

## Disclosure of the integrated report: an experiment on investor's judgment and decision-making

Divulgação do relato integrado: um experimento sobre o julgamento e tomada de decisão de investidores

Divulgación del informe integrado: un experimento de sentencia y toma de decisiones del inversor

**Pâmila Eduarda Balsan Colla\***  
 Mestre em Contabilidade (UNIOESTE),  
 Pato Branco /PR, Brasil  
 pami\_eduarda@hotmail.com  
<https://orcid.org/0000-0003-3252-2500>

**Simone Boruck Klein**  
 Mestre em Contabilidade (UNIOESTE)  
 Mestre em Administração pela Fundação Cultural Dr. Pedro Leopoldo,  
 Cascavel/PR, Brasil  
 simoneboruck@uol.com.br  
<https://orcid.org/0000-0003-4956-7182>

**Delci Grapegia Dal Vesco**  
 Doutora em Contabilidade e Administração (FURB)  
 Professora do Mestrado em Contabilidade (UNIOESTE),  
 Cascavel/PR, Brasil  
 delcigrape@gmail.com  
<https://orcid.org/0000-0002-0818-3142>

**Cleston Alexandre do Santos**  
 Doutor em Ciências Contábeis e Administração (FURB)  
 Professor do Programa de Pós-Graduação em Ciências Contábeis  
 (UFMS), Campo Grande/MS, Brasil  
 cleston.alexandre@ufms.br  
<https://orcid.org/0000-0001-7014-6644>

**Primary contact address for correspondence\***  
 Rua Itabira, nº 1532, Cento, CEP: 85.5051-286 – Pato Branco /PR, Brasil

### Abstract

This experimental study aimed at verifying if the disclosure of the Integrated Report (IR) by an organization influences investors' judgment and decision-making. With a simple experimental design, the dependent variable consists of the participants' judgment and decision-making on a scale from -5 to 5. The independent variable has two levels: one using a set of traditional accounting reports and the other adding the IR. The sample consisted of students from the Accounting Sciences, Administration and Economic Sciences courses at a public university in the state of Paraná. The analysis was performed using descriptive statistics and the t-test. With 269 valid results, it was inferred that the IR exerts a positive influence on investors' judgment and decision-making. This result contributes to the literature by providing empirical data that corroborates the studies by Atkins and Maroun (2015) and Cheng et al. (2015); as a practical contribution, it provides evidence that the Integrated Report generates value for investors through the organization's sustainability information. As it is an incipient study in Brazil, there are limitations regarding statistical techniques, which provide opportunities for continuity of the work and creation of a disciplinary field in terms of research involving IR and decision-making.

**Keywords:** Integrated report; Experiment; Judgment and decision-making

### Resumo

Este estudo tem por procedimento um experimento cujo objetivo é verificar se a divulgação do Relato Integrado (RI) por uma organização influencia no julgamento e na tomada de decisão de investidores. Tendo como desenho experimental simples, a variável dependente consiste no julgamento e na tomada de decisão dos participantes, em uma escala de -5 a 5. A variável independente possui dois níveis, um com a utilização de um conjunto de relatórios contábeis tradicionais, e o outro acrescentando o RI. A amostra foi composta de discentes dos cursos de Ciências Contábeis, Administração e Ciências Econômicas de uma universidade pública do Paraná. A análise ocorreu por estatística descritiva e com o uso do Teste t. Com 269 resultados válidos, inferiu-se que o RI apresenta influência positiva sobre o julgamento e a tomada de decisão de investidores, o que contribui com a literatura por fornecer dados empíricos que corroboram os estudos de Atkins e Maroun (2015) e Cheng et al. (2015) e como contribuição prática fornece evidências de que o Relato Integrado gera valor para os investidores por intermédio das informações de sustentabilidade da organização. Por ser um estudo incipiente no Brasil, denota-se que limitações quanto aos resultados da técnica estatística são visualizadas, o que indicam oportunidades para a continuidade do trabalho e criação de um campo disciplinar em termos de pesquisas envolvendo RI e tomada de decisão.

**Palavras-chave:** Relatório integrado; Experimento; Julgamento e tomada de decisão

## Resumen

Este estudio, que tiene como procedimiento un experimento, tuvo como objetivo verificar si la divulgación del Informe Integrado (RI) por parte de una organización influye en el juicio y la toma de decisiones de los inversores. Con un diseño experimental simple, la variable dependiente consiste en el juicio y la toma de decisiones de los participantes, en una escala de -5 a 5. La variable independiente tiene dos niveles, uno utilizando un conjunto de informes contables tradicionales y el otro sumando el RI. La muestra estuvo compuesta por estudiantes de los cursos de Contabilidad, Administración y Ciencias Económicas de una universidad pública de Paraná. El análisis se realizó mediante estadística descriptiva y mediante la prueba t. Con 269 resultados válidos, se infirió que la RI tiene una influencia positiva en el juicio y la toma de decisiones de los inversionistas. Esto contribuye a la literatura al proporcionar datos empíricos que corroboran los estudios de Atkins y Maroun (2015) y Cheng et al. (2015) y como aporte práctico, brinda evidencia de que el Informe Integrado genera valor para los inversionistas a través de la información de sustentabilidad de la organización. Al tratarse de un estudio incipiente en Brasil, se ven limitaciones en los resultados de la técnica estadística, que indican oportunidades para continuar el trabajo y crear un campo disciplinar en términos de investigación que involucre RI y toma de decisiones.

**Palabras clave:** Informe integrado; Experimentos; Juicio y toma de decisiones

## 1 Introduction

In view of the competitive market, companies, especially in the open market, face new requirements in the exposure of their information, either due to coercive pressures or social pressures arising from different stakeholders (Soares et al., 2020), as investors, whether from the capital market or direct investors, want to know and understand the development of the organizations in which they will invest (Joos, 2019; Garcia et al., 2019). Thus, from the end of the 20<sup>th</sup> century, reports were created in order to meet the desired social, environmental and financial information in an integrated manner. However, due to the number of reports, information can become extensive and complex. Henceforth, the need arose to unify the disclosure of social, environmental and financial information in a single report, called Integrated Report (IR), making the information less complex in terms of presentation, ease of access and informational use (Dey & Burns, 2010).

The IR is an informational instrument, supported by a paradigm focused on integrated thinking of the organization's social, environmental and financial management, which "encourages companies to provide a concise and holistic description of their performance based on a 'multiple capitals' approach, describing the process of creating value for an organization in the short-, medium- and long-term" (Simnett & Huggins, 2015, p. 30). The objective of the Integrated Report consists in explaining how an organization generates value throughout time. This value is not only generated by or within the organization; it is in fact influenced by the external environment, as it is created by means of the relationships with the stakeholders (IIRC, 2015). The Integrated Report (IR) provides information about the impacts of the external environment on organizations and the capital they use, namely: financial, manufactured, intellectual, human, social and relationship-related, and natural.

There is a growing global initiative to guide the elements and information that comprise the Integrated Report (Zhou et al., 2017), resulting in a framework of the *International Integrated Reporting Committee* (IIRC), which included the participation of the *Global Reporting Initiative* (GRI) for its proposal. This initiative seeks to provide a structure that guides the general content of organizational reports in order to encourage organizations to use the Integrated Report as a standard for corporate reporting over time (IIRC, 2015).

In Brazil, unlike countries such as South Africa, disclosing the Integrated Report is a voluntary act, except for public and mixed-economy companies. However, as it is a global movement, Brazilian companies have made use of this tool for communication and management of organizations (Garcia et al., 2019). It is noteworthy that Brazilian company Natura SA was one of the pioneers worldwide in the elaboration of the Integrated Report (Eccles et al., 2011) and was also part of the pilot program for preparing the IR together with another 11 Brazilian companies (AES Brasil, BNDES, BRF, CCR, CPFL, Fibria, Grupo Mapfre, Itaú-Unibanco, Petrobrás, Votorantim and Via Gutemberg). Following international movements, Brasil Bolsa Balcão (B3) created in 2012 the "report or explain" program, in which the companies declare if they adopt any sustainability report; otherwise, they must explain the reason for non-adoption (Garcia et al., 2019).

