results are the same for Mendès-da-silva & Christensen (2004) who analyzed the determinants of voluntary disclosure of financial information on the web of 291 non-financial companies listed on the Sao Paulo stock exchange in 2002. These authors measure performance by means of the ROA. Andrikopoulos & al. (2009) found the same results in their study of 140 companies listed on the Cyprus stock exchange in March 2007. Their criteria of performance were the ROA and the after tax result. On the other hand, Debreceeny & Rahman (2005) confirm the negative influence of the performance measure ROE on the frequency of information disclosure on the website of 334 companies on the Morgan Stanley Capital Index in 2002. This result was also highlighted by Pozniak (2010) who studied the impact of performance, measured by ROA and ROE, on the financial communication score on the website of 37 companies listed on the unregulated Belgian markets. This negative influence is also validated by the conclusions of Paturel & al. (2006) for the British companies quoted on the FTSE 100. Nevertheless, the conclusions show that performance measured by means of ROE has a positive impact on the score of web information disclosure for French companies on the SBF 120 Index.

To estimate the intensity of the voluntary effort of website financial communication by listed companies on the French Free Market, an analysis grid of web sites was constructed. This analysis grid is based on the most important principles of financial disclosure on the web identified by the literature. According to Almilía and Budisusetyo (2008), the company has to give investors a certain amount of financial information, such as the annual accounts, on its web site. The traditional paper reports are not sufficient anymore. The importance of the firm's official web site is identified by Léger (2008) as well as its appropriateness to the firm's global strategy of communication.

Some authors examine elements which must be on the web site of the company, such as the annual report (Léger, 2008 ; Dutta & Bose, 2007 ; Pervan, 2006 ; Euronext, 2006 ; Barredy & Darras, 2008), audit report and financial ratio (Dutta & Bose, 2007), mean key figures (Euronext 2006), history of share prices (Léger, 2008 ; Barredy & Darras, 2008 ; Dutta & Bose, 2007 ; Pervan, 2006 ), prospectus of IPO (Léger,

2008 ; Euronext, 2006), shareholder structure (Léger, 2008 ; Barredy & Darras, 2008 ; Dutta & Bose, 2007 ; Euronext, 2006 ) and the organization chart (Léger, 2008 ; Dutta & Bose, 2007 ; Pervan, 2006 ; Euronext, 2006). Previous studies show that a special space dedicated to investors on the company website facilitates a relation with them (Barredy & Darras, 2008; Pervan, 2006). This information includes an address, telephone and/or an email of a specific contact (Léger, 2008; Barredy & Darras, 2008; Dutta & Bose, 2007; Pervan, 2006; Euronext, 2006). It sometimes offers the possibility of subscribing to a newsletter (Dutta & Bose, 2007; Euronext, 2006), answering FAQ’s (Léger, 2008; Dutta & Bose, 2007) as well as by giving the schedule of the shareholders meetings or the calendar of the financial communication (Léger, 2008; Barredy & Darras, 2008; Dutta & Bose, 2007; Euronext, 2006).

**METHODOLOGY AND DATA**

In this section we present the data and methodology used in the paper. First, based on the above literature we develop our analysis grid. The analysis grid appears in Table 1.

Table 1: The Analysis Grid of Web Sites

Financial Information	Corporate governance information
Summary of Financial data	Organization chart
Last quarterly report	Firm’s history
Quarterly report of previous years	Board of directors
Last annual report	Staff
Annual report of previous years	Firm’s activities
Forecast of future results	Shareholder structure
Current share prices	Website’s ergonomics
History of share prices	Download annual reports in PDF, HTML, Excel
Investors relations	Videos
Specific webpage for investors	Map of website
Download documents	Research engine
Prospectus of IPO	Explanation of special financial words
Specific telephone number for investors	Other languages
Specific email or address for investors	
FAQ	
Shareholders’ schedule	
Specific contact for investors	
Newsletter	

*This table shows the analysis grid of web sites. It was built thanks to the literature review and was used to analyze each web sites of our sample.*

The aim of this study is to identify the link between performance and virtual financial score of firms quoted on the Free Market of Paris in 2010. Using the analysis grid presented above, we analyzed the websites of 216 firms. For each item present on the web site, we gave a point to the firm. In this way, we create a communication score for each firm. We present the items in relative values. The respective score for each of four categories was divided by the total number of items in the categories. The total score is divided by the total number of items presented in the analysis grid of contents.

