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SUSTENTABILIDADE EM EMPRESAS BRASILEIRAS BASEADA NAS DIMENSÕES DO ÍNDICE DE SUSTENTABILIDADE EMPRESARIAL (ISE), CONSIDERANDO ESFORÇOS DE GERENCIAMENTO DE PROJETOS

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Resumo

Mudanças corporativas são promovidas por meio de projetos, o que torna projetos meios para alcançar desenvolvimento sustentável. Alguns índices de sustentabilidade foram desenvolvidos em diferentes países com o propósito de tornar disponíveis informações confiáveis sobre a atuação de empresas. O ISE (Índice de Sustentabilidade Empresarial) oferece a análise de grupos empresariais brasileiros. Este artigo é proposto para explorar as variáveis analisadas nas pesquisas do ISE, cujos resultados estão disponíveis na plataforma ISE, considerando as dimensões e melhores práticas abordadas, e possíveis correlações entre elas. O objetivo desta pesquisa é entender a correlação entre as dimensões abordadas em um estudo exploratório e quantitativo. Os dados secundários usados para análise foram extraídos dos questionários do banco de dados ISE, respondidos por empresas de diferentes indústrias. Os resultados mostram que há correlação entre dimensões do TBL (Triple Bottom Line) e os questionários ISE. Identificou-se que quando governança corporativa aumenta, TBL também aumenta.

Palavras-chave: ISE, sustentabilidade, gerenciamento de projetos, empresas, indústria.

SUSTAINABILITY IN BRAZILIAN FIRMS BASED ON THE CORPORATE SUSTAINABILITY INDEX (ISE) DIMENSIONS, CONSIDERING PROJECT MANAGEMENT EFFORTS

Abstract

The corporate changes are provided by projects, which makes projects means to reach sustainable development. Some sustainable indexes were developed in different countries in order to make available reliable information about companies' behaviors. ISE (Corporate Sustainability Index), the Brazilian index, offers the analysis of a group of companies. This paper is proposed to explore the variables analyzed in ISE surveys and the results published in the ISE platform, considering the dimensions and best practices approached and possible correlation between them. The aim of this research is to understand the correlation between the dimensions approached. This is an exploratory quantitative study. The secondary data used to perform the analysis was from ISE database questionnaires that were answered by different industries firms. Our findings show that there is correlation between the TBL (Triple Bottom Line) and the ISE questionnaires, it was identified that when corporate governance grows, the TBL also grows.
Keywords: ISE, sustainability, project management, company, industry.

SUSTENTABILIDAD EN EMPRESAS BRASILEÑAS BASADAS EN LAS DIMENSIONES DEL ÍNDICE DE SUSTENTABILIDAD EMPRESARIAL (ISE), CONSIDERANDO ESFUERZOS DE GESTIÓN DE PROYECTOS.

Resumen

Cambios corporativos son promovidos por medio de proyectos, lo que los vuelve una forma de lograr un desarrollo sustentable. Se han desarrollado índices de sustentabilidad en diferentes países con la finalidad de ser información confiable y disponible sobre la actuación de empresas. El ISE (Corporate Sustainability Index), ofrece el análisis de grupos empresariales brasileños. Este artículo propone explorar las variables analizadas en la investigación del ISE, cuyos resultados están disponibles en la plataforma ISE, considerando las dimensiones y las mejores prácticas abordadas, y las posibles correlaciones entre ellas. El objetivo de esta investigación es comprender la correlación entre las dimensiones abordadas en un estudio exploratorio y cuantitativo. Los datos secundarios usados para el análisis se extrajeron de los cuestionarios de la base de datos del ISE, respondidos por empresas de diferentes industrias. Los resultados muestran que existe una correlación entre las dimensiones del TBL (Triple Bottom Line) y los cuestionarios del ISE. Se ha encontrado que cuando aumenta la gobernanza corporativa, el TBL también aumenta.
Palabras clave: ISE, sustentabilidad, gerenciamiento de proyectos, empresas, industria.

INTRODUCTION

Sustainability challenges are driving governments and companies to look for new business models. In 1994, Elkington already mentioned possible new models to deal with the balance among economy, environment and consumer. Yet in this context, some authors suggest projects as a way to reach sustainability (Carvalho & Rabechini Jr., 2017; Silvius, 2017), and that people must believe in business people to implement those projects (Elkington, 1994).

Despite the recognized need of corporate changes toward sustainable development, there is still a gap between the world goals and the companies' behaviors. In Brazil, ISE (Índice de Sustentabilidade Empresarial), which can be translated as Corporate Sustainability Index, offers the analysis of a group of companies (identified as ISE wallet) considering its performance under sustainability aspects. One of the ISE objectives is to influence other companies in direction to a sustainable organizational culture. Hence, this paper is proposed to explore the variables analyzed in ISE surveys and the results published in the ISE platform, considering the dimensions, the best practices approached and possible correlation between them. The main objective of this paper is to understand the correlation between the approached dimensions. The secondary objective of this paper is to analyze the companies as examples of sustainable business considering their project management capacity.

Other papers have already analyzed ISE, comparing to the financial results of the companies (Vital, Cavalcanti, Dalló, Moritz, & Costa, 2009). This paper, nonetheless, is the first to consider all the three dimensions that build the sustainable TBL - Triple Bottom Line (Elkington, 2006) dimensions approached in ISE: environmental, social and economic. It's also the first to analyze ISE results, as a whole, in a quantitative approach, understanding the influence of each dimension to build a sustainable business. Furthermore, it's the first paper to connect the industries involved in the questionnaire to its potential for projects. Our expectation is to influence industries, companies and project leaders to a sustainable direction.

Accordingly, the paper is structured as follows. The next section provides the Literature Review. Section 3 discusses the Method. The results of the analysis are provided in Section 4. Section 5 concludes.

