
EVIDENCES OF ISOMORPHISM IN THE MANAGEMENT OF OPERATIONAL RISKS IN FINANCIAL INSTITUTIONS OPERATING IN BRAZIL

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ABSTRACT

The aim of this research was to analyze isomorphism evidences in Operational Risks Management (ORM) in Brazilian banks, aiming to identify focal points and why they occur. This was a qualitative and descriptive research, made through the content analysis of the Pillar 3 Reports of eight institutions, from 2013 to 2019. We used descriptive classification of situations/events from the theoretical framework, classified as acting references. The main instrument categories and levels of disclosure were: a) coercive: legal service (100%); Business Continuity Plan (100%); Risk Appetite statement (100%); other risk managements beyond those mandatory (88%); Three lines of defense model (88%) and disclosure of operational losses (88%). b) normative: responsibilities of committees, directors and the like (100%); risk culture dissemination (100%); operational risk training (88%), and c) mimetic: use of technologies in Operational Risk Management (100%); Headquarters determinations (100%); process standardization between headquarters and branches (88%); and use of indicators (88%). Focal points were the search for the improvement of Operational Risk Management and the fulfillment of requirements to approve internal models to calculate capital requirements. The homogenization of Operational Risk Management occurred due to legal demands and its beneficial effects improve the environment. Disclosure of principles, best practices and Pillar 3 Reporting allows other companies to use the information as a basis and implement their own Operational Risk Management structures.

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EVIDÊNCIAS DO ISOMORFISMO NA GESTÃO DE RISCOS OPERACIONAIS EM INSTITUIÇÕES FINANCEIRAS QUE ATUAM NO BRASIL

RESUMO

O trabalho analisou evidências do isomorfismo na Gestão de Riscos Operacionais (GRO) em bancos atuantes no Brasil, buscando identificar pontos de convergência e porque ocorrem. A pesquisa é qualitativa e descritiva, realizada por análise de conteúdo do Relatório “Pilar 3” de oito instituições entre 2013 e 2019. Foram usadas categorizações descritivas de situações/eventos obtidos a partir do referencial teórico, classificáveis como referências de atuação. As principais categorias por mecanismo e índices de evidenciação foram: a) coercitivo: atendimento legal (100%); Plano de Continuidade de Negócios (100%); declaração de Apetite ao Risco (100%); gestão de outros riscos além dos obrigatórios (88%); modelo das 3 Linhas de Defesa (88%) e divulgação de perdas operacionais (88%). b) normativo: responsabilidades de comitês, diretores e assemelhados (100%); disseminação da cultura de risco (100%); treinamento em risco operacional (88%), e. c) mimético: uso de tecnologias na Gestão de Riscos Operacionais (100%); determinações da matriz (100%); padronização de procedimentos entre matriz e filiais (88%); e uso de indicadores (88%). Os pontos de convergência foram a busca pelo aperfeiçoamento da Gestão de Riscos Operacionais e o atendimento aos requisitos para aprovar modelos internos para cálculo de requerimentos de capital. A homogeneização da Gestão de Riscos Operacionais ocorreu em função das demandas legais e seus efeitos benéficos melhoram o ambiente. A divulgação de princípios, melhores práticas e Relatórios “Pilar 3” permite que outras organizações usem as informações como base e implantem suas próprias estruturas de Gestão de Riscos Operacionais.

Palavras-chave: Controles internos. Auditoria interna, Governança corporativa, Riscos operacionais, Legitimidade.

1 INTRODUCTION

Financial Institutions (FIs) should maintain risk management structures compatible with their size, complexity of products and services, activities, processes and systems, to cover their main operating risks. The Basel Accord, adopted by the Central Bank of Brazil (BACEN), seeks to protect the world economy, face business risks and prevent liquidity problems in FIs with international operations from leading to global impact crises. The Agreement provides for the reserve of part of the banks' capital to face possible future losses, the assessment of the adequacy of their capital by a Banking Supervisor and to discipline the market with the disclosure, at least annually, of information on known risks and their management, on corporate websites (Federação Brasileira de Bancos [FEBRABAN], 2008).

The review of the 1st Basel Capital Accord (Basel II) sought a more precise measure of the risks incurred by internationally active banks. In addition to the credit and market risks addressed in the 1st Agreement, the operational risks were included from the review (FEBRABAN, 2008), with regulation made by BACEN through Resolution 3380/2006. The focus of the Agreement was on large banks, whose base has 3 pillars:

- Pillar 1: deals with capital requirements and provides for the reservation of part of the capital of the FIs to face possible future losses;
- Pillar 2: promotes a review by the Banking Supervision of the capital adequacy assessment process. This pillar does not intend to replace the structure of internal controls by Supervision, but to bring the risk areas of banks closer to the Supervisors (Banzas, 2005);
- Pillar 3: promotes market discipline with the disclosure of information on risks and management by participants in the banking system. Banazas (2005) points out that the transparency of information strengthens the power of market participants to press for the adoption of practices that guarantee the soundness and security of the financial system. This pillar is a propellant of the manifestations of isomorphism in the FI's ORM practices, and will be investigated in detail and in depth in this work.

These manifestations of isomorphism led BACEN, via Resolution 3380/2006, to determine that FI should implement, operate and maintain ORM structures compatible with their size, volume of operations and operational complexity. The description of this structure should be evidenced in a public report, with minimum annual disclosure. Information on capital limits to cover operational, credit and market risks should be disclosed.

The research focuses on operational risks as they involve events such as internal and external fraud, labor demands and occupational safety; inappropriate customer practices; products and services and information system failures. Part of these risks carries a part of subjectivity in defining the capital value to be reserved and in choosing the risk management practices employed by the FIs (Power, 2003; Embrechts, Furrer & Kaufmann, 2003; Kelliher, et al., 2016; Morais, Pinto & Klotzle, 2018). The legal obligation to have an Operational Risk Management (ORM) structure, imposed by BACEN Resolution 3380/2006 and maintained by 4557/2017, seeks to eliminate and/or mitigate subjectivity, promotes uniformity and creates an adequate environment for the manifestation of isomorphism, a concept that best captures homogeneity among companies and allows to guarantee the legitimacy and credibility that the agents involved seek to show to the market (DiMaggio & Powel, 1983).

The analysis of the environment that involves the ORM of FIs points to evidence of the action of the three mechanisms of action of isomorphism: coercive, mimetic and normative. To support this statement, we seek to answer the following research question: What are the evidences of isomorphism in the ORM practiced by FIs operating in Brazil?

The search for the answer to the research question motivates the effort to identify what would be this evidence, which configures the main objective of the research. The specific objectives are to identify the focal points of this evidence

and to evaluate why they occur. The premise adopted is that high regulation is not the only justification for the existence of isomorphism in FIs.

It is justified, from a social perspective, to conduct the research due to the importance of understanding how FIs act when faced with situations of uncertainty and the search for legitimacy. The impact that the materialization of operational risks can cause is great, due to the potential losses that they can generate and their effects on the economy and society (Benli & Celayir, 2014; Cherobim & Alves, 2006; Helbok & Wagner, 2005; & Trapp & Corrar, 2005).

National and international regulatory bodies have made efforts and promulgated documents, expressing themselves on the adoption of corporate practices and codes of conduct (Basel Committee on Banking Supervision [BCBS], 2011) addressing the involvement of class associations and consultants (Bank for International Settlements [BIS], 2013; Basel Committee on Banking Supervision [BCBS], 1998, 2001, 2003; Federação Brasileira de Bancos [FEBRABAN], 2004); in addition to contributing to the construction of specific knowledge (FEBRABAN, 2008).

Studies have analyzed isomorphism and its manifestations in organizations in general (Alver, Alver & Tapas, 2010; Brandau, Eendenich, Trapp & Hoffjan, 2013; Cheng & Yu, 2008; González Gonzáles, 2012; Han, 1994; Haveman, 1993; Slack & Hinings, 1994; Irvine, 2008; Lacombe & Chu, 2008; Mizurchi & Fein, 1999; Rodrigues & Craig, 2007; Rossoni & Machado-da-Silva, 2010).

