ADRIANO PEREIRA DA SILVA
(ORGANIZADOR)

Collection:

APPLIED PRODUCTION ENGINEERING

Atena Editora
Ano 2022

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Ano 2022

Collection: applied production engineering

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Dados Internacionais de Catalogação na Publicação (CIP)

C697 Collection: applied production engineering / Organizador Adriano Pereira da Silva. – Ponta Grossa - PR: Atena, 2022.

Formato: PDF
Requisitos de sistema: Adobe Acrobat Reader
Modo de acesso: World Wide Web
Inclui bibliografia
ISBN 978-65-5983-835-6
DOI: https://doi.org/10.22533/at.ed.356221001

1. Production engineering. I. Silva, Adriano Pereira da (Organizador). II. Título.

CDD 620

Elaborado por Bibliotecária Janaina Ramos – CRB-8/9166

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APRESENTAÇÃO

A coleção “Applied production engineering” versa a pluralidade científica e acadêmica, permeando as singularidades das várias obras que compõem os seus capítulos. O volume apresentará trabalhos, pesquisas, relatos que promovem as diversas formas da aplicação da engenharia de produção, de modo interdisciplinar e contextualizada, em sua gama de conteúdo iterativo.

O principal objetivo é expor, de forma categórica e clara, as pesquisas realizadas nas diversas instituições de ensino e pesquisa nacionais e internacionais, cujos trabalhos contemplam diretrizes relacionadas à avaliação do ciclo de vida, gestão do conhecimento, transferência do conhecimento, gestão de pessoas, gamificação, desenvolvimento sustentável, criação do conhecimento, processos produtivos, gestão de projetos, mecanização florestal, operações florestais, segurança do trabalho; e áreas correlatas.

Portanto, os tópicos discutidos em sociedade, empresariado e academia, são trazidos para um âmbito crítico e estruturado, estabelecendo uma base de conhecimento para acadêmicos, professores e todos aqueles que estão interessados na engenharia de produção e/ou industrial. Assim, salienta-se a importância das temáticas abordadas nesta coleção, visto pela evolução das diferentes ferramentas, métodos e processos que a indústria 4.0 desenvolveu ao longo do tempo e sendo capaz de solucionar problemas atuais e vindouros.

Deste modo, esta obra propõe uma teoria a partir dos resultados práticos obtidos por diversos professores e estudiosos que trabalharam intensamente no desenvolvimento de seus trabalhos, que será apresentada de forma concisa e pedagógica. Sabemos da importância da divulgação científica, por isso também destacamos a estrutura da Atena Editora para fornecer a esses entusiastas da pesquisa científica uma plataforma integrada e confiável para a exibição e divulgação de seus resultados.

Adriano Pereira da Silva

SUMÁRIO

CAPÍTULO 6

ELABORAÇÃO DE UMA ONTOLOGIA PARA O DESENVOLVIMENTO SUSTENTÁVEL NAS EMPRESAS

Data de aceite: 01/01/2022
Data de submissão: 12/11/2021

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RESUMO: Este trabalho promove um estudo inédito acerca do desenvolvimento sustentável, sobre como as empresas devem se portar diante dos novos desafios advindos da escassez de recursos e a evolução para o empreendimento social. Para a elaboração desse estudo foram utilizados os conceitos do Triple Bottom Line, da Criação do Conhecimento e da elaboração de diagramas ontológicos para petrificar o conceito de sustentabilidade empresarial. Com o auxílio do software Protégé, disponibilizado pela universidade de Stanford, foram elaborados constructos baseados em classes, para definir o conceito de sustentabilidade aplicável a empresas. Diante da discussão foi inferido que é impossível separar a dimensão social da ambiental e que juntas elas interagem para promover melhorias de produtividade e impactos na lucratividade.
PALAVRAS-CHAVE: *Desenvolvimento Sustentavél, Sustentabilidade, Triple Bottom Line, Teoria da Criação do Conhecimento, Ontologia*

