

Compliance Mediation between the Demographic Characteristics of Intermediate Management and the Financial Performance of Banking Branches

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ABSTRACT

Corporate scandals that occurred before the Sarbanes-Oxley Act demonstrated weaknesses in the compliance environment, arising from the low level of involvement of the middle management with internal controls. Regarding middle management in the banking sector, which needs to monitor risks and ensure compliance with laws and regulations, no studies were found that correlated managers' demographic variables with compliance and financial performance. Therefore, the objective of this research is to evaluate whether compliance mediates the effect of the demographic characteristics of intermediary managers on the financial performance of bank branches. We use the Generalised Structural Equation Modeling (gSEM) as a data analysis technique to determine whether compliance mediates managerial demographics on the financial performance of bank branches. The results suggest that compliance mediates managerial demographics on financial performance only for some demographic characteristics.

Keywords: Intermediate Management, Demographic Characteristics, Compliance, Financial Performance

Introduction

The service sector demands constant changes to maintain the efficiency of the service provided to customers. This has a direct impact on workers' activity and job distribution (Mainardes, Funchal, & Soares, 2017). Specifically, in the Brazilian banking sector, in the period from 2013 to 2017, there was a reduction of almost 8% in the number of bank branches in Brazil, from 22.9 thousand to 21.1 thousand (BACEN, 2018). One of the important changes in this sector was the insertion of the so-called fintechs, financial technologies that have evolved rapidly and raised concerns about the future of the

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traditional banking sector. It should be noted that the banking sector has unique characteristics and is generally seen as vital to the smooth functioning of the modern economy (Gomes, Oliveira, & Matias, 2017). The most important transformation in this sector, aimed at minimising risks, occurred due to corporate scandals prior to the Sarbanes-Oxley Act (2002), which demonstrated weaknesses in the banks' compliance system. The literature points out that this weakness results from the low level of commitment of the middle management to the quality of the internal controls used in the management of processes and risks (Bergamini Junior, 2005; Ayadi, Naceur, Casu, & Quinn, 2016). In 2010, the Dodd-Frank Act brought more regulation and risk management standards to the banking sector, in order to avoid events similar to the 2008 crisis (Zalewska, 2014; Arce, 2015; Levine & Macey, 2017). That was also the purpose of the Basel III Agreement updated in June 2011 as an immediate and direct response to that crisis. This agreement had a more general character than the other Basel agreements and advanced the accountability of the institutions and their controllers for losses arising from their operations (Possas & Vieira Neto, 2018).

In view of these new regulations, the banking industry needs to monitor the risks, ensure compliance with laws, standards and design internal policies that should guide the priorities of general managers so that the financial results of the institution are not compromised (Atz, Gerhard, Freitag, Vanti, & Cobo, 2017). The middle management discussed in this research is composed of the general managers of bank branches who, according to Dasgupta (2015) is a management level located below the TMT and above the supervisors, having a unique role in connecting the existing interactions between the strategic and operational environment. Sims (2003) points out that middle managers connect the upper management team and the lower organisational levels; therefore, they have a dual role: representatives of senior management and organisational units.

In this way, these managers keep top management informed about the latest in technology, financing options, competition, regulations, among other issues (Dasgupta, 2015). Additionally, these managers evaluate ideas suggested by employees at the operational level enabling the creation of several optimal solutions to institutional problems. According to Kanter (2004), middle managers are crucial to bringing innovation that successfully drives changes in an organisation. Despite the importance of middle management for the achievement of a company's goals (Agnihotri & Bhattacharya, 2015), no studies were found relating these managers to compliance and financial performance. Even if not related to compliance, Hambrick (2007) developed his ideas of demographic characteristics around the high echelon, which can be applied to middle managers, because it is unlikely that the personal characteristics of managers will impact the organisation only when they reach the top positions. In this sense, demographic data, such as age, gender, professional experience and education, can be predictors of strategies and levels of organisational performance (Qi, 2005). In view of the current scenario of greater banking regulation, the importance of intermediate management for business performance and the lack of studies relating its management characteristics to compliance, the following question arises: Does compliance mediate the relationship between the demographic characteristics of middle managers and the financial performance of bank branches?

Financial performance was measured considering the Return on Assets (ROA), which represents a company's ability to generate profits from the assets it owns (Ji, Lu, & Qu,

2017). For Bidabad and Sherafati (2016) compliance, conformity or even internal control is a process that seeks to create reasonable confidence to improve operational effectiveness and efficiency, preparation of financial reports in compliance with rules and regulations aimed at protecting resources and assets by the board of directors, managers and employees. In practical terms, it is expected to contribute to a) greater attention from the top management of companies to execute and monitor compliance programs (Bergamini Junior, 2005; Liu, Lin, & Shu, 2017); b) incentive for training and development of intermediate management (Ren & Guo, 2011); c) elimination of the information gap in the vertical flow between middle management and senior management (Bergamini Junior, 2005). As a theoretical contribution, the research presents an empirical study advancing the knowledge about intermediate management (Ren & Guo, 2011), Internal controls (Bergamini Junior, 2005) and financial performance (Certo, Lester, Dalton, & Dalton, 2006). Given the growing concern with the adoption of integrity, compliance and ethics programs in companies, and the lack of related studies in the literature, the development of this study is also relevant as it investigates the mediation exercised by internal controls on the effect of managers' characteristics on financial performance (Johari & Hussin, 2016; Bergamini Junior, 2005; Ayadi et al., 2016). Furthermore, this research differs from the others when it does not focus specifically on the upper echelon (Hambrick, 2007; Certo et al., 2006; Manner, 2010) and for dealing with middle managers whose literature needs more research (Ren & Guo, 2011) especially relating demographic characteristics, compliance and performance.

