

## **THE BUSINESS MODEL AS THE LEVER OF FINANCIAL COMMUNICATION OF ENTERPRISES**

**Barbosa Alves, Paulo César** – pcba33@gmail.com  
UNISINOS University of the Rio dos Sinos Valle

**Decourt, Roberto** – rfdecourt@unisinos.br  
UNISINOS – University of the Rio dos Sinos Valle

**Protin, Philippe** – philippe.protin@iae-grenoble.fr  
Grenoble IAE – Université Grenoble Alpes

**Abstract:** The business model is a concept that allows us to better understand how companies create value and is therefore a relevant element of the financial communication of companies. This article examines the voluntary disclosure practices of Brazilian companies. An analysis of the content of the reference documents shows that companies are already communicating significantly on their business models. The results obtained highlight a great heterogeneity of practices, explained in particular by the theory of the agency and the need to reduce the information asymmetry between leaders and shareholders.

**Keywords:** Business Model, disclosure, content analysis, financial communication

### **1. Introduction**

According to the International Financial Reporting Standards(IFRS) conceptual framework, financial information published by companies is intended to provide investors (current and prospective), lenders, and other creditors with useful data for deciding whether or not to make resources available to the firm. To better appreciate performance, these actors need to understand how these companies create value. Several international organizations (ASB, 2009; BIS, 2011; IIRC, 2013) propose adapting the presentation of the annual report or the published Reference Form according to the business model (BM). However, there is little evidence of this concept in disclosure (Disle et al., 2016), the information published to date being largely the result of voluntary disclosure.

As pointed out by Pourtier (2004), voluntary disclosure has been the subject of much research, notably of the analysis of supply and the explanatory factors of this choice of disclosure. The aim of this paper is to provide an inventory of practices in the voluntary disclosure of BM information and to analyze the explanatory factors. To this end, the quality of the communication is measured by a disclosure index (Bozzolan et al., 2009) based on an analysis of the content of the Reference Forms of the Brazilian companies of the Brazil Broad-Based Index(IBrA).

Appearing with the new economy, the concept of the BM or economic model has been taken up by many branches of management science. The concept has also recently emerged in accounting literature, in particular that of the main standardization bodies (ASB 2009; EFRAG et al., 2013; EFRAG et al., 2014).

Bertrand et al. (2012) define the concept as "a conceptual model describing how the company creates value for its target customers and captures a share for its shareholders by

dynamically and interactively implementing a range of activities, processes, partnerships, resources, and key competencies". The representation of the BM can be organized around four components (Demil and Lecocq, 2008; Demil and Lecocq, 2010; Johnson et al., 2008; Osterwalder et al. 2005).

The first three components, in constant interaction, determine how the company creates value. As shown in Table 1, the Value Proposal identifies, in particular, the specific characteristics of the offering, the target market segments, and the customer interface, including customer relationship management and distribution methods. The value architecture reflects all the choices made on the value chain (processes performed internally) and the network of partners (suppliers, distributors, subcontractors, etc.).

The Resources and Competencies component analyzes the combination of resources and skills valued by the company through its offer. Finally, the economic equation determines how the company appropriates part of the value. It describes how the choices made around the other three components and the relationships established between them enable the model to generate volumes and structures of income and costs and, thus, achieve a certain level of performance.

Table 1: Components of the business model

Components	Parameters	Description
Proposition of value	Description of the offer	Features or attributes of the product or service
	Target customers	Target market segments
	Access to the offer	Distribution method and customer relationship management
Value Architecture	Internal organization - value chain	Key activities and processes
	External organization - value network	Key partners and partnerships
Resources and Skills	Resources	Tangible and intangible assets available to the organization
	Organizational skills	Modalities of articulation and implementation of individual and collective resources and know-how
Economic equation	Income structure	Training and income components
	Income dynamics	Cash flow
	Cost structure	Formation and composition of costs
	Dynamics of costs	Disbursement flows

Source: Bertrand et al. (2012)

The BM thus constitutes a lever for improving financial communication by facilitating an understanding of the modes of value creation of companies. Beattie and Smith (2013) thus suggest that information about intangible capital should not be limited to a mere description, but should also include how firms use these assets to create value. Bessieux-Ollier et al. (2014: 15) state that "investors must have a good knowledge of the company's BM" in order to be able to recognize these intangible assets and the value they contribute to creating.

