Revista de Contabilidade e Organizações
www.rco.usp.br

DOI: http://dx.doi.org/10.11606/issn.1982-6486.rco.2020.169560

Journal of Accounting and Organizations
www.rco.usp.br

Corporate use of social media and market performance

Uso corporativo de mídias sociais e o desempenho de mercado

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Keywords
Social media.
Organizational performance.
Brazilian companies.
Twitter.

Abstract

Companies are being driven to use social media, however little is known about the impact of using these media on their performance. This study seeks to verify the relationship between the corporate use of social media and the market performance of Brazilian companies. To accomplish this, we will use ordinary least square (OLS) multiple linear regressions. The analysis period covers the years 2013 to 2017, and the sample consists of 225 companies. The use of social media corresponds to the use of Twitter for publishing financial information, while market performance was measured by abnormal returns on shares. The results reveal that the corporate use of social media has a positive relationship with performance. We conclude that the publication of tweets about financial information can maximize returns, which indicates that social media can be another source of information for stakeholders. This study contributes to the literature by showing real benefits obtained with the use of social media, and by demonstrating that the corporate use of Twitter influences capital market participants and, as a result, improves the organization's market performance. This evidence may motivate upper level corporate management to provide initial and continuous support for the use of social media.

Palavras-chave
Mídias sociais.
Desempenho organizacional.
Empresas brasileiras.
Twitter.

Resumo

As empresas estão sendo impulsionadas a usar as mídias sociais, entretanto, pouco se sabe sobre o impacto do uso de tais mídias no seu desempenho. Esta pesquisa objetivou verificar a relação entre o uso corporativo de mídias sociais e o desempenho de mercado de empresas brasileiras. Para isso utilizou-se regressão linear múltipla (OLS). O período de análise compreendeu os anos de 2013 a 2017 e a amostra constituiu-se de 225 empresas. O uso das mídias sociais correspondeu a utilização do Twitter para publicação de informações financeiras, enquanto o desempenho de mercado foi mensurado pelo retorno anormal das ações. Os resultados revelaram que o uso corporativo das mídias sociais apresenta relação positiva com o desempenho. Conclui-se que a publicação de tweets sobre informações financeiras pode maximizar os retornos, o que indica que as mídias sociais podem se configurar em mais uma fonte de informações para stakeholders. Como contribuições, os achados evidenciam benefícios reais obtidos com o uso das mídias sociais, ao demonstrar que o uso corporativo do Twitter influencia os participantes do mercado de capitais e, consequentemente, melhora o desempenho de mercado da organização. Tal evidência pode motivar a alta gerência das empresas a fornecer suporte inicial e contínuo para o uso de mídias sociais nas organizações.

Article information
Received: May 09, 2020
Approved: August 04, 2020
Published: September 17, 2020

Practical implications

This study presents the effects of social media on the market performance of Brazilian companies. This analysis helps us understand how financial publications in social media can benefit organizations, by reducing the asymmetry of information between investors and analysts in order to maximize returns. This evidence may motivate managers and investors to use these channels.

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1 INTRODUCTION

The adoption of social media by society has led organizations to adopt technological tools to divulge and communicate important organizational information to parties interested in the organization (Smits & Mogos, 2013; Kim & Youm, 2017). According to Lee, Hutton and Shu (2015), they have become a viable channel for divulging important information, compared to traditional channels of information, and in comparison with traditional channels they have greater reach and allow companies to send information quickly in a direct manner.

Social media enable individuals and communities to communicate and divulge information at lower cost in an instantaneous manner on the web, with a practically global reach. Given that the capital markets are characterized by frequent negotiations and changes in the setting of prices, the use of technology in this process affects the way that capital markets process and respond to news about companies (Miller & Skinner, 2015).