Others have examined isomorphism in the context of operational risk management in FIs (Arhenful, Yeboah & Tackie, 2019; Caussat, Prime & Wilken, 2019; Chaudurry, 2010; Eastburn & Sharland, 2017; Ferreira & Dickason-Koekmoer, 2019; Kaspereit, Lopatta, Pakhchanyan & Prokop, 2017; Kelliher, et al., 2016; Lu, Guo, Liu & Xing, 2013; Martínez & Armenteros, 2017; Melo & Leitão, 2018; Morais, et al., 2018; Nascimento, Klann, Pereira & Fernandes, 2019; Nobanne & Ellili, 2017; Oliveira & Soares, 2018; Pakhchanyan, 2016; Peters, Chappelle & Panayi, 2016; Power, 2003; Rahim, Ahmed & Faeq, 2018; Schneider & Souza, 2017; Schwartz-Gâliste, 2013; Venard & Hanafi, 2008; Wang, Shi & Zhu, 2016; Neu, Ocampo Gomez, Ponce de León & Flores Zepeda, 2002).

The number of papers identified, since the mid-1990s, many in different countries, reveals the importance of studying isomorphism, its manifestations and impacts on the risk management of FIs, including operational ones. Until the end of this article, studies devoted to the "Pillar 3" of FIs as performed in the present study were not found. In the academic perspective, this gap motivated the investigative effort here. Another relevant practical reason is the pioneering role of the banking segment in the practice of ORM in an organized and regulated manner, which can serve as an example for other segments. Finally, it is intended to identify other research possibilities, in the environment of the FIs and in the manifestations of isomorphism.

2 LITERATURE REVIEW

In the first research on ORM in FIs after 1998, the concept of operational risk was not clear, there was a lack of a reliable database of the amount of operational losses that occurred and an adequate method of calculating the capital limits to cover this category of risks (Danielsson, et al, 2001; Embrechts, et

al., 2003; Power, 2003). These surveys pointed out that there was no adequate methodology and that it was necessary to eliminate the causes of operational losses by improving the quality of internal controls and active risk management.

In 1998, ten years after the first discussions on risk categories based on the approach proposed by the Basel Committee, in an attempt to manage credit risks, the Committee officially presented a series of risks, including the operational (Danielsson et al., 2001; Nascimento, et al, 2019). In 2006, BACEN, through Resolution 3380, defined operational risk as the possibility of losses resulting from external events or failure, deficiency or inadequacy of internal processes, systems or people, including legal risk.

BACEN Resolution 4557/2017 revoked 3380/2006, in its section VI dedicated to the management of operational risk, maintained the definition mentioned, with a list of eight events included in the operational risk. After the adoption by Brazil, as of 2006, of the ORM structure provided for in the Basel II Accord, discussions fell on the form of management and disclosure, linked to the determinations of BACEN, using the BIA, ASA and AMA methodologies for the calculation of minimum capital requirements.

BIA - Basic Indicator Approach establishes a predefined percentage; ASA - Alternative Standardized Approach uses specific percentages by business line, and AMA - Advanced Measurement Approach uses an internal measurement system for each bank, based on qualitative and quantitative criteria (Cherobim & Alves, 2006). The AMA approach is the most complete methodology, as it considers the reality of each bank, with its history of occurrences and valid quantifications (Embrechts, et al., 2003). Its use is subject to the approval of the country's Banking Supervisors. To date, no bank operating in Brazil has obtained BACEN approval to use it at ORM (Morais, et al., 2018).

As the BACEN regulations are implemented, the level of evidence in the disclosures of the FIs increases. Santos, Macedo and Rodrigues (2014), based on the information disclosed by the 100 largest FIs in their financial statements contained in "Pillar 3" in 2010, identified that the level of disclosure of the topic "Capital Requirements to support operational risk" was 98% among the surveyed FIs.

In 2013, Brazil was evaluated by the Bank for International Settlements - BIS (Regulatory Consistency Assessment Programme - RCAP) and obtained the maximum "compliant" score, which means that the Sistema Financeiro Nacional (SFN) is solid and resilient. Deficiencies pointed out by BIS were remedied by BACEN with Resolutions and Circulars published in October 2013, demonstrating the Brazilian commitment to follow the Committee's determinations and adhere to the Basel III Accord (BIS, 2013).

As of 2014, the research by Benli and Celayir (2014) dealt with the implementation stage and the use of Risk Based Internal Audit (RBIA) as an approach to the risk management model adopted. Santos et al. (2014) analyzed the statements in the "Pillar 3" Report of two FIs operating in Brazil to identify the determinants of the level of disclosure and concluded that size, Basel Index and type of capital showed a statistically significant relationship with the variable of the level of disclosure.

FIs have teams dedicated to meet regulations, control and manage risks, such as internal auditors, specialists in corporate risk management, internal controls, compliance, fraud and governance specialists, besides other professionals necessary to ensure an efficient structure of controls (Instituto dos Auditores Internos do Brasil [IIA Brasil], 2013). These teams should work together, so that there is no conflict of responsibilities, overlapping activities or unnecessary internal disputes, which harm the group to which they belong. (IIA Brasil, 2013)

The Institute of Internal Auditors (IIA) suggests the use of the "Three Lines of Defense Model", as it is a "simple and effective way to improve risk management and control communication by clarifying essential roles and responsibilities" (IIA Brasil, 2013, p. 2).

The 1st line of defense is characterized by Operational Management, with Operational Controls and Internal Control Measures. Responsibilities are cascaded to ensure that operational managers, mid-level managers and procedural executors obtain the effectiveness of the structure of implemented controls.

In the 2nd line of defense are the Risk Management and Compliance functions. Financial Control, Safety, Risk Management, Quality, Inspection and Compliance areas should support management policies, define roles and responsibilities by assessing the correct segregation of functions, identifying current issues and changes in risk appetite, and supporting operational managers managing their control environment.

In the 3rd line of defense, Internal Audit assesses the effectiveness of the control environment in a comprehensive, independent and objective manner. It reports independently to Senior Management and to the Governance Bodies, Council or Audit Committee. Evaluates previous lines of defense and ensures that objectives and targets are achieved.

Senior Management and the Governance Bodies, Council or Audit Committee coordinate the three lines of defense and communicate with the external environment. Communication should be clear when transmitting expectations, sharing information and coordinating internal and external activities. It should ensure adequate coverage of risks and minimize duplication of activities (IIA Brasil, 2013).

In the model adopted by BACEN, Regulatory Bodies and External Audits appear as external agents, responsible for the general structure of governance and control before society, as a 4th line of defense, ensuring the consistent application of the model. The Basel Committee on Banking Supervision (BCBS) considers the "Three Lines of Defense Model" to be one of the best practices of ORM (BCBS, 2014, p.4; Banco Central do Brasil [BACEN], 2012). Minto and Arndorfer (2015) concluded that, in the case of FIs, External Audit and Banking Supervisors should be a 4th line of defense, connected to Internal Audit.

This scenario of regulation and independent evaluation by a single agent, in the case of Brazil, BACEN, encourages homogenization. When evaluated under the same parameters, all FIs tend to follow the rules of BCBS or similar models of risk management adopted internally and that show up as cases of success before the others, for having been accepted by the independent evaluator.

The stimulus to homogenization refers to the concept of isomorphism presented by DiMaggio and Powel (1983) and which manifests itself through three

mechanisms: the coercive, which guarantees legitimacy via political and legislative influence; the normative, linked to professionalization via professional bodies and consultancies; and the mimetic, in which organizations imitate others considered successful, when faced with uncertainties.

Studies have been conducted on the manifestation of isomorphism in FIs. These works, classified into study categories, are summarized in Appendix 1. For empirical research works, the presentation of their objective, countries and/or regions, population and/or locus of research and findings was adopted. For theoretical-conceptual works, the objectives, motivations and conclusions are presented, being certain that in some of these works there were no differences between the objectives and the motivations.

3 METHOD

A qualitative descriptive research was carried out, followed by content analysis of the “Pillar 3” Report, which deals with the details of the risk management structure, which should be disclosed by all FIs operating in Brazil on their corporate websites. For content analysis, categorizations were made in a descriptive way, which allowed to identify how certain characteristics of coercive, normative or mimetic isomorphism could be manifested in the text of the report, configuring evidence of manifestation.

The characteristics of the mechanisms of action of isomorphism identified in the theoretical framework were used in the elaboration of the constructs and their categories of analysis. We sought data that would allow to create the constructs and categories of analysis of the information in the analyzed reports, in order to meet the basic rules of validity in the analysis. The categories must be homogeneous, exhaustive, exclusive and appropriate or relevant (Bardin, 2011).