The review of disclosure practices related to the BM is therefore of particular interest insofar as accounting standards and financial reporting rules are weakly integrated (Disle et al., 2016). Our research question is thus aimed firstly at presenting an inventory of the practices of financial communication of Brazilian companies concerning the BM; and secondly, at understanding their motivations. This requires prior consideration of the studies

on disclosure obligations and disclosure practices in the BM and the different explanatory factors of the voluntary disclosure policy.

Faced with the interest in this concept and the lack of real publication constraints to date, the purpose of this article is to report on the state of the voluntary disclosure practices of Brazilian companies on these dimensions, and to understand the determinants of this disclosure.

The article is structured as follows. The first part presents the BM concept and its interest for users of financial information, in particular to justify the research question. The second presents the methodology used to measure disclosure practices and analyze their determinants. The results obtained are presented in the third part, before the formulation of elements of discussion and conclusion.

## 2. Method

The sample is made up of the 110 companies which comprise the IBrA index of BM&FBOVESPA, as at 25 January 2016. We analyze the dissemination of BM-related information in the Reference Form because this is considered a relevant source of information about the companies' performance for investors (Lang and Lundholm, 1993). Moreover, the study of the Reference Form makes it possible to understand the company's policy or its long-term commitment to communication better in this way rather than using the specific information provided in a press release or on a website (Francis et al., 2008).

The data are collected by a content analysis (or thematic analysis) of the Reference Forms. This method consists of classifying text units into categories. The coding procedure is organized in three phases (Bozzolan et al., 2009).

The first concerns the definition of the recording units analyzed. Even if these are considered less reliable than the sentences (Hackson and Milne, 1996), we retain the paragraphs because they allow identification of the possible interactions between the different components or parameters of the BM.

The second phase involves defining the analytical framework and the coding procedure to identify the disclosure of BM information. The analytical framework organizes BM information in 11 categories, representing the 11 BM parameters as defined in Table 1. The homogeneity of the collection is ensured by the definition of the rules of identification and classification for each of the dimensions.

In the third phase, each paragraph of the Reference Form is coded 0 if no information relating to the BM is identified. Otherwise, the paragraph is coded according to its content level (one of the 11 parameters). Wherever the same paragraph refers to several parameters, it is not duplicated, but all the parameters relating to it are coded (up to five parameters). This procedure makes it possible, in particular, to account for the interactions between the components of the BM and their various parameters. In addition to the content of the disclosure (parameters), this phase is also concerned with its characteristics. Thus, according to Orens et al. (2010), previous work tends to show that monetary and quantitative information is considered to have a higher value, reveal more information to competitors, be less easily imitated by lower-level actors, and ultimately be judged as more credible and informative for investors than qualitative information (Wiseman, 1982; Hughes et al., 2001; Al-Tuwaijri et al., 2004).

The study thus integrates this dimension by two measures: quantitative versus qualitative (QUANT) information, taking the value 0 if the information disclosed is purely narrative and 1 if it provides at least one ad-hoc measure indicator; and financial versus non-financial (FIN), taking the value 0 if the information does not provide an indication of the impact on performance, 1 if the impact is positive, and 2 if the impact is negative. Finally, according to Bozzolan et al. (2009), investors need forward-looking information to help them build their flow forecasts. However, these data are more difficult to 'audit' and, by their nature, less directly verifiable, both at the date of their publication and ex-post, at the time of their realization (Baginski et al., 2014).

The literature has shown that voluntary, forward-looking disclosures capture opportunistic leadership attitudes, such as the timeliness of disclosing bad news (Kothari et al., 2009) or over-optimism related to variable compensation elements (Rogers et al., 2011). The study thus integrates this dimension with a measure (PROSP) taking the value 0 if the information does not refer to time, 1 if the information relates to the past, and 2 if the information disclosed refers to the future.

In summary, each paragraph analyzed gives rise to coding according to the eight dimensions mentioned above and synthesized in Table 2.