Social media were originally used by managers for marketing (Arnaboldi, Busco, & Cuganesan, 2017). Later, companies began to use these tools to project the image that the company wished to present (Harquail, 2011). This form of publication has been gaining popularity and is being used more and more in regular operations by many companies (Smits & Mogos, 2013). Those who use the latest social media technologies seem to surpass their competitors and recount some of their benefits, such as low costs and greater efficiency (Harris & Rea, 2009). Therefore, it is important to understand the relationship between using social media and company performance (Smits & Mogos, 2013; Wetzstein, Leitner, Rosenberg, Dustdar, & Leymann, 2011).

Social media involve a group of information that comes from various users, such as companies, shareholders and investors, which can lead to changes in the capital markets (Arias, Arratia, & Xuriguera, 2014). According to Zhang (2015), social media reach a larger public and as a result influence more investors and deliver greater returns to shareholders.

However, in the Brazilian scenario, little is known about the repercussions of the use of social media on company performance. According to Paniagua and Sapena (2014) and Arnaboldi et al. (2017), studies of this subject have received little attention, because the social media space has become a common place for communication, the establishment of networks and content sharing. Examples of tweets which have had repercussions and have caused immediate effects on companies were those published by the company Via Varejo and Tesla's CEO Elon Musk. Via Varejo published tweets with impressive retail sales which drove up their shares by over 7%. Elon Musk tweeted that his company's shares were overvalued, which caused them to immediately fall around 10%. These facts present indications of the possible effects of the use of these tools in the corporate environment. However, these are isolated cases, which have had repercussions beyond the social media because they became the objects of investigation. That being said, we have verified the importance of understanding the actions of companies in the social media and the results of these actions.

In this manner, we will present the following question: What is the relationship between the corporate use of social media and the market performance of Brazilian companies? Thus, the objective of this study is to investigate whether the use of social media by companies to divulge financial information can improve market performance.

This study is justified by the importance of understanding the behavior of companies in the social media environment and the way in which they influence market participants and affect a company's value (Jung, Naughton, Tahoun, & Wang, 2018; Kim & Youm, 2017, Zhang, 2015). The social media has become a new important aspect of the literature, given its growing use by society and the potential for users to create and disseminate their own content about companies. This represents a new issue in the literature, because previous publishing platforms impeded, or at least, limited the extent to which investors, in general, could respond and divulge their own points of view about companies (Jung et al. 2018; Miller & Skinner, 2015).

Currently, the social media have become omnipresent and are performing a more and more critical role in today's business environments. The new information possibilities that they present can affect the relationship between organization managers and customers. Agostino and Sidorova (2017) point out that when the relationship between the organization and the customer loses focus, social media can contribute to remodeling this relationship.

Yu, Duan and Cao (2013) have demonstrated that market performance has a positive relationship with social media and that positive tweets contribute to an increase in share returns, while negative tweets reduce these returns. This study differs from Yu et al.'s study (2013) in that it analyzes words directly related to company performance, while the latter study used sentiment analysis. In addition, this study examines the period from 2013 to 2017, while the previous study analyzed three months in 2011.

In addition to the temporal difference, Yu et al. (2013) analyze companies in the American market, while this study focuses on Brazilian companies. We believe that in addition to the differences in terms of size and liquidity between the two markets, there are also differences in the usage of social media for corporate ends among companies in both countries. Therefore, even though the study cited above realized a more restricted analysis in temporal terms, and was deeper in terms of the analyzed social media, because it considered publications in blogs, forums and conventional publications like Google News, this study represents an advance in studying the Brazilian market during a more recent period.

This study contributes in various ways to accounting research. Initially, it contributed to the literature which investigates the behavior related to the publishing of company information (Jung et al., 2018). In addition, Paniagua and Sapena (2014) point out that studies of social media and organizational performance may assist organization managers as well as financial consultants by analyzing the available information. This study also contributes to the study of how managers act in the global information environment of a company's social media to externally influence the decisions of investors and internally influence changes in company accounting values.

