

The Language of Annual Reports as an Indicator of the Organizations' Financial Situation

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Annual reports are documents prepared by organizations. These are also one of the most used channels of information disclosure to stakeholders and often used as a promotional tool of the organization itself. This paper presents the study of the language contained in annual reports and their relation with the results, of 14 listed organizations on the PSI20, using two types of data: Quantitative Data (financial ratios) and Qualitative Data (linguistic terms). The results proved that organizations are not indifferent to the communication of information through annual reports, and that performance affects the way organizations communicate their results. The results also showed that the textual contents of annual reports, besides primarily reflecting the results of the year, refer the events that led to the obtained results and indicate future changes of the results.

Field of Research: Accounting (Financial Reporting) & Finance (Corporate Finance)

1. Introduction

Annual reports are documents prepared by organizations, with the purpose of disclosing information to various stakeholders. The annual reports, besides being very important to stakeholders, are also important for the organizations, which take great care in the released information and the way it is disclosed. Annual reports are used as a promotional tool as well, where the organizations promote their values, strategies, objectives, and other information which allows the public to obtain a positive image of them. These are usually composed by two types of data: quantitative and qualitative. However, most analyses are based only on quantitative data, so there has been very little attention to the qualitative data.

This study begins with a literature review of studies related to organizational reports. Next, it is described the methodology by which the quantitative and qualitative data were selected, collected, processed and analyzed. Finally, the results of the taken analyses are revealed as well as an assessment of them. For this study, we used the organizations listed in the Portuguese stock market index – PSI20. As for the quantitative and qualitative data, the processes of search, selection and collection were totally based on the published information by the organizations through the Internet. This study focuses on the released information between 2005 and 2007.

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2. Literature Review

Annual reports are described, by various authors, as documents prepared by organizations, with the purpose of disclosing information to various stakeholders. These consist on a database which reflects the achieved objectives as well as other information, facilitating the confirmation, review and formation of readers' expectations about the organization in which they have interest (Courtis, 1998). Besides being very important for stakeholders, they're also very important for the organizations, which take great care in the released information and the way it is disclosed, because they know the audience is wide and that competitors will also have access to that information. In another perspective, organizational reports are mostly taken, by organizations, as a tool which allows them to recruit employees, increase the employee's morale, increase the visibility of the organization sales force, improve the relations with the community (Kendall, 1993), among others. The organizational reports are usually composed by two types of data, quantitative data (accounting and financial data) and qualitative data (narrative texts), in which the combination of the two types allows the organizational reports to convey the necessary information to stakeholders (Subramanian, Insley, & Blackwell, 1993).

The attempt to understand the communication strategies of organizations allows us to realize what they consider more important, and what they wish to disclose and omit. Buzby (1974) examined the disclosure of financial and non financial information included in the annual reports. Hildebrandt & Snyder (1981) investigated some hypotheses related to the linguistic structure of the President's letter, with the aim of investigating the existence of relations between performance and the organizational reports content. Kohut & Segars (1992) investigated the contents of the President's letter, of organizations with good and bad performances, in order to find patterns in the communication strategies of the organizations. Santema & Rijt (2001) investigated and analyzed the disclosure quality of annual reports.

The organizational reports are also documents where explanations about the organization's performance can be found. Staw et al. (1983) investigated the justifications of the organizational performance by analyzing self-serving attributes, included in the annual reports. Kendall (1993) investigated the dramas implicit in the textual content of President's letters, confirming that the organizational vision was expressed through an organization drama, consisting on a theatrical setting of "good" versus "evil", in which the organization was clearly the hero, and the Government the villain.

There is also an important variable to take into account and often forgotten, namely the organizational reports legibility. Subramanian et al. (1993) investigated the relation between the organizations performance and the annual reports readability. Thomas (1997) examined the linguistic structures of a set of President's letters, of a single organization, with the objective of looking for differences between the disclosure of good and bad news. Courtis (1998), in order to obtain a more detailed view of the reports readability, tried to verify the existence of relations between varying levels of readability, the dissemination of good and bad news, and the organization exposure by the media.

Beyond performance and results, the plans that organizations have for their future are the most relevant information for investors. Kloptchenko et al. (2002) and Magnusson et al. (2005) analyzed the quarterly reports of three organizations, where the results showed that the writing tone of the reports tended to change some time before the financial changes actually happened, specifically one quarter.

3. Methodology

3.1. Data Selection and Collection

For this study, we used the organizations listed in the Portuguese stock market index, which includes the 20 largest Portuguese organizations of the capital market. Then, taking into account that some of the organizations were recent in Stock Exchange, it was selected the time interval from 2005 to 2007. Subsequently, six organizations were excluded, and therefore selected, for analysis, 14 organizations.