Theoretical framework

Upper echelon theory and intermediate management

A considerable amount of research has investigated the link between the characteristics of the Top Management Team (TMT) and the company's financial performance, but with inconclusive results. For this reason, the influence of top executives on the company's performance remains a topic that has been widely researched in the literature (Certo et al., 2006). Wu and Tuttle (2014) reinforce this argument by noting that the relationship between managerial characteristics and business performance has drawn increasing academic attention. In response to this call, after 23 years of the seminal work of 1984 on the Upper Echelon Theory, Hambrick (2007) made an update and noted that many characteristics of TMT remain related to business performance, a fact corroborated by Qu (2018). On the same line, Manner (2010) found that there is a direct effect between the characteristics of the CEO (Chief Executive Officer) and corporate social performance.

That said, a study group is identified (Martins, Mazer, Lustosa, & Paulo, 2012; Carpenter, Geletkanycz, & Sanders, 2004) who argues that there is a direct effect of the characteristics of senior management on the performance of companies. On the other hand, there is a body of studies (Boone & Hendricks, 2009) who argue that this effect is not verified. There is still research that argues that (Agnihotri & Bhattacharya, 2015) these executives are responsible for strategic decision-making, and therefore there may be conflicts between directors and managers (Weir & Laing, 2000). Due to this lack of consensus, Asah, Fatoki and Rungani (2015) argue that because there is no consensus in the empirical literature on the impact of personal values, motivations and management skills of

managers in company performance, more empirical research is needed in this area (Agnihotri & Bhattacharya, 2015). Another aspect to be highlighted, despite the importance of intermediary management for the achievement of a company's objectives (Agnihotri & Bhattacharya, 2015), no studies were found relating this level of management to compliance and financial performance. It should be noted that the term intermediate management is very broad, but according to Dasgupta (2015), it can be extended hierarchically to managers located below the TMT and above the supervisors. However, it is not where they are positioned in the organisation chart that makes them unique, but in the role of coordinating strategies and actions via mediation, negotiation and interpretation of existing connections between the strategic and operational environment.

Middle managers have received little empirical attention over the past 25 years, but they are present, even if in a dispersed way, in management and psychology journals, comparing themselves with TMT (Dechurch, Hiller, Murase, Doty, & Salas, 2010). However, middle managers are responsible for interpreting the company's overview, established by the upper echelon, and communicate them to the lower-level managers who must execute them. The participation of these managers in the formulation of strategies is associated with a better performance of the company. For Berson and Avolio (2004), middle managers have an indispensable role and should be more involved. Therefore, the middle manager plays an essential role, even if it is not valued, in developing successful strategies (Caughron & Mumford, 2012; Wilcox, Fowler, & Zeithaml, 2002).

Financial performance

There is a great deal of research that has investigated the link between the characteristics of TMT and the company's financial performance (Certo et al., 2006). The interest in this theme, according to Martins et al. (2012), stems from the fact that the market increasingly requires that there are guarantees that the company adopts the appropriate strategies to achieve the financial performance required by investors. There are indeed specificities in each company, but the objective is similar, the search to achieve results and performance to meet the interests of shareholders and owners. Being financially efficient ensures that the company is effective in minimising costs and maximising profits, which provides greater profitability that leads to less risk and greater investment attractiveness (Bach, Kudlawicz, & Silva, 2015). In this sense, Ji, Lu and Qu (2017) defined ROA as net profit or total profit after tax divided by total assets representing a company's ability to generate profits from the assets it owns. Therefore, this study focuses on analysing the Return on Assets (ROA) (Manner, 2010; Weir & Laing, 2000; Hsieh & Lee, 2010; Zhang, Ji, Tao, & Wang, 2011), since this indicator captures the efficiency of the resources used in the company.