2 ANTECEDENTS AND STUDY HYPOTHESIS

The term social media refers to the practice of using any specifically social medium, and is also commonly used to describe web applications, such as social networks and platforms for sharing user content (Kaplan & Haenlein, 2010). Kaplan and Haenlein (2010) point out that the term social media refers to dynamic internet platforms and their capacity to support interactivity and communication in real time. To Arnaboldi et al. (2017) and Scott and Orlikowski (2009), they are characterized as technologies used by organizations to create, communicate and exchange information with virtual communities and networks.

The social media, and in particular Twitter, offer a unique scenario to examine whether companies disseminate information strategically. If a company wants to publish information related to investors, such as an announcement of gains, it would do this by sending a communication to the press (Frankel, Johnson & Skinner, 1999). From this point of view, a company does not know when one of its existing or potential investors receives this information. However, a company can use Twitter to divulge information directly to its followers, controlling the time of dissemination, sending repeated messages for various days related to the same event, and thus knows exactly the number of its followers (Jung et al., 2018). In addition, the social media often encourage transparency in terms of company information (Bonson & Ratkai, 2013) and make it possible to minimize negative information (Jung et al., 2018; Lee et al., 2015).

According to Zhang (2015), companies which are very active in adopting social media for publishing information tend to use them to intensify their dissemination of information. In this sense, a company's intensive use of them to divulge information, as well as the voluntary divulging of information in this medium are driven by factors such as company performance, the information environment, the degree of asymmetry of information and their debt structure (Zhang, 2015).

As communication platforms based on the internet, the social media offer immediate resources and enable users to exchange information in an agile manner, as well as seek and provide rapid feedback through real time posts and dialogue (Lodhia and Stone, 2017). According to Smits and Mogos's study (2013), the combination of interlinked social media forms a system which improves business capacity. In addition, empirical evidence demonstrates that its corporate use increases the capacity and development of business (Cao, Aijan, Hong, & Le, 2018; Parveen, Jaafar, & Ainin, 2016; Arnaboldi & Coget, 2016; Jaafar & Shuib, 2015).

The corporate use of social media has been explored in studies designed to demonstrate its relationship with organizational performance. Rodriguez, Peterson and Ajjan (2015) report that these technologies positively affect an organization's sales. The utilization of social media helps companies support and create a relationship with their customers (He, Wang, & Akula, 2017; Agostino & Sidorova, 2017; Ainin et al., 2015). In this way, the information supplied on these platforms makes it possible for companies to concentrate on the needs and concerns of their customers, making them more competitive, which results in better organizational performance (Rodriguez et al., 2015).

Ferrer, Bousoño, Jorge, Lora, Miranda and Natalizio (2013) demonstrate that the use of social media technologies positively affects the social capital of an organization and therefore its performance. The inclusion of social networks in an organization facilitates the links between its members and reduces the organizational distance between managers and employees, making the latter feel part of the company's decision-making process, which increases their motivation and influences organizational performance (Ferrer et al., 2013).

Studies show that the use of this technology could improve business processes (Paniagua & Sapena, 2014). Some researchers have discovered that its corporate adoption offers benefits and have identified a positive relationship between the adoption of social media and corporate performance (Parveen et al., 2016; Ainin et al., 2015, Paniagua & Sapena, 2014).

Ainin et al. (2015) have identified that the use of social media has a positive relationship with economic performance and in the same way have verified that their use has a positive impact on non-financial performance in terms of reducing marketing costs.

Within this context, it is believed that companies use social media to divulge positive information and with this improve their market performance. Based on this, we have elaborated the following research hypothesis:

H_1: The corporate use of social media is positively related to the market performance of Brazilian companies.

3 METHODOLOGY AND RESEARCH PROCEDURES

This study's population is composed of openly listed companies on the B3 Brazilian Stock Exchange. For the sample we selected just companies which presented data for the calculation of the dependent and control variables. Then we observed which organizations possess a Twitter account and then which divulge financial information on Twitter. The utilization of Twitter in the present study is justified by the assertion of Jung et al. (2018) that it is one of the social media platforms most used for corporate ends.