Some studies have sought to verify the relationship between the Integrated Report and the external users' perception. Ahmed Haji and Anifowose (2016) point out that, over the years, the organizations have noticed the positive correlation between disclosure in Integrated Reporting and the creation of perceived organizational value. In other studies, such as that by Ahmed Haji and Anifowose (2017), there was a significant increase in the disclosure degree to external users after the adoption of the Integrated Report in African companies.

The study by Du Toit (2017) investigated whether the integrated reports of companies listed on the Johannesburg stock exchange were legible for external users. The result revealed that the integrated reports

are not legible to the entire population; whereas Briem and Wald (2018) addressed the difficulties and social and legal influence in the adoption or not of the Integrated Report, as they suffer coercive pressure from the stakeholders. The study by Atkins and Maroun (2015) investigated the initial reactions of institutional investors in South Africa to the first integrated reports prepared by companies listed on the Johannesburg Stock Exchange. The result shows that Integrated Reports are seen as an improvement over the companies' traditional annual reports; there is more emphasis on non-financial measures and evidence of an effort to integrate financial and environmental, social and governance metrics to provide better understanding of organizational sustainability.

Cheng et al. (2015) evidence that the Integrated Report deals with strategic aspects of the information, which are relevant for investment-related decision-making. The studies by Jones et al. (2007), Hong and Kacperczyk (2009) and Zhou et al. (2017) address investors' willingness to accept a lower return rate as a result of risk reduction due to higher levels of non-financial and voluntary disclosures, as in the case of the Integrated Report. It is noted that the studies referring to the subject matter have different research approaches and perspectives; however, no studies were found that investigate the influence of the Integrated Report on investors' judgment and decision-making. A gap that, when filled, can contribute to particularities arising from the elaboration and dissemination of the IR.

Therefore, the research question that guides this study is the following: **Does the disclosure of integrated reports exert a positive influence on investors' judgment and decision-making?** Therefore, this research aims at verifying whether the disclosure of the Integrated Report influences investors' judgment and decision-making. The evidence to achieve the research objective was collected from a simple experimental design carried out with university students from the Accounting, Administration and Economic Sciences courses.

The study is justified by providing evidence on the effects of the IR on the judgment of individuals in relation to investors' judgment and decision-making, a relevant fact to the extent that different national actors, such as companies, organizations and researchers, have participated in this discussion. Specifically to the sample, the research provides contributions by identifying that the IR affected the decision-making of individuals, mostly young people, who can be considered the new generation of investors, managers and individuals that produce information for organizational decision-making, as they are enrolled in courses in the field of business. This study also contributed to expanding the literature by adding evidence about the behavior of individuals regarding the information contained in the IR, enabling the understanding of this informational mechanism of the investment market.

## 2 Theoretical Framework

### 2.1 Integrated Report and Guidelines

The Integrated Report (IR) aims at improving information regarding the quality of its nature and, in this way, provide financial capital providers with informational subsidies for a more efficient allocation of financial resources. It also proposes to foster a cohesive and optimized language for corporate information, exploring the factors that affect the organizations' ability to generate value over time. Another objective is to promote management of the interdependence of financial, manufactured, intellectual, human, social and relationship-related, and natural capitals, in addition to providing integrated thinking for decision-making and actions that focus on generating value in the short-, medium- and long-term (IIRC, 2013; Humphrey et al., 2017).

The principle of the IR is in the connectivity of information and differs from other reports and communications by providing in its scope "the ability that an organization has to create value in the short-, medium- and long-term" (IIRC, 2013, p. 2). This is not a new report to be developed, but the integration of financial and non-financial (socio-environmental) and governance reports with integrated thinking, in a clear, concise, consistent and comparable way (Humphrey et al., 2017; Garcia et al., 2019). In decision-making terms, there is evidence (Adams, 2017) that the characteristics of the report, aimed at creating value in organizations, may be influencing the thinking of corporate leaders and strengthening its relevance.

Broadly speaking, the IR is only compulsory in organizations listed on the Johannesburg Stock Exchange. In South Africa, disclosure takes place once a year and the organizations that do not do it need to justify the reason for abstaining. This aspect turns the country into a pioneer in the use of this report (*Institute of Directors in Southern Africa – Iodsa*, 2009). However, there are companies that make the disclosure voluntarily, such as Danish company *Novozymes* and Brazilian company *Natura* (Eccles et al., 2011).

In Brazil, at the end of 2018, through the Brazilian Audit Court, the Brazilian government issued Regulatory Guideline (*Diretriz Normativa – DN*) TCU 170 (Brazil, 2018), which requires the elaboration and presentation of an integrated report by all bodies and entities with direct and indirect administration. The Brazilian State-Owned Companies Law (Law No. 13,303) also presented a requirement for public and mixed-society companies to prepare an integrated report (Brazil, 2016).

Regarding its origin, the IR arose from an effort of a global coalition of regulators, companies, investors, academics, social institutions and accounting professionals in an attempt to promote integrated

disclosure of information aimed at creating value, and the *International <IR> Framework* was one of the initiatives developed so that the Integrated Report structure could be applied globally. The proposal of this *Framework* had the participation of the *Global Reporting Initiative* (GRI) and of *Accounting for Sustainability* (A4S) in August 2010, resulting in the creation of the *Framework* of the *International Integrated Reporting Committee* (IIRC) (Santana et al., 2019).

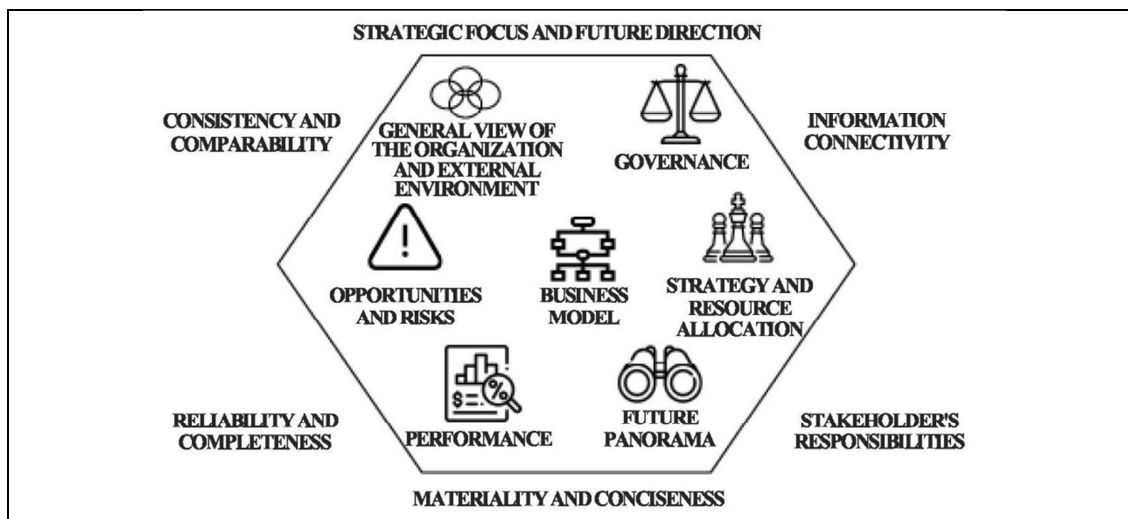
The IIRC challenge when formulating the *Framework* was to propose a step-by-step model for the implementation of the Integrated Report in the scope of public policy (Eccles et al., 2011). Through the Sustainable Development Goals (SDGs), indicator 12.6.1, the United Nations (UN) has encouraged companies to provide integrated information on sustainability in their reporting cycle. In addition to that, there is a global movement for disclosure of the social and environmental sustainability reports to be included in the Integrated Report (Garcia et al., 2019).

With regard to its content, the *Framework* consists of using the reporting structure, the fundamental concepts that support the elaboration of the Integrated Report, the basic principles to be followed, and the content elements that must be included in the Integrated Report. The content elements are divided into eight stages, namely: organizational overview and external environment, governance, business model, risks and opportunities, strategy and resource allocation, performance, outlook, and basis for preparation and presentation (IIRC, 2015).

The IR framework is based on principles, which aim at "striking an appropriate balance between flexibility and imposition that recognizes the wide variation in individual circumstances of different organizations, while enabling a sufficient degree of comparability across organizations to meet relevant information needs" (IIRC, 2015, p. 7). Another fundamental concept is that of value creation:

Value created by an organization over time manifests itself in increases, decreases or transformations of the capitals caused by the organizations business activities and products. This value has two inter-related aspects. Value is created for: the organization itself, which enables financial returns to the providers of financial capital; and others (i.e., stakeholders and society in general) (IIRC, 2015, p. 10).

