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**Do the Manager's Personal Features Influence
the Verbal Tone Used in Conference Calls?**

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ABSTRACT

The objective of this study is to evaluate whether managers' tone of voice of Brazilian companies that publish the results in the presentation phase of the conference call is influenced by the personal characteristics of these agents. A total of 10 Brazilian companies were traded on the New York Stock Exchange (ADR) between 2002 and 2016, which made voluntary disclosure. The sample was limited to the companies with negotiations in North American market, that make the voluntary disclosure of the results by the necessity of the availability of the conference calls in English. To calculate the tone of voice, the dictionary developed by Loughran and McDonald (2011) was used. The tone was calculated based on the conference calls of quarterly disclosure of the results of the companies and related to the characteristics of the managers like gender, position and academic formation. The results verified in the Brazilian companies confirm the same ones found in international surveys, which find evidences that the personal characteristics influence the tone of voice used in the phase of presentation of the conference calls, controlling other factors like the performance of the company.

Keywords:

Conference Call, Tone of Voice, Personal Characteristics

Introduction

Companies that seek to finance the necessary investments for the business through the stock market must keep this market always equipped with information necessary for the decision making of these investors (Frankel, Mayew & Sun, 2010). The availability of information by companies to the market

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usually occurs in two stages: when there is mandatory publication of financial statements and when there is voluntary disclosure, either via press release or conference call. The conference call is an option adopted by most companies that want interaction with investors and market analysts, providing an environment that can generate greater reliability as to the information provided in these moments of interaction (Healy & Palepu, 2001; Beyer, Cohen, Lys, & Walther, 2010). Moreira, Ramos, Kozak-Rogo and Rogo (2016) highlight the increase and exchange of relevant information that occurs in conference calls between company managers, investors and market analysts.

The conference call is held in two phases, with an initial presentation of the company's results being presented (Moreira, Ramos, Kozak-Rogo & Rogo, 2016), usually performed by the Chief Executive Officer (CEO) or Chief Financial Officer (CFO) (Davis, Ge, Matsumoto, & Zhang, 2015), and the "questions and answers" phase, with the participation of market analysts and investors. The main objective of this interaction between companies and market agents is to reduce informational asymmetry (Frankel et al., 2010; Brockman, Li & Price, 2015; Moreira et al., 2016; Galdi & Rodrigues, 2016). Due to the importance of voluntary disclosure of results by companies through conference calls, the theme has been the subject of studies by international and national researchers (e.g.: Moreira et al., 2016; Fiorot, 2017; Loughran & McDonald, 2011; Davis et al., 2015).

At the international level, studies by Graham, Harvey and Rajgopal (2005), referring that managers always seek to achieve good results in order to have good news to disseminate in conference calls. Matsumoto, Pronk and Roelofsen (2011) reveal that the duration of the conference call tends to be longer or shorter in line with the type of information to be disclosed, the greater the volume of institutional information the worse the company's results.

Brockman, Li and Price (2015) point out that managers leave the bad news to the end of the presentation stage, extending this phase for as long as possible with positive information, when they then make effective announcements of the company's results. These authors highlight the influence of the tone of market analysts and conclude that, for investors, information on the company's results is relevant, but the tone of optimism or pessimism of managers and especially market analysts in the "questions and answers" phase is decisive for the company's pricing.

Studies show that the tone of voice used in conference calls can be strongly influenced by the personal characteristics of managers who present the results of companies (Bamber, Jiang & Wang, 2010; Matsumoto et al., 2011; Davis et al., 2015). These authors assessed that the optimistic or pessimistic tone used in conference calls is not only related to the present and future results of companies, but also with specific components of managers, such as gender, professional experience, professional training, among others.

At the national level, some studies stand out on the voluntary disclosure of the company's results. Moreira et al. (2016) assessed whether the duration of conference calls was related to the type of news to be released. The authors found that the duration of conference calls was longer the worse the news or the persistence of bad results, ratifying international research results (Matsumoto et al., 2011). Souza (2017) analyzed the linguistic tone of the conference call presentation phase and highlighted that the tone used by managers is related to the results disclosed, the more optimistic the better the present results and their persistence. Fiorot (2017) analyzed whether the managers' tone of voice is related to the type of news to be given and their influence on the company's pricing by the market, considering the current results and their persistence in the following exercises.

The present study differs from the recent research by Fiorot (2017), since it does not focus on the firm's characteristics such as its performance, but in characteristics of the manager such as the position held in the company, gender and academic background. As the tone being analyzed is that of the manager, his/her personal characteristics may be related to that tone used in their speech.

In this context, this research aims to assess whether managers' tone of voice of Brazilian companies that disclose the results during the presentation of the conference call is influenced by the personal characteristics of these agents, such as gender, position and academic background. Thus, the positive or negative tone would not only be linked to the effective result of the company, but also related to the personal characteristics of the manager.