According to Owolabi, Obiakor and Okwu (2011), the financial performance of a financial institution is associated with profitability measured by the amount of revenue generated that exceeds the relevant costs associated with the generation of that revenue. For Lartey, Antwi and Boadi (2013) the definition of profitability is related to the ability of banks to generate revenue much higher than the required cost. Some proxies measure profitability using Return on Assets (ROA) and Return on Equity (ROE) as a function of the determinants of bank-specific variables and macroeconomics. Saleem and Rehman (2011) used ROA as a proxy for profitability, where liquidity gives a significant impact to ROA. Powers and Hahn (2015) examined bank performance using Return on Assets (ROA)

because ROA is a primary measure of banking sector performance. Financial performance (profitability) is measured by ROA, as it represents one of the most frequently used financial measures in the accounting literature. ROA reflects a company's profitability concerning the resources invested in a company and is an indicator of how the investment is being used efficiently (Yu & Park, 2006). Various accounting-based metrics measure the performance results of a focal company. Return on assets (ROA) is chosen to capture the profitability and efficiency of assets at the most aggregate level ($ROA = \text{net revenue} \div \text{total assets}$) (Kim & Henderson, 2015).

Compliance

Due to the scarcity of studies on compliance, especially in Brazil, it is necessary to define it. Concerning etymology, the term compliance comes from the English to comply, and has the meanings of “[...] comply, agree, obey, agree, coincide or be subject to”, and “[...]can be understood as acting according to a rule, instruction, command or request” (Silva & Covac, 2015). For Bidabad and Sherafati (2016) compliance, conformity or even internal control is a process that takes place intending to create reasonable confidence to improve operational effectiveness and efficiency, preparation of financial reports in compliance with rules and regulations aimed at protecting resources and assets by the board of directors, managers and employees.

Assi (2009) argues that according to the best market practices, the purpose of Compliance can be understood as a work style in which it is important to know how to carry out activities correctly, allowing all employees to comply with laws, rules, policies and procedures, be it from the top to the smallest functions should be aware of what is being done. In this sense, there is no doubt that it is not a simple ‘compliance’, compliance (or acting in, or being in) is a very comprehensive expression, that gives an account of the organisation's performance in the most varied dimensions, whether business, operations or people. Most studies on compliance relate to corporate governance and social responsibility, both corporate and financial, with emphasis on the study by Weir and Laing (2000) in which they analysed how governance structures impact the performance of companies.

It should be noted that the more advanced a financial sector is and the better the monitoring, the smaller the informational asymmetries and the greater the economic growth (Hsieh & Lee, 2010). Economic growth, which has a high correlation with the accumulation of human capital, is a factor that affects and is affected by the relationship between banking competition and bank profits. In this sense, Bergamini Junior (2005) argue that one of the management paradigms is to consider the engagement of all company employees to be essential for the proper management of operational risk. This risk arises from carrying out operations associated with weaknesses in internal controls; therefore, it is accomplished through frauds practised by employees and in failures in processes and technological systems. Operational risk management involves inhibiting fraud, minimising errors in the processes used in the company and reducing system failures (Bergamini Junior, 2005).

For Johari and Hussin (2016) internal control refers to the need to enforce policies to ensure compliance with guidelines, policies and procedures. Among the few studies found

that relate internal controls to financial performance and management characteristics, there is research by Bergamini Junior (2005) which revealed that three of the four determinants of corporate success were related to corporate governance practices and the use of internal controls. For this reason, Vanni (2017) says that the independence of the compliance function requires high competence from its members and the development of teamwork techniques, a good mix of analytical and interpersonal skills and business skills. Liu, Lin and Shu (2017) argue that when top management gives low relevance to internal controls, there are flaws in compliance. That said, the following research hypothesis is derived: H1: Compliance positively impacts the financial performance of bank branches. After these considerations regarding compliance, it is necessary to report on the managerial demographic characteristics to be considered in the present study, which impact the companies' level of compliance.

With regard to the compliance indicator, it has been generated from monthly product compliance certification routines (contracting of credit operations, disbursements of funds and debt renegotiation) and processes in branches in several areas (treasury management, accounts, card, guarantees, human resources, credit monitoring, among others), that is, each product and process will receive a maximum score when fully complying with the provisions of the institution's internal regulations, score limited to 100 and have a minimum of 0, and with the average score of products and processes certified monthly creating the monthly compliance index for each bank branch and, consequently, the annual compliance index. Each bank branch has its annual compliance indicator from 2013 to 2017. Thus, and after the notes of the researched literature, financial performance and managerial characteristics are explained as explanatory variables. The compliance indicator is, therefore, a mediating variable of these relationships.

Managerial demography

Although Hambrick (2007) has developed its ideas of demographic characteristics around the upper echelon, they can also be applied to middle managers. This is because it is unlikely that the personal characteristics of managers will only begin to influence the performance of companies when they reach the top positions of the company. Therefore, demographic data, such as age, gender, professional experience and education, can be predictors of strategies and performance levels (Qi, 2005). It is important to note that the study of the effect of demographic characteristics on organisations is not exclusive to high-level theory and is not a new field of research (Johari & Hussin, 2016; Dwivedi, Chuang & Nakatani, 2009; Martins et al., 2012; Certo et al., 2006). That said, the following research hypothesis is derived:

H2: Compliance mediates the effect of the characteristics of intermediary managers on the financial performance of bank branches.