ISE

An index of corporate sustainability can be defined as the understanding of corporate sustainability through directives and principles, available in reports and indicators to gauge the effectiveness of corporate strategies (Bergman, Bergman, & Berger, 2017). In this context, some indexes have been created to support companies to implement corporate sustainability, such as: Dow Jones Sustainability Index (DJSI), created in 1999 by Dow Jones Indexes; FTSE4Good, from 2001, created by London Stock Exchange; JSE Limited, created by South Africa Stock Exchange (2003); and ISE, created in 2005 by Brasil Bolsa Balcão - B3 (Orsato, Garcia, Mendes-Da-Silva, Simonetti & Monzoni, 2015).

ISE stands for "Corporate Sustainability Index". It was created in Brazil, with The World Bank's support, and the Brazilian institution FGV - Fundação Getúlio Vargas developed its methodology. ISE provides data that can support the investor with the sustainable development demands of a contemporary society and stimulate corporate ethical responsibility (FGV EASP, 2016). It's composed by 11 organizations, including BM&FBovespa and the Environmental Ministry. Among other activities, it develops studies concerning the sectorial engagement towards sustainable development.

ISE portfolio is formed by a group of companies' stock, chosen to develop their stocks in the market. Every year, this portfolio is updated. In this process, new companies join the portfolio while others leave it. Only companies among the 200 most liquids shares are eligible to the portfolio. In 2016, the year analyzed in this paper, it included 38 stocks of 34 companies.

The data available in the database is computed from answered questionnaires, applied in 2016 and available in 2017. These questionnaires are answered annually by firms which are part of ISE and candidate firms to join ISE. This paper considers only the answers from the companies which are part of the ISE portfolio. These answers are available to retrieve on the website http://isebvmf.com.br/.

The questionnaire evaluates different aspects of corporate sustainability. It includes seven dimensions. Each dimension is divided by criteria that guide the analysis of the index. The purpose of each dimension is summarized below:

- General - considers the corporate commitment to sustainable development, alignment to the good practices, transparency, and anti-corruption practices.
- Nature of the product - considers the companies' product and service impact, precaution principles, and availability of information to consumers.
- Corporate Governance - considers the relationship among partners, structure and the Administration Council management, inspection and auditory processes, and practices related to the conduct and conflict of interests.
- Economic and Financial - analyze criteria related not only to the net performance of the company but also to its sustainability.
- Environmental - considers the practices followed by the company in an environmental context.
- Social - analyzes corporate policies, management, performance and legal compliance.
- Climate change - analyzes corporate policies, management, performance and level of open information on the possible climate changes impacted by the company.

LITERATURE REVIEW

SUSTAINABILITY X CORPORATION

Individual companies have to look for new ways of co-operation among stakeholders, including competitors in an effort to get involved with the sustainable progress (Elkington, 1994). The number of international organizations working towards a sustainable development and the intensity of their work have been growing through the years, which can be seen in the Business Council for Sustainable Development; SustainAbility; the United Nations Environmental Program (UNEP); and even on business magazines such as Forbes. However, the progress on communities is still very slow (Globescan & SustainAbility, 2017).

A Globescan and SustainAbility survey (2017) points out results of a research on the progress of the Sustainable Development Goals - SDGs (ONU, 2015) in which the private sector is still the tenth agent in attitude towards the goal. It shows all the space to be occupied by the business sector and the possibilities that the companies have to differentiate themselves. Some companies already have established methods to enrich its progress, evaluating and constructing an integrated supply chain, for example, reinforcing the need to pay attention to the entire life cycle of the product (Elkington, 1994).

Some authors define business models as a means of creating value through sustainable results (Boons & Lüdeke-Freund, 2013). It is equivalent to the preference of companies to be engaged with

sustainability through new products in line with the SDGs (Globescan & SustainAbility, 2017). Yet, in order to meet the need of firms' direct and indirect stakeholders, without compromising their ability to meet the needs of future stakeholders as well, it's possible to identify three key elements: integrating economic, ecological and social aspects in a triple bottom line; integrating short term and long term aspects; and consuming the income and not the capital (Dyllick & Hockerts, 2002). In that sense, it's understandable that the environmental, social and economic dimensions of the TBL are connected, influencing each other (Dyllick & Hockerts, 2002).

From a leadership perspective, there's a tendency of corporate governance being a growing area of pressure on companies (Elkington, 2006). In this context, Elkington (2006) suggested that corporate governance reflects in the corporate responsibilities. Other researchers found results that the pressure of governance is felt in multinational companies (Jamali, Safieddine & Rabbath, 2008). Considering these findings, it's possible to see the corporate governance role in driving the attitude of the companies, influencing the TBL dimensions.

SUSTAINABILITY AND PROJECT MANAGEMENT

If, from a point of view, a way to include sustainability in organizations' perspective and results is by projects (Carvalho & Rabechini Jr., 2017; Elkington, 1994; Silvius, 2017), on the other hand, the concepts of sustainability, connected to the TBL, has required a new panorama for projects (Martens & Carvalho, 2016). Yet, the results of Carvalho and Rabechini Jr. (2017) study show the convergence between sustainability and project management and the existence of a relationship with project success. Opportunities for the introduction of sustainability guidelines in projects can be found in human resource, procurement and risk, communication with stakeholders (Carvalho & Rabechini Jr., 2017; Kivilä, Martinsuo, & Vuorinen, 2017; Silvius, 2017).

Groups of indicators, normally, operationalize the TBL concepts to the integration into projects, may it be in the project process or project product (Silvius, 2017). In this context, Martens and Carvalho (2016) identified dimensions and variables of sustainability in project management towards project success. In accordance to that result, Carvalho and Rabechini Jr. (2017) suggest three blocks which the possibilities to integrate project sustainability management are: process and knowledge area focusing on sustainability; green procurement and partnership; design for environment; environmental technologies; and social responsibility in project context.