The literature retains several variables of performance. Return on Assets (ROA) and the Return on Equity (ROE) are often used to measure the economic and financial performance of companies (Ettredge et al., 2002; Xiao et al., 2004; Mendès-da-Silva & Christensen, 2004; Andrikopoulos et al., 2009; Pozniak, 2010; etc.). We also use these two criteria to measure the performance of companies quoted on the Free Market of Paris. ROA is measured by the relation between net profit and total assets. ROE is measured by the relationship between EBITDA and total stockholders' equity. We also test the stock-exchange performance of companies, by means of the average market capitalization calculated over the year 2010. Because some information were not available for all 216 firms, the second part of the study concerns 100 firms quoted on the Free Market of Paris in 2010. Table 2 and Table 3 present some statistics about the 100 firms studied.

Table 2: Sample Statistics

	Mean	Std. Dev.	Min	Max
Size approached by number of workers	210	392	4	1999
Number of years since IPO	11.14	21.57	1	115
Number of shareholders	5	8.99	1	79
Solvability ratio	45.81	25.70	0	100

*This table shows some statistics of our sample.*

Table 3: Sample Activity Sector

Activity Sector	Number of Firms
Oil & Gas	2
Basic Materials	6
Industrials	25
Consumer Goods	11
Consumer Services	6
Health Care	14
Utilities	6
Financials	4
IT (Technology + Telecommunication)	26
Total	100

*This table shows the number of firms in each activity sector.*

## EMPIRICAL RESULTS

Table 4 indicates the distribution of the average score for financial communication obtained via the web sites for 216 listed companies on the Free Market of Paris, according to four categories of items on the analysis grid.

Table 4: Distribution of the Score of Financial Communication on the Web According to Four Categories

Categories	Average Score (Standard Error)
Financial Information	16.03% (21.36%)
Investors relations	30.45% (9.45%)
Corporate governance information	40.59% (13.01%)
Website's ergonomics	30.32% (14.10%)

*This table shows the distribution of the score of financial communication on the web according to four categories.*

We notice the highest average score occurs for the category "Corporate governance information." The lowest average score is obtained for the category "Financial Information". The average score of the two other information categories seems relatively close. Table 4 also shows that the total average score is relatively low. Indeed, out of 29 items contained in the analysis grid, only 28.54 % of these items are on average available on the web sites of companies quoted on the Free Market of Paris.

To discover the possible link between performance and the score for internet financial communication, we used the DIANE and OSIRIS databases jointly. The joint use of these databases did not allow us to obtain the information relative to the performance for 36 of the 216 companies of the initial database. Besides, eighty companies with a lack of available data for our indicators were deleted from the database. Consequently, the database on which we made the empirical tests contains 100 companies. Table 5 presents the average scores obtained for these 100 companies for each of the four main categories represented in the analysis grid as well as the average performances of these companies.

Table 5: Average Score of Financial Communication and Average Performance

	Average	Standard Error
<b>Financial Communication Score</b>		
Financial Information	20.88%	24.49%
Investor relations	32.22%	10.42%
Corporate governance information	40.83%	13.06%
Website ergonomics	32.17%	15.40%
Total Score	30.86%	13.07%
<b>Performances</b>		
Market capitalization 2010	28,746,381.22€	84,056,636.03€
ROE	-13.25%	69.05%
ROA	-2.50%	17.40%

*This table shows the average score of financial communication according to four categories and the average performance for our database of 100 companies.*

The remarks formulated previously also remain valid when the analysis concerns only 100 companies. Indeed, the categories "Corporate governance information" and "Financial Information" respectively remain the most and the least represented categories of items on the web sites of the companies of our database. The average performance expressed in terms of financial profitability and economic profitability is negative. The standard deviation of financial profitability is very large, which implies a strong heterogeneousness in the financial performances of our companies.