Table 2: Encoding Dimensions

Variable	Modalities	Description
PAR_1	1 to 11	Reference to a parameter of the economic model
PAR_2	1 to 11	Reference to a parameter of the economic model
PAR_3	1 to 11	Reference to a parameter of the economic model
PAR_4	1 to 11	Reference to a parameter of the economic model
PAR_5	1 to 11	Reference to a parameter of the economic model
QUANT	0 or 1	0 if narrative information; 1 if quantitative information
FIN	0, 1 or 2	0 if information is not related to financial performance; 1 if information has a positive impact on performance; 2 if information has a negative impact on performance
PROSP	0, 1 or 2	0 if information without time reference; 1 if information about the past; 2 if information about the future

## 2.1. Disclosure Measure

The assessment of the quality of narrative information in annual reports follows different approaches (Beattie et al., 2004). The approach used in this study is based on the implementation of a disclosure index and assumes that the extent of disclosure (volume) is a good indicator of informational quality. Despite the fact that reliability limits (related to the replication of the measurement process) and validity (the ability to actually measure the object sought) are highlighted (Healy and Palepu, 2001), this approach is widely used in the literature (Depoers, 2000). In this approach, the quality of information is mechanically induced by the amount of information disclosed. However, Beattie et al. (2004) and Beretta and Bozzolan (2008) propose multidimensional approaches that consider not only how much information is disclosed (quantity), but also what is disseminated and how (wealth). It is on these two axes that our methodology is based.

Beattie et al. (2004) propose measuring the amount of information disclosed by the relative number of disseminated information units, adjusted for the size and sector of activity

of the firm. Large firms operating in complex sectors are expected to disclose more information. The quantity of information is thus measured by the standardized residuals of a regression of the number of units disseminated on size and sector of activity:

$$IQ_i = 1 - \frac{\max_j(QR_j) - QR_i}{\max_j(QR_j) - \min_j(QR_j)} \quad [1]$$

Where QR is the residual of the regression of the number of units disseminated on the size and the sector of activity of the company.

This index is higher for firms that disseminate more information, given their size and sector of activity.

Beretta and Bozzolan (2008) propose measuring the quality (or richness) of the disclosure through its different dimensions, namely the width and depth of the information disclosed.

The scope depends on the degree of coverage of the different themes (or sub-themes) of the analytical framework and the concentration (or dispersion) of disclosure between different themes (or sub-themes). Coverage (COUV) represents the percentage of themes (or sub-themes) for which at least one item of information is disclosed, relative to the total number of themes (or sub-themes):

$$COUV_i = \frac{\sum_{j=1}^n INF_{ij}}{n} \quad [2]$$

Where  $INF_{ij}$  takes the value 1 if the company Reference Form discloses at least one item of information on the theme  $j$ , and 0 otherwise.

Dispersion (DISP) is the way in which diffusion is concentrated in a few themes or scattered across all themes of the analytical framework. This degree of dispersion is measured by the complement to one of the Herfindahl index. Thus, the larger the dispersion, the better the quality.

$$DISP_i = 1 - \sum_{j=1}^n p_{ij}^2 \quad [3]$$

Where  $p_{ij}$  represents the number of items of information disseminated on the theme  $j$  divided by the total number of items of information disseminated by the enterprise  $i$ .

The extent of diffusion is the arithmetical mean of these two measures. The stronger the coverage and the dispersion, the wider the information disseminated and therefore the better the disclosure.

The depth of the diffusion gives, according to Beretta and Bozzolan (2008), an indication of how the information is disclosed. It is based on three different attributes coded in a dichotomous way (Beattie et al., 2004): historical or prospective information, financial or non-financial information, and quantitative or narrative information. The prospective dimension (PROSP) summarizes the information that allows users to better construct their revenue or cashflow forecasts. It is measured by the proportion of information of a prospective nature in all the information concerning the BM. Financial information (FIN) is measured by the proportion of FIN in all information published by the company. Finally, the quantitative information (QUANT) is measured by the proportion of information disclosed by the company comprising at least one ad-hoc measure. The average of these three attributes makes it possible to measure the depth of the published information.

$$PROF_i = \frac{TEMP_i + FIN_i + QUANT_i}{3} \quad [4]$$

The wealth of information is measured by the mean of the extent and depth.

A global quality indices (GQI) is obtained by calculating the average of the wealth and the quantity index (QI).