The context and precisely dimensions or numbers of criteria can vary among the studies. However, it is possible to mention that these dimensions have similarities with ISE approach, because of their purpose as previously described. Hence, the intention is to map, in ISE database, the concept of sustainable development, based on TBL, in order to support corporate decisions which include project definitions.

RESEARCH METHOD

The aim of this article is to understand the correlation between the approached dimensions. The secondary objective of this paper is to analyze the companies as examples of sustainable business considering their project management capacity. This research is considered exploratory, once it seeks to understand more about the dimensions' correlation, which has only been marginally explored. The exploratory research aims to understand a phenomenon (Krippendorff, 2012).

The followed method was quantitative in order to test the hypotheses that were defined based on the research variables. The quantitative research is a way to test objective theories through variables relation, which can be analyzed by statistical methods (Creswell, 2010). The used data is secondary and it was collected from objective questionnaires.

The questionnaire answers concerns sustainability in organizations, and are available in ISE database. The questions are constructed based on seven dimensions: (i) environmental; (ii) financial-economic; (iii) general; (iv) corporate governance; (v) climate change; (vi) nature of the product; and (vii) social. Due to environmental dimension has not a standardized and specific question to every company, as the other dimensions, the researchers decided to dismiss this dimension, in order to keep a pattern in the analysis. However, the description of the dimension Climate Change written in the ISE questionnaire allowed the understating that it considered the environmental impacts, control and precaution managed by each interviewed company. So, the Climate Change dimension was analyzed by the authors as representing the environmental aspects. Therefore, the dimensions used in this study were: (i) financial-economic; (ii) general; (iii) corporate governance; (iv) climate change; (v) nature of the product; and (vi) social.

Secondary data can be understood as data that has already been collected for purposes other than those of the current research question (Malhotra, 2012). It represents a valuable resource in order to provide environmental, social and financial-economic performance indicators for sustainability (Barnes & Thomson, 2014). Although, Malhotra (2012) recommends researchers to evaluate the quality criteria of secondary data to be used in a study. The following criteria shall be noticed: (i) specifications and methodology; (ii) error and precision; (iii) frequency; (iv) objective; (v) type; and (vi) reliability. Thereby, Table 1 describes the mentioned criteria that ensure quality to ISE database.

TABLE 1 – QUALITY CRITERIA ANALYSIS OF ISE SECONDARY DATA

QUALITY CRITERIA OF SECONDARY DATA	CRITERIA DESCRIPTION	ISE
Specifications and methodology	Method of data collection, sampling technique, questionnaire preparation, data analysis.	Questionnaire sent to the two hundred firms with the most traded shares in Bovespa stock exchange in the last year (2016); questionnaire answers and submission of documents on a voluntary basis (FGV EASP, 2016).
Error and precision	Approach, sampling, data analysis, reporting	Questionnaire and answers are available in the web; organizations must answer the complete questionnaire; the provided data retrieved from the questionnaire answers and documents are checked in-loco by an expert (FGV EASP, 2016).
Frequency	Period of collection and publication, update frequency	Database annual update (since 2005) based on academic research and participatory approach (FGV EASP, 2016)
Objective	The reason for collecting data	To support the investors on decision making in socially responsible investing and leading firms to adopt the best corporate sustainable practices (FGV EASP, 2016)
Type	Definition of variables and used categories	Business representatives, investors, public authority, academy and civil society assembled during all the years to discuss every questionnaire category (FGV EASP, 2016).
Reliability	Knowledge, credibility, reputation and source integrity	Questionnaire was prepared and validated by a renowned Brazilian research institute (Marcon, de Medeiros, & Ribeiro, 2017); ISE undergoes external audit (FGV EASP, 2016); Process transparency and credibility in questionnaire answers; methodological, financial, and decision-making autonomy (FGV EASP, 2016).

Source: elaborated by the authors (2019), based on FGV EASP (2016).

One of the main characteristics of the questionnaire is the qualitative aspect of the questions, not following an identified rating scale. As the main purpose of this article was to measure correlation among dimensions, it was necessary to convert the qualitative questionnaire into variables possible to be studied quantitatively. Then, in order to retrieve data from the database and undertake the analysis, the researchers proceeded as follows: (i) database analysis; (ii) questionnaires download by question and dimension; (iii) documents conversion from .pdf to Excel format; (iv) refined database analysis; (v) weight assignment to every selected answer by the firms; (vi) sum of weight by firm in a spreadsheet; (vii) template development of the computed weights of the answers by firm and question; (viii) diagram development for the SQL (Structured Query Language) database; (ix) service development to retrieve data from the Excel files with questions and answers from every firm; (x) data validation in SQL database; (xi) SQL query development in order to extract data from SQL database in a square matrix; (xii) convert the set of questions that built a dimension into proxies; and (xiii) test appliance. The proxies are going to be better explored in the topic "variables operationalization".

The weights assigned to every selected answer followed the described criterion: the more sustainable is the content of the answer, the higher is the weight of the answer. The weights started from zero and rose according to the number of possible answers. Every total answer was represented in the refined database by a number. On the first test applied through R, the missing value test, it was noticed by the researchers the lack of some answers. Hence, the defined rule in Table 2 was applied.

