

---

# CORPORATE GOVERNANCE AND MARKET PERFORMANCE: THE MODERATING EFFECT OF THE USE OF TWITTER

Mikaéli da Silva Giordani <sup>1</sup>

Lucas Benedito Gomes Rocha Ferreira <sup>2</sup>

Alice Carolina Ames <sup>3</sup>

Tarcísio Pedro da Silva <sup>4</sup>

---

▪ Received: 10/07/2021 ▪ Approved: 12/07/2022 ▪▪ Second Approved Version: 03/10/2023

## ABSTRACT

This study investigates the effect of corporate use of the social media, Twitter, on the relationship between corporate governance and market performance. For this, a descriptive and documentary research with a quantitative approach was carried out. The population corresponds to companies listed B<sup>3</sup> (Brasil, Bolsa and Balcão) and the sample consists of an average of 193 companies/year, totaling 1,353 observations between the years 2013 and 2019. Through a multiple OLS linear regression with standard errors robust, the results show that the disclosure of financial information on Twitter enhances the relationship between corporate governance and market-to-book, a fact that highlights companies with high governance scores tend to encourage the use of social media, which would maximize its market performance. The sensitivity test confirms the results, demonstrating that corporate governance and the dissemination of corporate information on Twitter attract more investors, due to the reduction of agency

---

<sup>1</sup> Doutoranda em Ciências Contábeis e Administração no Programa de Pós-Graduação em Ciências Contábeis da Universidade Regional de Blumenau (PPGCC/FURB)

Endereço: Rua Antônio da Veiga, 140 – Sala D202 – Bairro Itoupava Seca, CEP: 89.030-903 Blumenau/SC – Brasil; Telefone: (47) 3321-0565; e-mail: mikagjordani@hotmail.com

Lattes: <http://lattes.cnpq.br/1695284635205491>

ORCID: <https://orcid.org/0000-0002-4871-7858>

<sup>2</sup> Doutor em Ciências Contábeis e Administração no Programa de Pós-Graduação em Ciências Contábeis da Universidade Regional de Blumenau (PPGCC/FURB)

Endereço: Rua Antônio da Veiga, 140 – Sala D202 – Bairro Itoupava Seca, CEP: 89.030-903 Blumenau/SC – Brasil; Telefone: (47) 3321-0565; e-mail: lbgrferreira@furb.br

Lattes: <http://lattes.cnpq.br/0727019510792350>

ORCID: <https://orcid.org/0000-0002-6779-6694>

<sup>3</sup> Doutoranda em Ciências Contábeis e Administração no Programa de Pós-Graduação em Ciências Contábeis da Universidade Regional de Blumenau (PPGCC/FURB)

Endereço: Rua Antônio da Veiga, 140 – Sala D202 – Bairro Itoupava Seca, CEP: 89.030-903 Blumenau/SC – Brasil; Telefone: (47) 3321-0565; e-mail: aliceames@hotmail.com

Lattes: <http://lattes.cnpq.br/0027513946536184>

ORCID: <https://orcid.org/0000-0002-8287-8831>

<sup>4</sup> Doutor em Ciências Contábeis no Programa de Pós-Graduação em Ciências Contábeis da Universidade Regional de Blumenau (PPGCC/FURB)

Professor do Programa de Pós-Graduação em Ciências Contábeis da Universidade Regional de Blumenau (PPGCC/FURB)

Endereço: Rua Antônio da Veiga, 140 – Sala D202 – Bairro Itoupava Seca, CEP: 89.030-903 Blumenau/SC – Brasil; Telefone: (47) 3321-0565; e-mail: tarcisio@furb.br

Lattes: <http://lattes.cnpq.br/4860526637401659>

ORCID: <https://orcid.org/0000-0002-2370-791X>

problems and information asymmetry. The study contributes by showing that companies with good corporate governance practices seek to disseminate information on social media, enabling a potentially global reach at a low cost and instantly, capable of resulting in better returns, with more informed investors.

**Keywords:** Corporate Governance. Market Performance. Social Media. Twitter.

## GOVERNANÇA CORPORATIVA E DESEMPENHO DE MERCADO: O EFEITO MODERADOR DO USO DO TWITTER

### RESUMO

Este estudo investiga o efeito do uso corporativo da mídia social, *Twitter*, na relação entre a governança corporativa e o desempenho de mercado. Para isso, realizou-se uma pesquisa descritiva, documental e com abordagem quantitativa. A população corresponde as empresas listadas na B3 (Brasil, Bolsa e Balcão) e a amostra é composta em média por 193 empresas/ano, totalizando 1.353 observações entre os anos de 2013 e 2019. Por meio de uma regressão linear múltipla OLS com erros padrão robustos, os resultados permitem evidenciar que a divulgação de informações financeiras no *Twitter* potencializa a relação entre a governança corporativa e o *market-to-book*, fato que destaca as empresas com altas pontuações de governança tendem a incentivar o uso de mídias sociais, o qual maximizaria o seu desempenho de mercado. O teste de sensibilidade confirma os resultados, ao demonstrar que a governança corporativa e a disseminação de informações corporativas no *Twitter* atraem mais investidores, devido à redução dos problemas de agência e assimetria de informação. O estudo contribui ao evidenciar informações entre a ação dos gestores e a leitura pelo mercado. Em um primeiro momento, as divulgações pelo *Twitter* respaldam o uso de mecanismos de governança nas empresas com foco em desempenho, com reduzidos investimentos, e segundo que potencializa o retorno de mercado pela amplitude das informações disponibilizadas aos investidores que entendem ser um respaldo ao processo de transparência.

**Palavras-chave:** Governança Corporativa; Desempenho de Mercado; Mídia Social; *Twitter*.

## 1 INTRODUCTION

Corporate Governance (GC) refers to a set of mechanisms, comprising systems, processes and structures, by which companies are managed. In this way, GC mechanisms contribute to ensuring the company's competitiveness and sustainability (Aboagye & Otioku, 2010; Puni & Anlesinya, 2020). Organizations that attach importance to GC practices can provide greater shareholder value (Agyemang & Castellini, 2015; Zgarni et al., 2016) and, consequently, provide greater market performance (Bhagat & Bolton, 2013).

Market performance is considered a central factor for organizations, resulting from the creation of value and the market's expectations about the company's future, as these activities are designed to maximize it (Abdalkrim, 2013). The organizational objectives and strategies outlined seek competitive support

and achieve high performance, in this process, the level of skill and knowledge of the parts that make up the organization are fundamental (Almatrooshi et al., 2016). Different factors can affect market performance, including GC mechanisms (Bhagat & Bolton, 2013).

GC mechanisms play an important role in the relationship between the company and the market, as they provide transparency and information to investors (Yang et al., 2016). In this regard, social media facilitate communication between the company and the market, as, supported by practices appropriate to the management process, GC can improve market performance, as these technological tools are used by investors to feed their decision-making models (Elliotti et al., 2018). With the increasing use of the internet, the use of social media has become a factor for significant changes in the conduct of company strategies (Odoom et al., 2017).