Martins et al. (2012) used marital status as a proxy to identify which characteristics of members of the boards of directors of Brazilian banks are related to financial performance. However, this variable was not significant. In another way, Tlaiss (2013) argues that marital status combined with organisational or work-related factors, as the time of professional experience, impact on job satisfaction. Considering this discussion, the following hypothesis is derived: H2_a: Compliance mediates the effect of intermediary managers' marital status on bank branches' financial performance.

Dwivedi, Chuang and Nakatani (2009) argue that the average age is a predictor of TMT efficiency, in addition to other indicators. In that same sense, Certo et al. (2006) investigated whether age can be considered one of the indicators of heterogeneity for a better company result. This research concludes that a greater heterogeneity of TMT is positively related to better processes and results. It must be reported that, according to Qi (2005), institutions with young managers (under 25 years of age) will have better results than older managers. Concerning risk tolerance, Kannadhasan (2015) found in his study that younger individuals are more tolerant of risk and that the level of risk increases as age decreases. Given these data, we seek to verify the following hypothesis: H2b: Compliance mediates the effect of the age of middle managers on bank branches' financial performance.

When it comes to gender, Martins et al. (2012) used gender as a proxy to identify which characteristics of members of the boards of directors of Brazilian banks are related to financial performance. As a result, the number of women in the bank's top management decreases the company's ROA indicator. Specifically, in relation to women, she points out that they receive more support from the upper echelon than male managers, enabling them to perform better. Seltzer (2011) states in his study that there were no female bank branch managers in all UK bank branches until 1958. For Sharabi (2017), women in middle management generally have more family duties than women of lower status; it is difficult for them to spend as many hours on the job as male managers, thus impairing their performance. Regarding risk, Kannadhasan (2015) found in his study that men are more tolerant of risk. Considering this information, the following hypothesis is derived: H2c: Compliance mediates the gender effect of middle managers on bank branches' financial performance.

More specifically in relation to agency time, that is, the time that the manager is in the role was identified in the study by Qi (2005) that the longer mid-level managers are employed in the same role (more than one year), the greater the likelihood of getting less support from their top managers, hence worse results. This research concludes that a greater heterogeneity of TMT is positively related to better processes and results. That said, the following hypothesis is investigated: H2d: Compliance mediates the effect of agency managers' agency time on bank branches' financial performance.

Another demographic factor to be explored is company time. Certo (2006) researched this factor with TMT members and found evidence that with less company time, executives would be more willing to leave the status quo, unlike members with longer company time. Walumbwa, Orwa, Wang and Lawler (2005) found evidence that the organisation's tenure is a potential predictor of commitment to job satisfaction and company results. However, this result was not significant in the study by Bruch and Walter (2007). Given this, we seek to verify the following hypothesis: H2e: Compliance mediates the effect of intermediary managers' company time on bank branches' financial performance.

Martins et al. (2012) also used the education proxy to identify which characteristics of members of the boards of directors of Brazilian banks are related to financial performance. As a result, when executives have degrees in the business area, the company's ROA performance has a better result. Besides, there is the research by Qi (2005) who found that a manager's education level will affect their chance of being promoted; however, this

research finding suggests that once middle managers are in charge, the level of education achieved is not a factor that influences the decision of the high echelon on the level of support for better performance. Kannadhasan (2015) found in his study that more qualified individuals are more tolerant to risk. Considering this discussion, the following hypothesis is derived: H2_f: The compliance mediates the effect of schooling time of middle managers in the financial performance of bank branches.

Finally, the last demographic characteristic to be explored is financial certification. According to Anbima (2017), the Brazilian financial certification is inspired by the qualification exam carried out by financial market professionals in the United States, whose elaboration is the responsibility of the Financial Industry Regulatory Authority (Finra), the entity that acts in the regulation of the North American financial market. CPA-10 was called Basic Certification. Certifications are valid for five years for professionals working in financial institutions and three years for those who are not in the financial market. Amorim, Cruz, Sarsur and Ficher (2015) explain that according to the initial CMN resolution, 25% of employees working in securities distribution and mediation activities, securities and derivatives, should be considered suitable for certification examination by the end of 2006. This professional certification is divided into Professional Certification ANBIMA Series 10 (CPA 10) and Professional Certification Series 20 (CPA 20). The first is intended to certify professionals who carry out activities of commercialisation and distribution of investment products directly to the investing public in bank branches. Certification is important for good practices in the financial and capital markets.

That said, the following hypothesis is investigated: H2_g: The compliance mediates the effect of the financial certification of middle managers in the financial performance of bank branches.

Finally, the last hypothesis is derived:

H2_h: The compliance mediates the effect of place of birth of middle managers in the financial performance of bank branches.

Figure 1 shows the model proposed by this study.