The organizations depend on different forms of capital, and value creation occurs through these capitals. In the IIRC structure, capitals are classified as financial, natural, manufactured, intellectual, human and social (of the relationships) capital. Capitals are presented in the Integrated Report structure to offer theoretical support to the concept of value creation and as a parameter to ensure that the organizations consider the different forms of capital (IIRC, 2015). The content elements of the Integrated Report are linked to each other and are not mutually exclusive or necessarily presented in a linear order, as they connect with each other and should be presented in a way that highlights the connections between the content elements (IIRC, 2015). Figure 1 presents the elements that constitute the *Framework*.



**Figure 1 - Content elements of the Integrated Report**

Source: IIRC (2013).

The organizations can prepare their integrated reports following a few questions that the IIRC (2015) provides for each of the elements. The topics included in the Integrated Report are determined at the exclusive criterion of each organization. In this way, it is possible for companies to present qualitative answers to market inquiries, in addition to directing the market about the value creation in which the organization has sought its future sustainability. Therefore, the Integrated Report can influence investors' decision-making due to the breadth and depth of its information, which gives clues of the company's future situation.

## 2.2 The Integrated Report and Investor's Judgment and Decision-Making

The capital market, the economy, investors and businesses in general need information to help them make judgments regarding the valuation of companies, thus ensuring efficient resource allocation (Zhou et al., 2017). This is the biggest challenge for organizations that seek, via the capital market, funding for their activities and, at the same time, development of a competitive advantage over their competitors.

For Bonner (2007, p. 2), "judgment refers to the conception of an idea, belief or estimate about an object, an event, a state or another type of phenomenon". Decision-making is affected by the individuals' wishes, such as personal values, and beliefs, such as knowledge (Hastie, 2001). Judgment and Decision Making (JDM) also takes into account behavioral, environmental and task-related factors (Santos & Cunha, 2019). Under this approach, studies on the judgment and decision-making process have been carried out with different emphases due to the informational power of the elements that adhere to the IR (e.g., Frost et al., 2007; Cheng et al., 2015; Atkins & Maroun, 2015; Mervelskemper & Streit; Zhou et al., 2017).

Frost et al. (2007) recognize that the historical past of the economic and financial reports has hindered the development of communications that preach responsibility towards society and the environment. Thus, demanding attention to processes regarding the environmental scope can result in gains in terms of regulation and performance of the shareholders in the capital market. Hong and Kacperczyk (2009) show evidence of the influence of social norms on the capital market. To this end, the document reveals that social norms can significantly influence the value of shares of the institutional holding companies.

Cheng et al. (2015) focused on analyzing the effect of strategic relevance and of the availability of social and environmental information regarding professional investment decisions. The research was conducted with graduate students of the Financial Analysis master's degree course from an international business school. The findings showed that the Integrated Report deals with strategic aspects of the information, which are relevant for investment-related decision-making. In particular, the research shows that companies that strategically use social, environmental and governance indicators present greater propensity to receive investments. These findings show that availability of information from different spheres, whether social, environmental or governance, can guide the behavior of individuals in relation to investment decisions.

On the other hand, the study by Atkins and Maroun (2015) investigated the initial reactions of institutional investors to the IR prepared by companies listed on the Johannesburg Stock Exchange. The result shows that the IR is seen as an improvement that makes up for the absence and dispersion of information present in traditional annual reports and which provides better understanding of organizational sustainability.

Mervelskemper and Streit (2016) carried out a study that analyzed whether the Integrated Report delivers on its promise to improve the market's performance assessment on the social and environmental reports already released. The study was carried out with 217 companies from 43 countries, totaling 852 observations between 2010 and 2015, and these companies were part of the pilot program for the implementation of the IIRC *Framework* structure. The results show that the investors evaluate social and environmental reports considering the companies' performance regardless of the form chosen for disclosure, whether it is an integrated or social and environmental report. The issuance of both reports have improved the investors' ability to price companies' shares. However, the empirical evidence that the publication of the Integrated Report can improve the investors' evaluation is reinforced, suggesting that the IR offers more effective explanations of how the use of different capitals translates into market value.

The study by Zhou et al. (2017) was carried out with 132 companies listed on the Johannesburg Stock Exchange from 2009 to 2012. The study verified the usefulness of the information contained in the Integrated Report. The results show that there is a reduction in the analyst's forecast error as a company's level of alignment with the Integrated Report *Framework* increases, in addition to being associated with a subsequent reduction in the cost of own equity for certain companies that use the Integrated Report. The results obtained after controlling for factors related to financial transparency and issuing independent non-financial reports suggest that the Integrated Report is providing useful information to the capital market, in addition to the existing reporting mechanisms. Thus, the results found by the authors suggest "that the information contained in an integrated report is useful for analysts in evaluating the future financial performance of the companies" (Zhou et al., 2017, p. 94).

The effects of providing information contained in the IR regarding positive judgment and decision-making behaviors by the users can be explained from a psychological perspective. Bucaro et al. (2020) explain that people tend to perceive information unidimensionally. Thus, if information is provided separately to a potential investor, he/she tends to focus more on each dimension. From the perspective presented by the authors, it is believed that if the IR information was presented together with traditional financial statements, the investors would tend to attribute greater importance to the information with a financial focus. Therefore, by integrating the different capitals into a single report, but separate from the traditional

statements, multidimensional judgment is encouraged in the individual, in which the different informational categories are viewed separately and arouse similar interests in the investor, in which no focus is prioritized over the others.

Consequently, the diverse evidence and discussions presented lead to the research hypothesis which advocates that:

*HT: The disclosure of Integrated Reports exerts a positive influences on investors' judgment and decision-making.*

Accepting this research hypothesis implies contributing to the theoretical aspects that are involved in the theme of IR and decision-making, and also contributes to creating a practical environment with regard to raising subsidies for the permeability of the IR with Brazilian companies.

### 3 Methodological Procedures

An experiment seeks to create a favorable environment for data generation for research. From the purposeful manipulation of variables, carried out using the principle of randomness, it allows the researcher to control the research environment and isolate the effects of the variables that would be confused in the natural environment (Spinkle, 2003). The advantage of the experimental method is its ability to isolate factors and allow conclusions about the behavior of certain phenomena (Libby et al., 2002), thus generating greater internal validity of the research method.

#### 3.1 Experiment participants

The sample of this study is composed of undergraduate students from all periods of the Accounting, Administration and Economic Sciences courses of a public higher-education institution in the state of Paraná, Brazil, totaling 271 participants in the experiment. The experiment was operationalized from November 25<sup>th</sup> to December 2<sup>nd</sup>, 2019, as shown in Table 1.

**Table 1**  
**Application Dates of the Experiment**

| Day   | Course              | Period                              |
|-------|---------------------|-------------------------------------|
| 11/25 | Economic Sciences   | 1 <sup>st</sup> and 2 <sup>nd</sup> |
| 11/26 | Administration      | 1 <sup>st</sup> and 2 <sup>nd</sup> |
| 11/27 | Accounting Sciences | 1 <sup>st</sup> and 2 <sup>nd</sup> |
| 11/28 | Economic Sciences   | 3 <sup>rd</sup> and 4 <sup>th</sup> |
| 11/28 | Administration      | 3 <sup>rd</sup> and 4 <sup>th</sup> |
| 12/02 | Accounting Sciences | 3 <sup>rd</sup> and 4 <sup>th</sup> |

Source: The authors (2021).

After tabulating the data, 269 participants were considered valid and two were excluded due to data incompleteness. Conducting the research with undergraduate students is justified in different ways. First, the profile of these participants represents the multiple social facets in terms of social class, prior knowledge and interest in investments, a fact that can be viewed as a representation of reality. In this line, resorting to undergraduate students as a *proxy* for investors has been supported in the literature due to their personality, cognitive and behavioral diversity and for the wide use in studies of Brazilian investors, a fact that makes it possible to compare the findings (Gomes, 2007; Bortoli et al., 2016). Finally, it is observed that investigating this group of individuals in their different periods of higher education in the business area is popularly recognized at the international level and has gained ground in the Brazilian disciplinary accounting field. This fact can represent a gain for filling gaps in the pertinent literature.