Our procedure followed the methodology adopted by Jung et al. (2018). Thus, we first verified the corporate website of each company in the sample to determine whether it possessed a link to social media. This procedure is fundamental, because it guarantees that the accessed social media is the company's official account. Later we accessed the social media to confirm their existence and the publishing of financial information.

In detail, the procedure consisted of loading all the tweets published on the page of each company back until the beginning of the analysis period (2013) and then using filters. To do this, based on the study by Jung et al. (2018), the filters and searches were performed for the following keywords: gains, profits, revenues, results, quarter, profit per share and growth. It should be emphasized that in this study, the divulging of financial information on Twitter refers to the divulging of the terms listed above.

In this manner, the sample consists of 225 companies, of which 23 used Twitter to divulge financial information. The analysis period began in 2013 and ended in 2017, resulting in 1,125 observations. Table 1 presents the number of companies which divulged information and the number of publications made, for each year of analysis.

Table 1. Study sample by sector and the number of companies using Twitter each year

Items	2013	2014	2015	2016	2017
Number of Twitter companies	5	9	12	14	19
Number of tweets	19	37	58	153	210

Source: research data.

We can see from Table 1 that the number of companies as well as the number of publications increased during this period. In 2017, 82% of the companies which divulged financial information presented publications this year. In addition, in 2017 roughly 44% of the financial information tweets for the period were published. This demonstrates an increase in the utilization of Twitter as a corporate tool to divulge financial information, especially when we observe the 10-fold increase since the beginning of the period (2013).

This study utilizes abnormal returns (AR) as the dependent variable which corresponds to market performance, financial information tweets (TW) as the independent variable, and annual sales growth (GRWTH), leverage (LEV), company size (SIZE) and return on assets (ROA) as control variables. These variables were extracted from the Thomson Reuters® database and Twitter. Table 2 displays the variables analyzed in this study in detail.

Table 2. Variables utilized in this study

Variables/ Definition		Formula	Source	Authors
Dependent variable - Market performance (AR)				
AR	Abnormal return	Return of share$_t$ – Average return of sector$_t$	Thomson ®	Yu et al 2013; Miller & Skinner, 2015; Jung *et al.* (2018); Cao *et al.* (2018)
Independent variable				
TW	Tweets	Number of publications referring to financial information	Twitter	Lee *et al.* (2015); Manetti, Belluci e Bagnoli (2017); Jung *et al.* (2018).
Control variables				
GRWTH	Sales growth	$\frac{(Revenues_t - Revenues_{t-1})}{Revenues_{t-1}}$	Thomson ®	Lee *et al.* (2015); Rodriguez *et al.* (2015); Ainin *et al.* (2015); Jung *et al.* (2018)
LEV	Leverage	$\frac{\text{Total liabilities}}{\text{Total assets}}$		Zhang (2015); Jung *et al.* (2018)
SIZE	Size	Log of total assets		Lee *et al.* (2015); Zhang (2015); Jung *et al.* (2018); Parveen *et al.* (2016).
ROA	Return on assets	$\frac{\text{EBIT}}{\text{Total assets}}$		Fang & Peress, 2009; Zhang (2015); Ainin *et al.* (2015) Jung *et al.* (2018); Cao *et al.* (2018)

Source: research data.

In terms of the data analysis, we first performed a winsorization of the variables. Next, we performed the Shapiro-Wilk test for normality, which demonstrated that the data is not normal (Z = 13.326; z < 0.000). As a result, we used the Mann-Whitney average test and its correlations. Finally, in order to achieve the study's objective, we performed ordinary least square (OLS) regressions with robust standard errors controlling for sector and year fixed effects using the STATA software. The empirical model is presented in equation below.

$$AR_{it} = \beta_0 + \beta_1 TW_{it} + \beta_2 CV_{it} + Sector\_fixed\_effects + Year\_fixed\_effects + \varepsilon$$

The regression was operationalized with and without the control variables (CV), in order to demonstrate a direct relationship between tweets (TW) and organizational performance, and whether this was also true when the control variables were included. The realization of a robust regression was justified because the White test was significant (P = 456.12; p<0.000), which indicates the presence of heteroscedasticity. Despite the non-normality of the data, this assumption of the OLS linear regression was relaxed by considering the Central Limit Theorem, due to the number of observations. In addition, we tested for multicollinearity among the variables, using the Variance Inflation Factor (VIF), and the autocorrelation of the residuals using the Durbin-Watson test, whose results are presented in Table 5.