Social media can represent opportunities and challenges for companies in different areas, such as operational, financial and management (Aral et al., 2013). When well used strategically, they can be considered as tools that boost the company's reputation in order to improve organizational results (Giordani et al., 2020). The technological nature of disclosure on Twitter makes this media an efficient tool to manage corporate legitimacy (Ravaonorohanta & Sayumwe, 2020), being one of the main sources for obtaining information about the market (Souza & Martins, 2022).

The relationship between GC and performance has attracted the attention of researchers due to its significant consequences, both in developed (Sheikh et al., 2013) and developing economies (Aboagye & Otioku, 2010), linked to access to different resources, positively affecting performance. company performance (Sheikh et al., 2013). The relationship between social media and performance was also explored; Giordani et al. (2020) showed that companies that disclose corporate information on Twitter have a market performance above other companies in the sector. Furthermore, a corporate presence on Twitter can improve Corporate Social Responsibility by meeting public expectations regarding transparency and accountability (Balasubramanian et al., 2020).

It is noteworthy that the direct relationship between GC and the corporate use of social media with market performance has already been investigated. However, Puni and Anlesinya (2020) raise the debate that the relationship between GC and performance may not be just direct, and thus other factors may moderate and be analyzed together in this relationship. Regarding the use of social media, Miller and Skinner (2015) report that there is relatively little research on how companies use social networks and the consequences of this use.

Based on the above, a research gap was identified, which consists of investigating whether the corporate use of Twitter corresponds to a factor that can moderate the relationship between GC and market performance. It appears that the set of positive factors provided by GC maximizes the performance of companies, as well as the use of Twitter to disseminate corporate information can enhance this relationship by enabling greater transparency and proximity between the company and those interested in it. It is understood that companies with GC mechanisms and that maintain timely communication and without intermediaries on social media can increase their market performance, from the moment that investors observe added value to these factors.

Given the above, this research guiding question is presented: what is the moderating effect of the corporate use of Twitter on the relationship between GC and market performance? The objective is to analyze the moderating effect of the corporate use of Twitter on the relationship between GC and market performance.

The spread of social media use requires studies at various business levels, sectors and contexts (Odoom et al., 2017). Giordani et al. (2020) found that publishing tweets about financial information can maximize returns, indicating that social media act as a source of information for stakeholders. Thus, the present study advances by seeking evidence on the effect of the use of these technologies by organizations, along with GC and market performance, by verifying whether companies that use social media encourage GC practices and, consequently, provide a greater performance market.

This study contributes by expanding the growing literature on social media disclosure, by highlighting corporate information disclosed in this medium, with possible positive effects (Jung et al., 2018; Giordani et al., 2020). Second, considering that there is a consensus that GC influences the disclosure of qualified information (Ajinkya et al., 2005; Cheng & Courtenay, 2006; Osma & Guillamon-Saorin, 2011; Liao et al, 2015), the study suggests that GC mechanisms, together with corporate disclosure on social media, provide investors with more information, at low cost and in real time, within the scope of social media.

The research provides empirical evidence that the use of Twitter for corporate purposes can have an impact on the market performance of organizations. Thus, this study reinforces to academics and policy makers that disclosure can be a factor capable of impacting companies' market performance, by emphasizing the understanding of how the disclosure of financial information on Twitter can be responsible for enhancing the positive effect of GC on the company's market performance.

## **2 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

GC is evidenced through structures and practices that seek to provide benefits to those interested in the organization, such as the possibility of minimizing agency problems (Rostami et al., 2016), monitoring managers, greater quality of disclosure and support for decisions of the board (Aguilera et al., 2019). Similarly, organizational performance seeks to meet the expectations of its stakeholders (Lo et al., 2015), being reflected through the organization's position in the market, which results from strategies, goals and objectives outlined (Muthuveloo et al., 2017).

The company's performance is presented as a central factor of corporate activities, as it determines the survival of organizations (Abdalkrim, 2013; Bani-Hani et al., 2009). Sustaining a competitive advantage and achieving high performance are the main objectives of a company, however, for this, planning and actions that lead to such a result are necessary. Company performance is a reflection of how an organization exploits its tangible and intangible resources to achieve its goals (Wang et al., 2015).

More precisely, market performance demonstrates the company's ability to use its resources and maximize its wealth (Wang et al., 2015), maintaining a good relationship with all its stakeholders, which involves transparency and timely

information, in order to allow the market to evaluate and make decisions at the ideal time. In addition to the growth resulting from the activities carried out by the company, market performance also incorporates the future expectations of stakeholders. The market prices the company's shares at the value that is understood to correspond to the aggregate equity value of what the company is expected to generate in the future. Thus, the market-to-book constitutes an important indicator of the market performance of companies by capturing these factors (Dethamrong et al., 2017).

The literature expects that there will be a positive impact of GC practices on company performance, being one of the main issues for stakeholders (Dethamrong et al., 2017; Puni & Anlesinya, 2020). Consequently, GC can help identify factors that may affect performance and consider these factors as indicators of success or failure of the company (Buallay et al., 2017). Empirical evidence has documented that companies with strong GC mechanisms are generally associated with positive factors, such as sector, company size, risk management, excess cash (Ammann et al., 2011; Bhatt & Bhatt, 2017; Bhagat & Bolton, 2008; Black et al., 2006; Claessens & Yurtoglu, 2013; Correia et al., 2011; Dittmar & Smith, 2007; Renders et al., 2010).

Evidence shows that investors appreciate and show greater interest in investing in companies with high GC indices (Correia et al., 2011). After all, companies with strong GC demonstrate efficient organizational cash flow management (Dittmar & Smith, 2007). In addition, the relevance of governance attributes on the social behavior of companies positively influences the value of the company (Ammann et al., 2011). GC practices can benefit organizations through greater access to funding, lower cost of capital, increased performance and even provide better treatment for stakeholders (Claessens & Yurtoglu, 2013).

Studies have highlighted that the relationship between GC and performance is also influenced by external factors (Bhatt & Bhatt, 2017; Bhagat & Bolton, 2019; Klapper & Love, 2004; Renders et al., 2010). Renders et al. (2010) addressed that the relationship between GC and performance seems to vary according to the quality of the institutional environment, as well as according to the degree of development of the countries. Governance practices are better seen in countries that have weak shareholder rights and inefficient enforcement (Bhatt & Bhatt, 2017; Klapper & Love, 2004). Public policy makers and investors can consider, in addition to GC practices, the external environment to assess organizational performance and make decisions (Bhagat & Bolton, 2019).

In contemporary times, Puni and Anlesinya (2020) addressed the influence of GC on performance and reported that this relationship may not be direct, since it may involve auxiliary moderating factors in explaining these phenomena. For example, GC can be characterized as playing an important role in ensuring the quality, transparency and reliability of organizational processes (Dethamrong et al., 2017), and better disclosure of corporate information can make stakeholders more informed, with more assertive decisions, and consequently improve the organization's returns and performance (Giordani et al., 2020).