#### 3.2 Research construct

Table 2 presents the research variables and the ways to measure these elements. The dependent variable was measured on an 11-point scale (from -5 to +5), in which the lowest point presented conviction of not investing in the company, and the highest point, conviction of investing in the company. The independent variable presents two sets of accounting reports: one with only traditional reports and the other with the Integrated Report.

**Table 2**  
**Research Construct**

| Type of Variable | Variable                           | Metric                                                                                                                            | Authors                                                     |
|------------------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| Dependent        | Judgment and Decision-Making (JDM) | Investment Conviction – Scale (-5: I would definitely not invest in this company... 5: I would definitely invest in this company) | Bonner (2007);<br>Hastie (2001);<br>Santos and Cunha (2019) |
| Independent      | Type of Report                     | Set of traditional Accounting Reports; and                                                                                        | Zhou et al. (2017);                                         |
|                  |                                    | Set of traditional Accounting Reports plus Integrated Repo                                                                        | Mervelskemper and Streit (2016)                             |

**Source:** The authors (2020).

### 3.3 Experimental design

The research was based on a simple experimental design, with only one independent variable and two analysis levels: one using a set of traditional Accounting Reports and the other with a set of traditional Accounting Reports plus Integrated Report (IR). This experimental design allows the researcher to control the information levels made available to the participants. By using the data collection instrument, it is possible to measure the judgment and decision-making of the participants involved in the experiment.

In each research unit, herein understood as a course and class, the participants were divided randomly according to their spatial location in the room, and equally in each of the two groups (analysis levels), according to a standardized experimental script. The researchers guided the participants using a standardized speech, with a previously established text, even emphasizing the prohibition to communicate between them.

For the development of the experiment, some control measures were observed to neutralize possible threats regarding the veracity of the data collection instrument and the sample, enabling the internal and external validity of the experiment. These control measures are shown in Table 3.

In this research, the experiment was carried out between subjects, which aims at understanding the differences in behavior between different groups of participants (Aguiar, 2017), with the application of a case with decision-making questions, followed by a post-experiment questionnaire.

### 3.4 Data collection instrument

After analyzing the internal and external validity threats, the researchers developed the final research instrument applied in the experiment. The data from this experiment were operationalized from a case that was developed and grounded on the financial statements for the years 2017 and 2018 of a Brazilian company in the electricity sector. The traditional set of accounting statements was used, which consists of the following: balance sheet, income statement, comprehensive results statement, statement of changes in equity, cash flow statement and value-added statement. In this way, the use of data closer to reality was contemplated, since it made use of real data from the accounting information shown in the company's investor relations portal.

As this experiment aims at verifying whether the disclosure of integrated reports influences investors' judgment and decision-making, the company's Integrated Report is also used in one of the groups. However, due to the application time of the case, the costs of applying the research and, mainly, the wear and tear it would generate for the participants to read the organization's Integrated Report, which contains 41 pages, an adaptation was necessary.

A figure from the company's original document was used, which synthesizes the information on how capitals create value in the company, in addition to a table with the main indicators of each capital, with explanatory texts. The intention was to present real data for the research using the company's own information. Figure 2 describes the case applied in a summarized way, as well as a synthesis of other information made available to the participants.

**Table 3**  
**Control Measures for Internal and External Validity of the Experiment**

|                            | <b>Threat</b>                   | <b>Characteristics</b>                                                                                                                                                                    | <b>Control Measures</b>                                                                                                                                                                   |
|----------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Internal Validity</b>   | <b>Maturation</b>               | Processes experienced by the subjects resulting from the passage of time, such as tiredness and hunger.                                                                                   | As procedure adopted, application occurred only once with each research unit; the tasks included quick decisions and duration was a maximum of 28 minutes.                                |
|                            | <b>History</b>                  | Specific events that occurred between the first and second measurement and that exert an effect on the dependent variable(s) under study.                                                 | There was only one measurement.                                                                                                                                                           |
|                            | <b>Test</b>                     | It refers to how previous tests can affect the results of the tests after the experimental treatment. Effect of the pre-test.                                                             | The pre-test was conducted with a different sample from that of the final experiment.                                                                                                     |
|                            | <b>Mortality</b>                | Differential loss of subjects in each of the two groups.                                                                                                                                  | Experiment conducted once with each group, with a short duration. The date scheduled for application observed the period of greatest presence of participants, avoiding evaluation dates. |
|                            | <b>Instrumentation</b>          | Lack of reliability or consistency in the data collection instrument and its use.                                                                                                         | The instructions to apply the instrument were standardized and provided to the participants before applying the experiment.                                                               |
|                            | <b>Selection</b>                | Resulting from the way in which the subjects were selected.                                                                                                                               | The groups were assembled randomly.                                                                                                                                                       |
|                            | <b>Comparison of Means Test</b> | Consequence of choosing subjects based on their respective extreme results.                                                                                                               | The participants were divided into groups, randomly and in equal numbers for comparison purposes.                                                                                         |
|                            | <b>Imitation of Treatments</b>  | Communication between the participants can generate lack of independence of answers to the experimental treatment.                                                                        | With application in the classroom, one of the instructions passed on was not to use cell phones and the prohibition of talking to other participants.                                     |
|                            | <b>Resentful Demoralization</b> | Different experimental treatments can cause different motivation levels among the individuals and affect the results.                                                                     | The different experimental treatments are factors inherent to the information obtained and used by the investors.                                                                         |
|                            | <b>External Validity</b>        | <b>Population Validity</b>                                                                                                                                                                | The absence of Population Validity is related to the non-representativeness of the sample in relation to the population.                                                                  |
| <b>Ecological Validity</b> |                                 | It refers to generalizing the results to other experimental settings; it contemplates the application of experiments closer to reality and greater attention to the experimental context. | The data collection instrument used the organization's true data, as a case study, which are evidenced on the organization's website.                                                     |
| <b>Time Validity</b>       |                                 | It is associated with generalization of the research results throughout time.                                                                                                             | For this research, generalization of the experiment's results is limited to a single time period.                                                                                         |

Key: Sc. = Sciences.

Source: Adapted from Smith (2003).



| Case for Decision-making                                                                                                                                                                                                                                                                                                                                                                    | Information made available<br><u>Control Group:</u>                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>You have just been promoted to manager of a group of investment analysts at Invest+, and this is the position you have always wanted. Your new role requires you to judge the information presented by the organizations and make investment decisions. The first company to be evaluated operates in the field of electricity generation, headquartered in Rio de Janeiro – Brazil.</p> | <p>Case with traditional Accounting Reports + Decision-making Case + Post-experiment Questionnaire.<br/><b><u>Groups receiving the experimental treatment:</u></b><br/>Case with traditional Accounting Reports + Integrated Report + Decision-making Case + Post-experiment Questionnaire.</p> |

**Figure 2 - Composition of the applied case**

Source: The authors (2020).

The data collection instrument contained two parts. The first consisted in the experiment setting, while the second was the post-experiment questionnaire. In the first question, aimed at answering the research hypothesis, the experiment participant, in view of the analyzed scenario, decided whether or not to invest in the company (assuming they had one hundred thousand “Reais” [R\$ 100,000.00]) on a scale from -5 to +5. Subsequently, as complementary information for the analysis, the participant was asked to indicate the value in “Reais” that they would invest in buying shares of the company analyzed.

The post-experiment questionnaire was composed of demographic questions to identify the respondents' profile and a question to identify which financial statements, with their respective groups, exerted the greatest influence on judgment and decision-making, as well as a question to verify the influence of the Integrated Report specifically. In this last question, a scale from -5 (Definitely unimportant for my decision) to +5 (Definitely important for my decision) is used. It is noteworthy that, for the question of the group that did not receive the Integrated Report, an adaptation of this question was carried out.

Two pre-tests were conducted, in the pilot test format, during October 2019; the first with a group of 8 individuals, and the second with a group of 13 people. The necessary adaptations were made for better understanding of the questions and procedures after each pre-test.

For application of the experiment, an application script was developed, which was followed with a view to standardizing the environment for all participants in the experiment and controlling threats to the construct's validity. This script has a detailed explanation of the research for the participants; in this way, the objective was to minimize biases in conducting the research. Scripting also presents the way of preparing the participants, who must be separated into two groups, using the randomness principle. It is to be noted that the fact that the students belong to the same educational institution and were selected in a non-probabilistic way is a research limitation.