Although Aguiar (2012) has suggested a dictionary in the Portuguese language, it was decided to determine the positive or negative tone used in the conference call presentations, by the dictionary by Loughran and McDonald (2011). The referred dictionary is considered more adherent to financial issues and it was also possible to be used since the transcripts of the conference calls of this study were in English. To this end, only the Brazilian companies listed in B3 were selected that voluntarily disclosed in English between 2002 and 2016, with shares traded via ADR (American Depositary Receipt). Only conference calls in English were analyzed, since the dictionary by Loughran and McDonald (2001) is in English and has not yet been validated for Portuguese. Regarding the beginning of year 2002, the justification is for the accessibility of the data, before 2002, there was no conference call available from the companies analyzed.

Due to the importance of the stock market in promoting a country's economy (B3, 2017), the present study is justified as a way to increase investor knowledge about some of the main Brazilian companies, more specifically those with ADR in the American market. It also contributes to companies adapting the choice of the profile of the managers who make the disclosures of their results, in order to seek adherence of idiosyncratic variables with the desired result.

Under the perspective of understanding the correlations that may exist between the characteristics of the manager and the way of disclosing the company's results, note that there are gaps in works of this nature existing in the Brazilian academic sphere. Thus, considering the importance of the phase of voluntary disclosure of information by the company, this research aims to expand the list of studies on the impacts generated by a conference call in the Brazilian stock market, which counts as the largest stock exchange in Latin America and one of the largest in the world (B3, 2017), specifically regarding the characteristics of the manager who performed the data presentation.

Theoretical framework

Accounting as a reducer of informational asymmetry has been the subject of research that seeks to analyze the impact of the dissemination of information on the functioning of the market (Beyer et al., 2010).

Among the forms of information disclosure, this research seeks to study conference calls. Conferences calls are presentations of the results of the companies carried out through meetings with in-person or remote participants. Usually made by company managers (CEO, CFO, Investor Relations officers and managers) in order to disclose relevant data to market analysts and investors, who seek better detail of information disclosed in the accounting reports and/or press release. Conference calls are divided into two stages: the presentation, which consists of the disclosure of data by the managers and the question and answer phase, moment of interaction of the representative (s) of the company with the participants, notably analysts and investors (Moreira et al., 2016).

Salotti and Yamamoto (2005) report the importance of the theory of dissemination, its mechanisms and international studies, notably the compilations of texts on the theme, carried out by Verrecchia and Dye (2001). They emphasize that research on the topic aims to explain the correlation between the disclosure of financial information and the market's reaction to that information.

The focus on studies related to voluntary disclosure is growing, since the importance of reducing informational asymmetry generates positive results for the better functioning of markets. Galdi and

Rodrigues (2016) developed studies and proved that companies that have a unit dedicated to investor relations have obtained good results in order to reduce informational asymmetry.

Moreira et al. (2016) and Fiorot (2017) highlight that in the conference call there is greater interaction between representatives of companies and the market, allowing greater transparency in the disclosure of relevant information that may influence investors in the evaluation of companies. This conclusion was also noticed by Santos (2017), when he mentions that the results of the research carried out indicated that the conference call allows an increase in the content of the information disclosed before the accounting reports and press release.

Antweiler and Frank (2004) conducted a study that aimed to capture the opinion and sentiment expressed in the disclosures of reports and information of companies. They assessed the influence of the optimistic tone of the messages posted on the Yahoo! Finance® website and concluded that news has an influence on market volatility and return in relation to pricing and trading volume in the stock market.

Davis, Piger and Sedor (2006) made an analysis in more than 73 thousand press releases published between 1998 and 2003 in PR Newswire (USA) and concluded that managers use optimistic and pessimistic language when they want to provide credible information to the market about the company's expected performance. The authors noted that the market responded to the language used by managers, especially when it was possible to confirm the reported results a posteriori. The study suggests that market participants consider the optimistic and pessimistic language of earnings used by managers in press releases to have credibility, despite the potential that they have to use opportunistic behavior when selecting the language used in the narratives of the results disclosure via press release.

Matsumoto et al. (2011) assessed that companies' use of voluntary results disclosure has become increasingly significant. They analyzed more than 10,000 conference call transcripts between 2003 and 2005 to determine the time spent on each stage. They found that the time for the discussion phase (questions and answers) was longer than the presentation and that part of it was due to the participation of analysts.