Regarding the corporate disclosure of information, technological advances have provided new sources of communication, such as social media, and through these channels, investors are no longer just receivers of information (Basuony et al., 2018). The emergence of social media platforms, such as Facebook, Twitter, LinkedIn, YouTube and Instagram, brought about profound changes in the way

companies interact with their stakeholders (She & Michelon, 2019). These platforms create possibilities for concrete and authentic social interaction through real-time dialogues with users from all over the world (Albarrak et al., 2020; Balasubramanian et al., 2020).

This form of corporate disclosure, via social media, has come to help improve financial markets by removing any barriers to the flow of relevant information to various stakeholders, reducing information asymmetry and increasing equity among investors, as well as reducing agency costs (Basuony et al., 2018; Puni & Anlesinya, 2020). Greater transparency and better disclosure of information lead to a reduction in uncertainty in investment decisions (Gallego-Álvarez, García & Rodríguez, 2008; Klapper & Love, 2004). Thus, GC can play an important role in ensuring greater transparency and providing encouragement and support to improve and expand organizational information disclosure in a timely manner through social media.

Furthermore, social media enable bidirectional communication, which allows different stakeholders to react to news published by companies, a fact that is also important for organizations, as it corresponds to feedback from those who invest in the company (Vernuccio, 2014). The use of social media for corporate disclosure enables interaction, not only between the company and its stakeholders, but also between the stakeholders themselves (Broekemier et al., 2015).

Timely disclosure of information is an important pillar of a strong and transparent financial system (Basuony et al., 2018). When companies choose to use social media to disclose financial information, they usually do so as part of an online communication strategy aimed at creating a positive corporate image (Basuony et al., 2018). Companies can also use social media as a tool to minimize negative reactions to adverse situations (Lee et al., 2015). Most importantly, communication via social media is an effective strategy to reduce information asymmetry (Blankespoor et al., 2014).

According to Yang et al. (2016), corporate disclosure on social media is considered voluntary. With this, there is an additional effort, on the part of organizations, to use social media for corporate purposes, making it possible to reach a greater number of users for reporting information, as well as new investors, aiming at market expansion (Jung et al. al., 2018). Investor protection rights can benefit from greater disclosure, with the selection of functional and independent boards (Klapper & Love, 2004), which can be beneficial to GC levels.

In general, the corporate use of social media can be seen as a positive point by organizations, associated with a low cost, due to the technological nature of these tools (Parveen et al., 2015). The use of social media in the corporate environment provided evidence that companies that adopt these tools have demonstrated greater competitive advantage (Ravaonorohanta & Sayumwe, 2020). The dissemination of financial information in these media reduces the cost of equity (Albarrak et al., 2020) and provides better abnormal stock returns (Giordani et al., 2020).

Despite the empirical evidence of the benefits of corporate use of social media, the use of these channels for corporate communication also demands controls and management of the process, as published information is quickly disseminated, and information published incorrectly or that does not correspond to reality can cause immediate negative effects on the organization (Yang et al.,

2016). Thus, social media used in conjunction with GC practices can provide greater transparency, communication, control and reduction of information asymmetry, and these factors together can help the organization to generate better results (Claessens & Yurtoglu, 2013).

As GC practices improve the performance of organizations in developing countries (Bhatt & Bhatt, 2017), the relationship between GC and market performance is expected to be moderated by the corporate use of financial information disclosure on Twitter. It is believed that timely communication on Twitter contributes to consolidating the environment of responsibility, trust and transparency of companies with strong GC. These factors together are valued by stakeholders and the market tends to better price these companies, in order to maximize the market-to-book (Dethamrong et al., 2017). Based on the above, the following research hypothesis was formulated:

**H<sub>1</sub>: The presumed positive relationship between corporate governance and market performance tends to be enhanced by the corporate use of Twitter.**

### **3 METHODOLOGICAL PROCEDURES**

To investigate the proposed objective, a descriptive study was carried out. About research procedures, the study is characterized as documentary. Data referring to social media were collected from Twitter, and the other data corresponding to the companies in the sample were collected from the Refinitiv Eikon® database. The approach to the research problem is outlined as quantitative, as it uses statistical treatment.

The population of this research corresponds to all companies listed on Brasil, Bolsa e Balcão (the Brazilian stock market, B3), specifically, 480 companies. To determine the sample, companies from the financial sector were removed because they have specific characteristics of the sector and differentiated standards. After checking the companies that had information for calculating the variables, the final sample resulted in an unbalanced panel with 1,353 observations between the years 2013 and 2019. This time frame is justified due to the greater use of Twitter by companies from 2013 (Jung et al., 2018), as well as being limited to 2019 so as not to bias the results arising from the pandemic period, which greatly affected the performance of companies.

Next, to collect social media information, companies that had a Twitter account were checked. To carry out this procedure, the methodology addressed by Jung et al. (2018), which first consisted of verifying whether each company's website had a link to the Twitter page. According to Jung et al. (2018), this procedure guarantees to verify the true website of the company's corporate social network, as opposed to other media that may be managed by communities or groups of users associated with or interested in the company.

Subsequently, searches were carried out in the publications on the Twitter page, with the purpose of verifying whether the companies publish financial information. Therefore, based on the study by Jung et al. (2018), filters were performed with the following keywords: earnings, profits, revenue, results, quarter, earnings per share and growth. Thus, it is highlighted that in this

research, when it comes to the disclosure of financial information on Twitter, it refers to the disclosure of information with the aforementioned terms.

According to Dlamini and Johnston (2018), the choice of Twitter is justified because it is one of the main social media used by companies, and also, according to Jung et al. (2018), Twitter allows different forms of publication (texts, images and videos) and integration (likes, tweets and retweets). Besides, Twitter has been listed as the media with the highest volume of published corporate information.

Table 1 presents the total research sample, the companies with evidence of Corporate Governance, those that publish financial information and the number of publications, during the years of analysis.

**Table 1**  
Research sample

<b>Items</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Total sample	191	193	193	194	194	194	194
Companies with evidence of GC	62	63	63	66	69	70	85
Companies with financial information Tweets	5	7	8	10	15	15	15
Number of financial information Tweets	19	28	57	114	170	186	191

Source: Research data

It is observed in Table 1 that, among the companies that make up the sample, 62 companies have evidence of GC in 2013, and this number grew to 85 companies in 2019. Regarding companies that publish financial information on Twitter, it is initially verified that 5 companies reported financial information tweets in 2013, while this number increases to 15 companies in 2019. Furthermore, regarding the number of published financial information, there was an increase of 19 tweets in 2013 to 191 tweets in 2019. In general, it is observed that the number of companies with evidence of GC, as well as companies that publish financial information and publications, has grown over the years, which suggests an increase in these practices by organizations.

The sample is made up of companies from 10 sectors according to the classification of the Global Industrial Classification Standard (GICS). Regarding companies with GC, the sector with the strongest corporate governance corresponds to information technology with an average of 0.75 according to the GC score. In contrast, the sector with the lowest GC score was real estate, with a sector average of 0.30.

Table 2 shows the variables used in this study. Market-to-book was used as a dependent variable and, in the main analysis, the GC score was used as an independent variable. It should be noted that the variables that make up the GC score correspond to secondary data, as they were collected in the ESG (Environmental, Social and Governance) report, available in the database. This score ranges from 0 to 1 and measures the company's systems and processes, which ensures that its directors and executives act to the detriment of the interests of its shareholders. The score reflects the use of best management practices, control of rights and responsibilities through the creation of



incentives, in addition to establishing limits, in order to generate value for the shareholder.