As in Russo, Parisi, Megliorini and Almeida (2012), we opted for the elaboration of categories based on descriptions representing a specific meaning for the term to be searched, avoiding undue or duplicate classifications. The location of the description in the “Pillar 3” Reports occurred interpretatively. We used the Vergara’s mixed grid concept (2008) to classify the information disclosed by the FIs within the categories provided, in addition to allowing the inclusion or exclusion of categories. Within the analysis categories, 25 possible isomorphism practices mentioned in the theoretical framework were identified that could be identified in the content of the Pillar 3 Reports of FIs. The constructs and their categorizations are listed in Table 1.

Table 1
Constructs and categories of analysis

Construct 1: Categorization of coercive isomorphism (political influence and problems of legitimacy)	
Analysis category	Theoretical Reference
1.1 Legislation	DiMaggio and Powell (1983)
1.2 Government pressure	DiMaggio and Powell (1983); Rodrigues and Craig (2007)
1.3 Pressure from interest groups	DiMaggio and Powell (1983); FEBRABAN (2004); BIS (2013); Irvine (2008); Alver et al. (2013)
1.4 Imposition of operational procedures/standards	DiMaggio and Powell (1983); Rodrigues and Craig (2007)
1.5 Legitimate rules/structures applicable by a class of organizations	DiMaggio and Powell (1983); Neu et al. (2002)
1.6 Imposition of Stakeholders	Lacombe and Chu (2008); Cheng and Yu (2008)
1.7 Cultural heritage and expectation	Lacombe and Chu (2008); Venard and Hanafi (2008)
Construct 2: Categorization of normative isomorphism (associated with professionalization)	
Analysis category	Theoretical Reference
2.1 Standardized formal education	DiMaggio and Powell (1983); Rodrigues and Craig (2007); Cheng and Yu (2008)
2.2 Networks for rapid and comprehensive dissemination of new practices	DiMaggio and Powell (1983); Power (2003); Chappelle Crama, Hübner and Peters. (2004); FEBRABAN (2004); Rodrigues and Craig (2007); Cheng and Yu (2008)
2.3 Recruitment within the segment	DiMaggio and Powell (1983); Lacombe and Chu (2008)
2.4 Career plan with same position names	DiMaggio and Powell (1983)
2.5 Recommendation from professional associations	FEBRABAN (2004); Neu et al. (2002); Lacombe and Chu (2008); Rodrigues and Craig (2007)
Construct 3: Categorization of mimetic isomorphism (pattern responses to uncertainties through solutions found by others)	
Analysis category	Theoretical Reference
3.1 New or insufficient technologies	DiMaggio and Powell (1983); Haveman (1993)
3.2 Transfer or turnover of employees	DiMaggio and Powell (1983)
3.3 References of models and policies of other organizations	Haveman (1993); Lacombe and Chu (2008); Han (1994); Neu et al. (2002)
3.4 Headquarters and Branches List	González González (2012)
3.5 Acquisitions and Mergers	Haveman (1993); Venard and Hanafi (2008); Cheng and Yu (2008)
3.6 Branch coordination systems and/or reports	Irvine (2008); González González (2012); Neu et al. (2002)

Source: Prepared by the authors based on the search result.

The ten FIs with the highest Total Asset value were surveyed, published on the BACEN website, "Selected Data of Supervised Entities - IF.Data Summary" report from 2013 to 2019. (BACEN, 2017). These FIs represented 75% assets of the

Sistema Financeiro Nacional (SFN). They are: Banco do Brasil-BB, Itaú-Unibanco, Caixa Econômica Federal-CEF, Bradesco, Santander, BTG Pactual, HSBC, Safra, Votorantim and Citibank. In July 2016, HSBC was purchased by Bradesco and as of October 2017, Citibank's retail operations were consolidated with Itaú-Unibanco, reducing the sample to eight FIs.

In 2017, BACEN published Resolution 4557/2017, which provides for the structure of risk management, capital management and information disclosure, which made certain categories of analysis mandatory, which, until that moment, were considered best practices by BCBS (BCBS, 2003, 2011). Due to this movement, the research was extended to 2019 and applied to the eight FIs that published the "Pillar 3" Report in the entire period from 2013 to 2019. The results are presented in two groups, considering the previous result to Resolution 4557/2017 and beyond.

Content analysis was applied to the reports for the 4th quarter of the years 2013 to 2019 to evaluate the results obtained. The time interval object of analysis was chosen due to the accessibility of the "Pillar 3" Reports, which allowed to form a time window of seven years of disclosure of the practices reported there. At the end of this work, BTG Pactual had not published its "Pillar 3" Report for the 4th Quarter of 2019, so the survey was applied to the Report for the 3rd Quarter of 2019 that was available on the FI website.

4 PRESENTATION AND DISCUSSION OF RESULTS

The information disclosed in the "Pillar 3" Report of the eight FIs was analyzed, so it is not correct to state that the unidentified categories are not practiced by the FIs. At the end of the content analysis, nine practices were identified that demonstrate the existence of isomorphism, and that were included in the initial set of 25 categorization practices, as provided for in the Vergara's mixed grid concept (2008). Table 2 lists the general result of the survey and the items that were added.

Table 2

Searched categories and search result

Mechanism	Number of practices surveyed per category			Search result			
	Initial	Added	Final	Added Practices	Absent (A)	Present (P)	% Evidenced
				1.2.2/1.4.3/1.5.3/1.5.4/1.5.5/1.5.6		15	100%
Coercive	9	6	15			15	100%
Normative	7	2	9	2.1.4/2.2.2	2	7	78%
Mimetic	9	1	10	3.1.4	3	7	70%
TOTAL	25	9	34		5	29	

Source: Prepared by the authors based on the search result.

Tables 3, 5 and 6 show the result of the search per isomorphism manifestation mechanism, with the description of the isomorphism categories and practices used in the search. In order to facilitate the citation of data in the Tables, the categories and their practices were listed and the search was divided between 2013 and 2016 and between 2017 and 2019, after Resolution 4557/2017, which

presents new provisions on management of risk, capital and information disclosure.

4.1 Coercive Isomorphism

The results of the research for coercive isomorphism are shown in Table 3.

Table 3
Search Result - Practices of coercive isomorphism

Description	2013 to 2016			2017 to 2019		
	A	P	% P	A	P	% P
1.1 Legislation						
1.1.1 Publishes as required by Law/Resolution	8		100%	8		100%
1.2 Government pressure						
1.2.1 Determined by official bodies	8		100%	8		100%
1.2.2 Risk-adjusted compensation (Res. 3921)	6	2	25%	5	3	38%
1.3 Pressure from interest groups						
1.3.1 Meets group determination (BCBS, BIS, FEBRABAN, etc)	8		100%	8		100%
1.4 Direct imposition of operating procedures and standards						
1.4.1 Adopts BCBS Best Practices	8		100%	8		100%
1.4.2 Uses BIA/ASA/AMA models in calculating Capital Requirement	8		100%	8		100%
1.4.3 Management of other risks (insurance, pension, capitalization, socio-environmental, reputational, model, regulatory)	1	7	88%	1	7	88%
1.5 Legitimate rules and structures, applicable by a class of organizations						
1.5.1 Maintains ORM Structure	8		100%	8		100%
1.5.2 Uses Three Lines of Defense Model	3	5	63%	1	7	88%
1.5.3 Survey of risks/relevant risks as a methodology to direct management	3	5	63%	8		100%
1.5.4 Discloses operating losses (% or value)	3	5	63%	1	7	88%
1.5.5 Business Continuity/Crisis Management Program	8		100%	8		100%
1.5.6 Declares Operational Risk Appetite to subsidize managers and disseminate risk culture	1	7	88%	8		100%
1.6 Imposition of Stakeholders						
1.6.1 Join ORM by imposition	5	3	38%	7	1	13%
1.7 Cultural heritage and expectation						
1.7.1 Join ORM to meet the expectation of being a traditional organization that respects its public	6	2	25%	6	2	25%

Source: Prepared by the authors based on the search result.

Coercive isomorphism presented the greatest amount of evidence of action. All categories were identified with 100% disclosure. The result was expected because coercive isomorphism addresses the legal requirements and demands of interest groups and, being this sector so pressured by internal and external regulations, it tends to be the most present mechanism. This factor was found by Aizawa (2018) who analyzed the compliance activities of Japanese companies from different sectors with great structural and operational similarities between

them. For the author, the influence of the Japan Business Federation and the Japanese government with its regulations, were the causes of the coercive isomorphism identified in the research.