TABLE 2 – WEIGHT ADJUSTMENT RULE

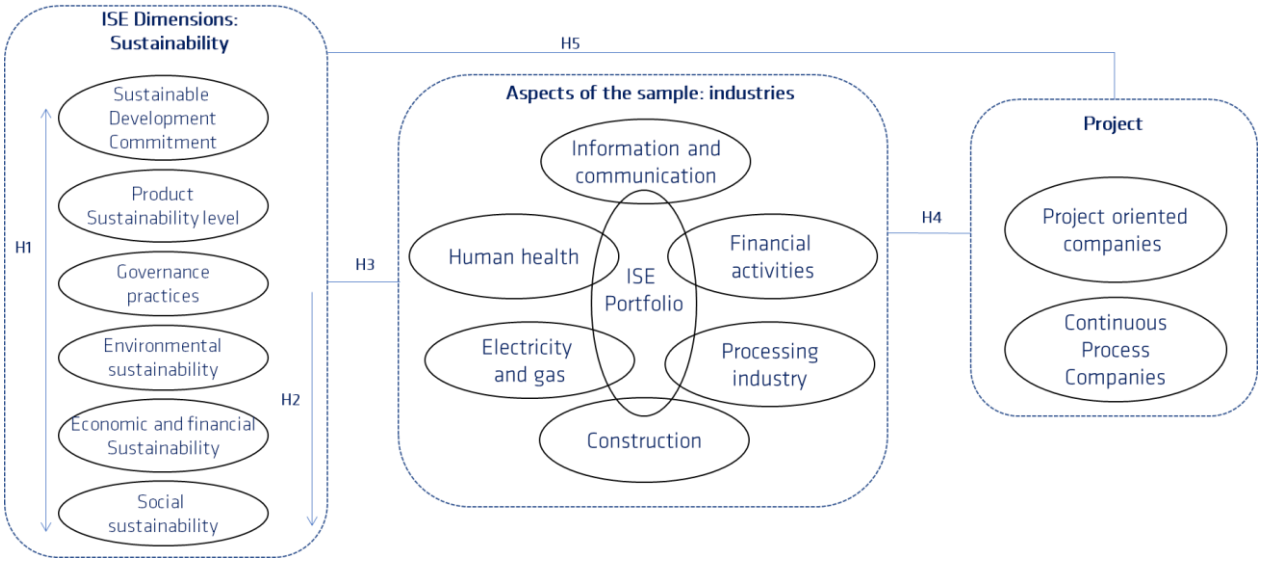
SCENARIO	PERFORMED ACTION
Lack of weights for the subsidiary	Weights retrieved from the holding company.
Lack of weights for the holding company	If the holding company owns only one subsidiary, the weights were retrieved from the subsidiary. If the holding company owns more than one subsidiary, the weights are retrieved from simple arithmetic mean from the subsidiaries.

Source: elaborated by the authors (2019), based on FGV EASP (2016).

RESEARCH MODEL

The literature and the previous research make it possible to draw the research model proposed in Figure 1:

FIGURE 1 – RESEARCH MODEL



Source: elaborated by the authors.

To analyze ISE questionnaire, proxies were constructed based on the concept of each dimension approached in the database. To develop this concept, it was necessary to understand what was being evaluated in the questions applied. From the definitions on the web platform and the interpretation of the questions, the proxies were developed as it follows in table 3.

TABLE 3 – LIST OF PROXIES DEVELOPED

DIMENSION	PROXY
Economic and Financial	Economic and Financial Sustainability
General	Sustainable Development Commitment
Corporate Governance	Governance Practices
Climate Change	Environmental Sustainability
Nature of the product	Product Sustainability Level
Social	Social Sustainability

Source: elaborated by the authors.

As mentioned before, the questionnaire uses a qualitative approach and the questions evaluate the practices of the surveyed company, considering its practice in each dimension context. It is important to remember that environmental dimension questions couldn't be analyzed, once it differs according to some companies, making it not possible to follow a pattern. Therefore, economic and financial dimension, and the social dimension are representing the sustainability of those practices. Climate change dimension considered the impact, control and precaution concerning environmental effect of each company interviewed activities, representing the environmental aspects. So, the proxy considered a representation of the environmental sustainability. The nature of the product dimension considers the practice of the companies to reduce or prevent the product and service's impact as a whole, constituting the level of sustainability of the product. The general dimension is built from questions that checked the commitment of the company towards the sustainable development, which made the proxy sustainable development commitment. At last, corporate governance analyzed the practices of the governance of the companies, naming the governance practices proxy.

Those proxies characterize sustainability in companies. It is possible to identify that the surveyed companies belong to a variety of industries. Also, it is possible to group the companies belonging to ISE portfolio and the ones that filled the questionnaire but do not belong to ISE portfolio.

So, according to the literature is possible to establish a connection between project and companies, once projects are a way to implement sustainability in companies. However, to test this connection it is needed to work on the same concept in both contexts (companies and projects), comparing identical items. As it was possible to identify different industries according to the companies and as it is a Brazilian database, it was used the CNAE - Classificação Nacional de Atividades Econômicas (IBGE, 2017) as a reference. It was also used PMI's Pulse of the Profession (PMI, 2017), considering that one of the analyzed subject were the industries in which project managements are working. From that result it is admitted that industries with higher number of project managers are more interested in projects. Hence, those industries are considered more project oriented than industries with a smaller number of employed project managers. It was admitted that only industries with more than 10% of the sample of surveyed professionals are project oriented. The final classification is available in table 4.