In order to identify a possible link between the financial communication score of companies quoted on the Free Market of Paris and their level of performance; two groups of companies are established. The first represents companies, which, on average, communicate most on the Internet. The second represents companies, which on average, communicate least on the Internet. The results are presented in Table 6.

Table 6: Average Score of Financial Communication and Average Performance

	Group 1 (48 Firms)		Group 2 (52 Firms)	
	Average	Standard Error	Average	Standard Error
<b>Financial Communication Score</b>				
Financial Information	41.15%	20.46%	2.22%	5.92%
Investor relations	39.35%	9.16%	25.64%	6.43%
Corporate Governance Information	46.18%	16.21%	35.90%	6.07%
Website ergonomics	42.01%	14.58%	23.08%	9.42%
Total Score	41.81%	10.45%	20.75%	3.77%
<b>Performance</b>				
Market capitalization	32,321,184.20€	84,753,497€	25,446,563.12€	84,098,258.47€
ROE	-24.35%	92.78%	-3.01%	33.14%
ROA	-2.084%	17.43%	-2.88%	17.54%

*This table shows the average score of financial communication according to four categories and the average performance for the two groups of our sample.*

The results presented in Table 6 are interesting. First, it seems that the companies, which inform more than other firms (i.e. those, which have an above average score), have it in each category of the analysis grid. There is thus a positive correlation between the total score of financial communication and each of the intermediate scores relative to the four categories of the analysis grid. Indeed, the average scores of financial communication of 48 companies of the group are higher than these same average scores calculated for 100 companies of the database (see Table 5). On the other hand, those of the companies of group 2 are lower than the average scores calculated for the hundred companies of the database.

It seems that the companies of group 1 emphasize the first category of the analysis grid more than the companies of group 2. So, on average, more than 45% of the items of the category " financial Information " are found on the web site of group 1 companies compared to only 2.22 % for group 2.

The average market capitalization calculated over the year 2010 for the companies of group 1 is greater than the overall average of this criterion of performance (Table 6). On the other hand, the companies of group 2 present on average a lower market capitalization than the overall average. Companies separated into two groups present ratios rather close to the 2.50 % overall average. On the other hand, the companies of group 1 present an average financial level of performance considerably lower than the 13.25 % overall average. This average level of financial performance improves rather strongly in the case of the companies of group 2, even if it does remain negative. This implies that companies achieving less financial performances tend to inform more than the others do.

Next we develop an econometric plan to quantify the link of causality observed between performance and intensity of financial communication on the Internet. The "Total Score" variable was constructed to take the value 1(0) if the score of financial communication, expressed as a percentage of the total number of items, is higher (lower) than the average of this score calculated for all companies. By supposing a normal distribution of the residues, we used the Probit model. This model makes it possible to estimate the probability that the variable "Total Score" takes the value 1 according to a set of explanatory variables. The method of estimation of the parameters of the performance variables is maximum likelihood. The model takes the following shape:

$$\Pr (Y=1|X) = \Phi(X'\beta) \tag{1}$$

Y is the dependent variable, which takes the value 1 if the financial communication score is higher than the mean score of the sample and 0 in otherwise.  $\Phi$  is the cumulative distribution function of the standard normal distribution. X is a vector of regressors, which represents the firm’s performance (ROE, ROA and market capitalization)The best model considers only one of three explanatory variables integrated into the initial model. This variable is the measure of the financial performance of companies, the ROE. The results of this model are presented in Table 7.