In order to examine the annual reports, through quantitative data, a group of economical and financial ratios was selected, like: Return On Assets, Return On Equity, Current Ratio, Asset Turnover, Debt To Equity, etc. Later, it was proceeded the categorization / division of the 31 chosen ratios in six groups: Profitability Ratios - (7), Activity Ratios - (6); Debt Ratios - (4); Liquidity Ratios - (3); Market Ratios - (5); and Other Ratios - (6). Finally, the 31 ratios, as their respective annual variations, were calculated based on the consolidated financial statements, included in the annual reports of each organization.

In order to examine the annual reports, through qualitative data, certain linguistic terms (words or group of words) were selected. The selection of the qualitative data was conducted, based on the review of the studies of Kendall (1993), Frazier et al. (1984) and Beattie et al. (2004), and through the reading of financial documents (journals, magazines), where the selection criteria was associated with the justifications, given by organizations, of the obtained results and respective variations. Next, and based on the study of Kendall (1993), the qualitative data was categorized / divided as follows: 36 positive terms, and 34 negative terms. An example of positive terms: Increase, Growth, Performance, Potential, Advantage (s), among others. As negative terms, it can be found: Costs, Debt (s) / Indebtedness, Taxes, inflation, among others. Finally, the amount of terms present in the annual reports were counted, using the tracking system of the Adobe Reader software, allowing the calculation of each term's percentage in the total set of each type of terms, as well as their respective annual variation.

3.2. Data Treatment

The data treatment process was performed using the SPSS software (Statistical Package for Social Sciences) and it was focused on three groups: quantitative data, positive terms and negative terms. In this process, the possible existence of multicollinearity was tested and the elimination of this statistical condition was performed.

The treatment process of the quantitative data began with a standardization of the data, followed by a descriptive analysis, in order to obtain information about the existing outliers and eliminate them. Then, a new descriptive analysis was carried out, in order to verify which variables had missing-values and remove them. The process of exclusion of these variables was performed by a personal criterion, defined as: [90% - Minimum percentage of data for maintaining the variable]. Finally, a correlation matrix (two-tailed test) was elaborated. In order to determine which method should be used in the correlation matrix (Pearson's R or Spearman's Rho), a normality test was made, using the Kolmogorov-Smirnov test (KS) with Lilliefors correction, and Shapiro-Wilks, assuming a significance level of 0.10 ($p = 0.90$; $\alpha = 0.10$). Based on the correlation matrix, the elimination of the condition of multicollinearity was conducted, by eliminating the highly correlated variables. In this process, only the significant correlations (positive and negative) at 1% were taken into account.

The first step of the treatment process of the qualitative data consisted on the division of the process itself, for each type of terms (positive and negative). Then, we proceeded with the replacement of the null values (zeros) for "non-answers", so that it wouldn't be any

"interference" of those values. Subsequently, the same steps as for the quantitative data were carried out, namely: standardization; descriptive analysis in order to find outliers and eliminate them; descriptive analysis in order to find variables with missing-values and remove them; normality test; correlation matrix and posterior elimination of the condition of multicollinearity.

3.3. Data Analysis

In this section, four different analyses were performed, using the SPSS software.

3.3.1. Quantitative Data (N) vs. Qualitative Data (N)

This analysis aims to verify the existence of relations between the two types of data (quantitative and qualitative), present in the same annual reports, i.e., it attempts to verify whether the quantitative data present in a annual report has any relation with the qualitative data present in the same annual report.

3.3.2. Variation of Quantitative Data (N / N+1) VS Variation of Qualitative Data (N / N+1)

This analysis aims to verify the existence of relations between the variations of both types of data. Putting it simple, this analysis seeks to determine whether the variations of the quantitative data have any relation with the variations of the qualitative data.

3.3.3. Variation of Quantitative Data (N / N+1) VS Qualitative Data (N+1)

This analysis seeks to verify the existence of relations between the variations of quantitative data and the qualitative data subsequently used, i.e., it seeks to determine whether in a variation of quantitative data there's an implicit future use, or has any influence on the (posterior used) qualitative data.

3.3.4. Variation of Quantitative Data (N / N+1) VS Qualitative Data (N)

Unlike the previous analysis, this correlation analysis attempts to verify the existence of relations between the variations of quantitative data and the qualitative data previously used, i.e., it seeks to determine if information about future variations of the results are implied in the (previous) use of the qualitative data.

4. Results

In the 1st analysis, 23 significant correlations were identified: 8 positive correlations between quantitative data and positive terms; 7 negative correlations between quantitative data and positive terms; 4 positive correlations between quantitative data and negative terms; and, 4 negative correlations between quantitative data and negative terms.