TABLE 4 – CLASSIFICATION OF COMPANIES AND INDUSTRIES

CNAE CLASSIFICATION: INDUSTRIES AND COMPANIES	PMI CLASSIFICATION: PERCENT OF PROFESSIONALS INTERVIEWED PER INDUSTRY	INDUSTRY CLASSIFICATION ACCORDING TO THE PROJECT ORIENTATION
Information and communication: Telefônica Brasil S.A; Tim Participacoes S.A.; TIM Celular S.A.	18	Project Oriented
Finance activities concerning insurance and related services: Banco Bradesco S.A.; Bradesco Seguros S.A.; Banco Brasil S.A.; Banco Santander S.A.; Cielo S.A.; Itau Unibanco Holdings S.A.; Itausa Investimentos Itau S.A.; Sul America S.A.	10	Project Oriented
Electricity and Gas: Aes Tiete Energia S.A.; Centrais Elet Bras S.A. - Eletrobras; Amazonas Distribuidora de Energia S.A.; Boa Vista Energia S.A.; Centrais Elétricas de Rondônia S.A.; Centrais Elétricas do Norte do Brasil S.A.; Chesf - Companhia Hidro Elétrica do São Francisco; Cia de Geração Térmica de Energia Elétrica; Companhia de Eletricidade do Acre; Companhia Energética de Alagoas; Companhia Energética do Piaui; Eletrobrás Termonuclear S.A.; Eletrosul Centrais Elétricas S.A.; Centrais Elet de Santa Catarina S.A.; Celesc Distribuição S.A.; Cia Energetica de Minas Gerais - Cemig; Cemig Distribuição S.A.; Cemig Geração E Transmissão S.A.; Cia Paranaense de Energia - Copel; Copel Distribuição S.A.; Copel Geração e	8	Continuous process
CNAE Classification: Industries and companies	PMI Classification: percent of professionals interviewed per industry	Industry classification according to the project orientation
Transmissão S.A.; Cpfl Energia S.A.; Companhia Paulista de Força E Luz; Companhia Piratininga de Força E Luz; Rio Grande Energia S.A.; Edp - Energias do Brasil S.A.; Bandeirante Energia S.A.; Edp - Comercialização e Serviços de Energia Ltda.; Espírito Santo Centrais Elétricas S.A.; Furnas Centrais Elétricas S.A.; Itaipu Binacional; Porto do Pecém Geração de Energia S.A.; Eletropaulo Metrop. Elet. Sao Paulo S.A.; Engie Brasil Energia S.A.; Light S.A.; Light Serviços de Eletricidade S.A.	8	Continuous process
Processing Industry: Brasken S.A.; BRF; Embraer S.A.; Fibria Celulose S.A; Kablin S.A.; Natura Cosméticos S.A; WEG S.A.	7	Continuous process
Human Health and social services: Fleury S.A.	7	Continuous process
Construction: CCR S.A.; Concessionária da Rodovia Presidente Dutra S.A.; Concessionária de Rodovias do Oeste de São Paulo - ViaOeste S.A.; Concessionária do Sistema Anhanguera - Bandeirantes S.A.; Rodonorte - Concessionária de Rodovias Integradas S.A.; Rodovias Integradas do Oeste S.A.; Duratex S.A.; Ecorodovias Infraestrutura e Logística S.A.; Concessionária das Rodovias Ayrton Senna e Carvalho Pinto S.A. - Ecopistas; Concessionária Ecovia Caminho Do Mar S.A.; Concessionária Ecovias Dos Imigrantes S.A.; Ecoporto Santos S.A.; Empresa Concessionária de Rodovias Do Sul S.A. - Ecosul; Rodovia das Cataratas S.A. - Ecocataratas; Mrv Engenharia e Participacões S.A.	6	Continuous process
Retail: B2W - Companhia Digital; Lojas Americanas S.A.; Lojas Renner S.A.	2	Continuous process

Source: elaborated by the authors.

RESEARCH QUESTION AND HYPOTHESES

The contact with ISE questionnaire and the discussions about TBL and corporate efforts towards sustainability drove the interest of this research to understand the correlation among the

dimensions approached. In that sense, this paper tries to answer the question: is every dimension of the questionnaire being developed at the same rhythm? To answer that question, some hypotheses were created.

Dyllick and Hockerts (2002) suggested a connection between the TBL dimensions. However, from a more holistic point of view, ISE suggests other dimensions to be considered when approaching the sustainablity in the coporations' context. Therefore, if there is a connection among dimensions, would that be in the same intensity for all the dimensions? To better understand the link between dimensions, it is suggested to investigate the following hypothesis:

H1: All the dimensions are correlated but they differ in the proportion they've been developed.

The role of the governance in the industry is known to be felt in multinationals (Jamali, Safieddine, & Rabbath, 2008). Many of the companies, part of ISE studies, are holdings, supposing strong influence among them. Elkington (2006) also proposes the influence of governance in the responsibilities of the companies, which suggest the importance to investigate the second hypothesis:

H2: As the corporate governance grows, the TBL also grows considering ISE portfolio.

At last, as ISE selects companies to a portfolio with stock in the market, it is possible to establish a comparison between the ones selected and the ones not selected. Also, as companies from ISE portfolio are indicated to be more sustainable than other companies, it directed to the interest in the following hypothesis:

H3: The dimensions approached on ISE questionnaire are more relevant to ISE portfolio than to other companies.

A secondary objective is to analyze the companies as examples of sustainable business considering their project management capacity. Hence, the main question concerning that objective is: are all the TBL dimensions relevant to project oriented firms? Although, to answer that question, it is needed to characterize companies in the ISE portfolio according to the level of project orientation they represent. This process is explained in the research model. So, to answer that question, the hypothesis bellow was tested:

H4: The more sustainable is the industry, the more project-oriented it also is.

As perceived, ISE questionnaire considers more dimensions than the ones from TBL. Also, ISE analyzes the practices of sustainability on companies and select the considered most sustainable for a portfolio. On the assumption that projects can make sustainability more possible in companies, the following hypothesis is proposed:

H5: The dimensions approached on ISE questionnaire are more relevant to project oriented industries than to continuous process firms.