4 PRESENTATION AND ANALYSIS OF THE RESULTS

Initially we presented the descriptive statistics of the variables and the average (Mann- Whitney) test, in order to verify if there are significant differences between the companies which do and do not use social media to publish financial information (tweets), and market performance. The descriptive statistics are displayed in Table 3.

Table 3. Descriptive statistics of the variables

	Companies with tweets		**Companies without tweets**		**Total Sample**		**Mann-Whitney Average test**	
	Average	Standard Error	Average	Standard Error	Average	Standard Error	Z	Sig.
DES	0.00251	0.059	-0.00606	0.054	-0.00519	0.055	-2.114	0.412
CRESC	0.087	0.193	0.059	0.450	0.062	0.431	-1.776	0.034**
AL	0.588	0.186	0.767	0.655	0.749	0.626	-11.180	0.076*
TAM	22.509	1.594	20.321	1.741	20.545	1.849	-1.097	0.000***
ROA	0.059	0.051	0.028	0.155	0.032	0.148	-0.820	0.273

Source: research data.

Note: Legend: AR. Abnormal Return; GRWTH. Growth; LEV. Leverage; SIZE. Size; ROA. Return on Assets. Levels of significance: * p<0.1, ** p<0.05, *** p<0.01.

We may observe in Table 3 that company growth demonstrated a statistically significant difference at a level of 5%, which suggests that companies which publish tweets with financial information present higher sales growth. To Cao et al. (2018), the use of social media helps capture customers and drive sales, which increases revenues and market participation.

The leverage variable demonstrated a statistically significant difference at a level of 10%, as in Jung et al's study (2018), which demonstrates that companies with more leverage tend to use less social media. In addition, companies that divulge financial news on Twitter tend to be larger, with the company's size presenting a statistically significant difference at a level of 1%.

The abnormal return and return over assets variables did not present a statistically significant difference. However, it may be observed that both of the averages are greater for companies which publish tweets on financial information. It should be noted that companies which publish present a positive average return and those which do not publish present a negative return, of (0.25%) and (-0.60%), respectively.

Next in Table 4, we present the Spearman correlation in the upper right triangle and the Pearson correlation in the lower left triangle.

Table 4. Spearman and Pearson Correlations

Variable	**AR**	**TW**	**GRWTH**	**LEV**	**SIZE**	**ROA**
AR	1	-0.005	0.146***	-0.107***	0.071**	0.175***
TW	0.103***	1	0.048***	-0.004***	0.234***	0.039
GRWTH	0.044	0.011	1	-0.033***	0.205***	0.384***
LEV	-0.085***	-0.045	-0.027	1	0.022	-0.214***
SIZE	0.097***	0.234***	0.128***	-0.267	1	0.262***
ROA	0.076***	0.038	0.162***	-0.481***	0.306***	1

Source: research data.

Note: Legend: AR. Abnormal Return; GRWTH. Growth; LEV. Leverage; SIZE. Size; ROA. Return on Assets. Levels of significance: * p<0.1, ** p<0.05, *** p<0.01.

As observed in Table 4, in the Spearman correlation, the abnormal return (AR) presents a positive and significant correlation with company growth (0.146) and size (0.071), and the return on assets (0.175), and a negative correlation with leverage (-0.107), which is in line with the theoretical prediction. The number of tweets is positively and significantly correlated with company growth (0.48) and size (0.234) and negatively correlated with leverage (-0.004). In the Pearson correlation, we may note that there is a positive and significant correlation between market performance and the publication of tweets at a level of 1%.