**Table 2**

Variables used in the study

Variables/Definition		Formula	Collection	Authors
<b>Dependent Variables - Market Performance</b>				
MTB <sub>it</sub>	Market-to-book	$\frac{\text{Market Value}}{\text{Book Value}}$	Refinitiv Eikon®	Bhagat and Bolton (2013); Detthamrong et al. (2017); Puni and Anlesinya (2020); Sheikh et al. (2013).
<b>Independent Variables - Corporate Governance</b>				
GC <sub>it</sub>	Corporate Governance	From 0 to 1: The closer to 1, the greater the corporate governance.	Refinitiv Eikon®	Bhagat and Bolton (2013); Buallay et al. (2017); Detthamrong et al. (2017); Puni and Anlesinya (2020).
TC <sub>it</sub>	Council size	Number of members in the council		Buallay et al. (2017); Detthamrong et al. (2017); Puni and Anlesinya (2020).
IC <sub>it</sub>	Council independence	Percentage of independent board members.		Buallay et al. (2017); Detthamrong et al. (2017); Puni and Anlesinya (2020).
<b>Moderating Variables – Social Media</b>				
TW <sub>it</sub>	Publication amount	Number of publications related to financial information on social media	Twitter	Jung et al. (2018); Ravaonrohanta and Sayumwe (2020); Yang et al. (2016).
<b>Control Variables</b>				
ROA <sub>it</sub>	Return on assets	$\frac{\text{EBIT}}{\text{Total Assets}}$	Refinitiv Eikon®	Bhagat and Bolton (2008); Detthamrong et al. (2017).
AL <sub>it</sub>	Leverage	$\frac{\text{Total Liability}}{\text{Total Assets}}$		Bhagat and Bolton (2008, 2013); Detthamrong et al. (2017).
TAM <sub>it</sub>	Company size	Logarithm of total assets.		Bhagat e Bolton (2008, 2013); Buallay et al. (2017); Detthamrong et al. (2017).

Source: Research data

As for the control variables, according to Table 2, the literature on the relationship between GC and market performance was considered as a basis, thus, observable characteristics of the company that could affect market performance were controlled. Based on research by Bhagat and Bolton (2008, 2013), Buallay et al. (2017) and Dethamrong et al. (2017), return on assets (ROA<sub>it</sub>), leverage (AL<sub>it</sub>) and size, measured by total assets (TAM<sub>it</sub>), were used as control variables.

Additionally, in order to provide more robust results, the characteristics of the board of directors were used as independent variables. Thus, the present study investigates the size of the council (TC<sub>it</sub>) and the independence of the council (IC<sub>it</sub>) (Buallay et al., 2017; Detthamrong et al., 2017; Puni & Anlesinya,

2020), and verifies their relationship with the Market performance moderated by Twitter social media use.

As for the data analysis, firstly, the MTB, ROA, ALA and TAM variables were winsorized at the 5% level in order to correct possible outliers. Next, the Shapiro-Wilk normality test was performed, which showed abnormal data ( $Z = 11.948$ ;  $z < 0.000$ ). Subsequently, the analyzes of descriptive statistics and the correlation of variables were performed. Finally, OLS multiple linear regressions with robust standard errors and sector and year fixed effects control were performed using the STATA software. The empirical models are presented in Equations 1 and 2:

$$MTB_{it} = \beta_0 + \beta_1 GC_{it} + \beta_2 TW_{it} + \beta_3 GC_{it} * TW_{it} + \beta_4 VC_{it} + fixed\_effect\_year + fixed\_effect\_sector + \varepsilon$$

**Equation 1**

$$MTB_{it} = \beta_0 + \beta_1 TC_{it} + \beta_2 IC_{it} + \beta_3 TW_{it} + \beta_4 TC_{it} * TW_{it} + \beta_5 IC_{it} * TW_{it} + \beta_6 VC_{it} + fixed\_effect\_year + fixed\_effect\_sector + \varepsilon$$

**Equation 2**

Equation 1 corresponds to the main analysis, in which the dependent variable is the market-to-book ( $MTB_{it}$ ), the GC variable corresponds to the GC score ( $GC_{it}$ ) and the  $TW_{it}$  variable represents Twitter, measured through the number of financial information posted on corporate social media. Equation 2 is a sensitivity test, which differs when measuring CG through board characteristics, such as board size ( $TC_{it}$ ) and board independence ( $IC_{it}$ ). Finally,  $VC_{it}$  corresponds to the control variables used in the models: return on assets, leverage and size. Furthermore, it should be noted that both Equations were operationalized with and without control variables.

The performance of robust regression is justified, due to the need to correct problems of heteroscedasticity of the residues, since the White test was significant ( $P = 97.41$ ;  $p < 0.000$ ). Additionally, the multicollinearity between the variables was tested using the Variance Inflation Factor test, and the autocorrelation of the residues using the Durbin Watson test, whose results are presented in the next topic.

#### 4 PRESENTATION AND DISCUSSION OF THE RESULTS

This section is intended for the description, analysis and interpretation of results. Initially, descriptive statistics of the variables used are presented, as well as the mean test (Mann Whitney), to verify differences between the group of companies that have published financial information (tweets) and the group of companies that do not. Descriptive statistics are shown in Table 3.

**Table 3**  
Descriptive statistics of variables

	Descriptive Statistics			Mann Whitney
	With Tweets	Without Tweets	Total Sample	
10				

	Mea n	SD	Mea n	SD	Mean	SD	Min.	50%	Max.	Z / Sig.
MTB	1.45	1.53	1.65	1.80	1.64	1.79	- 0.26	1.05	6.74	-0.021
TW	10.48	14.80	0.00	0.00	0.57	4.16	0	0	63	207.031** *
GC	0.31	0.32	0.16	0.25	0.17	0.26	0	0	0.9	13.271***
TW*GC	4.18	8.65	0.00	0.00	0.23	2.21	0	0	44.27	59.090***
TC	6.19	6.79	3.24	4.90	3.40	5.06	0	0	27	12.591***
IC	0.12	0.23	0.06	0.19	0.06	0.19	0	0	0.97	2.826*
TW*TC	74.31	140.7 7	0.00	0.00	4.01	36.5 7	0	0	585	59.090***
TW*IC	0.72	1.77	0.00	0.00	0.04	0.44	0	0	9.18	12.587***
ROA	-0.01	0.01	0.01	0.01	0.01	0.10	- 0.28	0.02	0.14	2.674
ALAV	0.85	0.47	0.69	0.39	0.69	0.39	0.21	0.62	1.95	11.273***
TAM	22.66	1.98	21.73	1.65	21.78	1.68	18.6	21.9	24.7	19.436***

**Notes:** SD: Standard Deviation; MTB: Market-to-book; TW: Tweets; GC: Corporate Governance; TC: Board Size; IC: Independence from the Board; ROA: Return on Assets; ALAV: Leverage; SIZE Size. Significance levels: \* p<0.1, \*\*\* p<0.01. Source: Research data.