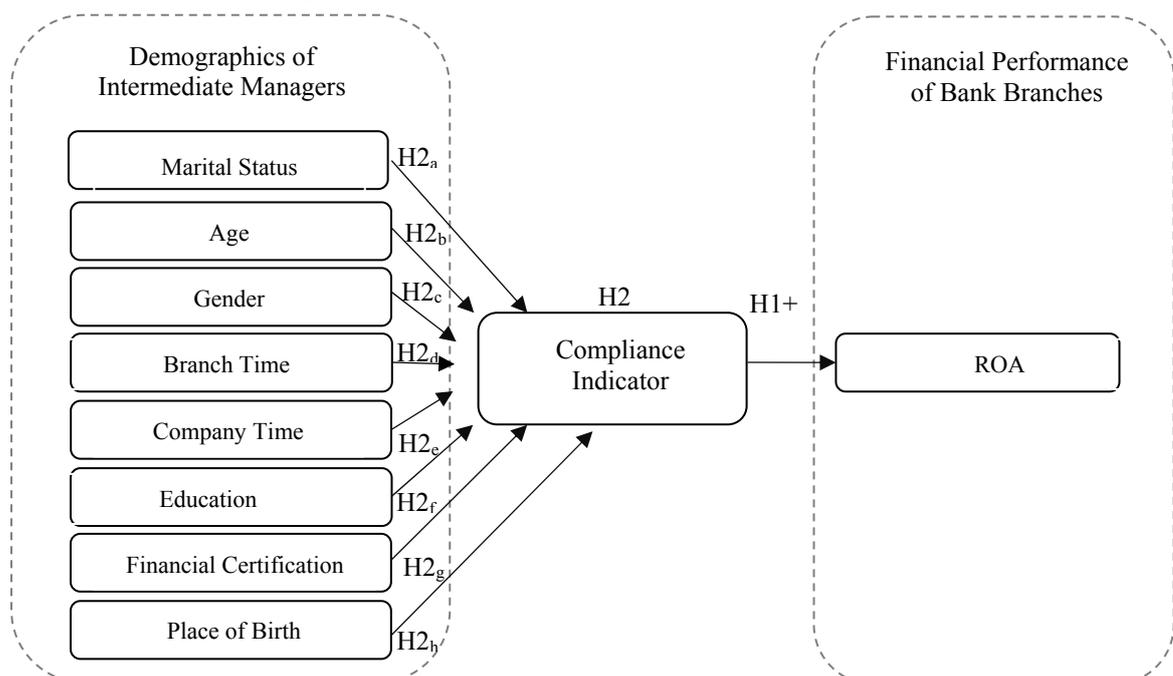


Figure 1. Suggested Model

Methodology

A quantitative research methodology based on the collection of secondary data was used, forming a database that contains discrete and continuous variables with information from 189 bank branches in 11 Brazilian states from a Brazilian public financial institution from 2013 to 2017 and from 301 intermediate managers. In these five years, 945 observations were obtained, that is, 189 for each year analysed. For each bank branch, there is information about the demographic characteristics of the general manager (intermediate management), financial performance and compliance indicators. Given the proposed conceptual model, we adopted the Generalised Structural Equation Modeling (gSEM) as an estimation approach, which consists of an estimation of a Generalised Linear Model (GLM). Thus, we sought to identify whether the compliance indicator mediates the demographic characteristics of intermediate management in the financial performance of bank branches. Regarding the validity of the estimation, it is emphasised that there was convergence in the model in maximising likelihood, therefore, the fact that it converged means that there was validation of the estimation, which uses only concrete data, which do not require convergent and discriminant validity.

Data analysis

According to the structural model shown in Figure 2 and the data shown in Table 2, the evidence indicates that the compliance indicator mediates the demographic characteristics of middle management in the financial performance of the bank branches studied through a significant relationship ($p < 0.005$) and positive (coefficient of 0.023).

Table 2. Structural Equation Model Measurements

<i>Generalised structural equation model</i>	Number of obs = 945		
<i>Variable - Abbreviation</i>		Coefficient	P>z
<i>Compliance_Indicator</i>			
Married Marital Status – MARSTAMAR		-0.002	0.893
Marital Status Stable Union - MARSTASIN		0.032	0.482
Age over 25 and under 35 - AG>25		-0.065	0.152
Age over 35 and under 45 - AG>35		-0.015	0.737
Age over 45 and under 55 - AG>45		-0.062	0.025**
Age over 55 years - AG>55		-0.058	0.015**
Gender – GEN		-0.030	0.077*
Branch Time (days) - TIMEBR		-3.100	0.823
Company Time (days) - TIMECOMP		3.340	0.925
Management Graduation – MANGRAEDU		-0.018	0.424
Accounting and Economy Graduation – ACCECOGRAEDU		-0.038	0.225
Law Graduation – LAWGRAEDU		-0.093	0.016**
Exact Graduation – EXAGRAEDU		-0.036	0.273
Other Graduations – OTHGRAEDU		-0.251	0.039**
Management Specialization – MANSPEEDU		0.084	0.006***
Accounting and Economy Specialisation – ACCECOSPEEDU		0.047	0.260
Law Specialization – LAWSPEEDU		0.165	0.005***
Other Specializations – OTHSPEEDU		-0.131	0.001***
Master of Management – MASMANEDU		0.011	0.705
Masters Accounting and Economics – ACCECOMASEDU		-0.070	0.000***
Other Masters – OTHMASEDU		0.022	0.384