The results by Matsumoto et al. (2011) pointed out that there is greater openness in quality and quantity of information provided in the presentation phase, especially when the company's results are bad. They identified that perhaps the main reason that the disclosures are more informative stems from the greater ability of managers to pass on information in a less formal way than the financial statements require. They also pointed out that, during the conference call discussion phase, there is the participation of analysts, who, due to their characteristics of monitoring the company, make this stage more dynamic and more informative.

In his study on the effects of data disclosure by companies, Aguiar (2012) highlights not having found evidence that the disclosure of reports with companies' results influences their pricing by the market. Although the financial statements are intended to reveal the company's real situation and prospects through numbers, the information released at the time of the conference call has been of relevant importance for analysts and investors, reflecting on the pricing of companies' shares (Soffer, Thiagarajan & Walther, 2000; Santos, 2017).

Brockman et al. (2015) conducted a study focused on the tone of optimism and pessimism used by managers and market analysts. They found that the tone of managers is usually more optimistic than that of analysts. However, they pointed out that investors, although they understand the results presented by the company as relevant, react more strongly to the impressions passed on by analysts than to those passed on by managers. They also found that institutional analysts, that is, those linked to companies specialized in investment analysis, are better prepared to understand the language of

managers and other analysts and, therefore, have greater knowledge of the companies analyzed when compared to individual/independent analysts.

Davis, Ge, Matsumoto and Zhang (2015) studied the extent of the tone of optimism used by managers at the time of the conference call and its relationship with the personal characteristics of managers. With a database of more than two thousand samples, they determined the duration of the stages of the conference call: presentation and discussion (questions and answers). They also determined the number of positive and negative words using specific software (Diction & Henry, 2008; Loughran & McDonald, 2011) that scale the number of words with the desired characteristics. They assessed the impacts on the results of companies resulting from the disclosure of information to the market, based on the tone of optimism (or pessimism) that managers used in their presentations. They analyzed that the language used has a direct and significant impact on the companies' market return.

To assess the characteristics of the manager, which directly influence linguistic behavior, Davis et al. (2015) generated a database with 1,500 publications from North American companies between 2002 and 2009. As mentioned, considering that there is no consensus on a better or more adequate dictionary, so they used three to obtain the measurement of positive and negative words: Diction and Henry (2008) and Loughran and McDonald (2011). They used specific software to obtain the names of CEOs and CFOs responsible for disclosing company information in conference calls. From the sample, data were obtained such as academic background, gender, professional history, age, among others. They ran a regression that led to the conclusion that female managers are less optimistic than male managers.

Moreira et al. (2016) developed a study using Brazilian companies listed on B3 between the years 2008 and 2015, determining whether profit or loss news and its adherence to the tone used by the manager were disclosed in the conference calls. The results generated show that companies with losses have a higher level of information in the presentation phase and, therefore, also in the discussion phase due to the participation of analysts in the questions and clarifications on the result presented.

It stands out in studies by Fiorot (2017) and Moreira et al. (2016) the information that in Brazil the number of conference calls made by national companies has grown annually since 2002. Considering the importance of the Brazilian stock market as the largest in Latin America and one of the largest in the world (B3, 2018), it is pertinent to deepen the studies that aim to help investors and analysts in the perception of the real situation of the company by the tone of voice used by managers in view of their personal characteristics.

It is noted, therefore, that analyzing the behavior and characteristics of the manager can allow inferences about the situation of companies in the disclosure of results. In the Brazilian context, no recent studies have been identified that had as their object of measurement if the characteristics of the manager influence the tone used in the disclosure of the results of companies regardless of the results presented in the year and the projections are positive or negative.

In this context and considering the studies discussed as the theoretical basis of the present research, the first hypothesis to be tested in the context of Brazilian companies, the basis of this study is:

H₁: The manager's gender is a determinant of the tone of voice used in the disclosure of the results in the conference call.

Davis et al. (2015) also assessed that professional training influences the tone of the dissemination of results. Managers trained in economics, accounting and administration were more conservative compared to engineers and lawyers. From this focus of study arises the second hypothesis to be tested in this study:

H₂: The academic background of the manager is a determinant of the tone of voice used in the dissemination of the results in the conference call.

In the same study, Davis et al. (2015) noted that managers who started their careers in times of recession tend to be more pessimistic when compared to those who started in times of economic growth, because they are influenced by the economic conditions that gave support to the beginning of their careers. They found that the professional training environment has an influence on the personal characteristics of managers and the tone they use to disclose the data of the companies they work for. They identified that, when graduating from investment banks, managers tend to be more conservative and less optimistic than those trained professionally in other areas of expertise. They noted that managers involved in social work have a significant optimistic tendency towards those who do not have this experience. Because they are jobs that involve a strong emotional component, managers involved in social work have a tendency to visualize situations in a more pleasant way. In this context, they concluded that the characteristics of the managers analyzed, notably CEO and CFO, have a significant influence on the tone of optimism in the disclosure of the company's results. They also highlighted in the study that managers make appropriate word and intonation choices to achieve the good impression expected from investors and analysts in relation to the company from which they are disclosing the results. From this scenario, the third hypothesis of this study arises:

H₃: The position of the manager is a determinant of the tone of voice used in the disclosure of the results in the conference call.