The categories imposed by legal determination, governmental or interest group pressure and the direct imposition of procedures and operational standards are adopted by all FIs. Exception made to the adoption of risk-adjusted remuneration (BACEN Resolution 3921, 2010), which seeks to reduce the conflict of interest between business managers and the risk policy adopted by the FI. Only Itaú-Unibanco, Santander and Safra cite the risk-adjusted remuneration policy. Article 2 of Resolution 4557/2017 determines that FIs must implement disclosure policies for the remuneration policy dealt with in Resolution 3921/2010, however, it is not explicit that it should be disclosed in the "Pillar 3" Report.

In the period from 2013 to 2016, Itaú-Unibanco, Bradesco and Santander cite stakeholders as direct beneficiaries of risk management and not as coercive agents in the process. In the period from 2017 to 2019, only Santander continues to cite stakeholders, which indicates that risk management has been incorporated into the culture of the FIs and is no longer seen as an imposition, but a positive and beneficial factor for the business.

Cultural heritage and expectation are presented by Lacombe and Chu (2008) and by Venard and Hanafi (2008), as a form of political influence. CEF and Banco do Brasil (25%) cite this practice in their reports. CEF understands that a robust and effective risk management promotes the stability of results, contributes to the generation of value and consolidation of the image of a socially responsible and efficient public bank. Banco do Brasil reports seeking to reconcile the needs of its interests and the interests of its stakeholders, as a market bank and a leading bank in the country's development.

Management of risks other than those defined in the Basel Accord (item 1.4.3) is carried out through an internal process and demonstrates the FIs' concern with monitoring specific risks relevant to their processes and disclosing them in the Pillar 3 Report. Only BTG Pactual does not cite the practice in its reports. In the second period of the analysis, BTG started to include the description of Socio-environmental risk management in the report, in compliance with Article 6 of Resolution 4557/2017, maintaining the characteristic of coercive isomorphism in meeting only legal requirements.

Regarding the Survey of Risks or Relevant Risks (Item 1.5.3), in the period from 2013 to 2016, five FIs mentioned classifying the monitored risks in order to highlight the most important ones, which can generate greater impact, to concentrate efforts and ensure greater coverage and security. This category refers to the RBIA risk management model cited by Koutoupis and Tsamis (2009) and by Benli and Celayir (2014). Among the FIs that cited the practice, Itaú-Unibanco stands out, which mentions the "Prioritized Risk Map" tool, and Banco do Brasil, which uses the risk survey according to qualitative and quantitative criteria and with annual review periodicity. Between 2017 and 2019, all FIs report addressing the relevant risks.

The disclosure of operational losses per category of events (Item 1.5.4) presented a scenario divided between 2013 and 2016. Three FIs disclosed their losses (Banco do Brasil, Bradesco and Votorantim), two cite the use of the methodology, however, do not disclose values (CEF, and Safra) and three do not

mention the practice in their reports (Itaú-Unibanco, Santander and BTG Pactual). In the period from 2017 to 2019, only Banco do Brasil and Votorantim disclose losses; BTG Pactual does not mention the calculation of operational losses and the other FIs mention that they do internal verification and disclosure, but do not disclose in the report.

The way of presenting the statistics for the distribution of total operational losses per loss event used by the FIs that disclose this data is different and does not allow direct comparison. Banco do Brasil presents the percentage of occurrences per quarter, while Votorantim presents the cumulative percentage for the year. Bradesco presented statistics on the values of losses, between 2011 and 2013, grouped by ranges of values, distribution by event of loss and by line of business. However, it did not continue its disclosure in the following years. It appears that the categories related to labor lawsuits, external fraud and those resulting from business practices and process failures are the most significant, as seen in Table 4:

Table 4

Operational losses (distribution by loss events)

BANCO DO BRASIL	4T12	4T13	4T14	4T15	4T16	4T17	4T18	4T19
Labor problems	43%	62%	9%	62%	30%	32%	18%	32%
External fraud and theft	15%	20%	13%	26%	15%	12%	8%	3%
Business failures	41%	4%	68%	-1%	51%	52%	72%	59%
BANCO VOTORANTIM	2012	2013	2014	2015	2016	2017	2018	4T19
Working relationships	53%	42%	53%	42%	41%	42%	44%	40%
Customers, products/business practices	28%	20%	16%	20%	23%	23%	21%	17%
Execution/process management	7%	19%	10%	13%	12%	13%	17%	22%
External Fraud	12%	17%	20%	22%	19%	21%	18%	20%
BRADESCO	2011	2012	2013					
Human Resources	37%	38%	42%					
External Fraud	37%	33%	28%					
Lawsuit	16%	23%	22%					

Source: Prepared by the authors according to Pillar 3 Reports

The lack of regularity in the disclosure of operational losses by the FIs or the use of different groupings (annual or quarterly) has the consequence of less disclosure and the suppression of relevant information that can interfere with decision making of stakeholders (Kaspereit, et al. 2017; Morais, et al., 2018).

The maintenance of the Business Continuity Program (Item 1.5.5), with the application of the Business Impact Analysis (BIA) methodology enables the strategic planning of crisis management, to ensure business continuity and preserve stakeholders. The program provides for procedures that allow reallocating or recovering operations due to interruptions, such as the recovery of critical databases and systems, reallocation of personnel in case of contingencies in the workplace, among others.

The formal Operational Risk Appetite statement (Item 1.5.6) as an ORM tool consists of defining how much risk the FI is willing to accept in order to achieve its objectives, with the monitoring of the performance of managers by methodology and periodicity defined by management. BTG Pactual did not mention the use of the practice until 2017, Safra started declaring in the 2016 report. The other FIs say

they use it in the risk management of the IF as a whole or specifically for operational risks. As of Resolution 4557/2017, this practice has become mandatory and since 2018 all FIs declare to use a Risk Appetite Statement, confirming the coercive mechanism.

DiMaggio and Powell (1983) assert that in some circumstances organizational change is a direct reflection of government orders. The ORM structure was established by Resolution 3380/2006, in effect from 2013 to 2016 of the research. Out of the 15 coercive isomorphism practices surveyed, 100% FIs presented evidence in the Pillar 3 reports. In 2017, Resolution 4557 revoked Resolution 3380, complementing and expanding its action. The 2017 to 2019 survey period continues to show evidence of compliance by 100% of the FIs. Practices 1.2.2 - Risk-adjusted remuneration, 1.5.6 - Risk Appetite Statement and 2.1.1 - Promotes the dissemination of risk management culture, had an increase in the percentage of disclosure after the publication of Resolution 4557/2017, in line with what was reported by DiMaggio and Powell (1983) and Rodrigues and Craig (2007).

4.2 Normative Isomorphism.

The results of the research for normative isomorphism are shown in Table 5.

Table 5
Search Result - Practices of normative isomorphism

Description	2013 to 2016			2017 to 2019		
	A	P	% P	A	P	% P
2.1 Standardized formal education						
2.1.1 Promotes the dissemination of risk management culture	2	6	75%	8	100%	
2.1.2 Conducts Operational Risk training	1	7	88%	1	7	88%
2.1.3 Requires specific higher education	8			8		
2.1.4 Certification independent of the control environment	4	4	50%	4	4	50%
2.2 Networks for rapid and comprehensive dissemination of new practices						
2.2.1 Cites Associations, Working Groups between FIs with reference to the creation of new practices	6	2	25%	6	2	25%
2.2.2 Describes the attributions of Committees, Directors and the like that make up the ORM Structure	8		100%	8		100%
2.3 Recruitment within the same sector						
2.3.1 Direct reference to hiring employees within the sector	8			8		
2.4 Career plan with the same position nomenclature						
2.4.1 Cites the nomenclature of EGRO positions	6	2	25%	8		
2.5 Recommendation from professional associations						
2.5.1 Adopts methodologies or recommendations from consulting/ auditing companies	5	3	38%	5	3	38%

Source: Prepared by the authors based on the search result.

ORM professionalization is not an issue addressed in the "Pillar 3" Report. Nevertheless, it was possible to identify evidence of the action of the mechanisms of normative isomorphism. Out of the 9 categories surveyed, 7 (78%) were evidenced considering the two periods of the research.