Financial Certification (CPA-10 or CPA-20) - FINCERT	0.039	0.200
Certification Time CPA-20 (years) - FINCERTTIME2	0.006	0.030**
Certification Time CPA-10 (years) - FINCERTTIME1	0.005	0.111
Place of birth (South and Southeast states) - POBSSE	0.059	0.035**
Place of birth (North and Northeast States) - POBNNE	-0.005	0.747
Place of birth (Midwestern States) - POBMW	-0.039	0.124
_cons	0.826	0.000

Return on Assets - ROA		
Compliance Indicator - COMPIND	0.023	0.023**
_cons	-0.000	0.979

Var (e.ROA)	0.001	

Var (e.Compliance Indicator)	0.010	

***, **, * Statistically significant at the level of 1%, 5% and 10%, respectively.

Source: Author's elaboration with research data

Regarding the hypotheses, we have that:

The H1 hypothesis obtained a significant coefficient with 95% confidence, that is, the weight of the compliance regression to predict the financial performance of bank branches is significantly different from zero, with a 5% significance. In this case, it can be said that when a unit of the compliance indicator increases, increases by 0.023 units of financial performance (ROA), with the compliance indicator positively related to financial performance. Hypothesis H2 obtained a significant relationship for some variables (AD>45; AG>55; GEN; LAWGRAEDU; OTHGRAEDU; LAWSPEEDU; OTHSPEEDU; ACCECOMASEDU; FINCERTTIME2; POBSSE), partially supported, as will be detailed in the secondary assumptions below. Hypothesis H2_a had no significant relationship, and it was not supported. Therefore, the fact that the middle manager (general manager of the agency) being married, single, maintaining a stable relationship, being a widower or divorced is not mediated by compliance in financial performance (ROA) of bank branches. Hypothesis H2_b there was a significant relationship only at the age of over 45 and 55 years, being partially supported. The coefficients were significant with 95% confidence, that is, the weight of the regression of the compliance mediation in the age greater than 45 years (even older than 55) of middle managers to predict the financial performance of bank branches is significantly different from zero, with 5% significance. We have that when age exceeds 45 years, 0.062 units of financial performance are reduced (ROA) and that when age exceeds 55 years, 0.058 units of financial performance decrease (ROA). Both indicators were negatively related to the financial performance of bank branches.

Hypothesis H2_c had a significant relationship, being supported. The coefficient of this hypothesis was significant with 90% confidence, that is, the weight of regression of compliance mediation in the gender of middle managers to predict the financial performance of bank branches is significantly different from zero, with 10% significance and negatively related. It has to be said that when the gender is male, 0.030 units of financial performance are reduced (ROA). Hypothesis H2_d was not supported because it had no significant relationship. In the same way as the previous hypothesis, hypothesis H2_e was also not supported. Hypothesis H2_f had a significant relationship and was partially supported. The coefficients of this hypothesis were significant with 95% confidence (LAWGRAEDU and OTHGRAEDU) and 90% confidence (MANSPEEDU, LAWSPEEDU, OTHSPEEDU and ACCECOMASEDU), that is, the weight of the

regression of compliance mediation in the education of middle managers to predict the financial performance of bank branches is significantly different from zero, with 5% and 10%, respectively, of significance, and of the six variables with statistical significance, only two are positively related (MANSPEEDU and LAWSPEEDU).

This means that: a) When the education of intermediate managers is graduated in the area of Law, 0.093 units of financial performance are reduced (ROA); b) When the education of middle managers is graduated in other areas, 0.251 units of financial performance are reduced (ROA); c) When education is specialisation in Management, 0.084 units of financial performance are increased (ROA); d) When education is specialisation in the area of Law, 0.165 units of financial performance are increased (ROA); e) When the education of middle managers is specialisation in other areas, 0.131 units of financial performance are reduced (ROA); f) When the education of middle managers is mastered in Accounting and Economics, 0.070 units of financial performance are reduced (ROA). When the education of middle managers includes a masters in Accounting and Economics, 0.070 units of financial performance are reduced.

Hypothesis H2_g had a significant relationship only concerning the CPA-20 certification time, being, therefore, partially supported. The coefficient of this hypothesis was significant with 95% confidence, that is, the weight of the regression of compliance mediation in the CPA20 certification time of middle managers to predict the financial performance of bank branches is significantly different from zero, with 5% significance and positively related. It has to be noted that the longer the CPA20 certification time, it increases 0.006 units of financial performance (ROA). Hypothesis H2_h had a significant relationship, being partially supported because only managers born in the South/Southeast states had a p-value <0.005. The coefficient of this hypothesis was significant with 95% confidence, that is, the weight of the regression of compliance mediation in the naturalness of middle managers to predict the financial performance of bank branches is significantly different from zero, with 5% significance and positively related. It has to be said that when the intermediary managers are born in the South and Southeast regions, 0.059 units of a financial performance increase (ROA). Figure 1 shows the path diagram to verify the relationship between demographic variables (characteristics of middle managers) and financial performance with compliance mediation.