## 2.2. Analysis of the determinants of voluntary disclosure

The analysis is based on a series of regressions carried out on the global quality indices (GQI) and their various dimensions, with a set of explanatory variables from the voluntary disclosure literature. The selected characteristics include dissemination and capital structure, governance, listing market, financial structure, performance, growth prospects, scope of international operations, and monitoring by financial analysts.

According to the theory of the agency and the theory of transaction costs, the communication of financial information allows a reduction of agency costs. However, the latter are more important when capital is dispersed. If the company's capital is concentrated in majority shareholders, the company has less incentive to disclose additional information because majority shareholders access private information and are better able to know the company's BM.

Conversely, if the capital is dispersed, the company has to communicate more with small carriers who very often have no other information on the company's BM. Moreover, the presence of institutional investors or the concentration of capital in the hands of the same family influence the financial communication of the companies.

Indeed, institutional investors are more demanding in terms of information and want to have data enabling them to monitor the performance of the companies in which they have invested. As a result, a greater concentration of institutional investors may encourage firms to provide additional voluntary information in order to maintain their confidence (El Gazzar, 1998; Bushee and Noe, 2000).

Conversely, family shareholders are likely to better understand the activities of the company and therefore would need less information (Ben Ali and Gettler-Summa, 2006; Barredy and Darras, 2008; Amal and Faten, 2010).

The variables used for the capital structure are therefore the level of capital dissemination (% DIFF) measured by the share of capital not held by the main shareholders; the share of capital held by institutional investors (% INST); and a binary variable (FAM), taking the value 1 if the capital is predominantly held by a family and 0 otherwise.

By delegating the powers of the shareholders to the directors, there are agency costs between shareholders and managers that can be controlled, at least in part, by corporate governance mechanisms. Previous studies indicate that effective governance practices are positively related to the quality of communication (Karamanou and Vafeas, 2005; Verriest and Gaeremynck, 2009). The variables chosen are the percentage of independent members of the board of directors (% IND1) and the tax council (% IND2), and a binary variable (GOUV) taking the value 1 if the management and control functions are separate. These data are taken from the Reference Forms.

The status of listing (domestic or multiple quotation) is likely to influence the disclosure of company information. Accounting standards and bonds in different financial markets can diverge. The dissemination of voluntary information on the BM makes it possible



to overcome these differences and to ensure better comparability and understanding of the realities of the company.

On the other hand, companies with multiple quotations have a larger number of shareholders and may be exposed to the divergent interests of foreign shareholders and managers. The publication of voluntary information then reduces additional agency costs (Meek and Saudagaran, 1990). For the quoted market, we retain a binary variable (MULTI), taking the value 1 if the company is quoted on several markets and 0 otherwise. The information is recorded directly in the Reference Forms.

When the company asks for debt financing, its creditors, who are anxious to understand its ability to pay its debts, often ask for additional information. These allow to reduce the potential for agency conflicts between shareholders and creditors and, more specifically, information asymmetry. Thus, the more indebted a company is, the more it provides voluntary information (Ferguson et al., 2002; Michaïlesco, 1999; Hossain et al., 1995; Malone et al., 1993). Other studies show, however, that the level of debt has no influence on the level of disclosure (De Bourmont, 2009; Kateb et al., 2009; Percy, 2000; Michaïlesco, 1999; Raffournier, 1995; Wallace et al., 1994), and even a negative influence (Oxibar, 2003; Meek et al., 1995). Since the most heavily indebted firms are less subject to attempts to take control (Palepu, 1986), they may allow themselves to communicate less.

Despite these last results, we suggest that creditors, external stakeholders of the company, are anxious to have additional information on the company's BM. In the same vein, if the company uses external financing, it must attract and reassure its creditors. In particular, the communication of information on the BM allows bondholders or shareholders to better assess their investments and thus reduces the cost of capital to the company due to the reduction of information asymmetry (Diamond and Verrecchia, 1991; Ettredge et al., 2002), although other studies have contradictory results (Bradbury, 1992; Xiao et al., 2004).

The variables used are leverage (LEVER), measured by the ratio of financial debts on the balance sheet total, and a binary variable (FINEXT), taking the value 1 if the company has issued an issue of securities (shares or bonds) during the 12 months preceding the publication of the Reference Form.