Linked to the standardization of knowledge and conduct, items 2.1.1 - Promotes the dissemination of the risk management culture and 2.1.2 - Conducts Operational Risk training can be associated with the use of the Three Lines of Defense Model (item 1.5.2), as the 1st line of defense encompasses the management and operation of the business and requires a more refined vision of the ORM. The seven FIs that declare to use this model (BB, Itaú-Unibanco, CEF, Bradesco, Santander, BTG and Safra), also declare to disseminate the risk culture and operational risk training, except BTG that does not mention the training in operational risks.

Itaú-Unibanco formalizes the relationship between the items by emphasizing that the operational risk agenda is based on the dissemination of a culture of risks and controls to employees through training, promoting a better understanding of the subject and its role in risk mitigation. Santander adopts the model structured by lines of defense, with the first line being responsible for risk identification, management and reporting. FI seeks coverage and sustainability with the dissemination of the operational risk culture through internal communication, online courses and other means, reinforcing the responsibility of all employees in the management and control of operational risks. The importance of disseminating the risk culture is presented by Arhenful et al. (2019) when analyzing the importance of ORM in commercial banks in Ghana.

Items 2.1.3 - Requires specific higher education and 2.3.1 - Direct reference to hiring employees within the sector, represents a way of manifesting the normative isomorphism not disclosed in the "Pillar 3" Report. However, the fact of not identifying evidence of these two items does not mean that they do not occur in the researched FIs.

Networks (Item 2.2.1) or professional associations (Item 2.5.1) are shown to have little impact on the manifestations of normative isomorphism. The first was cited by CEF and Bradesco and the second by CEF, Bradesco and Santander. CEF and Bradesco refer to the adoption of models from international institutes as a basis for the development of the business continuity program, in addition to technical standards.

Item 2.1.4 - Certification independent of the control environment, mentioned by Itaú-Santander, Bradesco, Santander and Safra, is a way to promote formal and standardized education, creating a knowledge base that will guide future actions. Another approach is that the evaluating body can be the agent for disseminating FI practices, as with the audit services analyzed by Han (1994).

Santander uses the Internal Control Model based on the methodology developed by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) and complies with the requirements of the regulators (BACEN, CVM, B³) and the Sarbanes-Oxley law (Security Exchange Commission-SEC). Bradesco and Itaú-Unibanco use structured governance to control and monitor ORM, certifying the control environment independently. Safra cites external audit as its fourth line of defense and is responsible for assessing the internal control environments, procedures and processes, with action plans for improvements and necessary adjustments.

Item 2.2.2 - Attributions of Committees, Directors and the like in the ORM structure was cited by all FIs. However, it is not possible to associate the bodies with

a career plan, one suggestion of DiMaggio and Powell (1983) for the manifestation of normative isomorphism, when analyzing the homogenization of the companies' job structure. Banco do Brasil and Santander referred to the nomenclature of positions (Item 2.4.1) that would allow comparison and identification of similar career plans. The descriptions used are linked to their corporate governance structure, varying from bank to bank. At one extreme, BTG Pactual states succinctly that its risk management instruments are subjected to approval by the Risk Committee and Management Committee Brazil, and that any exceptions must be dealt with in specific committees. At the other extreme, Itaú-Unibanco links its risk management structure with the three lines of defense, citing even the level of executive and business and operational managers with their respective responsibilities. CEF makes the same type of description involving up to the level of boards and management units. Nevertheless, in the period from 2017 to 2019, all FIs ceased to mention their positions, citing the governance structure with their respective Committees and Boards linked to ORM and the Administrative Council.

The description of the attributions of Committees, Boards and the like that make up the ORM structure is a demand of BACEN Resolution 3380/2006, maintained by Resolution 4557/2017, which meant that this category could also be reclassified as belonging to coercive isomorphism.

4.3 Mimetic Isomorphism

The results of the research for mimetic isomorphism are shown in Table 6.

Table 6
Search Result - Practices of mimetic isomorphism

Description	2013 to 2016			2017 to 2019		
	A	P	% P	A	P	% P
3.1 New or insufficient technologies						
3.1.1 Cites search/use of technologies to assist ORM	8		100%	8		100%
3.1.2 Cites the search for technologies to create the Operational Loss Database	2	6	75%	3	5	63%
3.1.3 Cites the creation of an internal model to quantify the expected loss resulting from Operational Risk	3	5	63%	3	5	63%
3.1.4 Develops the use of the LDA - Loss Distribution Approach methodology for calculating capital allocation for Operational Risk	6	2	25%	6	2	25%
3.2 Employee transfer or turnover						
3.2.1 Specific citation for hiring or transferring employees to develop new projects related to ORM	8		-	8		-
3.3 Reference to models/policies of other organizations						
3.3.1 Adoption of methodologies, policies, rules and procedures of other organizations in the same category	8		-	8		-
3.4 List of Headquarters and Branches						
3.4.1 Follows matrix and/or branch determinations	8		100%	8		100%
3.5 Acquisitions and Mergers						
3.5.1 Deploys ORM or ORM methodologies resulting from mergers, acquisitions or other type of association between related companies	8		-	7	1	13%
3.6 Branch coordination systems and/or reports						
3.6.1 Standardization of procedures by branches, based on the matrix's guideline	1	7	88%	1	7	88%
3.6.2 Use of benchmark indicators	2	6	75%	1	7	88%

Source: Prepared by the authors based on the search result.

In this type of manifestation, there was a homogeneity between the practices adopted, even though there was no direct reference to the adoption of methods from other companies (Items 3.2.1, 3.3.1). The other practices are cited by almost all FIs.

Due to the volume of operations carried out by the FIs, it was expected that they would develop computerized systems and adopt methodologies that would allow a more adequate management of the ORM (Schneider & Souza, 2017). In item 3.1.1, we see that Santander mentions the use of the GRC-Heracles module of SAP as a tool that has helped ORM since 2017. The other FIs cite generic terms to name their ORM monitoring and reporting tools. As it does not name the technologies used or the year of adoption, it cannot be said that any FI has adopted the technology of another within the same segment.

In item 3.1.2, it can be seen that 6 FIs cite the search for technologies to create databases of realized operational losses, without it being possible to identify one of greater prominence. BTG Pactual and Banco do Brasil do not mention the practice. As of 2017, Itaú-Unibanco ceased to mention the practice. In item 1.5.4 which deals with the evidence of disclosure of operational losses, there is evidence that 7 FIs determine and disclose their losses internally or externally and, therefore, it is deduced that they have the technology, even without explicit mention of a specific technology.

The search for the development of the internal model to quantify the expectations of operational losses addressed in item 3.1.3 is the expectation of the Basel Committee for the main FIs that operate internationally, as presented by Cherobim and Alves (2006) and Morais et al. (2018). Itaú-Unibanco, BTG Pactual and Votorantim do not mention the development of this model.

It is worth noting the pioneering position of Bradesco, the first FI in the country authorized by BACEN to use, since January 2013, its internal market risk models for calculating regulatory capital. Also, for market risk, Itaú-Unibanco obtained this authorization in 2016, Santander in 2018 and CEF's request was under analysis until the 2019 Report was issued. Regarding the creation of the internal model for operational risk, only Bradesco informs that it uses internal data of operational losses and is a member of Operational Riskdata eXchange (ORX), a worldwide consortium of operational risk loss database. These are two elements necessary to determine the operational risk based on the internal AMA model.

There is a strong influence of the standardization of procedures between headquarters and branches (Items 3.4.1 and 3.6.1), as the BACEN regulations apply to the economic and financial consolidate. Haveman (1993); Venard and Hanafi (2008); Cheng and Yu (2008) mention that mimetic isomorphism can also occur through mergers, acquisitions or other types of association between companies (3.5.1). Votorantim results from a partnership between Banco do Brasil and the Votorantim Group; despite not stating that it follows determinations from a headquarter, of the 34 categories surveyed, only 5 responses from Votorantim differ from those presented by Banco do Brasil. After the union of HSBC with Bradesco in 2016 and Citibank with Itaú-Unibanco in 2017, there is no reference to the practices of the consolidated FIs in the "Pillar 3" reports of the consolidators, showing that the practices of Bradesco and Itaú-Unibanco prevailed.

Initially, it was decided to classify the matrix and subsidiary relationship as a category of manifestation of mimetic isomorphism, as presented by González González (2012). After reading the reports, it was found that in this segment the relationship between headquarters and branches is closer to the direct imposition of procedures and operational standards, characteristic of coercive isomorphism.