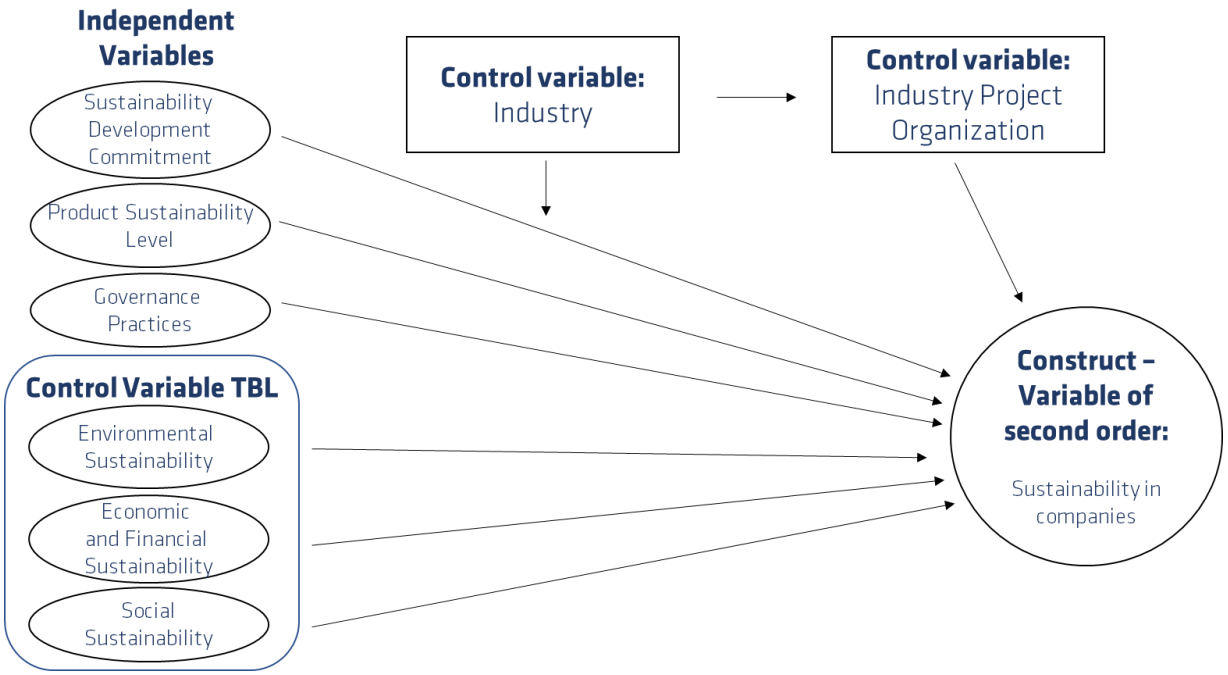
VARIABLES OPERATIONALIZATION

In an effort to comprehend means for assessing and testing theoretical models, structural equations have already been in use for a long time in social science (Anderson & Gerbing, 1988). In this research, constructs were analyzed from proxies identified to represent the dimensions in which they were built. Hence, the purpose of structure equations models fits with the need to link latent variables to each other (Jais, 2007), presented in the article.

The reflective measurement models considers that an independent variable is associated to a construct and that a exogenous interference in the construct can be identified in the independent variable (Coltman, Devinney, Midgley & Venaik, 2008). This research considers the proxies as independent variables that form the construct sustainability in companies. So, if the level of

sustainability in companies changes, it might be identified in the proxies. In this context, the variable mensuration model would behave as figure 2.

FIGURE 2 - VARIABLE MEASUREMENT MODEL



Source: elaborated by the authors.

DEPENDENT VARIABLES

From the questionnaire understanding and the literature support, sustainability in companies was operationalized as construct formed by the 6 identified proxies. Every proxy is measured by a value and the sum of the values form the construct level. The identified indicator (the proxies) form a relationship, sharing a common theme to create a construct, noted in reflective models (Coltman, Devinney, Midgley & Venaik, 2008). Despite the fact that sustainability in companies is a name, it can be measured by a value represented as an integer value, i.e. a discrete variable.

INDEPENDENT VARIABLES

The independent variables include all the six proxies, that connected, form the sustainability in company construct: sustainable development commitment; product sustainability level; governance practices; environmental sustainability; economic and financial sustainability; and social sustainability. Each of the independent variable was extracted from the simple arithmetic average from the weight of the answers that form the dimensions evaluated in ISE questionnaire. They are identified by names, however they are also measured by an integer value, representing a discrete variable. Three of those variables can build a cutout to represent the TBL, as a control variable: environmental sustainability; economic and financial sustainability; and social sustainability.

CONTROL AND MODERATING VARIABLES

Four groups of control variables were identified for this paper: ISE portfolio; industry of the companies; and TBL dimensions. All of them are nominal variables, controlling different aspects of the sample or the characteristics analyzed, but TBL dimensions. As TBL dimensions are part of the independent variables of first order, it also is represented by an integer value, i.e. discrete variable. The control variables are represented in table 5:

TABLE 5 – CONTROL VARIABLES

VARIABLE	DESCRIPTION
ISE Portfolio	A group of 34 companies selected by ISE.
Industry of the companies	Information and communication; Finance Activities; Processing Industries; Human Health; Electricity and Gas; Construction.
TBL Dimensions	Environmental Sustainability; Economic and Financial Sustainability; and Social Sustainability.
Industry Project Orientation	Project oriented; continuous process

Source: elaborated by the authors.

DATA ANALYSIS

To develop this research, it was used the R software, indicated to statistical analysis. Program R or simply R is a free open-source implementation of the S statistical computing language and programming environment. R is a widely used software for the determination of basic and advanced statistics (Fox, 2005) and it has a friendly interface through the Rcmdr package. This software was chosen for its open source characteristics and it broad recognition.