According to Table 3, the total sample was segregated into two groups: the first refers to companies that disclose financial information on Twitter and the second comprises companies that do not publish financial information tweets. It is observed that of the eleven numerical variables that were the object of the average test, nine were significant, which suggests the existence of considerable differences in the variables analyzed, among the group of companies that publish financial tweets and those that do not.

It is noteworthy that the GC showed a statistically significant difference at the 1% level, with companies with financial information tweets having a higher GC (0.314). Accordingly, the variable independence of the council showed a statistically significant difference at the 10% level, and the size of the council showed at the 1% level. Thus, as expected, the moderations of tweets with the variables GC, size and independence of the board also showed statistically significant differences at the 1% level.

The lack of statistical significance of the market-to-book variable in the average test, according to the groups with and without Tweets, points out that there must be consistency between the disclosure of financial information on Twitter and GC so that there is a positive and significant impact on the market performance. As for the control variables, leverage and size of companies showed statistically significant differences at the 1% level, that is, companies that publish tweets of financial information are more leveraged (0.847) and are larger in terms of size (22.659). Regarding the return on assets, it is not possible to say the same, as there were no significant differences.

Regarding the sample, it is observed that companies have an average market-to-book of 1.635, which indicates that there is an appreciation of companies by the market. In terms of the number of published tweets, it was found that the average of the total sample corresponds to 0.565. Regarding the GC variable, an average of 0.171 is evidenced, that is, companies have an average of 17% in the GC score. Regarding the CG characteristics, the companies have an average of 3 members and an independence of 0.065. Furthermore, the average

leverage shows that for every BRL 1.00 that the company has, BRL 0.69 corresponds to third-party capital.

After descriptive statistics, Spearman's correlation was performed to measure the intensity and direction of the relationships between the study variables. It is noteworthy that the correlation seeks to highlight the association between the variables and does not suggest a cause and effect relationship. Spearman correlation results are shown in Table 4.

**Table 4**  
Spearman Correlation

Variable	MTB	TW	GC	TW*GC	TC	IC	TW*TC	TW*IC	ROA	ALAV	TAM
MTB	1										
TW	-0,001	1									
GC	0,274*	0,119**	1								
TW*GC	0,054*	0,728**	0,265*	1							
TC	0,257*	0,116**	0,950*	0,260*	1						
IC	0,149*	0,077**	0,589*	0,162*	0,554**	1					
TW*TC	0,053*	0,728**	0,264*	1,000*	0,261**	0,162**	1				
TW*IC	-0,008	0,487**	0,169*	0,670*	0,183**	0,292**	0,672**	1			
ROA	0,347**	0,030	0,149**	0,027	0,139***	0,072**	0,028	0,038	1		
ALAV	-0,230*	0,090**	-0,034	0,025	-0,045	-0,029	0,026	0,027	0,605**	1	
TAM	0,315*	0,123**	0,681*	0,245*	0,690**	0,424**	0,245**	0,162**	0,234**	0,054*	1

**Notes:** MTB: Market-to-book; TW: Tweets; GC: Corporate Governance; TC: Board Size; IC: Independence from the Board; ROA: Return on Assets; ALAV: Leverage; SIZE: Size. Significance levels: \* p<0.05, \*\* p<0.01. Source: Survey data.

According to the data in Table 4, it appears that there is a significant and positive correlation between the main variables of interest in the study, that is, there is an association between the moderating variable of GC and social media (TW\*GC) and performance of market, measured by the market-to-book, in the presented correlation. This evidence preliminarily suggests that GC and the use of Twitter to disclose financial information can maximize the market performance of companies, despite the low intensity of the coefficient (0.054).

The moderations that refer to the interaction between the characteristics of the council and the publication of tweets (TW\*TC and TW\*IC) have different signs and significance. While the interaction of council size demonstrates a significant and positive association with market-to-book, the interaction of council independence shows no significant association and holds a negative sign with MTB. This assumes, previously, that like the variable represented by the

GC score, the size of the board together with the use of social media is positively associated with MTB.

Furthermore, when observing the direct relationship between GC and tweets with market-to-book, it is observed that GC has a positive and significant association, while tweets do not present an association with market performance. Finally, regarding the control variables, all are significantly associated with market performance. Specifically, return on assets and size are significantly and positively correlated with the dependent variable, while leverage is significantly and negatively correlated.

To perform the hypothesis test, multiple linear regressions (OLS) were used, with robust standard errors and with sector and year fixed effects control. It should be noted that Equation 1 was operationalized with and without control variables. It is noteworthy that the assumptions of the OLS regarding the autocorrelation of the residues and multicollinearity of the variables were tested and did not present problems, represented by the Durbin Watson and VIF tests respectively, as shown in Table 5.

**Table 5**

Result of the Corporate Governance, Market Performance and Social Media Regression

Variables	Dependent variable: market-to-book			
	Coefficient	t statistic	Coefficient	t statistic
Constant	0.976***	4.72	-0.502	-0.54
TW	0.003	0.55	-0.006	-1.18
GC	1.290***	6.88	0.701***	3.36
TW*GC	0.068***	2.75	0.072***	2.92
ROA	-	-	5.020***	7.37
ALAV	-	-	-0.012	-0.08
TAM	-	-	0.083**	2.09
Sector and Year Fixed Effects	Yes		Yes	
Model significance	0.000***		0.000***	
R <sup>2</sup>	13.45		21.64	
Adjusted R <sup>2</sup>	12.29		20.40	
VIF	1.11 – 2.46		1.69 – 2.46	
DW	2.082		2.090	
N	1,353		1,353	
<i>Joint F Test</i>				
GC + TW*GC	31.49***		8.76***	

**Notes:** Caption: MTB: Market-to-book; TW: Tweets; TC: Board Size; IC: Independence from the Board; ROA: Return on Assets; ALAV: Leverage; TAM: Size. VIF = Variance Inflation Factor; DW = Durbin-Watson; N = number of observations. Significance levels: \*\* p<0.05, \*\*\* p<0.01. Source: Prepared by the authors.

According to Table 5, it is initially observed that both models are significant, and the explanatory power of the first equation, which relates only the independent variables with the dependent one, is 12.29%, indicating that these variables are useful to explain market performance. When the control variables are included, an incremental increase in the models' explanatory power of 8.11% is observed, which suggests that, together, these variables explain 20.40% of the market-to-book.

As expected, there is a direct, positive and significant relationship between GC and market-to-book at the 1% level. This result indicates that companies with higher levels of GC have better market performance. Such evidence is consistent with the literature that addresses that investors are more interested and choose to invest in companies with GC (Correia et al., 2011); besides, companies with GC practices have a better management of cash flows and costs. resources, which consequently maximizes its performance (Ammann et al., 2011). In economic terms, it can be inferred that the increase of one standard deviation in GC expands the market value by approximately 33.67% [ $1.290$  (Table 5) \*  $0.261$  (Table 3)].