For the realization of the hypothesis test, we performed ordinary least square (OLS) multiple linear regressions, with robust standard errors and sector and year fixed effects. The results are summarized in Table 5.

Table 5. Regression results for the corporate use of social media and organizational development

Variables	Predicted Sign	Dependent variable: Abnormal return			
		Coefficient	*t* Statistic	Coefficient	*t* Statistic
Constant	+/-	-0.211	(-0.22)	-1,864	(-0,74)
TW	+	0.396**	(2.04)	0.340*	(1.70)
GRWTH	+	-	-	0.236	(0.47)
LEV	-	-	-	-0.453**	(-1.94)
SIZE	+	-	-	0.099	(0.94)
ROA	+	-	-	1.273	(0.91)
Fixed effects year and sector		Yes		Yes	
Significance of the model		0.000***		0.000***	
R^2		4.56		5.35	
Adjusted R^2		3.36		3.81	
VIF		1.08		1.09 – 1.49	
DW		1.828		1.827	
N		1,125		1,125	

Source: research data.

Note: Legend: VIF = Variance Inflation Factor; DW = Durbin-Watson; N = number of observations. Levels of significance: * p<0.1, ** p<0.05, *** p<0.01.

In terms of the direct relationship between the corporate use of social media, measured by the number of publications about financial information, and market performance, observed by the abnormal return of shares, we verified a positive significant relationship at a level of 5%. In operationalizing the number of publications with the other control variables, we were able to confirm a positive and significant relationship between the number of publications and abnormal returns, but at a level of 10%.

Comparing the average abnormal return (AR) of -0.519% (Table 3) and the coefficient of 0.396 (Table 5) of variable TW, we may note an average reduction of 0.76% (0.396 : -0.519%) in negative abnormal returns for companies that use Twitter. When evaluating together the independent variable and the control variables in economic terms, considering the TW coefficient (0.340 Table 5) and the average abnormal return (-0.519), we can perceive an average reduction of 0.65% (0.340 : -0.519%) in negative abnormal returns through the corporate use of social media to divulge financial information.

This suggests that the corporate use of social media to publish tweets is associated with the market performance of the analyzed Brazilian companies, and more specifically, the companies with financial information published in tweets presented an abnormal return which was above the average of other companies in the sector. We can deduce from this result that more profitable companies divulge their information on Twitter to give positive results greater publicity, which ends up attracting new investors, leveraging their market performance.

In relation to the control variables, it may be perceived that leverage presented a negative and significant relationship with organizational performance, which suggests that the greater a company's debt, the lower are its abnormal returns on shares. This finding corroborates those of Chen and Zhao (2006), who demonstrate that indebtedness has a negative relationship to organizational performance.

In this manner, hypothesis H_1 cannot be rejected. In general, it may be inferred that the utilization of social media for corporate ends, and more specifically the use of Twitter to publish financial information, can contribute to market performance, in terms of the abnormal returns of shares. This finding corroborates previous studies which have reported that social media affect and benefit an organization in various ways, through the divulging of corporate news (Zhang, 2015), making information available quickly, consistently and continually to their customers, investors and interested parties, as well as minimizing negative information (Jung et al., 2018; Lee et al., 2015).

In order to provide greater reliability to the results, we performed an additional test of the relationship between the corporate use of social media to publish financial information and market performance. To accomplish this, we used share returns (calculated using the share price at time *t* subtracted from the share price at time *t-1*, divided by the share price at time *t-1*) as the dependent variable. Table 6 presents the results of the robustness test.

Table 6. Robustness test

Variables	Predicted Sign	Dependent variable: Abnormal return			
		Coefficient	*t* Statistic	Coefficient	*t* Statistic
Constant	+/-	0.130	(0.14)	-1.688	(-0.70)
TW	+	0.384**	(1.96)	0.324*	(1.60)
GRWTH	+	-	-	0.251	(0.50)
LEV	-	-	-	-0.473*	(-1.90)
SIZE	+	-	-	0.107	(1.05)
ROA	+	-	-	1.265	(0.72)
Fixed effects year and sector		Yes		Yes	
Significance of the model		0.000***		0.000***	
R^2		41.56		42.06	
Adjusted R^2		40.82		41.12	
VIF		1.08		1.09 – 1.49	
DW		1.819		1.819	
N		1,125		1,125	

Source: research data.