Table 7: Results of the Probit Model

Dependent Variable : Total Score			
Method : Maximum Likelihood-Binary Probit (Quadratic hill climbing)			
Observations included : 100			
Convergence achieved after 3 iterations			
QML (Huber/White) standard error & covariance			
Variables	Coefficient	Std.Error	z-Statistic
C	-0.0873	0.1288	-0.6776
ROE	-0.0034	0.0016	-2.042**
Mean dependent variable	0.48	S.D. dependent variable	0.5021
S.E of regression	0.4991	Akaike info criterion	1.398
Sum squared resid	24.417	Schwarz criterion	1.450
Log likelihood	-67.914	Hannan-Quinn criterion	1.419
Rest.log likelihood	-69.235	Average log likelihood	-0.6791
LR statistic	3.641***	McFadden R-squared	0.0191

*This table shows the results of the Probit model. \*\*\*, \*\* and \* indicate the significance at the 1, 5 and 10 percent levels respectively.*

The results show the model is statistically significant at the 10% level. The variable ROE is statistically significant at the 5% level. It is not the numerical value of the coefficient that imports as its sign (Thomas, 2000). Indeed, according to Thomas (2000), the sign indicates if the estimated parameters influence positively or negatively the probability the dependent variable takes the value 1.

The variable ROE appears with a negative coefficient. This means that the greater the financial profitability of companies, the lower the probability these companies will present a good score for financial communication via the web. On the other hand, the lower the financial profitability of companies, the greater the probability these companies will present a good score for financial communication on the web. Therefore, the results seem to indicate that financial performance influences

negatively the score of financial communication on the internet of the 100 companies of the Free Market of Paris. These results confirm those of Debreceeny and Rahman (2005) and Pozniak (2010). So, the most profitable companies of the Free Market of Paris inform less than less successful firms. This goes against the signal theory, which says that the most successful companies would tend to try to protect themselves from competitors and communicate less (Paturel et al., 2006; Pozniak, 2010; Amal & Faten, 2010). On the other hand, companies which have a less good financial performance tend to communicate more on their websites. It seems these companies try to reassure investors regarding their financial health. The results of this study also prove the statistical irrelevance of economic and stock exchange performance on the voluntary effort at financial communication on the web, as the research of Xiao et al. (2004); Mendès da Silva and Christensen (2004), of Andrikopoulos et al. (2009) showed.

## CONCLUSION

The approach proposed within the framework of this study is exploratory because the link between the performance of listed companies and their efforts at financial communication is ambiguous. Two theories are used to explain the influence of performance on the intensity of financial communication. The signal theory says that successful firms will attract notice by means of a greater financial communication. The second theory argues that successful companies communicate less to protect themselves from competitors. The approach of this study was to identify the possible influence of company performance on the level of disclosure of website financial information. We chose to study listed companies in 2010 on the unregulated market of Paris. These companies are not subjected to obligations of financial communication. To define the effort of financial communication, a content analysis of websites was completed and a scoring technique was used. Using a Probit model, we highlight the possible link between this score and the performance of the company.

The content analysis of websites shows the highest average score is obtained for the category "Corporate governance information" and that the lowest average score is obtained by the category "Financial Information". The total average score is relatively low (28.54 % of these items are available on the web sites of companies quoted on the Free Market of Paris). The estimation of a Probit model does not seem to validate the signal theory. Indeed, the variable ROE appears to be statistically significant and has a negative coefficient. This means that a firm with a higher level of profitability will tend to present less financial information on its website. This search can be improved on several levels. Although the analysis grid of websites was constructed according to the recommendations of the literature, it could have contained other variables such as a discussion forum for investors, links towards the social networks, and other measures. Furthermore, future research might provide a more detailed analysis of the link between performance and financial communication on the internet. For example, a sample of companies quoted on the Free Market of Paris could be compared to a sample of similar but unquoted companies. In this way, the impact of the quotation on the intensity of the financial communication could be verified. Finally, interviews with the managers of listed companies on the Free Market of Paris could highlight the reasons which push successful firms not to develop their virtual financial communication.

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