Regarding the direct relationship between the number of published financial tweets and the market-to-book, there was no significant relationship. However, when moderated with GC, despite the low intensity of the coefficient ( $0.068$ ), the result shows a positive and significant relationship at the 1% level. This finding reveals that companies with GC practices, by seeking greater transparency and minimizing information asymmetry, can encourage the use of Twitter for corporate purposes, and these factors together lead to increased market performance. Additionally, this evidence is in line with previous studies that reported that social media are mechanisms that help companies build a relationship of trust with their stakeholders (Lo et al., 2015), and that the market rewards the proximity generated by the active presence of the company on social networks (Albarrak et al., 2020; Ravaonorohanta, & Sayumwe, 2020).

Still regarding moderation ( $TW*GC$ ), the sum of the coefficients for GC and  $TW*GC$  is different from zero ( $1.290 + 0.068 = 1.358$ ), suggesting that, for the companies in the sample, the use of Twitter for disclosing information financial institutions, driven by GC, is essentially relevant to market performance. The Joint F Test (Joint F Test), after adding the GC +  $TW*GC$  coefficients ( $F=31.49$ ;  $p<0.000$ ) (Table 5), confirms that the number of tweets with financial information enhances the relationship between GC and the market-to-book.

Regarding the control variables, the return on assets showed a positive and significant relationship at the 1% level with the market-to-book, demonstrating that the greater the return on assets in the form of profit, the greater the market performance of the companies. The coefficient of the company size variable was also positive and significant, indicating that larger companies have more resources and greater capacity to generate results, which consequently maximizes market performance.

In general, the results shown in Table 5 allow the rejection of hypothesis H1 of the research, since it was confirmed that the presumed positive relationship between GC and market performance is enhanced by the corporate use of Twitter. Thus, a good GC, with good practices, consolidated, with responsibility, transparency and strong performance of its members, can instigate the use of tools that enable better communication and create value for stakeholders, such as Twitter, thus maximizing the returns, both for the organization and for investors.

To provide robustness to the main analysis, a sensitivity test was performed. This test differs from the main analysis by considering board characteristics as GC variables. Thus, the variables size and independence of

the council were used, moderating these variables with the number of financial publications on Twitter. With this analysis, the intention is to isolate GC practices in order to confirm the influence of interaction with the corporate use of Twitter on market performance. Thus, the model of Equation 2 is presented in Table 6.

**Table 6**  
Sensitivity Test Result

Variables	Dependent variable: market-to-book			
	Coefficient	t statistic	Coefficient	t statistic
Constant	1.000***	4.66	-0.326	-0.36
TW	0.002	0.38	-0.006	-0.93
TC	0.069***	6.11	0.044***	3.84
IC	-0.68	-0.28	-0.201	-0.88
TW*TC	0.004**	2.59	0.005***	2.69
TW*IC	-0.184***	-2.86	-0.228***	-3.75
ROA	-	-	5.102***	7.42
ALAV	-	-	-0.013	-0.09
TAM	-	-	0.078**	1.96
Sector and Year Fixed Effects	Yes		Yes	
Model significance	0.000***		0.000***	
R <sup>2</sup>	13.65		22.04	
Adjusted R <sup>2</sup>	12.35		20.69	
VIF	1.17 – 2.65		1.18 – 2.65	
DW	2.090		2.093	
N	1,353		1,353	
<i>Joint F Test</i>				
TC + TW*TC	23.76***		11.02***	
IC + TW*IC	4.97***		3.03***	

**Notes:** Caption: MTB: Market-to-book; TW: Tweets; TC: Board Size; IC: Independence from the Board; ROA: Return on Assets; ALAV: Leverage; TAM: Size. VIF = Variance Inflation Factor; DW = Durbin-Watson; N = number of observations. Significance levels: \*\* p<0.05, \*\*\* p<0.01. Source: Prepared by the authors.

Based on Table 6, it is possible to confirm that there is a positive and significant relationship at the 1% level regarding the interaction between the number of publications and the size of the board, which represents an isolated GC variable. Specifically, there is a positive and significant relationship between moderation ( $TW_{it} * TC_{it}$ ) and market-to-book, which is consistent with the understanding that the corporate use of social media enhances the relationship between  $GC_{it}$  e  $MTB_{it}$ , representing the impact of this use on performance improvement. This finding suggests that the greater the number of members on the council, the greater the incentive to establish more transparent and reliable communication, which leads to a greater number of financial publications on Twitter, and consequently, the maximization of market performance.

However, regarding the moderation of the variable number of financial publications on Twitter with board independence ( $TW_{it} * IC_{it}$ ), a significant and negative relationship is observed. This result suggests that tweets negatively and positively influence the relationship between board independence and market performance. This finding can be justified by the fact that the

independence of the council is measured by the percentage of members who do not perform another function in the organization, thus, it can be attributed that board members who perform other functions in the organization closely monitor the day-to-day of the company, and are more embedded in the organization's processes and strategies. In this sense, it can be inferred that the internal members of the board are more capable of aligning organizational strategies with more transparent and close communication with those interested in the organization through Twitter.

In general, the findings provide support for the hypothesis of this research, however, it is emphasized that different practices and measures of GC can have different impacts on the proposed relationship. However, supported by the significant and positive result of TW\*TC moderation, it can be inferred that the corporate use of Twitter to disclose financial information enhances the relationship between GC and market-to-book.

The results are in line with the studies by Aboagye and Otieku (2010) and Puni and Anlesinya (2020), as they highlight the importance of governance mechanisms to ensure the competitiveness and sustainability of organizations, including to minimize agency problems. Furthermore, according to Dethamrong et al. (2017), a strong GC, in order to be well structured in terms of responsibility, trust and transparency, can be a factor that differs according to each organizational context.

## **5 CONCLUSION**

This study verified the moderating effect of the corporate use of Twitter, to disclose financial information, on the relationship between GC and value creation. The survey results indicate that companies with GC practices have greater incentives to disclose information on Twitter, and, consequently, create more value for the company. This indicates that there is a trend in the corporate use of Twitter for disclosing financial information, as social media can provide greater transparency, with low cost of disclosure and greater timeliness of information.

As some companies in the sample of this study did not report tweets, this research sought to compare groups of companies with and without evidence of tweets for greater accuracy of results. In this way, it was possible to show that GC practices can help in valuing the company in the market, as well as the corporate use of Twitter can contribute to the creation of company value. Furthermore, this reveals the importance of transparency in disclosure through new mechanisms for voluntary disclosure.

The research hypothesis was not rejected, as it was empirically found that the use of Twitter for disclosing financial information enhances the relationship between GC and market performance. The sensitivity test performed contributed to confirm the results observed in the main analysis. This denotes that companies with GC practices tend to encourage the use of Twitter and, consequently, increase their market value. In addition, GC and the dissemination of corporate information on social media can attract more investors and drive actions within the company, reducing agency problems.



The results contribute to the literature on the use of social media, demonstrating that its use can positively impact the company's valuation, as well as improve the relationship with investors. In the context of an emerging country, GC is important for performance in organizations, and the use of Twitter may be responsible for enhancing this relationship, since these mechanisms improve information reporting and bring benefits, such as minimization of conflicts, at a lower cost. In general, the study points to the evidence of disclosure as a factor capable of motivating companies' market performance.