### 3.5 Data analysis procedures

Data analysis used descriptive statistical methods, t-test and analysis of variance (ANOVA), with *Post-hoc* tests for the complementary data; however, they did not present statistical significance; therefore, they were not used. In order to test the theoretical hypothesis that the disclosure of Integrated Reports exerts a positive influence on investors' judgment and decision-making, the t-test was defined. Descriptive statistics was used for the post-experiment questionnaire.

## 4 Result and Data Analysis

### 4.1 Descriptive Analysis of the Variables

The “judgment and decision-making for investments” variable was measured using a scale from -5 to 5. Table 4 synthesizes the description of the data obtained according to the participants' gender and undergraduate courses.

**Table 4**  
**Judgment and Decision-Making**

| Judgment and Decision-Making Scale |      | Not Investing in the Company |     |     |     |     | I    | Investing in the Company |      |      |       |      | Total |     |      |
|------------------------------------|------|------------------------------|-----|-----|-----|-----|------|--------------------------|------|------|-------|------|-------|-----|------|
|                                    |      | -5                           | -4  | -3  | -2  | -1  | 0    | 1                        | 2    | 3    | 4     | 5    |       |     |      |
| Participants                       | N    | 7                            | 5   | 11  | 7   | 4   | 19   | 27                       | 71   | 75   | 34    | 9    | 269   |     |      |
|                                    | %    | 2.6                          | 2   | 4   | 2.6 | 1.4 | 7    | 10                       | 26.4 | 27.8 | 12.6  | 3.3  | 100%  |     |      |
| Male Gender                        | N    | 5                            | 2   | 7   | 4   | 4   | 10   | 12                       | 40   | 36   | 17    | 6    | 143   |     |      |
|                                    | %    | 3.5                          | 1.4 | 4.8 | 2.8 | 2.8 | 14.3 | 8.4                      | 2.8  | 2.5  | 11.9  | 4.2  | 100%  |     |      |
| Female Gender                      | N    | 2                            | 3   | 4   | 3   | 0   | 9    | 15                       | 31   | 39   | 17    | 3    | 126   |     |      |
|                                    | %    | 1.5                          | 2.4 | 3.1 | 2.4 | 0   | 7.1  | 11.9                     | 24.6 | 30.9 | 13.5  | 2.4  | 100%  |     |      |
| Course                             | ADM  | M                            | N   | 2   | 0   | 2   | 1    | 1                        | 4    | 2    | 15    | 13   | 8     | 3   | 51   |
|                                    |      |                              | %   | 3.4 | 0   | 3.4 | 1.9  | 1.9                      | 7.8  | 3.4  | 2.9   | 2.5  | 1.5   | 5.9 | 100% |
|                                    |      | F                            | N   | 2   | 2   | 2   | 1    | 0                        | 3    | 8    | 10    | 8    | 6     | 1   | 43   |
|                                    |      |                              | %   | 4.6 | 4.6 | 4.6 | 2.3  | 0                        | 7    | 18.6 | 23.25 | 18.6 | 13.9  | 2.3 | 100% |
|                                    | ACSC | M                            | N   | 0   | 1   | 1   | 1    | 2                        | 2    | 5    | 14    | 11   | 6     | 2   | 44   |
|                                    |      |                              | %   | 0   | 2.3 | 2.3 | 2.3  | 4.6                      | 4.6  | 11.4 | 31.8  | 25   | 13.6  | 4.6 | 100% |
|                                    |      | F                            | N   | 0   | 1   | 1   | 1    | 0                        | 4    | 5    | 14    | 11   | 10    | 2   | 49   |
|                                    |      |                              | %   | 0   | 2   | 2   | 2    | 0                        | 8.2  | 10.2 | 28.6  | 22.4 | 20.4  | 4.1 | 100% |
|                                    | ECON | M                            | N   | 2   | 1   | 4   | 2    | 1                        | 4    | 5    | 11    | 12   | 4     | 2   | 48   |
|                                    |      |                              | %   | 4.2 | 2   | 8.3 | 4.2  | 2                        | 8.3  | 10.4 | 22.9  | 25   | 8.3   | 4.2 | 100% |
|                                    |      | F                            | N   | 1   | 0   | 1   | 1    | 0                        | 2    | 2    | 7     | 20   | 1     | 0   | 35   |
|                                    |      |                              | %   | 2.8 | 0   | 2.8 | 2.8  | 0                        | 5.7  | 5.7  | 20    | 57   | 2.8   | 0   | 100% |

Key: U = Uncertain; ADM = Administration; ACSC = Accounting Sciences; ECON = Economy; M = Male; F = Female.  
Source: Research data (2020).

In the data analysis presented in Table 4, a slight predominance of male participants is noticed, 53% (143/269), versus 47% (126/269) of female participants. The Accounting Sciences course was predominant, with 34.57% (93/269) of the participants, when compared to 34.94% (94/269) of the Administration course and 30.85% (83/269) of the Economic Sciences course. Some data that stand out are male dominance in conviction of not investing in the company when all negative frequencies are considered; while in conviction of investing in the company, there is no relevant difference between the genders. Another important fact is the apparent uniformity between the male and female genders in the answers of the Accounting Sciences undergraduates in conviction of investing or not in the company.

As for the duration of the experiment, 61.33% (165/269) answered in less than 10 minutes; of these, 42.42% (70/165) were from the Accounting Sciences course. Among those who took from 11 to 20 minutes, which represent 34.57% (93/269) of the total participants, there was predominance of the Administration course, with 41/93 or 44%; of the 4.10% (11/269) that took more than 20 minutes, all (100%) belonged to the Administration course. These data can indicate that individuals who use financial statements make faster decisions more often.

Table 5 presents the "judgment and decision-making" variable with the two groups of the experiment: group 1, which presented only the traditional financial reports (control group of the experiment); and group 2, with the traditional financial reports plus the Integrated Report of the company under analysis.

**Table 5**  
**Descriptive Statistics of the Theoretical Construct**

| Variables / Condition                |                              | Min. | Max. | Mean | Med. | Standard Deviation | Kurtosis |
|--------------------------------------|------------------------------|------|------|------|------|--------------------|----------|
| Judgment and Decision-Making Factors | Traditional Report           | -5   | 5    | 1.49 | 2    | 2.45               | 1.54     |
|                                      | Integrated Report            | -5   | 5    | 2.02 | 2    | 1.91               | 2.56     |
|                                      | Judgment and Decision-Making | -5   | 5    | 1.74 | 2    | 2.22               | 0.15     |

Key: Min. = Minimum; Max. = Maximum; Med. = Median.  
Source: Research data (2020).

According to Table 5, in the descriptive analysis, the kurtosis results show a difference of one more point for the group that held the Integrated Report. As for the mean test, the findings also reveal a higher value for the second group, where it can be argued that the second group is more likely to invest in the company when compared to the first group. This finding is in line with what was expected for this study and also corroborates the study by Cheng et al. (2015), which asserts that the Integrated Report represents strategic information for the organization and, therefore, is relevant for investors' decision-making. The study by Atkins and Maroun (2015) also researched institutional investors' reactions to the Integrated Reports and verified that the companies surveyed saw it as an improvement in their understanding of company sustainability.

In addition to the use of the investment scale, the experiment participants were also asked about the real value that each of them would invest in the company. The results show similarity in asymmetry close to zero and kurtosis with negative values. The distinctions between the control group and the experimental group are in the mean of the real amount invested, as group 1 (group with traditional financial reports) invested R\$ 29,237.33, while group 2, which contains traditional financial reports plus the Integrated Report, invested R\$ 35,845.22. The median for group 1 is R\$ 20,000.00 and that of group 2 is R\$ 30,000.00. The mode of group 1 is R\$ 10,000.00 and that of group 2 is R\$ 50,000.00. The standard deviation presents lower dispersion in group 2, with 24,909, while in group 1, the standard deviation is 26,517. These findings confirm that the group that had access to the Integrated Report invested more money in the companies. The study by Zhou et al. (2017) indicated that access to the information contained in the Integrated Report reduces the forecast error of financial analysts and the cost of own equity, which can parsimoniously contribute to explaining the investment levels made by the group with information from the IR.