Methodology

The present study aimed to assess whether the tone of voice of the managers of Brazilian companies that disseminate the results during the presentation of the conference call is influenced by the personal characteristics of these agents.

assessment of the type of news and the tone of voice

Considering the focus of the study, the conference calls made available by quarter each year on the websites of the analyzed companies were used. Each of the 392 documents made available was read, which allowed the identification of the manager, their gender and the position held. Regarding academic education, each of the managers' academic backgrounds was also collected individually, and in the event of more than one, the was considered. For this purpose, data from the professional relationship website LinkedIn[®] were used, websites of the companies surveyed, news websites and other public websites that had the necessary data to compose the sample.

Davis et al. (2015) mentions the lack of consensus on the best or most appropriate dictionary for determining the tone used by managers in the disclosure of company results. Although Aguiar (2012) prepared a rich and detailed work with a list of words in the Portuguese language, we chose in this study to rotate the search bases by using a dictionary widely used in international literature as the dictionary developed by Loughran and McDonald (2011), used by Fiorot (2017) and Davis et al. (2015).

Because it is a dictionary with words of English origin, and for greater accuracy in determining the results, avoiding free translations, in the sample of the present study, only Brazilian companies listed on B3, between the period 2002 and 2016, with shares traded via ADR (American Depositary Receipt) in the North American market, were used. These selected Brazilian companies have conference call records in English, allowing them to use the existing dictionaries to perform this work.

Sample selection

The collection of the database was manual, on the websites of the companies analyzed, more specifically in the area of investor relations. As the option of using a dictionary in the English

language, only transcripts of the conference calls in English were collected. Slideshows and a detailed transcript of conference calls are usually available, with clear identification of participants by the company, the manager(s) who performed the presentation, in addition to the content presented. We collected 392 files related to the 10 companies that qualified as ADR's issuers between the 2nd quarter of 2002 and the 3rd quarter of 2016 and that had their conference calls available in English. For more accurate verification, the transcripts from which it was not possible to obtain all the personal data of the managers, object of the variables under analysis, were eliminated from the sample, results of the companies that composed the control variables, whose absences compromised the composition of the complete database to generate the results. In this context, 05 observations were eliminated, reducing the sample to 387 presentations.

For a better visualization of the sample quantity analyzed per company, the identification of the company and the number of presentations analyzed were reproduced in Table 1. There is a higher concentration of investigations at Ultrapar, with approximately 15% of the volume analyzed, followed by Vale and Pão de Açúcar, with 13% of the sample.

Table 1

Conference call by company

<i>Companies</i>	<i>Number of conferences</i>	<i>% of the Sample</i>
<i>Bradesco</i>	42	11%
<i>Braskem</i>	42	11%
<i>BRF</i>	10	3%
<i>CPFL Energia</i>	37	10%
<i>Gol</i>	40	10%
<i>P.Açúcar</i>	51	13%
<i>Petrobras</i>	30	8%
<i>Santander</i>	27	7%
<i>Ultrapar</i>	57	15%
<i>Vale</i>	51	13%
Total	387	100%

Source: Research data. Author's own elaboration

To confirm the information by Moreira et al. (2016) and Fiorot (2017) of growth in the number of conference calls in Brazil since 2002, shown below with the number of samples per year, already influenced by the necessary adjustments to run the statistical model. It should be noted that the present sample was limited to conference calls that occurred up to the third quarter of 2016.

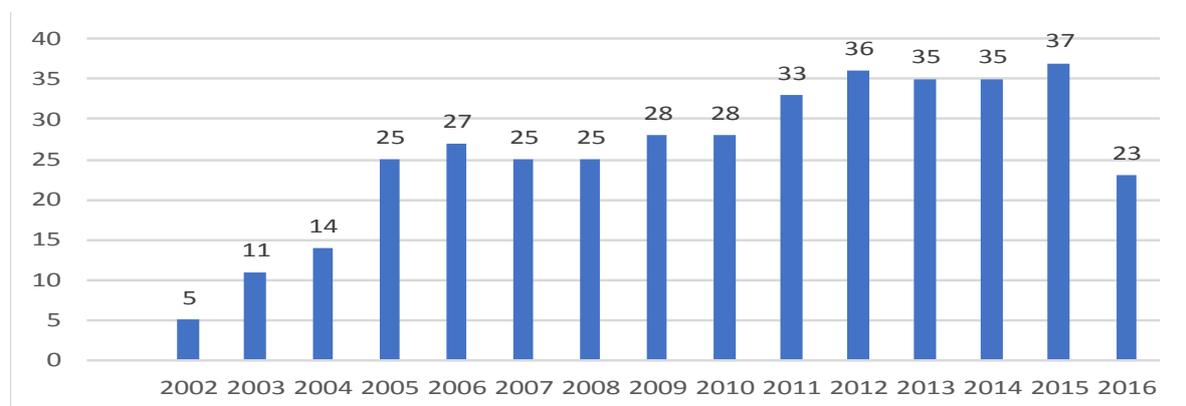


Figure 1. Number of Conference Calls

Source: Research data.