The study contributes by showing that the dissemination of information in other means can be beneficial for the organization, above all, the dissemination in social media allows a potentially global reach, at a low cost and instantly. The survey shows that companies with good GC practices seek additional means, such as Twitter, to disseminate information, reduce information asymmetry and achieve better returns.

The study has some limitations that must be considered when analyzing the results, since it is not possible to generalize them; since only companies listed on the stock exchange of an emerging country were analyzed, it is suggested that future studies carry out an analysis considering countries with similar characteristics, or that are part of a group of countries such as the BRICS. As for GC, other analysis metrics can also be considered, such as considering the company's classification according to the existing levels in B3. And for future studies, it is suggested the analysis of other factors such as cash flow, or the life cycle, in order to verify the use of social media by organizations during the periods. In addition, it is suggested to investigate the corporate use of other social media, such as LinkedIn and Instagram.

## REFERENCES

- Abdalkrim, G. M. (2013). The impact of strategic planning activities on private sector organizations performance in Sudan: an empirical research. *International Journal of Business and Management*, 8(10), 134-143. DOI: 10.5539/ijbm.v8n10p134
- Aboagye, A. Q., & Otieku, J. (2010). Are Ghanaian MFIs' performance associated with corporate governance? *Corporate Governance: The international journal of business in society*. DOI: <https://doi.org/10.1108/14720701011051938>
- Aguilera, R. V., Marano, V., & Haxhi, I. (2019). International corporate governance: A review and opportunities for future research. *Journal of International Business Studies*, 1-42. DOI: <https://doi.org/10.1057/s41267-019-00232-w>
- Agyemang, O. S., & Castellini, M. (2015). Corporate governance in an emergent economy: a case of Ghana. *Corporate Governance*. DOI: <https://doi.org/10.1108/CG-04-2013-0051>

- Ajinkya, B., Bhojraj, S., & Sengupta, P. (2005). The association between outside directors, institutional investors and the properties of management earnings forecasts. *Journal of Accounting Research*, 43(3), 343–376. DOI: <https://doi.org/10.1111/j.1475-679x.2005.00174.x>
- Albarrak, M. S., Elnahass, M., Papagiannidis, S., & Salama, A. (2020). The effect of twitter dissemination on cost of equity: A big data approach. *International Journal of Information Management*, 50, 1-16. DOI: <https://doi.org/10.1016/j.ijinfomgt.2019.04.014>
- Almatrooshi, B., Singh, S. K., & Farouk, S. (2016). Determinants of organizational performance: a proposed framework. *International Journal of Productivity and Performance Management*, 65(6), 844-859. DOI: <https://doi.org/10.1108/IJPPM-02-2016-0038>
- Ammann, M., Oesch, D., & Schmid, M. M. (2011). Corporate governance and firm value: International evidence. *Journal of Empirical Finance*, 18(1), 36-55. DOI: <https://doi.org/10.1016/j.jempfin.2010.10.003>
- Aral, S., Dellarocas, C., & Godes, D. (2013). Introduction to the special issue—social media and business transformation: a framework for research. *Information Systems Research*, 24(1), 3-13. DOI: <https://doi.org/10.1287/isre.1120.0470>
- Balasubramanian, S. K., Fang, Y., & Yang, Z. (2020). Twitter presence and experience improve corporate social responsibility outcomes. *Journal of Business Ethics*. DOI: <https://doi.org/10.1007/s10551-020-04537-x>
- Bani-Hani, J.S., Al-Ahmad, N.M. & Alnajjar, F.J. (2009), "The impact of management information systems on organizations performance: field study at Jordanian universities", *Review of Business Research*, Vol. 9, pp. 127-137.
- Basuony, M. A., Mohamed, E. K., & Samaha, K. (2018). Board structure and corporate disclosure via social media: an empirical study in the UK. *Online Information Review*. DOI: <https://doi.org/10.1108/OIR-01-2017-0013>
- Bhagat, S., & Bolton, B. (2008). Corporate governance and firm performance. *Journal of corporate finance*, 14(3), 257-273. DOI: <https://doi.org/10.1016/j.jcorpfin.2008.03.006>
- Bhagat, S. & Bolton, B. (2013). Director ownership, governance, and performance. *Journal of Financial and Quantitative Analysis*, 48(1), 105-135. DOI: 10.1017/S0022109013000045
- Bhagat, S., & Bolton, B. (2019). Corporate governance and firm performance: The sequel. *Journal of Corporate Finance*, 58, 142-168. DOI: <https://doi.org/10.1016/j.jcorpfin.2019.04.006>

- Bhatt, P. R., & Bhatt, R. R. (2017). Corporate governance and firm performance in Malaysia. *The international journal of business in society*. DOI: <https://doi.org/10.1108/CG-03-2016-0054>
- Black, B. S., Jang, H., & Kim, W. (2006). Predicting firms' corporate governance choices: Evidence from Korea. *Journal of corporate finance*, 12(3), 660-691. DOI: <https://doi.org/10.1016/j.jcorpfin.2005.08.001>
- Blankespoor, E., Miller, G. S., & White, H. D. (2014). The role of dissemination in market liquidity: Evidence from firms' use of Twitter. *The Accounting Review*, 89(1), 79–112. DOI: <https://doi.org/10.2308/accr-50576>
- Broekemier, G., Chau, N., & Seshadri, S. (2015). Social Media Practices Among Small Business-to-Business Enterprises Small Business. *Institute Journal*, 37-48. Recuperado em 07 outubro, 2021, de <https://129.7.81.44/index.php/SBIJ/article/view/205>
- Buallay, A., Hamdan, A., & Zureigat, Q. (2017). Corporate governance and firm performance: evidence from Saudi Arabia. *Australasian Accounting, Business and Finance Journal*, 11(1), 78-98. DOI: <http://dx.doi.org/10.14453/aabfj.v11i1.6>
- Cheng, E. C. M., & Courtenay, S. M. (2006). Board composition, regulatory regime and voluntary disclosure. *The International Journal of Accounting*, 41(3), 262–289. DOI: <https://doi.org/10.1016/j.intacc.2006.07.001>
- Claessens, S., & Yurtoglu, B. B. (2013). Corporate governance in emerging markets: a survey. *Emerging markets review*, 15, 1-33. DOI: [doi.org/10.1016/j.ememar.2012.03.002](https://doi.org/10.1016/j.ememar.2012.03.002)
- Correia, L. F., Amaral, H. F., & Louvet, P. (2011). Um índice de avaliação da qualidade da governança corporativa no Brasil. *Revista Contabilidade & Finanças*, 22(55), 45-63. DOI: <https://doi.org/10.1590/S1519-70772011000100004>
- Detthamrong, U., Chancharat, N., & Vithessonthi, C. (2017). Corporate governance, capital structure and firm performance: Evidence from Thailand. *Research in International Business and Finance*, 42, 689-709. DOI: <https://doi.org/10.1016/j.ribaf.2017.07.011>
- Dittmar, A., & Smith, J. M., (2007). Corporate governance and the value of cash holdings. *Journal of Financial Economics*, 83, 599–634. DOI: [doi.org/10.1016/j.jfineco.2005.12.006](https://doi.org/10.1016/j.jfineco.2005.12.006)
- Dlamini, N. N. & Johnston, K. (2018). The use of social media by South African organisations. *Journal of Advances in Management Research*, 15(2), 198-210. DOI: <https://doi.org/10.1108/JAMR-05-2017-0063>