#### 4.2 Analysis of the Experiment's Result

“Judgment and Decision-Making” in investments was investigated in this study based on the assumption that every individual can invest. The research did not seek to analyze the investor's individual profile, but rather to verify the investors' judgment and decision-making regarding the use of the Integrated Report as information that can assess the organization in terms of value creation in the short-, medium- or long-term. Consequently, the influence of using the Integrated Report is investigated in this experiment.

The t-test was performed to verify if there is any statistical difference between the results of the groups in each experimental treatment. As for the verification of the normality of the dependent variable, the *Kolmogorov-Smirnov* test was used, in which the *p-value* (Sig.) presented values below 0.05; this, in principle, points to data non-normality by this test. However, Hair Jr et al. (2009) assert that values between -1 and +1 present asymmetry in the data. “Asymmetry is the property that indicates the tendency of greater data concentration in relation to the central point” (Corrar Filho et al., 2007, p. 47). As asymmetry is within this range, it is considered that the data under analysis can be treated using the t-test. It is also noteworthy that, according to Pestana and Gageiro (2003), even if the dimension's distributions have not adhered to normality, the use of parametric tests is appropriate when the “n” of the samples in question is greater than 30.

Table 6 presents the t-test analysis between group 1 (without Integrated Report) and group 2, which contains the Integrated Report together with the other financial statements of the company for the investment judgment and decision-making process.

**Table 6**  
t-test analysis of independent samples between the groups in JDM

| Panel                              |                                       |       |                              |        |       |                       |            |
|------------------------------------|---------------------------------------|-------|------------------------------|--------|-------|-----------------------|------------|
| Type of Report                     |                                       |       |                              |        |       |                       |            |
| Judgment and Decision-Making (JDM) | Levene test for equality of variances |       | t-test for equality of means |        |       | Mean – Type of Report |            |
|                                    | F                                     | Sig.  | t                            | DoF    | Sig.  | Traditional           | Integrated |
| Equal variances assumed            | 8.72                                  | 0.003 | -1.944                       | 268    | 0.052 | 1.49                  | 2.02       |
| Equal variances not assumed        |                                       |       | -1.961                       | 260.79 | 0.050 |                       |            |

Source: Research data (2020).

When comparing two or more means, it is necessary to perform the analysis of variance, which compares the variability between the sample means of the groups. In the Levene Test, with *p-value*=0.003 (below 0.05), it is inferred that the variances are not homogeneous and, thus, the test statistic to be used for the t-test is the one that does not assume equal variances.

When, in the t-test, *p-value* ≤  $\alpha$ : the difference between the means is statistically significant. If the *p-value* is less than or equal to the significance level, the theoretical hypothesis must be accepted. Therefore,

this study confirms the theoretical hypothesis that states that the disclosure of Integrated Reports exerts a positive influence on investors' judgment and decision-making. There is a statistical difference between the means of control group 1 and experimental group 2. This result corroborates the objective of the Integrated Report, which is to improve the information regarding the quality of its nature and, thus, provide financial capital providers with more efficient resource allocation. It also shows that the second objective of the Integrated Report, which is to present a more cohesive and optimized language for corporate information, affects the organizations' ability to create long-term value. And the third objective, which is to integrate the capitals and create integrated thinking for decision-making and actions that focus on value creation, is also confirmed by the results of this study (IIRC, 2013; Humphrey et al., 2017).

Some complementary analyses were carried out with data that aimed at determining which factors influenced judgment and decision-making in investments. The following data were surveyed: the group of accounts that presented the greatest influence was Income Statement (3.82); next, there was the information contained in the Current Assets account group, with 3.21. The third most influential factor was the group of accounts of Equity and, in fourth place, the Balance Sheet. There was no statistical difference between groups 1 and 2 in these data. It is to be noted that, in this first part, the analysis considered only the accounting statements and did not take into account the integrated report. This action is in line with the search to obtain the same comparison parameter between groups 1 and 2.

Group 2 was also asked about the influence of the information contained in the Integrated Report regarding the capitals and, referring to the main indicators, the second item was more relevant, with 2.24 over 1.96. The analysis only observed the perception about the influence of the Integrated Report for group 2, which received the experimental treatment with inclusion of the IR. Thus, it is clear that the Integrated Report indicators exerted greater influence on the investment decision.

This section presented the descriptive analysis regarding the investment judgment and decision-making classified by the students and also the real values to be invested. The results of the investment means and the T-test verified that there is an influence of the Integrated Report in the judgment and decision-making for investments in the company.

#### 4.3 Discussion of the Results

The research sought to investigate confirmation or refutation of the theoretical hypothesis, which proposed that the disclosure of Integrated Reports exerts a positive influence on investors' judgment and decision-making. The descriptive analysis of the data reveals predominance of respondents from the Accounting Sciences course and also a male preference in the conviction of not investing in the company when all negative frequencies are considered; while in the conviction of investing in the company, there is no relevant difference between the genders.

Also through the descriptive analysis, the means presented differences between the groups, which provide evidence that there is a positive influence between presentation of the IR and the investors' willingness to employ resources in the organization. This is consistent with the literature. Atkins and Maroun (2015) indicate that the IR is seen as an improvement over the traditional annual reports as it integrates organizational sustainability disclosure metrics. Thus, this information contained in the IR has the potential to extend the investment disbursement by the investors since, in the sample analyzed, the research participants were more likely to disburse larger amounts from the moment they had contact with information from the IR. This fact implies how the shareholders will position themselves in the market regarding the possibility of consulting the IR as a starting point for decision-making. In this way, it is seen that, as a result, the IR creates value for the organizations (IIRC, 2013) since, from a fluid narrative inscribed in the combination of the most diverse available capitals, it influences the shareholder's decision (Alves et al, 2017).

Cheng *et al.* (2015) points to the IR as a strategic instrument of the information that might be relevant for decision-making in investments. This fact gains even greater support with the development of this research. Thus, the processes and information included in the IR are presented as a beneficial signal to decision-makers, which, in the short- and long-term, can contribute to the promotion of a disciplinary field that values the informational relevance of the IR in the decision-making process in order to include it in the compulsory financial, economic and social statements of Brazilian organizations, as is already the case in South Africa.

The studies by Frost *et al.* (2007), Hong and Kacperczyk (2009) and Zhou *et al.* (2017) also address the investors' predisposition to the IR regarding investment-related decision-making processes. However, these studies address accepting a lower return rate as a result of the risk reduction given the information presented. Thus, it is observed that the advent of the IR represents an informational need, as a movement arising from various users of accounting information. At this point, the results of the influence of the IR on the investment levels can also be seen from an economic perspective, since value creation becomes evident through the behavior of the participants in the experiment (Frost et al., 2007). As for the acceptability of lower return rates in view of the results already socialized in the literature, further research studies are needed in view of the profile of the Brazilian investor.

Hong and Kacperczyk (2009) argue that the IR can be understood as a process arising from social norms. Regarding this point, this argument is also clarified for this research, since the combination of the numerous capitals of the company exerted an influence on the investors' decision-making. From this perspective, social norms and capital management contribute to guiding people's behavior in the capital market.

Zhou et al. (2017) points out that the IR is a response to the voluminous and disjointed financial statements. In this regard, the authors of this report advocate informational alignment between the qualitative and quantitative aspects of accounting information. For this research, there is alignment with the discussions by Zhou et al. (2017), since the information contained in the IR, added to the already existing mechanisms, contribute to decision-making in the capital market. Specifically, the research participants' investment levels in terms of decision-making are expanded when they have access to the information contained in the IR. The possibility of the individual saying how much they would invest in real value if there was a budget of R\$ 100,000 for portfolio investments was analyzed. The results show a distinction between the groups in the mean of the value invested of R\$ 29,237.33 for group 1, while group 2 would invest R\$ 35,845.22. The median and mode also provided evidence that group 2 is willing to invest more value in companies that present Integrated Reports.

Based on the participant's propensity to invest, psychological implications arise from this process, as it is observed that the participant can have different approaches (Bucaro et al., 2020) for each of the dimensions inscribed in the financial statements and in the information contained in the IR, which points to multidimensional judgment regarding the informational categories that the participant requires for decision-making.