ABSTRACT: This work aims to study sustainable development on how enterprises should act facing the new challenges supported by resources scarcity and the evolution towards social venturing. Was carried out research over the concepts on Triple Bottom Line, on Knowledge Creation and additionally, the ontologic models were elaborated to petrify the corporate sustainability concept. Moreover, with Stanford's Protégé software, were elaborated the class-based models to define the enterprise applied sustainability concept. However, it is inferred that it is impossible to separate social and environmental dimensions once they interact each other to promote improvements in productivity and have positive impacts on profit.
KEYWORDS: *Sustainable Development, Sustainability, Triple Bottom Line, Knowledge Creation Theory, Ontology.*

1 | INTRODUCTION

Nowadays, the sustainable development is earning more social, business, and academic relevance. However, in process of improvement and discoveries. It is strongly concerned with the legacy to future generations, regarding to natural, economic, and social resources, trying to avoid their scarcity. A sense of urgency in this process, in this field of study has also been impacted by several contemporary tools capable of helping to organize ideas and in construction of diagrams, as in the case of the present study.

It is understood that in a company, the relationship between humans and the environment needs to be satisfactory, that is, it must be conceived from the perspective of sustainable mentality. For this reality to take hold, the role of each organization and the individual itself must be in accordance with the concepts of Triple Bottom Line (TBL), giving the importance those socio environmental and economic issues needed (ALHADDI, 2015; RICHARDSON, 2013).

The main concepts of TBL are related to the division of sustainability into three pillars: profit, which is related to company profits and the entire economic portion; people, which relates all the social factors which influences the quality and life of internal customers and the surrounding population; and planet, where all environmental management and environmental preservation activities are allocated.

The "learning by doing", according (BARRAL *et al.*, 2019; FRAILE SORDI; CUNHA e NAKAYAMA, 2017), it is highly valued in industrial culture, with its main role in construction of organizational knowledge which operates in two dimensions, the epistemological and ontological. The first covers the definition of implicit and explicit knowledge and the last one refers to the crystallization of knowledge in the individual, group, organizational and interorganizational spheres.

According to Guarino (1998), ontology has been moving out of the philosophical sphere and is being recognized in several research fields such as knowledge engineering, knowledge representation, information models and information extraction and retrieval, as well as knowledge management and organization.

Unlike the ontology applied in philosophy, in this paper, it's understood as a dictionary of concepts e relationships between those concepts (DUQUE; BASTOS, 2017). Gruber (1993) reports that ontology is an explicit of a concept. It works as conceptual scheme in database systems. While the conceptual scheme represents data relationships, ontology defines the terms that will define knowledge. For (ANDRADE; FERREIRA e PEREIRA, 2010), an ontology is built with the goal of sharing and reuse the knowledge that has been structured will facilitate its access for future generations through the recovery of knowledge and its full understanding. Therefore, an ontology is a structure of concepts and their attributes that relate to each other, forming knowledge about determined area or field of research in an organized way aiming to facilitate the work of future generations, which will

use this knowledge.

From a conceptual reflection of sustainability and its dimensions, and how this paper explores it epistemologically and through cutting edge tools to contribute to the solidification of constructs. So, considering the approach of Marconi and Lakatos (2018) that presents in order the conceptualization starting from concepts of direct observation – of less abstraction – to concepts of indirect observation, passing through constructs until reach theoretical terms – more abstract. It is expected to collaborate in the construction of theoretical terms, which are fundamental to the advancement of science. Besides that, the relevance of this paper resides, still, in the creation of ontologic models to guide companies to compare their structure with the presented sustainability model. These models are based on the concepts of Triple Bottom Line and aim to help in the understanding about the main points that guide and facilitate the sustainable development through an analysis about the evolution of the sustainability concept and its importance for industries and society survival.

2 | METHODOLOGY

The methodology applied in this paper its divided in two parts: research method and work method. In research method, the form of the research carried out, the objectives and how it fits in time are described. On the other hand, the work method, explicit exactly how the research was elaborated, which methods were used and how it was used.

2.1 Research method

As for the nature of this paper, it is classified as a applied research, as it uses previously studied concepts for applications in real life problems (VERGARA; PECI, 2003). As for the approach, the research is classified as qualitative, since data from the literature was used to develop an ontological model to assist in decision making.

The objective of this research is classified as exploratory and explicative: the first is characterized by using bibliographic research on marketing strategies for the differentiation of services and products, with the objective of capturing and modifying the concepts of literature in favor of a greater understanding of this subject (GIL, 2008); the last one aims to investigate the characteristics of a phenomenon, capturing and highlighting its scenario (VERGARA; PECI, 2003) and their interrelations.