Note: Legend: VIF = Variance Inflation Factor; DW = Durbin-Watson; N = number of observations. Levels of significance: * p<0.1, ** p<0.05, *** p<0.01.

In accordance with the results observed in Table 6, we can state that the variable of interest, tweet publications, presented a significant relationship with share returns. We may infer, based on this result, that the publication of financial information on Twitter also has an effect on market performance as observed in Table 5.

The results of this study contribute to the literature on the corporate use of social media, by confirming the inferences that the utilization of social media possesses a positive relationship with company performance (Ainin et al. 2015; Arnaboldi & Coget, 2016; Cao et al., 2018; Parveen at al., 2016; Shuai & Wu, 2011), demonstrated by an abnormal return on shares.

To Garcia-Morales et al. (2018), the corporate use of social media makes it possible for companies to develop competencies and acquire knowledge about their customers, which promotes organizational performance. This study contributes by demonstrating through empirical results that the publication of information on Twitter, which is characterized as rapid, multidirectional communication without intermediaries, can increase the potential of the already obtained positive results.

It should be pointed out that the keywords utilized to search for tweets with financial information presumes positive information referring to the positive results obtained by the company. In this sense, the intent of divulging information with this content on social media is designed to give this information greater visibility, and in this way, influence the decision-making of those interested in the company. This was demonstrated in this study by the observation of larger abnormal returns.

Even though the information divulged on Twitter is not characterized as new, the fact that the organization makes it available on social media makes possible interactions, the exchange of multidirectional information, and the sharing of opinions between media users, which can be reflected in investor decisions. Thus, the corporate use of social media, associated with the divulging of financial information, demonstrates that the technological character of this tool offers benefits to the organization, such as greater visibility and market performance.

5 FINAL CONSIDERATIONS

This study's objective is to investigate the relationship between the corporate use of social media and the market performance of Brazilian companies over a five year period (2013 to 2017). The results demonstrate that the corporate use of Twitter to divulge financial information is related to abnormal returns on shares, which does not permit the rejection of hypothesis H_1.

This may suggest that tweets influence the behavior of investors and analysts and, as a result, abnormal returns on shares. Even though the number of Brazilian companies which divulged corporate information on Twitter during the analyzed period was not that large, there has been an increase in these publications during this period. Since the use of social media appears to be dynamic, it is possible that this same analysis for more recent periods would present even more significant results.

It should be considered, however, that the terms searched for in the Twitter publications suggest that the published information was positive. This fact could indicate that companies that already possess positive results related to growth, revenues, and profits are maximizing their market performance by divulging this information on Twitter.

The results of this study contribute to the literature which examines corporate strategic behavior in terms of the utilization of Twitter to divulge information. In addition, the findings demonstrate real benefits obtained through the use of social media, by presenting how the corporate use of Twitter can influence participants in the capital markets, and as a result, improve organizational performance. This evidence may motivate the upper level leadership of companies to provide initial and continual support for the use of social media in organizations.

This study has limitations, such as the impossibility of generalizing the results, given that just companies listed on the B3 Brazilian Stock Exchange were analyzed using information available on the Thomson Reuters Eikon database from the period of 2013 to 2017. In addition, it just utilizes Twitter in terms of social media and other forms may also be used, which represents another gap to be examined by future studies.

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How to cite this paper

Giordani, M. da S.; Lunardi, M. A.; & Klann, R. C. (2020). Corporate use of social media and market performance. *Revista de Contabilidade e Organizações*, 14:e169560. DOI: http://dx.doi.org/10.11606/issn.1982-6486.rco.2020.169560