Therefore, there are significant relationships between some variables that make up the demographics of middle managers and compliance, as well as between the compliance indicator and financial performance (ROA). There was a 5% significance relationship in the effect of compliance on ROA, considering the effects of demographic variables on compliance. Therefore, the structural model was tested, presenting a good general fit and supporting part of the hypotheses proposed in this research.

Discussion

The structural model used in this research shows that the compliance indicator mediates some demographic characteristics of middle managers in the financial performance of bank branches. The following demographic factors of middle managers have this effect: age over 45 years (AG>45 and AG>55), gender (GEN), education (graduation in law - LAWGRAEDU, other graduations - OTHGRAEDU, specialisation in management -

MANSPEEDU, specialisation in the area of law - LAWSPEEDU, other specialisations - OTHSPEEDU and master's degree in accounting and economics - ACCECOMASEDU), financial certification time CPA-20 (FINCERTTIME2), and place of birth of managers in states in the South and Southeast regions (POBSSE) and place of birth of managers in states in the South and Southeast regions. This demonstrates that compliance is important for the financial performance of bank branches, both to obtain greater attention from the top management of companies for the execution and monitoring of compliance programs in intermediate management (Bergamini Junior, 2005; Liu, Lin,&Shu, 2017), how to encourage training and development of that level of management (Ren& Guo, 2011) and eliminate the information gap in the hierarchical flow between middle management and senior management (Bergamini Junior, 2005).

Referring to managerial demographics, the strategic level of bank management should take into account factors such as age at the middle management level, given that managers over the age of 45 tend to have a lower financial performance. According to Qi (2005), younger managers tend to have better results, which is corroborated by the findings of this research. There is also an association between the age and the manager's self-confidence, which may suggest that with advancing age managers believe they know how to do everything correctly, because they have more experience in the company, failing to observe some aspects of compliance (Anderson, 2013).

When it comes to gender, the evidence showed that female managers have a better financial performance with compliance mediation than male managers. Qi (2005) reports that women managers receive more support, enabling them to perform better. The research by Walumbwa, Orwa, Wang and Lawler (2005) demonstrated that the fact of being female predicts commitment to job satisfaction and performance. For Caughron and Mumford, managers develop a more participatory leadership style, resulting in better performance than male managers. The demographic factors company time and time at the bank branch were not supported. This same result was obtained in research conducted by Bruch and Walter (2007). Regarding the demographic aspect of marital status, the hypothesis was also not supported.

When it comes to schooling, there are specifics to discuss. The hypotheses that did not present coefficients with a significant relation were: MANGRADEDU, ACCECOGRADEDU, EXAGRAEDU, ACCECOSPEEDU, MASMANEDU and OTHMASEDU. Of the total of 301 intermediate managers, 127 (42.19%) are graduated in management, 59 (19.60%) are graduated in accounting and economics, 36 (11.96%) are graduated in exacts, 28 (9.30%) are graduated in law, 24 (7.97%) are graduated in other degrees, and the remaining 27 (8.97%) did not have a graduation record. Of the 127 MANGRADEDU graduates, in which more than 80% studied business administration, 41% graduated from a distance (AIEC- *Associação Internacional de Educação Continuada*, UNOPAR-*Universidade Norte do Paraná*, UNINTER-*Centro Universitário Internacional*). Of the 59 ACCECOGRADEDU graduates, 78% completed their degree more than 15 years ago. Of the 36 with EXAGRAEDU degrees, 69% also completed their courses more than 15 years ago. Regarding the master's degree, it is observed that only 4.65% of the 301 intermediate managers have this postgraduate level. Of those who took a MASMANEDU master's degree, 62.5% completed more than eight years ago, and only 37.5% graduated in management, the others graduated in accounting, economics, languages and psychology.

Those who received an OTHMASEDU master's degree received a master's degree in education, mechanical engineering, natural resources and human development. Of those who attended ACCECOSPEEDU, 85.71% have more than 5 years of completion of the respective graduate course. All the facts listed for each of the education variables mentioned in this paragraph may indicate evidence that explains the lack of statistical significance.

From this point on, the variables that had statistical significance, positively or negatively, about the education of intermediate managers are discussed. The variables MANSPEEDU and LAWSPEEDU presented a positive coefficient, showing that when education is specialised in the Management area, 0.08 units of financial performance are increased (ROA) and that when education is specialised in the area of Law, 0.16 units of financial performance are increased (ROA). Of the 301 managers, 196 (65.12%) specialised in the management and 7 (2.33%) completed a specialisation in law. Of the 196, 102 (52.04%) intermediate managers attended the specialisation course at *Fundação Getúlio Vargas* (FGV) and 72 (36.73%) completed in the last five years. It is interesting to highlight that the graduation of these managers is from different areas such as law, business administration, accounting, economics, and engineering. In relation to those who had a specialisation in law, all graduated in law. It is noteworthy, therefore, that in the scope of specialisations, a possible explanation is that they are more focused on the market, quickly meeting the needs of banking institutions.