In the literature, the influence of performance on the quality of financial communication remains ambiguous. For fear of a competitive risk, a successful company is reluctant to provide information about its BM. Conversely, a company that shows poor performance wishes to preserve its reputation (Bertrand, 2000), and its managers wish to guard against the risk of foreclosure (Labelle and Schatt, 2005).

There would thus be a negative relationship between the level of performance and the quality of the disclosure of information. Nonetheless, other studies suggest that, to distinguish themselves, firms are encouraged to communicate more about their good performance and, more specifically, their BM.

This additional voluntary information enables companies to attract and retain investors, reduce the cost of capital, and clarify whether the firm's results are recurring (Amir and Lev 1996; Demers and Lev, 2001). The variables selected are the financial performance (ROE), measured by the financial profitability of the financial year (net book value on equity), and the economic performance (ECOPERF), measured by the operating margin rate.

Conflicts of interest between shareholders and managers are more intense in mature companies because the risk of overinvestment is greater. As a result, the need for shareholder control and the need for managers to justify themselves are assumed to be more important in

mature firms (Labelle and Schatt, 2005). Two variables are used to measure the growth prospects of the company. The first ( $\Delta CA$ ) corresponds to the past growth of the company and is measured by the change in turnover over the last twelve months. The second variable (M-to-B) corresponds to the Market-to-Book ratio and allows the growth prospects of the company to be measured. The higher the ratio, the higher the expected future growth.

Several authors argue that companies that carry out a significant number of their operations overseas need to raise resources internationally (Robb et al., 2001; Zarzeski, 1996; Cahan et al., 2005). As a result, they need to communicate more about their BM. The level of international activity is measured by the percentage of sales made abroad (% EXPORT).

Brennan and Tamarowski (2000) propose a causal scheme between the quality of financial communication and the liquidity of securities. According to the authors, better communication leads to greater coverage of the company by financial analysts, which reduces the asymmetry of information and, ultimately, reduces the cost of capital. Regarding the company's follow-up, the chosen variable (ANALYST) represents the number of analysts according to the value. This information is directly observed from the Reference Forms.

### **3. Results**

#### **3.1. Analysis of voluntary disclosure practices**

The coding procedure used provides a data matrix for each company in the sample, comprising the number of text units referencing each parameter in the analysis model, potential interactions, and attributes of the disclosure. This allows for a disclosure profile for each firm in the sample (Beattie et al., 2004). In total, there are 15,889 references to the various parameters of the BM, which is an average of 144.5 references per company, with a minimum of 29 references for the QGEP company and a maximum of 251 for the Prumo company.

Table 3 presents the distribution of the text units between the four components and the eleven parameters of the model for all firms in the sample. The first two columns show that of the 15896 references to the BM identified, the great majority (41.4%) concern the economic equation and, in particular, the dimensions relating to the dynamics of the costs and incomes.

The second most cited component is the value proposition (24.0%). Value architecture comes in third, with 21.7% of references. Finally, resources and skills represent only 11.9% of the references to the BM. The last columns show the results by company. They confirm the previous analysis and, in particular, the preponderance of references to parameters related to the economic equation.

However, firm-level results show some disparity in disclosure practices, as judged by the standard deviations and the magnitude between the minimum and maximum values. For example, Par Corretora devotes 45.5% of its disclosure to information relating to the value proposition, whereas Tupy devotes only 10.3% to this information. The results by company also show that only four parameters of the model are not cited by all the companies: the description of the target markets and customers, the interface with the customers, the key partnerships, and the competences. The coverage of the various dimensions of the model is therefore rather good.