RESULTS

HYPOTHESE TESTINGS

H1: All the dimensions are correlated but they differ in the proportion they've been developed.

This hypothesis considered all the 74 firms available in the questionnaire. The answers of the firms were tested in order to verify if they follow a normal distribution. However, the normality was confirmed only in few of the variables. A specialist was consulted, and it was identified that, for the research questions of this paper and the tests intended to be applied, the questionnaire was valid, even if the normality was not confirmed.

Correlation can be understood as a measure of the direction and degree of the linear relationship between two quantitative variables (Hair, Black, Babin, Anderson & Tatham, 2009). Thus, Pearson's correlation coefficient (r) is a measure of linear association between variables, identifying the shared variance between these variables, ranging from -1 to +1, explains Hair, Black, Babin, Anderson & Tatham (2009). The sign indicates the positive or negative direction of the relationship and the value suggests the strength of the relationship between the variables: -1 or +1 indicates that the value of a variable can be determined exactly when knowing the value of the other; zero indicates that there is no linear relationship between the variables (Figueiredo Filho & Silva Júnior, 2009). Hence, the closer it is to the value 1 (independent of the signal), the greater is the degree of linear statistical dependence between the variables; and the closer it is to the value of 0, the lower is the degree of this relation.

In order to evaluate the correlation existence and the intensity of relationship between the sustainability dimensions Pearson's correlation test was performed. Results from Pearson's test showed that the companies presented different sustainability levels in the six dimensions measured by ISE. Each sustainability dimension has a correlation with at least one other dimension. Some highlight points of the correlation test: (i) there is no uniformity in the behavior of firms in the criteria adopted for sustainability; (ii) social sustainability presented the highest correlation with sustainable development commitment.

It is possible to affirm that social sustainability is related to four of five other dimensions, except for economic and financial one. This fact may be related to the social investment programs that addressed sustainable practices through community where the firm has been established. The five remaining sustainable dimensions are related to one or two other dimensions, as presented in table 6. Additionally, the correlation is confirmed among general, environmental and nature of the product

dimensions. This fact may be related to the firm behavior that addressed and embraced general sustainable actions. As a result, it enhances environmental and nature of products dimensions simultaneously.

TABLE 6 – DIMENSION CORRELATIONS

DIMENSION	1	2	3	4	5	6
Economic and Financial Sustainability	1.000	0.3974*	0.0661	-0.1700	-0.1682	0.1882
Governance Practicies	0.3974*	1.0000	-0.613	-0.0565	-0.1718	0.2794*
Sustainable Development Commitment	0.0661	-0.0613	1.0000	0.6725*	0.0020	0.4357*
Environmental Sustainability	-0.1700	-0.0565	0.6725*	1.0000	0.1258	0.2955*
Product sustainability level	-0.1682	-0.1718	0.0020	0.1258	1.0000	-0.2751*
Social Sustainability	0.1892	0.2794*	0.4357*	0.2955*	-0.2751*	1.0000

Note: (*) Significant for 95%
Source: elaborated by the authors.

H2: As the corporate governance grows, the TBL also grows considering ISE portfolio.

The correlation between governance practices and TBL, which is composed by social, economic and financial sustainability is r = 0.40, considering the 34 participant firms of ISE Portfolio. The correlation coefficient is significantly different from 0, as p is less than an assumed alpha = .05 ($p < .05$). As a result of the correlation test, H2 is positive. The greater is the sustainable aspects considered in firms' corporate governance, the greater is their performance in TBL aspects. This result suggests a confirmation of the influence of the governance in the responsibilities of the companies, as proposed by Elkington (2006).

H4: The more sustainable is the industry, the more project oriented it also is.

We consider the analysis of each dimension separately through an independent sample t test, considering companies project oriented or not. The results showed that in all six sustainability's dimensions (economic and financial, governance practices, sustainable development commitment, environmental, nature of the product and social) all the companies (project oriented or not) the means do not significantly differ from each other, as p is greater than alpha = .05. This fact could be related to the environmental and social impacts in project that are usually bigger than in operational process. Table 7 presents the results of variance test. Six dimensions doesn't confirm significance between sustainable behaviors and whether firm is project oriented, so, H4 couldn't be confirmed.

Table 7 – SUSTAINABLE DIMENSION VARIANCE RELATED TO PROJECT ORIENTED

SUSTAINABLE DIMENSION	P VALUE	RESULT
Economic and financial sustainability	0.3554	t(20) = 0.95, p = .36
Governance Practices	0.4533	t(20) = 0.76, p = .45
Sustainable Development Commitment	0.302	t(16) = 1.07, p = .30
Environmental Sustainability	0.2687	t(21) = 1.14, p = .27
Product sustainability level	0.7273	t(19) = 0.35, p = .72
Social Sustainability	0.2317	t(15) = 1.25, p = .23

Note: Significant for 95%
Source: elaborated by the authors.

H5: The dimensions approached on ISE questionnaire are more relevant to project oriented firms than to continuous process firms

H3: The dimensions approached on ISE questionnaire are more relevant to ISE portfolio than to other companies.

In order to address H3 and H5, it was performed other data analysis: measure the relation on each sustainability's dimension through ANOVA (Univariate analysis of variance), considering industry and relevance on project. The variable industry is whether firm belongs to ISE portfolio and the

variable relevance on project is related to the firms' industry classified in two different categories: project oriented or firm oriented to continuous processes. Hair, Black, Babin, Anderson & Tatham (2009) explains that the applications of the techniques between test t and ANOVA are distinct: while test t is for two groups and a single independent variable; and ANOVA for two or more groups and more than one independent variable, being useful in the research design where the researcher directly controls one or more independent variables to determine the effect on the dependent variables.