Author's own elaboration

To calculate the values related to the quarterly results of each company, basis for observation on the presentation of profit or loss and other control variables, we used the Economática® database.

Econometric model and control variables

For the present study, it was necessary to ascertain in the duration of the presentation phase, the record of the number of positive and negative words, as well as the total volume of words to measure the percentage of participation of each optimistic or pessimistic aspect of the total text. The measurement was made by the total time of the presentation, although the profile of the manager defined for companies that had more than one presenter was limited to the manager who effectively disclosed the company's results during the presentation phase of the conference call.

The study by Fiorot (2017), which focused on the relationship between the type of news published in the conference calls as well as their relationship with the future results of the companies opened space for this research, since it analyzed the tone used by the managers, and, by means of a similar basis, it was complemented with the focus variables of the present work related to the personal characteristics of the managers. With the basis of conference calls, it was possible to determine the verbal tone of each presentation.

$$Tone_{i,t} = \left(\frac{PositiveWords_{i,t} - NegativeWords_{i,t}}{TotalWords_{i,t}} \right) \times 1,000 \quad (1)$$

Considering the same approach as Fiorot (2017) exclusively for determining the tone of voice, we have that the equation (1) has the variable $Tone_{it}$, whose purpose is to determine the tone of voice used in the presentation of the sample conference call for company i in quarter t , through the difference between the number of positive and negative words measured over the total number of words observed in the same phase of the conference call of company i in quarter t . Thus, it was possible to measure whether the tone contained in each stage of the presentation of conference calls was more positive or negative, or more or less optimistic, determining, finally, the result of preponderant words. Due to the greatness of the calculated numbers, it was found to be better to multiply the final result by 1,000 for an adequate visualization of the analysis results. As the focus of this research was to analyze whether personal characteristics influence the tone used in the presentation phase of conference calls, only this phase was focused on.

We use as a base the studies by Bamber, Jiang and Wang (2010) and Davis et al. (2015), who considered gender as a potential determinant of the optimistic or pessimistic tone used in the presentation of the results of the analyzed companies. Davis et al. (2015) who considered gender as a potential determinant of the optimistic or pessimistic tone used in the presentation of the results of the analyzed companies. Thus, we adopted the same parameter and in this study, the binary variable Woman was considered, being 1, when the manager was a woman, and 0, when the manager was a man.

Davis et al. (2015) highlight that the manager's style, and therefore the tone he/she uses in conference calls, can also be influenced by academic, professional or other training. In this research, it was analyzed whether academic education in finance has a greater or lesser influence on the optimistic or pessimistic tone used by the manager. Davis *et al.* (2015) mention in the study the research that Bamber et al. (2010) did, in which they concluded that professionals trained in finance are more conservative, therefore, they tend to use a more negative or less positive tone in presentations. Thus, to ascertain this fact, it was decided to adopt, for professionals trained in management areas such as economics, accounting and administration, the binary variable Formation take value 1, and for other formations, the variable takes value 0.

To measure the position of the manager, we focus on CEOs and CFOs, who are usually the disseminators of information about the company in the market (Davis et al., 2015). Souza (2017) highlights that managers involved in companies' voluntary presentations have privileged information about the future of companies to the detriment of other interested and related parties. Thus, to assess the influence of the position exercised on the tone used in the conference calls, the binary variable Position was adopted equal to 1 when the position exercised by the presenter of the company's results was CEO or CFO and 0 for other positions. We start from the premise that CEO and CFO should use a more optimistic tone, because they know better the company they are disclosing the data from and have more conviction in their words.

To adhere to the studies developed on the same theme, control variables experienced by Moreira et al. (2016) and Fiorot (2017), which in turn used references in international studies, such as Matsumoto et al. (2011) and Davis et al. (2015). The use of control variables makes the results more robust. For the purposes of this study, the variables earnings per share and return on sales were used to control the company's performance. The variable absolute value of variation in return on sales, on the other hand, aims to address the variability of the company's performance. In addition, the variables book to market and the natural logarithm of market value were also included, the first to control for companies' growth opportunities and the last for company size.