The use of indicators to monitor the ORM (item 3.6.2), mentioned by 88% surveyed FIs, is not mentioned by BTG Pactual. Banco do Brasil and Bradesco declare that monitoring limits and operational risk indicators is part of the control activities of the ORM process; Itaú-Unibanco uses key risk indicators as a tool in the management of processes; CEF informs that it is developing a system of business environment indicators and internal controls to incorporate them into the internal capital measurement model. Nukpezah and Abutabenjeh (2018) consider that in relation to standardized financial indicators, participants may be imitating each other's practices, characterizing mimetic isomorphism.

By including item 3.1.4 - Develops the use of the LDA - Loss Distribution Approach methodology in mimetic isomorphism, it was expected that the FIs would disclose the tools used in the calculation of capital allocation, which would allow a comparison and possible identification of imitation between them. Until 2015, the expectation was not confirmed, as it was mentioned only by CEF, while the other FIs cite the option for the standardized approach, without reference to specific tools, systems or methodologies. Only as of 2016, Safra also declares to use the LDA methodology as an internal alternative in calculating the capital

requirement for operational risk, and in 2019, CEF excluded the paragraph that cited the practice of using the LDA methodology.

4.3.1 Evidence of FIs Following Success Cases

This being a premise of mimetic isomorphism, as stated by DiMaggio and Powell (1983) and Haveman (1993), a pattern was sought in the research that would reveal the manifestation of mimicry. The five FIs that had the greatest assets (Group A) and that had the greatest amount of identified evidence were segregated, while the other FIs (Group B) had the least amount of evidence. The premise for the three sets of isomorphism categorization was applied and the result is listed in Table 7:

Table 7

Distribution of the evidence identified in the search - 2013 to 2019

Group A FIs (5 Largest Total Assets)	Coercive	Normative	Mimetic	Total
BB	13	3	5	21
ITAU-UNIBANCO	13	4	5	22
CAIXA ECONOMICA FEDERAL	13	5	6	24
BRADESCO	12	6	6	24
SANTANDER	14	5	7	26
Group A Subtotal	65	23	29	117
% of total evidence	66%	72%	67%	67%
Group B FIs (other FIs of the sample)				
BTG PACTUAL	10	2	2	14
SAFRA	13	4	7	24
VOTORANTIM	11	3	5	19
Group B Subtotal	34	9	14	57
% of total evidence	34%	28%	33%	33%
TOTAL EVIDENCE	99	32	43	174

Source: Prepared by the authors based on the search result.

Among the categories of coercive isomorphism, as they are linked to the legislation and regulation of the sector, the distribution of evidence between the groups is 66% in Group A and 34% in B, revealing that all FIs meet legal prerogatives and seek to meet rules and impositions for the search for legitimacy. There is no significant highlight of one of the groups.

Mimetic isomorphism appears with 67% evidence from Group A. Safra (7 evidences) and Votorantim (5 evidence) belonging to Group B presented evidence in their reports at the same level as the FIs in Group A. Apparently, practices related to the search of technologies to aid ORM and the use of systems and reports for management and regulation in the relationship between headquarters and branches are more mature and consistent among most of the FIs in the sample since the beginning of the research in 2013.

Until 2015, Votorantim presented 3 evidences of mimetic isomorphism. Considering the association between Banco do Brasil and Votorantim, it was expected that, in the short term, the latter would present a larger volume of evidence in this group, due to the influence of Banco do Brasil, as proposed by Haveman (1993), which is confirmed after 2016 with 5 evidences in this group.

Haveman (1993) also showed that within the same segment, incoming companies follow the largest and most profitable, demonstrating the practice of mimetic isomorphism. The only FI that stands out from the rest in the search result is BTG Pactual, which shows a focus only on the categories linked to meeting the sector's legislation and regulations.

Normative isomorphism has the greatest difference between the two groups, indicating that the concern with ORM professionalization, which involves greater awareness of risk and the importance of its management, at all levels of the organization, is not yet shared by all FIs surveyed, but it is more present among the five largest assets.

Analyses on the evidence of normative isomorphism indicate that the practices related to process improvements were initially created by the largest banks and tend to be followed by others, configuring a manifestation of mimetic isomorphism, with emphasis on Safra, which, since 2016, passed to highlight two more categories of normative isomorphism related to the dissemination of risk culture and operational risk training and the BTG which, as of 2017, included in its "Pillar 3" reports that works with the dissemination of risk culture. The analysis of the reports shows that these two practices are the most used for the dissemination of ORM in the FIs, having become mandatory in Resolution 4557/2017. In the case of BTG Pactual, we also have a manifestation of coercive isomorphism because the evidence comes after the validity of the BACEN resolution

4.4 Focal Points

After the analysis of the categorization groups, we started looking at the result in search of convergence of information or trends between the FIs.

The phase of compliance with legislation and impositions of national and international regulations on ORM has stabilized and has been incorporated into the routine of FIs, which is confirmed by the practices of coercive isomorphism practiced by all FIs.

One factor that confirms this maturity is the search for advanced internal models for calculating capital requirements for operational risk. According to the RCAP report (BIS, 2013), when assessing Brazilian FIs, they were preparing to adopt internal models, but they were at the early stages of the process and there was no expectation of any release from BACEN for at least 3 years. As mentioned by Banzas (2005), FEBRABAN (2008) and Morais et al. (2018), this is the ideal stage foreseen by the Basel Committee in which FIs can calculate the value of the capital requirement based on their reality, respecting their individual and cultural aspects, but following the minimum determinations of supervisory bodies and upon approval of the latter to the model adopted.

For the creation of the internal model, FI should create a solid internal and external database of operational losses, have a mature ORM environment with scenario analysis for relevant internal control factors and consider the business environment of the FI and the country in which it operates. Evidence has been identified in categories that demonstrate that FIs are preparing to adopt internal models.

The stage of maturity and improvement of the ORM environment can be seen with the high rates of disclosure of practices related to professionalization, such as dissemination of the risk culture (2.1.1), operational risk training (2.1.2), adoption of the Three Lines of Defense Model (1.5.2). The use of technology to create or maintain loss databases is identified (3.1.2), the demand for standardization of procedures between companies of the same group (3.6.1) and the use of indicators to monitor the performance and reach of goals (3.6.2), which ensures strategy uniformity and control.

Prioritization of risks, formal statement of risk appetite as a management tool, the disclosure of operational losses and the independent certification of the control environment appear less expressively in the research, but reveal the concern of the FIs to stabilize the ORM and seek higher levels for greater control over operational risk. These practices are recognized for their effectiveness when included by BACEN in Resolution 4557/2017 and are now evidenced by the FIs (items 1.5.3, 1.5.4 and 1.5.6).

4.5 Isomorphism in the ORM of Financial Institutions: imposition or option?

An initial analysis of the scenario of the surveyed FIs reveals that they mobilized to meet the legal requirements and demands of the Basel Committee. Non-compliance has as its main consequence the impossibility of operating in the Brazilian banking sector and confirms the opinion of DiMaggio and Powell (1983) when presenting the isomorphism and its coercive action mechanism. The requirement to implement the ORM structure as a legal determination gave the process the valuation and the necessary stimulus for its expansion and sedimentation within the FIs (BCBS, 1998; Pedote, 2002)

Oliver (1991) and Machado-da-Silva, Fonseca and Crubellate (2005) understand that organizational decisions are not made irrationally and the rules are not just followed in a reactive way, to obtain financial advantage or gain. The banking sector has great social responsibility, given the global effects of the financial crisis of 2008, when it became clear the demand for high ethical behavior by the FIs, for a controlling system that would guarantee liquidity, continuity and confidence in the sector's agents (Melo & Leitão, 2018; Ferreira & Dickason-Koekemoer, 2019).

Legal obligation was the starting point and the adoption of the Basel Committee rules was not an option. The landmark of the change was BACEN Resolution 2554 (1998), which determined the implementation of internal control structures for the FIs operating in Brazil. Before that, as seen in Pedote (2002) when analyzing the stage of evolution of ORM in FIs before the requirements of the Committee, it was identified that the tools used did not differ much from the current ones; the measurement of losses was in the initial process; ORM was focused on maintaining strategies and few FIs had staff exclusively engaged in the activity.

The result of the research on the categories of coercive isomorphism confirms this fact. In a subsequent movement, the incorporation of the ORM structure into the company's processes is noted and the search for improvements and excellence becomes a competitive differential, since the information is disclosed to the public in a compiled and organized manner, allowing

comparisons and greater knowledge for stakeholder decision making (Kaspereit et al., 2017; Morais, et al., 2018).