In the 2nd analysis, 3 significant correlations were identified: 1 negative correlation between quantitative data and positive terms; 1 positive correlation between quantitative data and positive terms; and, 1 positive correlation between quantitative data and negative terms.

In the 3rd analysis, 6 significant correlations were identified: 2 negative correlations between quantitative data and positive terms; 2 positive correlations between quantitative data and positive terms; 1 negative correlation between quantitative data and negative terms; and, 1 positive correlation between quantitative data and terms negative.

In the 4th analysis, 7 significant correlations were identified: 4 negative correlations between quantitative data and positive terms; 1 positive correlation between quantitative data and positive terms; and, 2 positive correlations between quantitative data and negative terms.

5. Discussion and Conclusions

In order to understand how the language contained in the annual reports may reflect changes in the results, the annual reports of 14 listed organizations on the PSI20 were analyzed, for the years 2005 to 2007, based on two types of data: quantitative data (financial ratios) and qualitative data (linguistic terms - words or group of words). 31 quantitative data and 70 qualitative data were analyzed, in which through statistical methods, were determined which to use in the four performed analyses.

The results of the 1st analysis demonstrate that the qualitative data reflects the quantitative data, both present in the same annual reports, mainly due to the fact that the analyzed organizations are obliged to provide certain information concerning the results. We also conclude, based on the high number of relations, the existence of an overload of "explanations" of the results, due to the fact that some organizations believe that it will bring more investment and greater reputation (Campbell, Shrives, & Bohmbach-Saager, 2001).

The results of the 2nd analysis are somewhat confusing. On one hand, the reduced number of correlations is insufficient for stating a relation between the two types of data. On the other hand, when coupled with the 1st analysis, we conclude that the disclosed information, during the time interval, is contradictory. One reason for this to happen may be the fact that many organizations choose to maintain the text of previous reports, while the quantitative data (results) vary through time (Santema & Rijt, 2001).

As for the 3rd analysis, the results illustrate that there is information in the annual reports related to past variations of the results, reflecting the events and / or the actions that led to the obtained / published results (Hynes & Bexley, 2004). However, based on the reduced number of identified relations, we can also conclude that some organizations do not reflect the totality and / or in the best way, the events and / or the actions that led to the obtained results, published in their reports.

As for the 4th and final analysis, the results show that certain linguistic terms reflect future changes of the results, confirming that the annual reports, in addition to the results and past events / actions disclosure, also contain indications of future variations of the results (Kloptchenko, Back, Vanharanta, Eklund, Karlsson, & Visa, 2002) (Staw, McKechnie, & Puffer, 1983).

Based on the group of analyses, it is also possible to verify that there's a tendency for the qualitative data to reflect, mainly, the results of the year, followed by statements about future variations of the results and, finally, past variations of the results.

As for the obtained correlations in the 4 performed analyses, three distinct groups were identified: "expected" correlations, "not expected" correlations, and unidentified correlations.

The "expected" correlations confirm that the textual content of the organizational reports is expressed in positive terms when the organization seeks to disclose good performance, or through negative terms, when the organization wants to explain poor performance (Kohut & Segars, 1992), concluding that the positive terms are associated with positive relations and the negative terms are associated with negative relations (Kendall, 1993).

The "not expected" correlations are based on two situations. The first proves that an increase in results is related to the disclosure of poor performance. This trend may be related to various factors such as: organizations intent in "keeping" information in order to maintain a competitive advantage over its competitors, speculative strategies about stock

market, or the fact that organizations lack efficient communication strategies. The second situation shows that a decrease in results is related to the spread of good news, concluding that the organizations present themselves through a positive image, whatever the results, confirming the presence of the Pollyanna hypothesis (Thomas, 1997) (Hildebrandt & Snyder, 1981).

As for the unidentified correlations, the results are rather inconclusive, due to the fact that the use of the data set (14 chosen organizations) may have "influenced" the results. As such, it is expected that the realization of an additional number of analyses, for each organization individually, may point out "new" relations, unable to identify through the performed analyses.

As a complement to this study, other quantitative and qualitative data can be analyzed. It would also be helpful to perform these analyses based on organizations listed in other stock markets, in order to check whether the content has some influence on the information disclosed and what's the impact on the organizations share prices. Another added value would be to conduct such analyses for each organization, individually.

This study was able to verify the existence of relations between qualitative and quantitative data, present in the annual reports of 14 listed organizations on the PSI20 stock market, between 2005 and 2007. The results and their interpretation can be useful for a better understanding of the organizations communication strategy. The results are also a good indication that the knowledge regarding organizational reports is still very limited.

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