To determine the results, it was decided to use a multiple linear regression model, as it involves more than one variable that may influence the tone of voice – positive or negative (or not so positive) – used by the manager when disclosing the company's results via conference call:

$$Tone_{i,t} = \beta_0 + \beta_1 Woman_{i,t} + \beta_2 Education_{i,t} + \beta_3 Position_{i,t} + \sum_{k=4}^K \beta_k Controls_{i,t} + \varepsilon_{i,t} \quad (2)$$

Where:

Tone = dependent variable. It is based on the positive or negative tone (or less positive) of the words spoken by the manager at the presentation stage that are of interest to the sample, measured according to equation 1.

Independent variables:

Woman = manager's gender. To capture the manager's gender, the variable *Woman* was used, which is a binary variable that takes value 1 when the manager is female and 0 when the manager is male.

Education = finance manager education. To capture the manager's education, the variable *Education* was used, which is a binary variable that takes value 1 when the manager has training in areas termed as managerial, defined as education in economics, accounting and administration and 0 when the manager has training in a different area.

Position = which is a binary variable that takes value 1 when the manager is female and 0 when the manager is male. To capture the manager's position, the variable *Position* was used, which is a binary variable that takes value 1 when the manager exercises the position of CEO or CFO in the company and 0 when the manager exercises any other position in the company.

The control variables are: *EPA* (earnings per share), *Ret_S* (return on sales – ratio between revenue and net income), *Mud_RS* (absolute value of variation in return on sales for company i from quarter t-4 to quarter t), *LnMV* (natural logarithm of the market value of company i from quarter t-4 to quarter t), *BTM* (ratio between shareholders' equity and market value of company i in quarter t).

Results analysis

The data sample contains 387 bits of information regarding conference calls in its presentation sections. Table 2 depicts the descriptive statistics of the variables selected for the application of this

study. All variables went through the winsor procedure with application of 1% on each tail, in order to reduce potential outlier effects.

Table 2
Descriptive statistics

<i>Variables</i>	<i>N° Observations</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>Minimum</i>	<i>25th percentile</i>	<i>Median</i>	<i>75th percentile</i>	<i>Maximum</i>
<i>Tone</i>	387	6.24	6.15	-6.32	1.86	5.45	10.07	22.84
<i>Woman</i>	387	0.06	0.23	0.00	0.00	0.00	0.00	1.00
<i>Position</i>	387	0.75	0.44	0.00	0.00	1.00	1.00	1.00
<i>Education</i>	387	0.70	0.46	0.00	0.00	1.00	1.00	1.00
<i>EPA</i>	387	0.31	0.76	-3.42	0.16	0.35	0.59	2.04
<i>Ret_S</i>	387	26.06	53.35	-103.09	5.37	10.65	39.29	317.96
<i>Mud_RS</i>	387	29.75	68.73	0.06	1.71	6.00	22.39	443.99
<i>LnMV</i>	387	17.05	1.47	13.91	15.91	16.87	18.35	19.74
<i>BTM</i>	387	0.55	0.55	-2.95	0.34	0.50	0.75	2.13

Woman: To capture the manager's gender, a binary variable was used that takes value 1 when the manager is female and 0 when the manager is male; *Position*: position held by the manager who discloses the results in the presentation phase, which is a binary variable that takes value 1 when the manager exercises the position of CEO or CFO in the company and 0 when the manager exercises any other position in the company; *Education*: First or only training of the manager who made the disclosure of the company's results in the conference call, which is a binary variable that takes value 1 when the manager has training in areas termed managerial, defined as education in economics, accounting and administration and 0 when the manager's education is in a different area; *Tone*: Tone of voice of the manager who made the disclosure of the company's results on the conference call; *EPA*: earnings per share; *Ret_S*: return on sales - ratio of revenue to net income; *Mud_RS*: absolute value of variation in return on sales for company *i* from quarter *t-4* to quarter *t*; *LnMV*: natural log of market value of company *i* from quarter *t-4* to quarter *t*; *BTM*: ratio between shareholders' equity and market value of company *i* in quarter *t*.

Source: Research Data.

Author's own elaboration

The tone of voice of conference calls has a positive mean of 6.24, based on the dictionary by Loughran and McDonald's (2011). This suggests that, on average, managers are more optimistic than pessimistic when presenting the results of companies. As for the company's performance, we can see that, on average, the companies analyzed show a earnings per share of 0.31.

The preponderance of the position of the manager who is in charge of the presentation of the conference call is the position of CEO and/or CFO of the company, approximately 75%, as noted in Table 3. Table 4 shows that the sample was composed of approximately 6% of women in management, which represents a low female participation in the presentation of the results of Brazilian companies. Finally, the preponderance of manager training is in the business area (Accounting, Economics or Administration) with approximately 70%, the remainder with training in other areas, as shown in Table 5.