Considering the weaknesses in the mean test with a p-value above 0.05, with parsimony, the experiment confirmed the theoretical hypothesis and allowed inferring that the Integrated Report exerts a positive influence on the investors' judgment and decision-making. This contributes with the literature for providing empirical data that corroborate with the studies by Atkins and Maroun (2015) and Cheng et al. (2015). Furthermore, they point out traces of the effects of the IR in the Brazilian scenario, given the non-mandatory nature of this report and its incipience in terms of permeability with Brazilian companies. As a practical contribution, it provides evidence that the Integrated Report presents value for the organization's sustainability information and for the combination of the presentation of the management of the numerous capitals available to the organization. This scenario can be a consultative instrument for the creators of this instrument for communication with stakeholders.

## 5 Conclusion

This study is driven by the need to provide information referring to the effects of the data contained in the IR about the investors' investments and decision-making. This direction is based on the growing importance that this report has achieved in the corporate scope worldwide. Therefore, this research aimed at verifying whether the disclosure of the Integrated Report exerts a positive influence on the investors' judgment and decision-making, since this report is not compulsory in a large part of the world, with the exception of South Africa.

The results evidence that there is an improvement in the investment level and in propensity for investment of the participants who had contact with the information contained in the IR. These results are obtained from an experiment with students attending the Administration, Accounting Sciences and Economic Sciences course of a public institution. Thus, in response to the research hypothesis, it is noted that *the disclosure of Integrated Reports exerts a positive influence on investors' judgment and decision-making*. In the meantime, the research aims at contributing with traces of the use of the IR in the management of organizations for non-mandatory purposes, but with administrative purposes and with the aim of seeking investors both in the capital market and internal investors for organizations.

### 5.1 Implications of the Findings

This paper aims at contributing to studies on the theme of the Integrated Report, as well as to studies on judgment and decision-making. Thus, it is estimated that a consultative material is made available to the disciplinary field combining information from the capital market that is already compulsory and information that is in a development period regarding popularity among the companies, which provides arguments for the organizations that want to use the IR as an instrument for communication with external users and, at the same time, as an action to attract new shareholders and create opportunities for competitive advantage.

The investigation fills a gap in the national literature regarding the relationship between the IR and decision-making, since the incipience of the theme in Brazil demands the efforts of researchers and professionals to create an environment in which the IR is viewed as a solid instrument that guarantees a competitive advantage and make organizations fulfill their role of accountability to society and to those interested in the plural information arising from the business environment.

The research, just as it is proclaimed by Zhou et al. (2017), looks at the consequences of the IR practice in the capital market. This fact offers space for discussions focused on the regulatory aspects and even regarding the frequency of this instrument for communication with the stakeholders. Finally, the research presents as an implication the need not to neglect business actions involving the financial, manufactured, intellectual, human, social and relationship and natural capitals; which, in the short- and long-term, can change the information sources for decision-making in the capital market.

## 5.2 Limitations and Future Research Studies

The fact that the sample consisted in individuals from the same teaching institution represented a study limitation. Consequently, it subjected the sample to selection bias, which can impose explicit or potential effects on the research results. The time factor is pointed out as a methodological limitation, since the study was developed at the end of the academic year. For future studies, it is suggested to carry out an experiment with professionals working in the stock market, as they can present new data on the influence on the investor's judgment and decision-making regarding the use of the Integrated Report, which can add to the results of this research. It is believed that it is also relevant to investigate the effects of the IR in reducing the cost of own equity in companies and, consequently, the effects on the investors' decision-making. The proposals of research studies involving the IR are plural in view of the field's need to create a disciplinary space on the subject matter. Finally, advancing on the theme demands the inclusion of elements aimed at disclosing information, with a view to aligning these processes with the psychological issues listed in this research.

## References

- Adams, C. A. (2017). *The Sustainable Development Goals, integrated thinking and the integrated report*. Recuperado em 19 junho, 2021, de [https://researchbank.swinburne.edu.au/file/473d5e90-5a04-4ad4-8a7e-e70bab78f62f/1/2017-adams-sustainable\\_development\\_goals.pdf](https://researchbank.swinburne.edu.au/file/473d5e90-5a04-4ad4-8a7e-e70bab78f62f/1/2017-adams-sustainable_development_goals.pdf).
- Aguiar, A. B. (2017). Pesquisa experimental em contabilidade: propósito, desenho e execução. *Advances in Scientific and Applied Accounting*, 10(2), 224-244. DOI: <http://dx.doi.org/10.14392/asaa.2017100206>.
- Alves, N. J. F., Kassai, J. R., Lucas, E. C., & Ferreira, H. M. G. (2017). Relato Integrado e o formato da informação financeira para evidenciar a criação de valor das empresas do Programa Piloto. *Revista Evidenciação Contábil & Finanças*, 5(3), 99-122.
- Atkins, J., & Maroun, W. (2015). Integrated reporting in South Africa in 2012: Perspectives from South African institutional investors. *Meditari Accountancy Research*, 23(2), 197-221. DOI: <https://doi.org/10.1108/MEDAR-07-2014-0047>.
- Bonner, S. E. (2007). *Judgment and decision making in accounting*. Upper Saddle River, N.J.: Nova Jersey, EUA: Prentice Hall.
- Bortoli, D., Costa, N. & Goulart, M. (2016). Teoria do prospecto, traços da personalidade, teste de reflexão cognitiva e avaliação do perfil do investidor: um estudo em finanças comportamentais. *Anais do XIX Encontro de Economia da Região Sul*, Florianópolis, SC.
- Briem, C. R., & Wald, A. (2018). Implementing third-party assurance in integrated reporting: Companies' motivation and auditors' role. *Accounting, Auditing & Accountability Journal*, 31(5), 1461-1485. DOI: <https://doi.org/10.1108/AAAJ-03-2016-2447>.
- Bucaro, A. C., Jackson, K. E., & Lill, J. B. (2020). The influence of corporate social responsibility measures on investors' judgments when integrated in a financial report versus presented in a separate report. *Contemporary Accounting Research*, 37(2), 665-695. DOI: <https://doi.org/10.1111/1911-3846.12542>
- Cheng, M. M., Green, W. J., & Ko, J. C. W. (2014). The impact of strategic relevance and assurance of sustainability indicators on investors' decisions. *Auditing: A Journal of Practice & Theory*, 34(1), 131-162. DOI: <https://doi.org/10.2308/ajpt-50738>.
- Cohen, J. R., Holder-Webb, L. L., Nath, L., & Wood, D. (2012). Corporate reporting of nonfinancial leading indicators of economic performance and sustainability. *Accounting Horizons*, 26(1), 65-90. DOI: <https://doi.org/10.2308/acch-50073>.
- Corrar, L., Paulo, E., Dias Filho, J. M. & Rodrigues, A. (2011). *Análise multivariada para os cursos de*

*administração, ciências contábeis e economia*. São Paulo: Atlas.

Dey, C., & Burns, J. (2010). Integrated reporting at Novo Nordisk. In Dey, C., & Burns, J. *Accounting for Sustainability* (pp. 233-250). Londres, Reino Unido: Routledge.

Du Toit, E. (2017). The readability of integrated reports. *Meditari Accountancy Research*, 25(4), 629-653. DOI: <https://doi.org/10.1108/MEDAR-07-2017-0165>.

Eccles, R. G., Serafeim, G., & Krzus, M. P. (2011). Market interest in nonfinancial information. *Journal of Applied Corporate Finance*, 23(4), 113-127. DOI: <https://doi.org/10.1111/j.1745-6622.2011.00357.x>.

Formation of the International Integrated Reporting Committee (IIRC) (2015). *The International IR Framework*. Recuperado em 17 fevereiro, 2020, de <http://integratedreporting.org/wp-content/uploads/2015/03/13-12-08-THE-INTERNATIONAL-IR-FRAMEWORK-Portugese-final-1.pdf>

Frost, G., Jones, S., Loftus, J., & Van Der Laan, S. (2007). An empirical examination of the market returns and financial performance of entities engaged in sustainability reporting. *Australian Accounting Review*, 17(41), 78-87. DOI: <https://doi.org/10.1111/j.1835-2561.2007.tb00456.x>.

Garcia, A, Ciasca, D & Marçal, A. (2019). Como o Relato Integrado vem sendo disseminado no contexto das Organizações Privadas e Públicas? *Anais XIX USP International Conference In Accounting*, São Paulo, SP.