Table 3: Distribution of parameters between the different components of the model

	Name	%	Average (%)	Standard Deviation (%)	Min (%)	Max (%)
1. Offer of products / services	1163	7.3	7.4	2.9	2.1	17.2
2. Market / Customers	1298	8.2	7.9	2.7	0.0	16.0
3. Access to the offer	1350	8.5	8.3	2.4	0.0	15.6
<b>Proposition of value</b>	<b>3811</b>	<b>24.0</b>	<b>23.6</b>	<b>6.6</b>	<b>10.3</b>	<b>45.5</b>
4. Internal Processes	1908	12.0	11.7	3.3	3.9	19.3
5. Key Partnerships	1696	10.7	10.4	4.1	0.0	16.2
<b>Value Architecture</b>	<b>3604</b>	<b>22.7</b>	<b>22.0</b>	<b>5.0</b>	<b>9.7</b>	<b>31.7</b>
6. Resources	1359	8.5	8.8	2.5	3.4	16.0
7. Competences	536	3.4	3.6	1.6	0.0	10.3
<b>Resources and Skills</b>	<b>1895</b>	<b>11.9</b>	<b>12.4</b>	<b>3.0</b>	<b>6.3</b>	<b>20.7</b>
8. Income structure	668	4.2	4.4	2.3	1.4	13.8
9. Income dynamics	1547	9.7	10.0	3.4	4.3	21.0
10. Cost structure	1209	7.6	7.7	2.8	1.3	14.0
11. Dynamics of costs	3162	19.9	19.9	5.2	7.0	40.7
<b>Economic equation</b>	<b>6586</b>	<b>41.4</b>	<b>42.0</b>	<b>8.1</b>	<b>21.6</b>	<b>68.6</b>
<b>Total</b>	<b>15896</b>	<b>100.0</b>	<b>100.0</b>			

Table 4 summarizes the interactions between the components of the model (two-by-two analysis). Interactions between parameters of the same component account for 37.3% of cases. Within the value proposition component, the interactions between the description of the offer, the description of the target customers, and the customer interface thus represent 16.6% of the references. Similarly, the interactions between the parameters of the economic equation represent 15.2% of the references. Between components, there is a particularly strong interaction between value proposition and value architecture (23.1%), and between the economic equation and value architecture components (12.9%) and resources and skills mobilized (15.6%).

This reflects, on the one hand, how the company organizes itself, both internally and externally, in order to satisfy the needs of its clients, and, on the other, the impact of this organization on the resources and skills used in earnings and cash flows.

Table 4: Interactions between BM components

	Proposition of value	Value Architecture	Resources and Skills	Economic equation
<b>Proposition of value</b>	16.6	23.1	1.9	6.2
<b>Value Architecture</b>	23.1	5.0	3.0	12.9
<b>Resources and Skills</b>	1.9	3.0	0.5	15.6
<b>Economic equation</b>	6.2	12.9	15.6	15.2
<b>Total</b>	<b>47.8</b>	<b>44.0</b>	<b>21.0</b>	<b>50.0</b>

Distribution of bilateral interactions between economic model parameters (as% of total).

### 3.2. Analysis of the determinants of voluntary disclosure

Table 5 presents the general characteristics of the adapted disclosure indices of Beattie et al. (2004) and Beretta and Bozzolan (2008). The GQI is, on average, 0.635 with a minimum score of 0.424 for the company QGEP and a maximum score of 0.865 for the company Fleury. As noted above, the intensity of the BM disclosure is relatively high, with an average relative IQ of 0.576 and a standard deviation of 0.152. Similarly, the wealth of

information disclosed is important since the index of wealth is very high and has little dispersion. This richness of disclosure is mainly due to its depth: the vast majority of the BM themes are addressed in Reference Forms and websites and have great dispersion.

Table 5: Descriptive Statistics of Disclosure Indices

	Average	Standard deviation	Min.	Max.
Relative Quantity Index	0.576	0.152	0.116	1.000
Scope of information	0.938	0.016	0.844	0.951
<i>Coverage</i>	0.996	0.023	0.818	1.000
<i>Dispersion</i>	0.880	0.019	0.774	0.903
Depth of information	0.666	0.105	0.467	0.962
<i>Temporal dimension</i>	1.000	0.001	0.987	1.000
<i>Financial dimension</i>	0.437	0.146	0.176	0.886
<i>Quantitative dimension</i>	0.561	0.187	0.200	1.000
Wealth of information	0.802	0.053	0.702	0.954
Global quality index	0.635	0.074	0.424	0.865

The relationships between the different components of the GlobalDisclosure Index are analyzed through their correlations (Table 6). As expected, there is a positive and significant correlation between the GQI and the relative quantity index. Companies that disclose the most are those that disclose the best. However, the relationship between GQI and wealth is negative and significant. This result is surprising, but is due to the "depth" dimension of the information only because the correlation with the "Extended" dimension is positive and significant. In summary, the information divulged is all the better as the quantity is important and this covers a large part of the themes related to the business model.