Table 3
Distribution of absolute and relative frequency of positions

<i>Position</i>	<i>Observations</i>	<i>%</i>
<i>CFO/CEO</i>	289	74.68%
<i>Others</i>	98	25.32%
<i>Total</i>	387	100.00%

Source: Research Data.

Table 4
Gender absolute and relative frequency distribution

<i>Position</i>	<i>Observations</i>	<i>%</i>
<i>Female</i>	22	5.68%
<i>Male</i>	365	94.32%
<i>Total</i>	387	100.00%

Source: Research Data.

Table 5
Distribution of absolute and relative frequency of education

Education	Observations	%
Accounting/Economics/Administration	270	69.77%
Others	117	30.23%
Total	387	100.00%

Source: Research Data

It is important to highlight that this research in the scenario of Brazilian companies may have suffered the bias of the low representation of women in the disclosure of results similar to those found by Davis et al. (2015). Table 6 shows the correlation matrix between the variables used in the model. A positive and statistically significant correlation is perceived at least 90% confidence, between the tone of voice and two of the main variables under study: position and education of managers. Correlations of 0.0884 and 0.2334, respectively, indicate that the fact that managers are CEO or CFO and have a background in Economics, Accounting or Administration is directly correlated with a more positive tone in conference calls. However, a correlation of -0.1331 between the variables tone and woman indicates that the tone of the conference call tends to become less positive when the manager is female.

Table 6
Correlation matrix of variables

	Woman	Position	Education	Tone	EPA	Ret_S	Mud_RS	LnMV	BTM
Woman	1								
Position	-0.3190 0.0000	1							
Education	-0.1543 0.0023	-0.0858 0.0921	1						
Tone	-0.1331 0.0088	0.0884 0.0824	0.2344 0.0000	1					
EPA	-0.0019 0.9708	-0.0299 0.5570	0.2719 0.0000	0.1098 0.0307	1				
Ret_S	0.1615 0.0014	-0.0150 0.7682	0.1371 0.0069	0.1019 0.0452	0.0592 0.2455	1			
Mud_RS	0.2106 0.0000	-0.0678 0.2918	-0.0217 0.1069	0.1900 0.0002	-0.1584 0.0017	0.4045 0.0000	1		
LnMV	-0.0761 0.0656	0.0340 0.0515	0.5004 0.0000	-0.1197 0.0242	0.3274 0.0000	-0.1364 0.0054	-0.2072 0.0000	1	
BTM	0.1569 0.0020	-0.1101 0.0304	0.0290 0.2172	-0.0517 0.3102	0.0017 0.9734	0.0076 0.8819	0.0897 0.0780	0.2865 0.0000	1

Woman: To capture the manager's gender, a binary variable was used that takes value 1 when the manager is female and 0 when the manager is male; *Position*: position held by the manager who discloses the results in the presentation phase, which is a binary variable that takes value 1 when the manager exercises the position of CEO or CFO in the company and 0 when the manager exercises any other position in the company; *Education*: First or only training of the manager who made the disclosure of the company's results in the conference call, which is a binary variable that takes value 1 when the manager has training in areas termed managerial, defined as education in economics, accounting and administration and 0 when the manager's education is in a different area; *Tone*: Tone of voice of the manager who made the disclosure of the company's results on the conference call; *EPA*: earnings per share; *Ret_S*: return on sales - ratio of revenue to net income; *Mud_RS*: absolute value of variation in return on sales for company i from quarter t-4 to quarter t; *LnMV*: natural log of market value of company i from quarter t-4 to quarter t; *BTM*: ratio between shareholders' equity and market value of company i in quarter t.

Values in bold represent the p-value

Although it presents a significant relationship, there is no way to suggest, by the correlation analysis, a dependency or causality relationship between these variables. For this, it is necessary to apply the econometric model described in the methodology section.

To evaluate hypotheses H1, H2 and H3, a statistical analysis was performed, using a regression model, so that we could measure the influence of each of the three variables mentioned above in the tone of voice of conference calls. Table 7 presents the results of the model's estimation, based on the ordinary least squares method, controlling for fixed time effects (year).