As for time, the research is characterized as a cross-sectional retrospective, as it uses specific facts from the past for application in this case study (SÁTYRO; D'ALBUQUERQUE, 2020) which were used to elaborate the constructs which will serve as a basis for discussion around decision-making and sustainability practices in companies.

2.2 Working method

Through bibliographical research, a systematic review was carried out on: the social

and environmental dimensions and their respective impact on the economic dimension of sustainability; the Triple Bottom Line (TBL) for its application of its precepts in the study concerning this work; the diffusion of knowledge in organizations through the theory of Knowledge Creation (LUIS, 2011; SOUTO, 2006).

For the application of ontologic models, concepts of sustainable development of TBL were used, so that graphs could be built correlating the concepts – in the Protégé software. So that the dissemination of sustainable knowledge, going from the tacit (informal) to the explicit (formal and documented), could be disseminated in corporations more easily and efficiently, conceptual graphs were elaborated. Additionally, a discussion was carried out covering the content of these ontological diagrams, based on literature review. During the discussion, suggestions were made about how to reach some of the objectives proposed on the ontologic graphs.

3 I RESULTS AND DISCUSSION

3.1 Socioenvironmental sustainability and impacts on economic dimension

The social dimension should encompass all treatment with reference to human capital (ALHADDI, 2015; REIME *et al.*, 2017; SLAPER, 2011). The company must follow a career politics e and offer fair salaries to the employee (CHIAVENATO, 2003). All those items are interdependent for its social dimension could be efficient, as an example, it is not enough to pay good salaries when it is not offered to the employees' good assistance programs.

The social pillar of sustainability is the one that causes the most controversy around its theory and the one that has the most changes. The concept of social sustainability (FOLADORI, 2002; LARA *et al.*, 2017) it is supported by two aspects: the poverty and population increase. In this sense, it is also known that it is not possible to separate the social parte to the environmental one, while the scarcity of natural resources is notably a problem caused by human interactions.

The criteria for admeasurement of environmental sustainability item is like a factor called climate integrity (FOLADORI, 2002) that would be a climate without human interference. Based on this principle, the purer the nature is, the greater the ecological sustainability and the more modified it is, the lower the value of sustainability. It is noted in this case that what is measured it is the degree of human interaction and not the nature by itself.

When observing that for the existence of unlimited sustainable growth, the resources should be unlimited, we have reached a situation where economic sustainability, guided by the vision of obtaining increasingly higher profits, it is confronted with the policy of environmental sustainability as it causes scarcity of resources. What is considered economical sustainability is the growth, productivity, efficiency and return to productive

agents as a reward for the work (value) contributed.

3.2 Sustainable knowledge diffusion

According to Jacobi (2003) sustainability is debated with the theme “society risk”, where the social practices should be expanded aiming the access to information and environmental education, including the dissemination through the social media (MOURTZIS et al., 2019). Promoting an environmental consciousness matters to build a more ethical society and an environmental care provider. The environmental education is there to modify the existing scenario of socioenvironmental degradation which persists as a topic of interest between researchers and companies, in general (BOONS; LÜDEKE-FREUND, 2013; GESSI; ERGANG, 2011; GHISELLINI; CIALANI; ULGIATI, 2016; THE OXFORD HANDBOOK OF INNOVATION MANAGEMENT, 2014)with special focus on urban and industrial waste, to achieve a better balance and harmony between economy, environment and society. This study provides an extensive review of the literature of last two decades, with the purpose of grasping the main CE features and perspectives: origins, basic principles, advantages and disadvantages, modelling and implementation of CE at the different levels (micro, meso and macro.