The results show that five dimensions don't represent significant differences when firms were part of the ISE, neither when the industry is project oriented. In this case we can infer that economic and financial sustainability, governance practices, sustainable development commitment, environmental and social sustainability do not represent significant organization behaviors when a Brazilian firm is classified as sustainable in ISE. It also happens if the firm has project execution as part of its core business. The results consolidated in table 8 may represent an issue as we can notice the relevance of regarding sustainable practices, as Carvalho and Rabechini Jr. (2017) mention in their research.

TABLE 8 – ISE PORTFOLIO AND PROJECT RELEVANCE FIRM ANALYSIS

SUSTAINABLE DIMENSION	ISE PARTICIPANT	PROJECT ORIENTED	ISE PARTICIPANT: PROJECT ORIENTED FIRMS
Economic and financial sustainability	0.6740	0.5298	0.7073
Governance Practices	0.1330	0.3278	0.7597
Sustainable Development Commitment	0.1693	0.5187	0.1879
Environmental Sustainability	0.4016	0.5318	0.4283
Product sustainability level	0.003441*	0.640332	0.103644
Social Sustainability	0.9618	0.2185	0.9069

Note: (*) Significant for 95%
Source: elaborated by the authors.

The product sustainability level shows significant difference between firms which participate in ISE portfolio or firms that do not participate. This scenario could be related to (i) possible peculiarities of each sector of the economy; and (ii) sustainable principles needed in the recognition of a firm as sustainable, considering the offered product and services (Santis, Albuquerque & Lizarelli, 2016).

None of the six dimensions exhibit significant differences when analyzing simultaneously a firm belonging to ISE portfolio that is also project oriented. So, this behavior could be explained by the fact that companies usually do not have beliefs that sustainability will bring superior financial performance (Santis, Albuquerque & Lizarelli, 2016). Therefore, the hypotheses H3 e H5 are not true.

CONCLUSION

Our sample consider 74 companies located in Brazil and ISE respondents from 2016. It has been performed a statistical analysis to evaluate: (i) the variables from ISE questionnaires; (ii) the results published in the ISE platform; (iii) the correlation among dimensions; (iv) the influence of project management. Five hypotheses have been tested and two of them have been confirmed, which are H1 and H2.

Firstly, it was confirmed that, although there is a correlation among the dimensions, they don't rise equally. Sustainable behavior is not linear in companies, considering that the investments should be greater to develop a green company (Orsato, Garcia, Mendes-Da-Silva, Simonetti & Monzoni, 2015). The second hypothesis confirmed that governance practices are relevant to develop a firm which addresses social, environmental and economic, influencing each other (Dyllick & Hockerts, 2002) in a balanced way. The sustainable behavior is part of a firm's strategic decision supported by its governance in order to generate sustainable products and services.

Even if sustainability and success in project management is related (Carvalho & Rabechini, 2017) there are not significant results that demonstrated ISE portfolio companies to have higher sustainable performance in comparison to firms out of the classification. This may be related to the fact that firms considered more sustainable do not have superior financial performance comparing to companies without sustainable behavior (Santis, Albuquerque & Lizarelli, 2016).

It is worth reinforcing that projects have uncertainties and risks as part of the process and sustainable aspect can bring additional cost and challenge to the firms' responsibilities. ISE portfolio firms demonstrated better performance to deliver a project or service to customers, as the significance measurement of the product sustainability level. This may be a challenge to companies to combine better products and services and better performance in a project sustainability management.

IMPLICATION FOR PRACTICES

This article presents an analysis based on the sustainable practices of firms through a perspective of ISE Sustainability Index. Complementarily, it has associated the relevance and possible sustainability impacts of project management in the core business of those companies. Lately, several firms had been challenged to embrace sustainability into project management (Martens & Carvalho, 2016), hence it shows the importance to comprehend how to maximize the efforts of practices in this direction.

This research offers a map of sustainability dimensions, favorable to the better understanding of the principles considered in ISE. Although the organizations are being pressured to behave in accordance to environmental and social requirements, they tend to be more concerned about their reputation. Orsato, Garcia, Mendes-Da-Silva, Simonetti & Monzoni (2015) propose a movement on the focus of the interest from the sustainable practices competencies development to an investment in effort and money to the improvement of sustainable integrated process. Moreover, they reinforce that project oriented firms have the same level of sustainable practices that continuous process ones, in almost every dimension analyzed by ISE.

LIMITATION AND FUTURE RESEARCH AGENDA

The ISE questionnaire uses a qualitative approach to collect the data for their study. It impacts in the evaluation of the constructs. Latent variables are suggested to be analyzed in different ways. However, from a quantitative approach it is suggested either the reflective model or the formative model from the structural equations. Due to the differences among methodological approaches, this research presents limitation in the convergence off a qualitative approach into a quantitative approach. Moreover, it was not possible to identify a recognized rating scale in the construction of the questionnaire. In that sense, it is suggested a new survey applying the same constructs used in the questionnaire but considering a validated scale of measurement.

The analyzed questionnaire is applied early. Nevertheless, this paper considers the results from 2016, available in the second semester of 2017. By the end of this research, the results from 2017 were published. It was breafly observed that the new data considered the application of the 17 OSDs proposed from the United Nations. So, it might be an interesting opportunity to also apply the same research method used in this paper considering other years, but mainly 2017.

At last, but not less important, the classification of how important project management is for a company was inferred from a PMI survey, considering the industry of the respondents. To better evaluate the effects of project management in the integration of sustainability in the companies, a suggestion would be to apply this construct in the main questionnaire. The need for corporate change and the positive effects of project management in the results of the firms has already been

indicated in different papers, however there is still a lack between the studies and the practices that need to better developed (Carvalho & Rabechini Jr., 2017).

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