Table 7

Regression of determinants of the conference call tone

<i>Independent Variables</i>	<i>Coefficient</i>	<i>Statistic t</i>	<i>p -Value</i>
<i>Woman</i>	-4.0071	-3.10	0.002
<i>Position</i>	1.4761	2.09	0.038
<i>Education</i>	5.2946	7.25	0.000
<i>EPA</i>	1.4780	3.2	0.002
<i>Ret_S</i>	-0.0123	-2.40	0.017
<i>Mud_RS</i>	0.0204	4.61	0.000
<i>LnMV</i>	-1.8334	-6.98	0.000
<i>BTM</i>	0.4699	0.71	0.475
<i>Fixed year effect</i>	Yes		
<i>R²</i>	0.2863		
Number of observations	387		

Woman: To capture the manager's gender, a binary variable was used that takes value 1 when the manager is female and 0 when the manager is male; **Position:** position held by the manager who discloses the results in the presentation phase, which is a binary variable that takes value 1 when the manager exercises the position of CEO or CFO in the company and 0 when the manager exercises any other position in the company; **Education:** First or only training of the manager who made the disclosure of the company's results in the conference call, which is a binary variable that takes value 1 when the manager has training in areas termed managerial, defined as education in economics, accounting and administration and 0 when the manager's education is in a different area; **Tone:** Tone of voice of the manager who made the disclosure of the company's results on the conference call; **EPA:** earnings per share; **Ret_S:** return on sales - ratio of revenue to net income; **Mud_RS:** absolute value of variation in return on sales for company i from quarter t-4 to quarter t; **LnMV:** natural log of market value of company i from quarter t-4 to quarter t, **BTM:** ratio between shareholders' equity and market value of company i in quarter t.

Source: Research Data.

The results indicate that gender (H1) is a determinant of the tone of voice used in conference calls. More specifically, the female gender, represented by the variable *Woman*, presents, on average, a more pessimistic tone than the male gender. Such evidence rejects the 1% hypothesis that there is no difference between the verbal tone between men and women. Davis et al. (2015) and Bamber et al. (2010) found this same behavior in results in the international literature such as the results.

Regarding the personal characteristic associated with the position (H2) of the presenter of the conference call, evidence was found that when a CEO or CFO presents the firm's results, on average, they are more optimistic than managers in different positions. Therefore, the null hypothesis that there would be no difference in tone of voice for different positions was rejected at 5%. This result also corroborates with studies in the international literature (e.g.: Davis et al., 2015).

Regarding the third personal characteristic, manager training (H3), the results indicate that managers trained in the business area, on average, are more optimistic than managers trained in other areas. Thus, the null hypothesis associated with the alternative hypothesis H3 of this study was also rejected at the level of significance of 1%. This result is contrary to the results of the international literature as Davis et al. (2015), which show that, on average, these managers with a background in business are less optimistic which show that, on average, these managers with a background in business are less optimistic.

In short, it is noted that the personal characteristics of the managers who make the disclosure of data directly influence the tone of voice used by the company manager during the conference call. In

addition, the control variables were also shown to be statistically significant, with the exception of the BTM variable. As a highlight, we can see that the better the company's performance (higher earnings per share EPA) the more optimistic is the tone used by managers in the conference call. Whereas, the higher the company's market value (LnMV) the less optimistic the company manager is.

Conclusion

The present study aimed to assess whether the tone of voice of the managers of Brazilian companies that disclose the results during the presentation of the conference call is influenced by the personal characteristics of these agents. Brazilian companies that performed voluntary disclosure between 2002 and 2016 in English were evaluated, and the Loughran and McDonald dictionary, 2011, was used to measure the tone of voice.

The results obtained in Brazilian companies are similar to those found in international surveys. It was found that personal characteristics have an influence on the tone of voice used in the presentation phase of conference calls, regardless of whether the reported results are positive or negative. As with studies already carried out based on foreign companies, the result of this study with Brazilian companies implies that the female gender is related to the presence of a more negative verbal tone during the presentation section of the conference call, just as the CEO and CFO have more positive verbal tones. With regard to training, the present study contrasted findings in which the tone used was negative, observing adherence to more optimistic or less pessimistic tones.

In this context, the results of this study bring contributions to the literature in several ways, allowing market analysts and investors to better assess the tone used in the conference call related to the manager who made the presentation of the results. For companies that choose to voluntarily disclose results, this work brings contributions to assist in choosing their interlocutors with the market, whether they are CEO, CFO or Investor Relations officers.

This study allows market participants to better interpret the information provided by company managers due to their personal characteristics, being able to extract from this information implied in the presentation of results. This is one of the first studies with Brazilian companies that assesses how personal characteristics of managers influence linguistic behavior through the tone used in conference calls, and the first identified with a focus on the personal characteristics of managers.

The research had limitations in obtaining personal data from managers, which led to a reduction in its initial base. The research had limitations in obtaining personal data from managers, which led to a reduction in its initial base, public safety in the elaboration of a research. For further research, it is suggested to increase the evaluation of personal data, such as age and professional training, as well as expanding the base of evaluated companies, being able to do so, choose to use the dictionary with words in Portuguese created by Aguiar (2012).

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