A cycle of continuous improvement and homogenization is confirmed when, in 2017, BACEN made mandatory through Resolution 4557/2017 some ORM practices that were mentioned in the "Pillar 3" reports, such as the adoption of risk-adjusted remuneration; maintain a database to determine, classify and analyze the causes of operational losses, even if only disclosed internally; elaboration of the Risk Appetite Statement; dissemination of the risk culture and operational risk training.

5 FINAL CONSIDERATIONS

The objective of this work was to analyze the evidence of isomorphism and its three mechanisms of action: coercive, normative and mimetic, based on data from the "Pillar 3" Report released by the FIs operating in Brazil.

Coercive isomorphism appears as the strongest mechanism: out of the 15 categories surveyed, as all were present and 12 of them had a level of disclosure greater than 88%.

The disclosure of operational losses as an ORM practice was cited by 88% FIs, but only Banco do Brasil, Votorantim and Bradesco released quantitative data. When combining this information with the search for technologies to maintain a database of operational losses, cited by 63% FIs, it is concluded that, even without disclosure, the banks are investigating and using the loss data as a form of ORM. The fact that Bradesco disclosed its main operational losses in 2013 and failed to disclose or quote them in the following years draws attention in this category.

In the analysis of the categorization of normative isomorphism, the highlight was the disclosure of the attributions and responsibilities of Committees, Directors and the like. The FIs link risk management with corporate governance practices and all have similar compositions.

The dissemination of the risk culture and operational risk training were present in 100% and 88% FIs. These categories are linked to the professionalization and standardization of the sector, spreading the concept that the responsibility for knowledge and risk containment lies with the operational and business manager, as recommended in the Model of Three Lines of Defense, present in 88% FIs.

In mimetic isomorphism, the search or use of technology to assist ORM in the 100% FIs stands out, and the search for technologies to create databases of operational losses, in 75% of them. It was expected to identify trends or details in the use of technologies in both categories. It was found that, except for Santander, which cites the adopted technology, the others cite generic names and do not reveal details that allow comparing the adopted technologies.

The categories that deal with compliance with determinations between headquarters and branches present 100% evidence in the FIs. The standardization of these procedures and the use of indicators as management and monitoring tools, appear in 88%.

When looking for evidence of mimicry in which smaller FIs (Group B) would be following the successful cases of larger ones (Group A), a balance was

identified between the manifestations of coercive and mimetic isomorphism. The manifestations of normative isomorphism revealed a greater concentration among the Group A FIs, related to the professionalization of ORM. Group B tended to follow the successful examples of Group A, in the categories of normative isomorphism, configuring the action of mimetic isomorphism.

In the specific objectives of this work, we sought to identify the focal points of the evidence presented and to evaluate why they occur. Each mechanism acts and gives its contribution to the FI and the homogeneity of the sector. Slack and Hinings (1994), Mizruchi and Fein (1999), Alver et al. (2013), Brandau et al. (2013), Cheng and Yu (2008), Lacombe and Chu (2008) and Neu et al. (2002), understand that the three mechanisms of isomorphism can act simultaneously, contradicting the idea of DiMaggio and Powell (1983) that they are different and act independently. The result of the research confirms that the three mechanisms occur simultaneously between the FIs.

After meeting legal and regulatory demands, FIs seek to create internal models for the calculation of reference capital, which requires solid databases of internal and external operational losses and a mature ORM environment. The effort to reach this stage is visible when the search for professionalization and improvement of ORM is evidenced, with high levels of disclosure in categories such as dissemination of risk culture (100%), operational risk training (88%) and adoption of the Three Lines of Defense model (88%). Categories with high levels of disclosure were identified that point out the concern with the success of this strategy, such as the use of technology to maintain databases of operational losses (75%), the standardization of procedures (88%), the requirement to adopt them among companies in the same group (100%) and performance monitoring through indicators (88%).

Regarding the adoption of the ORM being motivated by legal requirement or by option, it was found that some ORM practices were used previously, as already pointed out by BCBS (1998), in the implementation of the Internal Controls areas to comply with BACEN Resolution 2554 (1998), in the FEBRABAN survey (2004) that lists the ORM tools used by the FIs. The legal requirement was Resolution BACEN 3380 (2006), which obliges FIs to adapt to meet new rules, revoked by Resolution BACEN 4457 (2017), which maintained the main provisions of the previous one.

Positive changes affect agents and change the environment for the better. By adopting internal models in the calculation of the reference capital, the FIs seek the evolution and maturation of ORM, signaling a process of positive change. It is not possible to conclude whether the process would have been implemented with the same success without regulatory and legal pressure; therefore, without the action of coercive isomorphism.

The increase in the disclosure of isomorphism practices over the surveyed period demonstrates that ORM, has been treated by the FIs more as a management tool than simply because of the mandatory legislation. The volume of existing work on isomorphism and its impacts on the management of FIs, as well as the level of disclosure found herein, confirms that it is a relevant issue and that it should be considered by other segments of the economy.

The banking segment stands out for its structured way of conducting ORM. The information released by BCBS and BACEN, through the principles or activities/actions to execute them, in addition to the "Pillar 3" Reports published

on the corporate websites, allow to know and evaluate the successful practices among the banks, to make possible adaptations and deploy in other companies, improving the management of organizations in other segments and promoting improvements in the market in general.

Indicators of new research were identified, in the FI segment and in the forms of manifestation of isomorphism. The heterogeneous and non-sequential way of calculating the operational loss values suggests new research on the survey and evolution of the operational loss values determined in certain periods, the types of losses identified and whether there was a reduction due to ORM. As for the methods used in the creation of the internal models, research can be carried out that identifies the stage of evolution of the models among the main FIs.

Specific research is suggested on evidence of the training requirement for those working at ORM and the hiring of employees within the segment as a way of manifesting normative isomorphism.

Investigating the identification, classification and study of the origin of information technology in the creation of internal models will make it possible to highlight the role of mimetic isomorphism and assess whether there is influence from consulting or auditing companies.

When demonstrating the distribution of the evidence identified in the research among the FIs in the group of the five largest total assets (Group A) and the other FIs, the data suggest complementary research, such as identifying why certain items have such a low number of evidences among smaller banks. Another research suggestion is to compare the ORM adopted by the FIs with that of organizations in other segments subject to specific regulations, evaluating how the three mechanisms of isomorphism act between them, similarities and differences between the practices adopted.

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APPENDIX 1

Empirical research works			
Authors	Arhenful, Yesbah & Tackie	Year	2019
Objective	To assess operational risks of commercial banks in Ghana		
Country	Ghana	Sample	32 commercial banks
Findings	Minimum understanding of the prerequisites for mitigating operational risks, absence of risk identification procedures, timid development of methods for monitoring and controlling risks.		
Authors	Caussat, Prime & Wilken	Year	2019
Objective	To explore how French banks respond to the challenges they face (liability foreignness) in India, an emerging market, with an adverse and unique institutional environment, due to its strong economic nationalism and cultural traditions.		
Country	India	Sample	Three foreign banks
Findings	They identified four legitimation strategies: two passive (isomorphism and transfers), one reactive (political activism) and one proactive (rhetorical), related to specific actors and objectives, which can be combined. They identified organizational practices leveraged by the identified actors, for each legitimation strategy. They connected these practices to a resource-based view framework, which allowed them to compare the external strategies developed at the subsidiary level with the internal requirements required by the bank's headquarters. They concluded by the possibility of discussing ways to mitigate potential internal and external tensions.		
Authors	Eastburn & Sharland	Year	2017
Objective	To determine why many banks do not recognize their inherent risks in a timely manner and demonstrate how an effective risk management structure can be a solution to mitigate these risks.		
Country	United States	Sample	151 banks
Findings	Respondents understand that an effective risk management process is a solution for risk mitigation, which contributes to the financial performance being a direct measure of the decision-making capacity of managers, in identifying and coping with risks.		
Authors	Ferreira & Dickason	Sample	2019
Objective	Identificar se a tendência de depositantes em retirar seu dinheiro de contas bancárias é influenciada por sua percepção sobre o banco, e seu nível individual de tolerância ao risco.		
Country	South Africa	Sample	417 depositors
Findings	They identified a positive relationship for depositors to withdraw their money from banks in operational risk events and a negative relationship to withdraw their money in relation to their level of risk tolerance.		
Authors	Kaspereit, Lopatta, Pakhchanyan & Prokop	Year	2017
Objective	To study the informational content of collateral events of operational loss that occurred in European FIs, related to the announcements of rival FIs, from the perspective of institutional investors.		
Country	Europe	Sample	Operational loss events in 72 (seventy-two) large European banks, registered in the OffSchOR database, maintained by the Association of Public Sector Banks in Germany.