Table 6: Correlations Between Different Elements of Disclosure Indices

	Relative Quantity	Extended	Depth	Wealth	Global quality
Relative Quantity	1.00				
Extended	0.21**	1.00			
Depth	-0.48***	-0.09	1.00		
Wealth	-0.44***	0.07	0.99***	1.00	
Global quality	0.93***	0.21**	-0.26**	-0.23**	1.00

\*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% level, respectively

Tables 7 and 8 present the descriptive statistics of the quantitative and qualitative variables used to explain voluntary disclosure practices. In general, these are relatively capital-intensive companies (40% of the capital is held by large shareholders) and held by a significant proportion of institutional investors (approximately 60%). Governance practices are good, with an average of 32% of independent directors (34 companies in the sample have an independent directorship rate of over 40%). In addition, the companies in the sample show strong economic and financial performance and strong growth prospects.

Table 7: Descriptive Statistics of Quantitative Variables

	N	Average	Standard deviation	Median	Min	Max
DIFF%	110	0.3998	0.1656	0.3818	0.0001	0.8688
INST%	110	0.6001	0.1656	0.6181	0.1312	0.9999
IND 1%	110	0.3191	0.3664	0.1833	0.0000	1.0000
IND 2%	110	0.2869	0.3142	0.3333	0.0000	1.0000
LEVER	110	0.3059	0.2029	0.3158	0.0000	0.8974
ECOPERF	110	0.1477	0.2997	0.1232	-1.1668	1.0525
ROE	110	0.1111	0.3478	0.0900	-1.1920	2.1669
ΔCA	110	0.1117	0.4943	0.0488	-0.7768	3.4109
MTB	110	2.2161	3.4478	1.1579	-6.6485	23.1939
% EXPORT	110	0.1482	0.2690	0.0000	0.0000	1.0000
ANALYST	110	13.2363	8.2126	13.000	0.0000	36.0000

The majority of enterprises are managerial in nature (barely 19 are family enterprises) and have adopted a system of governance in which management and control powers are separate. The two other variables are not significant because they are non-discriminating. They will be eliminated from further analyses.

Table 8: Descriptive Statistics of Qualitative Variables

		Name	%
<b>FAM</b>	0	91	82.7
	1	19	12.3
<b>GOUV</b>	0	18	16.4
	1	92	83.6
<b>MULTI</b>	0	110	100.0
	1	0	0.0
<b>FINEXT</b>	0	0	0.0
	1	110	100.0

The results of the multivariate regressions are presented in Table 9. With respect to the GQI, the regression is significant at the 5% threshold and accounts for 23.7% of the observed variations. The coefficient of the variable FAM is negative and significant at the threshold of 5%. This means that family businesses communicate less information about the BM than others. This result is therefore consistent with the theory of the agency. Contrary to our expectations, companies with more independent members in their Fiscal Council communicate less well than others. Indeed, the coefficient of the variable IND% 2 is negative and significant at the threshold of 1%. Similarly, the firms that communicate best are those with the lowest economic performance rates (ECOPERF). This result is consistent with the assumption that managers of the least performing firms seek, through greater communication, to preserve their reputation and to guard against the risk of foreclosure (Bertrand, 2000; Labelle and Schatt, 2005). Finally, to a lesser extent, the share of turnover realized in exporting significantly explains the quality of communication on the BM.

As regards the "Quantity" dimension, the results are similar to those obtained for the GQI. The only significant difference is that the companies that disclose the most information about their BM are also the most indebted. Managers are keen to communicate more information to creditors and thus reduce agency costs related to information asymmetry.

Regressions relating to the richness of the information or its two dimensions (extent and depth) are not significant at conventional thresholds. The only significant explanatory variable at 5% (for richness and depth) is the separation of management and control functions (GOUV).