- Elliotti, W. B., Grant, S. M., & Hodge, F. D. (2018). Negative news and investor trust: The role of \$ Firm and CEO Twitter use. *Journal of Accounting Research*, 56(5), 1483-1519. DOI: <https://doi.org/10.1111/1475-679X.12217>
- Gallego-Álvarez, I., García, I.M., & Rodríguez, L. (2008). Voluntary and Compulsory Information Disclosed Online: Effect of Industry Concentration and Other Explanatory Factors. *Online Information Review*, 32 (5), 596-622. DOI: <https://doi.org/10.1108/14684520810913990>
- Giordani, M. da S., Lunardi, M. A., & Klann, R. C. (2020). Uso corporativo de mídias sociais e o desempenho de mercado. *Revista de Contabilidade e Organizações*, 14, 1-11. DOI: <https://doi.org/10.11606/issn.1982-6486.rco.2020.169560>
- Jung, M. J., Naughton, J. P., Tahoun, A., & Wang, C. (2018). Do firms strategically disseminate? Evidence from corporate use of social media. *The Accounting Review*, 93(4), 225-252. DOI: <https://doi.org/10.2308/accr-51906>
- Klapper, L. F., & Love, I. (2004). Corporate governance, investor protection, and performance in emerging markets. *Journal of corporate Finance*, 10(5), 703-728. DOI: [https://doi.org/10.1016/S0929-1199\(03\)00046-4](https://doi.org/10.1016/S0929-1199(03)00046-4)
- Kowalewski, O. (2016). Corporate governance and corporate performance: financial crisis (2008). *Management Research Review*, 39(11), 1494-1515. DOI: <https://doi.org/10.1108/MRR-12-2014-0287>
- Lattemann, C. (2014). On the convergence of corporate governance practices in emerging markets. *International Journal of Emerging Markets*, 9(2), 316-332. DOI: <https://doi.org/10.1108/IJoEM-06-2013-0093>
- Liao, L., Luo, L., & Tang, Q. (2015). Gender diversity, board independence, environmental committee and greenhouse gas disclosure. *The British Accounting Review*, 47(4), 409-424. DOI: <https://doi.org/10.1016/j.bar.2014.01.002>
- Lo, M. C., Mohamad, A. A., T. Ramayah, & Wang, Y. C. (2015). Examining the effects of leadership, market orientation and leader member exchange (LMX) on organizational performance. *Inzinerine Ekonomika- Engineering Economics*, 26(4), 409-421. DOI: <https://doi.org/10.5755/j01.ee.26.4.7656>
- Miller, G. S., & Skinner, D. J. (2015). The evolving disclosure landscape: How changes in technology, the media, and capital markets are affecting disclosure. *Journal of Accounting Research*, 53(2), 221-239. DOI: <https://doi.org/10.1111/1475-679X.12075>
- Muthuveloo, R., Shanmugam, N., & Teoh, A. P. (2017). The impact of tacit knowledge management on organizational performance: Evidence from Malaysia. *Asia Pacific Management Review*, 22(4), 192-201. DOI: <https://doi.org/10.1016/j.apmr.2017.07.010>

- Odoom, R., Anning-Dorson, T., & Acheampong, G. (2017). Antecedents of social media usage and performance benefits in small-and medium-sized enterprises (SMEs). *Journal of Enterprise Information Management*. DOI: <https://doi.org/10.1108/JEIM-04-2016-0088>
- Osma, G., & Guillamón-Saorín, E. (2011). Corporate governance and impression management in annual results press releases. *Accounting, Organizations and Society*, 36(4–5), 187–208. DOI: <https://doi.org/10.1016/j.aos.2011.03.005>
- Parveen, P., Jaafar, N. I., & Ainin, S. (2015). Social media's impact on organizational performance and entrepreneurial orientation in organizations. *Management Decision*, 54(9), 2208-2234. DOI: <https://doi.org/10.1108/MD-08-2015-0336>
- Puni, A., & Anlesinya, A. (2020). Corporate governance mechanisms and firm performance in a developing country. *International Journal of Law and Management*. DOI: <https://doi.org/10.1108/IJLMA-03-2019-0076>
- Ravaonorohanta, N., & Sayumwe, M. (2020). Social Media Presence and Organizational Performance: An Empirical Study on Companies' Presence on Twitter. *Contemporary Management Research*, 16(2), 123-144. DOI: <https://doi.org/10.7903/cmr.20095>
- Renders, A., Gaeremynck, A., & Sercu, P. (2010). Corporate Governance and Performance: Controlling for Sample Selection Bias and Endogeneity. *Corporate Governance*, 18(2), 87–106. DOI: <https://dx.doi.org/10.2139/ssrn.888770>
- Rostami, S., Rostami, Z., & Kohansal, S. (2016). The effect of corporate governance components on return on assets and stock return of companies listed in Tehran stock exchange. *Procedia Economics and Finance*, 36(16), 137-46. DOI: [https://doi.org/10.1016/S2212-5671\(16\)30025-9](https://doi.org/10.1016/S2212-5671(16)30025-9)
- She, C., & Michelon, G. (2019). Managing stakeholder perceptions: Organized hypocrisy in CSR disclosures on Facebook. *Critical Perspectives on Accounting*, 61, 54-76. DOI: <https://doi.org/10.1016/j.cpa.2018.09.004>
- Sheikh, N. A., Zongjun, W., & Khan, S. (2013). The impact of internal attributes of corporate governance on firm performance. *International Journal of Commerce and Management*, 23(1), 38–55. DOI: <https://doi.org/10.1108/10569211311301420>
- Souza, D. M. S. & Martins, O. S. (2022). Brazilian stock market performance and investor sentiment on Twitter. [\*Revista de Gestão\*](#), ahead-of-print. DOI: <https://doi.org/10.1108/REGE-07-2021-0145>
- Vernuccio, M. (2014). Communicating corporate brands through social media an exploratory study. *International Journal of Business Communication*, 51(3), 211-233. DOI: <https://doi.org/10.1177%2F2329488414525400>

Yang, J., Liu, S., & Zhou, D. (2016). Voluntary financial disclosure on social media: Does corporate governance matter? DOI: <https://dx.doi.org/10.2139/ssrn.2836570>

Wang, Y., Bhanugopan, R., & Lockhart, P. (2015). Examining the quantitative determinants of organizational performance: evidence from China. *Measuring Business Excellence*, 19(2), 23-41. DOI: doi/10.1108/MBE-05-2014-0014/full/html

Zgarni, I., Hlioui, K., & Zehri, F. (2016). Effective audit committee, audit quality and earnings management. *Journal of Accounting in Emerging Economies*. DOI: <https://doi.org/10.1108/JAEE-09-2013-0048>