Findings	They identified significant negative abnormal returns, stock market reactions and insignificant abnormal returns close to the moments of the announcements, indicating a high degree of market efficiency.		
Authors	Lu, Guo & Liu	Year	2013
Objective	To contribute to face the measurement of operational risk in Chinese banks, using the Theory of Extreme Value and semi-linear credibility, used for elementary (non-life) insurance.		
Country	China	Sample	Operational loss data for about 118 Chinese banks, obtained in aggregate.
Findings	The combination of data from losses due to operational risk and external losses, for the period 1990-2011, allowed to offer valuable references that can benefit Chinese Banking Supervision.		
Authors	Martínez & Armenteros	Year	2017
Objective	To present the design of a database of operational losses and their interfaces, for the implementation of the Extreme Programming Methodology (XP).		
Country	Cuba	Sample	Bank of Credit and Commerce of Cuba - BANDEC
Findings	Obtaining a functional product to solve the problem identified by the Bank of Credit and Commerce of Cuba.		
Authors	Melo & Leitão	Year	2018
Objective	Analyze the fulfillment of the Basel Committee requirement for the disclosure of operational risks by Brazilian FIs with shares in B ³ .		
Country	Brazil	Sample	26 banks
Findings	Brazilian banks comply with the recommendations of the Basel Committee. B ³ 's Differentiated Level for banks do not have a better level of transparency than Traditional Level for banks, going against the idea that the Differentiated Level offers more security of transparency than the Traditional Level.		
Authors	Morais, Pinto & Klotze	Year	
Objective	To demonstrate the use of Scenario Analysis in the application of the Loss Distribution Approach (LPA) methodology for the calculation of regulatory capital related to operational risk by BNDES, in addition to integrating operational risk management with the determination of the volume of capital.		
Country	Brazil	Research locus	BNDES
Findings	The analysis of the scenarios allowed the identification of several aspects and situations useful for the improvement of the analysis and confrontation of operational risks by the BNDES.		
Authors	Nascimento, Klann, Pereira & Fernandes	Year	2019
Objective	To describe what Brazilian and British FIs show about operational risk management, seeking to identify possible divergences in the published information.		
Country	Brazil an United Kingdom	Sample	Two Brazilian and two English banks, with ADRs on the NYSE.
Findings	Brazilian banks analyzed need to increase the disclosure of operational risks, mainly regarding the description of the types of risks, amounts intended to cover risks and actions to mitigate these events.		
Authors	Nobanne & Ellili	Year	2017
Objective	To examine the degree of disclosure of operational risks and examine their impact on the operating cash flow of banks listed on		

	the UAE Abu Dhabi Stock Exchange (ADX) and Dubai Financial Market (DFM), in the period 2013-2016.		
Country	Dubai	Sample	All banks listed on the UAE Abu Dhabi Stock Exchange (ADX) and Dubai Financial Market (DFM), in the 2013-2016 period, totaling 224 firm observations per year.
Findings	Low level of disclosure of the operational risks of conventional and Islamic banks, with no association between disclosure levels and cash flows.		
Authors	Oliveira & Soares	Year	2018
Objective	To identify internal control procedures used by a FI agency in Goiânia, state of Goiás, which contribute to the effective management of operational risks.		
Research locus	Agency of a FI in Goiânia, state of Goiás		
Findings	The internal control policy is one of the main responsible for the effective management of operational risks in the agency and the FI, contributing to the continuity and strengthening of the agency and the FI.		
Author	Pakhchanyan	Year	2016
Objective	To categorize and search 279 academic articles on operational risk in FIs, covering the period from 1998 to 2014.		
Research locus	279 articles obtained from EBSCON Business Source Premier and Google Scholar.		
Findings	To provide an overview of databases and other public sources on operational losses, to be used in empirical research and risk measurement processes in FIs, in addition to pointing out research gaps in operational risk and indicative of future research.		
Authors	Rahim, Ahmed & Faeq	Year	2018
Objective	To examine the relationship between the internal control system and the operational risk management perceived in banks.		
Country	Malaysia	Sample	132 Malaysian bank executives
Findings	Malaysian conventional banks have a good relationship between the internal control system and operational risk management.		
Authors	Schneider & Souza	Year	2017
Objective	To compare information security practices and internal controls prescribed by the literature with the reality of a FI, aiming at risk prevention, via the analysis of the FI policies.		
Research locus	A Brazilian FI.		
Findings	FI has an adequate organization and is in the growth phase; however, not yet fully in accordance with COBIT. Risk management is carried out in the light of COSO.		
Authors	Venard & Hanafi	Year	2008
Objective	To examine the institutional reasons for corruption in FIs from emerging countries.		
Research locus	18 emerging countries	Sample	74 top executives of FIs operating in these countries
Findings	They found that the rules of the game are not fully ensured and standardized in emerging countries. Therefore, companies can adopt corrupt behaviors to ensure their market share. At the same time, governments in emerging countries are trying to develop friendly and adequate business environments, which can interfere with the functioning of private companies. They point out that the politicization of the economy may be necessary in the first period of institutional construction to minimize the potential for corruption.		

Authors	Wang, Shi & Zhu	Year	2016
Objective	To model the correlation between lines of banking business using, in conjunction, the precepts of Shannon's Information Theory and a method called COPULA.		
Research locus	Operational database of a Chinese bank		
Findings	The combined use of the Information Theory and the COPULA method offers more consistent results than those that would be under the assumption of linear correlations between the variables of analysis.		
Theoretical-conceptual works			
Author	Chaudhury	Year	2010
Objective/Motivation	To discuss practical issues faced by banks in the design and implementation of capital models for operational risks. The focus adopted was on the use of the loss distribution approach in the context of the Basel advanced measurement approach.		
Findings	At the end of the study, the paper provided an overview of various practical aspects applicable to situations in which capital modeling to face operational risks is necessary.		
Authors	Kelliher, Acharyya, Couper, Grant, Maguire, Nicholas, Smerald, Stevenson, Thirwell & Cantle	Year	2016
Objective	To establish good practices for determining the inputs to be used in operational risk models for banks, insurance companies and other financial service companies.		
Motivation	To contribute to the application of Basel II regulatory requirements, combined with what is found in the literature on operational risk modeling.		
Conclusions	Recommendations for risk analysis and modeling procedures, combined with the use of Expert judgment for certain situations.		
Authors	Peters, Chapelle & Panayi	Year	2016
Objective	To propose a structure for identification and assessment of risks applicable to cryptocurrencies, from the perspective of banking regulation.		
Motivation	To offer artifacts and mechanisms to identify, classify and eliminate/mitigate risks arising from transactions with cryptocurrencies by the banking sector.		
Conclusions	The structure can be a response to the regulation applicable to cryptocurrencies, offering conditions and techniques to eliminate/mitigate operational risks, instead of just presenting symptoms of exposure to this category of risks.		
Author	Power	Year	2003
Objective/Motivation	To examine the rapid emergence of operational risk, from its secondary status to its institutionalization as a key component of global banking regulation.		
Conclusions	It highlights ironies and contradictions in the Basel II operational risk program, as part of a visionary program to implement deep self-regulation in banking operations, combining advanced modeling techniques and the thoughts and practices of corporate governance.		
Author	Schwartz-Gârliste	Year	2013
Objective/Motivation	To provide an overview of operational risk management, specific to the banking sector.		

Conclusions	The article dealt with the approaches used to establish regulatory capital limits for operational risks, in the manner prescribed by the Basel Committee: Basic Indicator Approach (BIA), Standardized Approach (SA) and Advanced Measurement Approach (AMA).		
Authors	Neu, Gomez, Ponce de León & Zepeda	Year	2002
Objective/Motivation	Examine how the World Bank operates as a regulatory agency within the field of higher education and as a fostering agent in the dissemination and adoption of global practices.		
Conclusions	Identify and discuss the three main activities used by the World Bank to apply its authority and influence: loans, technical assistance and publication of reports.		