Gomes, F. B. (2007). *Processo de tomada de decisão do investidor individual brasileiro no mercado acionário nacional: um estudo exploratório enfocando o efeito disposição e os vieses da ancoragem e do excesso de confiança*. (Dissertação DE Mestrado). Universidade Presbiteriana Mackenzie, São Paulo, Brasil.

Hair Jr, J. F., Black, W.C., Babin, B.J., Anderson, R.E. & Tatham, R.L. (2009). *Análise multivariada de dados*. Porto Alegre: Bookman.

Haji, A. A., & Anifowose, M. (2016). The trend of integrated reporting practice in South Africa: ceremonial or substantive?. *Sustainability Accounting, Management and Policy Journal*, 7(2), 190-224. DOI: <https://doi.org/10.1108/SAMPJ-11-2015-0106>.

Haji, A. A., & Anifowose, M. (2017). Initial trends in corporate disclosures following the introduction of integrated reporting practice in South Africa. *Journal of Intellectual Capital*, 18(2), 373-399. DOI: <https://doi.org/10.1108/JIC-01-2016-0020>.

Haji, A. A., Coram, P., & Troshani, I. (2021). Effects of integrating CSR information in financial reports on investors' firm value estimates. *Accounting & Finance*, 61(2), 3605-3647. DOI: <https://doi.org/10.1111/acfi.12713>.

Hastie, R. (2001). Problems for judgment and decision making. *Annual review of psychology*, 52(1), 653-683. DOI: <https://doi.org/10.1146/annurev.psych.52.1.653>.

Hong, H., & Kacperczyk, M. (2009). The price of sin: The effects of social norms on markets. *Journal of financial economics*, 93(1), 15-36. DOI: <https://doi.org/10.1016/j.jfineco.2008.09.001>.

Humphrey, C., O'Dwyer, B., & Unerman, J. (2017). Re-theorizing the configuration of organizational fields: the IIRC and the pursuit of 'Enlightened' corporate reporting. *Accounting and Business Research*, 47(1), 30-63. DOI: <https://doi.org/10.1080/00014788.2016.1198683>.

IIRC-Formation of the International Integrated Reporting Committee. (2013). *The International IR Framework*. Recuperado em 08 julho, 2021, de [https://www.aeca.es/old/temporales2013/the\\_international\\_ir\\_framework.pdf](https://www.aeca.es/old/temporales2013/the_international_ir_framework.pdf)

Institute of Directors in Southern Africa (IODSA). (2009) King Committee on Corporate Governance, & Institute of Directors (South Africa). Recuperado em 07 julho, 2021, de [https://cdn.ymaws.com/www.iodsa.co.za/resource/resmgr/king\\_iii/King\\_Report\\_on\\_Governance\\_fo.pdf](https://cdn.ymaws.com/www.iodsa.co.za/resource/resmgr/king_iii/King_Report_on_Governance_fo.pdf).

Joos, P. (2019). *How can research address the trends in corporate reporting*. Anpcont (Oral communication). 2019.

Libby, R., Bloomfield, R., & Nelson, M. W. (2002). Experimental research in financial accounting. *Accounting, organizations and society*, 27(8), 775-810. DOI: [https://doi.org/10.1016/S0361-3682\(01\)00011-3](https://doi.org/10.1016/S0361-3682(01)00011-3).

Mervelskemper, L., & Streit, D. (2017). Enhancing market valuation of ESG performance: Is integrated reporting keeping its promise?. *Business Strategy and the Environment*, 26(4), 536-549. DOI: <https://doi.org/10.1002/bse.1935>.

Pestana, M. H. & Gageiro, J. G. (2003) *Análise de dados para ciências sociais: a complementaridade do SPSS*. 3.ed. Lisboa: Edições Silabo.

Santana, D., Dias, D., Espejo, M. & Silveira, N. (2019). Relato Integrado: agenda de pesquisa a partir do estado da arte. *Anais do XVI Congresso USP de iniciação Científica em Contabilidade*. São Paulo, SP.

Santos, C. A. D., & Cunha, P. R. D. (2021). Effect of Trust between the Time Pressure and Complexity in Judging and Decision-Making in Auditing. *Revista de Administração Contemporânea*, 25(5), e-200037. <https://doi.org/10.1590/1982-7849rac2021200037.en>

Smith, M. (2003). *Research methods in accounting*. London: Sage.

Soares, R. A., Abreu, M. C. S. D., Rebouças, S. M. D. P., & Marino, P. D. B. L. P. (2020). Efeito do sistema nacional de negócios sobre a evidenciação social e ambiental: uma comparação entre Brasil e Canadá. *Revista Brasileira de Gestão de Negócios*, 22(01), 29-47. DOI: <https://doi.org/10.7819/rbgn.v22i1.4042>

Sprinkle, G. B. (2003). Perspectives on experimental research in managerial accounting. *Accounting, Organizations and Society*, 28(2-3), 287-318. DOI: [https://doi.org/10.1016/S0361-3682\(01\)00058-7](https://doi.org/10.1016/S0361-3682(01)00058-7).

Zhou, S., Simnett, R., & Green, W. (2017). Does integrated reporting matter to the capital market?. *Abacus*, 53(1), 94-132. DOI: <https://doi.org/10.1111/abac.12104>.

\* A preprint version of the article was presented at the XLIV MEETING OF ANPAD, EnANPAD 2020.

## NOTES

### ACKNOWLEDGMENT

We thank the Pro-Rector of Research and Graduate Studies (PRPPG) of the State University of Western Paraná (UNIOESTE). We thank the Coordination for the Improvement of Higher Education Personnel - CAPES, through a scholarship to the PPGC of Unioeste - for Simone Boruck Klein, in the period of 2019. We thank the Federal University of Mato Grosso do Sul Foundation (UFMS/MEC - Brazil).

### AUTHORSHIP CONTRIBUTION

Conception and elaboration of the manuscript: Colla, P. E.B. ., Klein, S.B. ., Dal Vesco, D. G. ., & Santos, C. A. dos.

Data collection: Colla, P. E.B. ., Klein, S.B.

Data analysis: Colla, P. E.B. ., Klein, S.B. ., Dal Vesco, D. G. ., & Santos, C. A. dos.

Discussion of results: Colla, P. E.B. ., Klein, S.B. ., Dal Vesco, D. G. ., & Santos, C. A. dos.

Review and approval: Colla, P. E.B. ., Klein, S.B. ., Dal Vesco, D. G. ., & Santos, C. A. dos.

### DATASET

The dataset that supports the results of this study is not publicly available.

### FINANCING

The present work was carried out with the support of the Pro-Rector of Research and Graduate Studies (PRPPG) of the State University of Western Paraná (UNIOESTE). The author Simone Boruck Klein had a CAPES grant during 2019, in accordance with Ordinance No. 206, of September 4, 2018, "the present work was carried out with the support of the Coordination for the Improvement of Higher Education Personnel - Brazil (CAPES) - Financing Code 001".

### CONSENT TO USE IMAGE

Does not apply.

### APPROVAL OF THE RESEARCH ETHICS COMMITTEE

Does not apply.





## **CONFLICT OF INTERESTS**

Does not apply.

## **USE LICENSE**

Copyrights for articles published in this journal are the author's, with first publication rights for the journal. Due to appearing in this Public Access Magazine, the articles are free to use, with their own attributions, in educational, professional and public management applications. The magazine adopted the [Creative Commons Attribution 4.0 International license - CC BY NC ND](#). This license allows accessing, downloading (downloading), copying, printing, sharing, reusing and distributing the articles provided that the source is acknowledged, attributing the due authorship credits. In such cases, no permission is required from the authors or editors. Authors are authorized to assume additional contracts separately, for non-exclusive distribution of the version of the work published in this journal (eg, publishing in institutional repository or a book chapter).

## **PUBLISHER**

Federal University of Santa Catarina. Accounting Sciences Course and Postgraduate Program in Accounting. Publication on the [UFSC Journal Portal](#). The ideas expressed in this article are the responsibility of their authors, and do not necessarily represent the opinion of the editors or the university.

## **EDITORS**

Carlos Eduardo Facin Lavarda and Suliani Rover

## **HISTORIC**

Received on: 20/10/2020 - Peer reviewed on: 17/05/2021 - Reformulated on: 20/07/2021 - Recommended for publication on: 21/07/2021 - Published on: 04/12/2021