We have that the variables LAWGRAEDU, OTHGRAEDU, OTHSPEEDU and ACCECOMASEDU presented a negative coefficient, showing that when schooling is a law degree, other degrees, other specialisations and master's in accounting and economics the financial performance is reduced (ROA). Of the 28 (9.30%) intermediate managers graduated in law, 92.86% completed more than five years ago, and 85.71% of them later studied specialisation in management or law. The law degree is counterintuitive, as it should have a positive coefficient and the result had a negative coefficient. One possible explanation is that compliance is different from law, from knowing and complying with laws. The 24 (7.97%) graduated in other areas, studied letters, pedagogy and higher education courses related to the health area, with 95.83% more than five years ago. Subsequently, 75% of these 24 middle managers have specialised in management.

Furthermore, considering the other results, in which specialisation in law and specialisation in management presented positive and significant coefficients, Brazilian graduations have no synergy with business practice. All 8 (2.66%) middle managers who attended other specialisations, completed their graduate studies more than five years ago, in the areas of exact sciences, social communication and psychology. The two middle managers who completed a master's degree in accounting and economics, they did it more than six years ago, with more than 15 years of graduation and more than 12 years of specialisation. A piece of possible evidence that can explain the negative coefficient is the fact that the conclusion of these postgraduate studies took place more than five years ago and the need for companies is that professionals are training themselves frequently.

In general, Qi (2005) found that a manager's education level will affect his chance of being promoted, however, this research finding suggests that once middle managers are in charge, the level of education achieved is not a factor that influences the decision of the

high echelon on the level of support provided for better performance. Kannadhasan (2015) found in his study that more qualified individuals are more tolerant to risk. For Walumbwa, Orwa, Wang and Lawler (2005), the manager's educational level is a potential predictor of commitment to job satisfaction and results.

On the demographic aspect of financial certification (CPA-10 and CPA-20), the results show that it does not matter having or not having some kind of certification, but that in the course of the management the intermediate manager obtains the highest degree of certification, that is, the CPA-20. When it comes to compliance, it is therefore essential that managers obtain this level of certification (CPA-20), as these professionals perform activities of commercialisation and distribution of investment products directly to the investing public in bank branches, being indispensable for good practices in the financial and capital markets (Amorim & Cruz; Sarsur & Ficher, 2015; Johnsen & Grady, 2018).

Final considerations

The main finding of this study is that the compliance indicator improves the financial performance of bank branches and that according to the managerial characteristics of the middle managers, this effect can be positively greater or lesser, or even negatively. For this reason, the importance of the top management of financial institutions to enable greater attention to the execution and monitoring of compliance programs, an incentive for training and development of intermediate management, aiming at eliminating the information gap in the vertical flow between intermediate management and senior management. It is the middle management responsible for implementing strategies, which can observe problems and label them as possible threats to the company's results, can inspire, encourage and empower their subordinates to facilitate the process of change and innovation, can perceive and understand informal power and finally qualifies the strategic decisions in which it participates and generates inputs.

In the results referring to gender, it was verified that the intermediate management performed by women increases financial performance. It should be noted that in the sample, women represent less than 9% of middle managers. This evidence reinforces the need for companies to recognise the competence of women and treat gender with equity. Another point to be highlighted is that it is necessary to pay attention to the age of middle managers because this research demonstrated that when managers are over 45 years of age, their financial performance decreases. Institutions need to be monitored by these managers to prevent compliance indicators from being harmed and consequently presenting financial losses.

For middle managers with only an undergraduate level, the results show that there is a decrease in financial performance, either by the chosen area, either by the time of completion of the course, by the type of teaching (in person or at a distance) or by the HEI-Higher Education Institution responsible for offering the course. For middle managers with specialisation in the areas of management and law, there is an increase in the financial performance of bank branches. What was observed in these courses is that they were completed in the last five years and renowned institutions such as FGV – *Fundação Getúlio Vargas*. In other specialisations, there is a decrease in financial performance, or there was no statistical significance. Another demographic factor to stand out, as a result, is financial certification, as the longer, the CPA20 certification time, the financial performance

increases, incentives from top management of financial institutions are required for their general managers to take this exam and be approved and certified.

The contributions of this study, in light of theoretical knowledge, are in the empirical evidence that advance in the knowledge about the intermediate management, internal controls and financial performance. It should be noted that compliance allows mitigating risks in the processes of financial institutions, ensuring good transparency and governance practices and disseminating policies aimed at integrity and ethics to employees of banking institutions. There is a need for further studies that address not only public financial institutions but also private financial institutions. As a limitation, it is necessary to expand the territorial dimension beyond the 11 states surveyed, in all Brazilian regions.

Finally, considering that topics such as middle management, managerial demographics, compliance and financial performance are not researched together, there are gaps to be studied when talking about mediation of this relationship. Aspects such as education, gender, age still have space in the literature and need more research, showing that the area of intermediate management and compliance requires more and more attention from researchers.

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