Table 9: Multivariate Linear Regressions

Variable (Expected meaning)	Global quality	Global quality dimensions			
		Quantity	Extended	Depth	Wealth
Constant	-63,503 (0,780)	-162,737 (1,168)	-5,732 (0,115)	76,517 (0,502)	35,392 (0,430)
DIFF% (+)	64,08 (0,794)	163,19 (1,175)	6,68 (0,156)	-75,75 (0,492)	-34,53 (0,409)
INST% (+)	64,18 (0,797)	163,38 (1,177)	6,66 (0,155)	-75,92 (0,494)	-34,62 (0,412)
IND 1% (+)	0,021 (0,990)	0,048 (1,095)	0,001 (0,078)	-0,021 (0,395)	-0,009 (0,342)
IND 2% (+)	<b>-0,079***</b> <b>(9,277)</b>	<b>-0,137**</b> <b>(6,327)</b>	-0,007 (1,482)	-0,010 (0,064)	-0,009 (0,198)
LEVER (+)	0,054 (2,154)	<b>0,139*</b> <b>(3,245)</b>	0,013 (2,450)	-0,067 (1,496)	-0,027 (0,958)
ECOPERF (+)	<b>-0,067**</b> <b>(6,679)</b>	<b>-0,112**</b> <b>(4,245)</b>	0,009 (2,143)	-0,034 (0,750)	-0,012 (0,406)
ROE (+)	0,018 (0,440)	0,029 (0,236)	0,004 (0,405)	-0,002 (0,002)	0,001 (0,002)
ΔCA (-)	0,017 (1,531)	0,036 (1,569)	-0,002 (0,492)	-0,004 (0,046)	-0,003 (0,106)
MTB (-)	0,001 (0,127)	0,004 (0,459)	-0,001 (1,020)	-0,000 (0,014)	-0,001 (0,077)
% EXPORT (+)	<b>0,052*</b> <b>(3,602)</b>	<b>0,116**</b> <b>(4,024)</b>	0,002 (0,090)	0,043 (1,081)	0,022 (1,184)
ANALYST (+)	0,001 (0,872)	0,002 (1,037)	-0,000 (1,652)	-0,001 (0,344)	-0,001 (0,622)
FAM (-)	<b>-0,038**</b> <b>(4,427)</b>	-0,057 (2,283)	-0,007 (2,545)	-0,026 (0,964)	-0,016 (1,520)
GOUV (+)	-0,013 (0,561)	-0,057 (2,220)	-0,003 (0,538)	<b>0,059**</b> <b>(4,623)</b>	<b>0,028**</b> <b>(4,167)</b>
R <sup>2</sup> multiple	0,237	0,219	0,133	0,163	0,161
R <sup>2</sup> adjusted	0,134	0,114	0,016	0,050	0,048
F Statistics	2,302**	2,078**	1,139	1,441	1,423

The Wald test is shown in parentheses. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% level, respectively

#### 4. Conclusion

This study focuses on the dissemination of BM information in the communication of Brazilian companies. Based on a process of collecting, inventorying, and analyzing the content of Reference Forms and websites, it provides a measure of the intensity and quality of BM disclosure and an analysis of its determinants.

Concerning practices, the results indicate a significant presence of references to the BM in the Reference Forms and websites of Brazilian companies (on average, 144.5

references per company). Concerning the themes developed, the vast majority concern the component "Economic Equation" and, in particular, the dynamics of the costs. The other two most cited components are "Value Proposition" and "Value Architecture". These are also the most interacting components. On the whole, there is a relative heterogeneity in practices between societies.

These differences in practice are mostly explained by the theory of the agency. Indeed, the firms that communicate best are entrepreneurial companies with few independent members in their Fiscal Council. Communication on the BM and its components may thus be a means of reducing the information asymmetry between managers and the market and, hence, the associated agency costs. Moreover, companies are encouraged to communicate on their economic model that they carry out a significant part of their activity abroad. Finally, in order to preserve their reputation or to protect against the risk of foreclosure, the firms that communicate best are those with lower levels of economic performance.

At a time when international regulators are reflecting on the interest in and ways of integrating the BM concept into financial communication, it is interesting to note that Brazilian companies already integrate, at least in part, this concept in their communication practices. However, the diversity of practices invites reflection on the need to regulate them in order to arrive at a coherent, comparable, and usable information offer for all recipients of financial information.

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