Practices promoting the overcoming of social deficits are an effective way to provide the population with basic needs such as decent employment, healthy food and in the developed countries, promoting a change in consumption patterns (MEDEIROS; DE, 2015). The culture of consumerism needs to be minimized to generate a reduction in the use of inputs from natural resources, as the industries will start to produce in smaller scale. In this sense, products will have a raise in its costs, which will not be good in short terms, demanding also higher salaries. However, social cohesion is a concept that shows itself as a appropriated tool to diffusion the knowledge and practices between groups, being more efficient than the practices adopted by an individual (TULIN; POLLET; LEHMANN-WILLENBROCK, 2018) and, as a consequence, could be strongly closed to social networks theories, where cohesion is based on the structural relationship in which its group its defined (MOODY; WHITE, 2003). According to (KOTLER, 2008) the promotion is something that informs and persuades through communication. Considering that factor, it must be guaranteed that the use of integrated tools of marketing, to ensure that the knowledge reaches the recipients, and this communication should be done in a persuasive way. The sustainable development, as a field inside the sustainability studies, must result in changes and the change will be faster with a more summed up diffusion of sustainable knowledge. Therefore, it’s important to have skills, competences and knowledge to promote changes in economic, envinmromental and social behavior (WIEK; WITHYCOMBE; REDMAN, 2011).

3.3 Sustainability model

The mainly definition of the social dimension of the model it is the commitment with

quality of life. Within the promotion of quality of life, the well-being of the community is the main goal, which can be done by donating equipment and space to foundations specialized in helping the community, besides investments in wide-range actions, such as projects for sports and culture. Many companies have a non-profit foundation, which are responsible to deal with sociocultural projects; it is relevant because it is possible to deduct the costs for maintenance of the project from income tax.

Must have a career plan so the employees stay motivated (CHIAVENATO, 2003) and that reflects in the increase of productivity, making the company even more competitive on the market from the generation of employment, space could be opened for expansion of job offers, since this is directly linked to quality of life. Investments in community actions such as traveling events that provide services for duplicate documents, haircuts, oral hygiene education, awareness of sexually transmitted diseases, among others, may be necessary to increase life expectancy (FERREIRA *et al.*, 2017).

In Fig. (1) it can be seen the ontological model, representing the corporate sustainability, according to TBL with all the dimensions and conceptual classes. The graphs are organized according to a class model, similar to object-oriented programming, which its three pillars of sustainability are represented with their respective subclass and relationships.

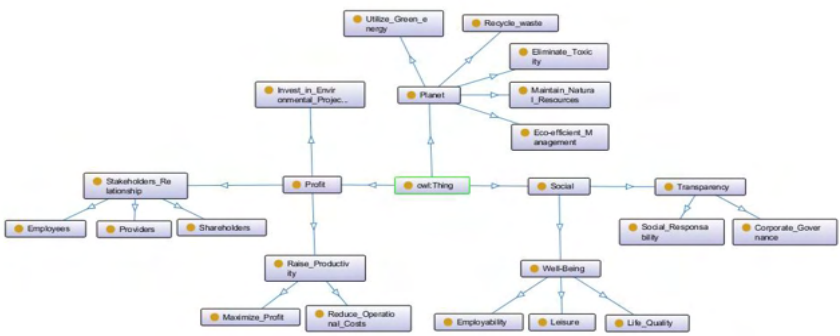

Figure 1: Ontologic diagram for the concept of management sustainability, based on TBL, with the three pillars of sustainability (Source: the author).

By promoting quality of life, the industries must maintain as precursors of cultural activities which provides leisure and that can reveal future art talents, besides the tax benefits (BATISTA *et al.*, 2018; DIAS, 2011; MILANI FILHO, 2008). In this way, an intimate relationship with the community will be created and will reflect positively in the company income and in their relationship with investors. Besides that, there is the need to predict and avoid environmental impacts. In the absence of solutions that neutralize it, it should be opt for ways to reduce to the point of providing care, at least, to the community around the company.

The transparency of productive process has a role in Social Responsibility of the

company. Through the reports of sustainability which a lot of companies already use, mainly to maintain a good relationship with investors, it is possible to communicate to the public the stock investments which add value to the quality of life of internal and external costumers.

With all of these transparency in the process, reflecting on corporate governance, the company still practice industrial ethics, in a way to always maintain a good image towards the public.

The economic dimension of sustainability has its relevance, according as the profit generates as a company premises. However, understand the client and their expectations, will be the defining factor of who is able to stay in the market. On the economic dimension, actions of sustainable growth, focused on the reuse of inputs, as an example, are great alternatives to increase the efficiency of a process. There's also a strong tendency in decreasing the operational costs, which is harder than investing in reuse techniques that are used in power generation (RODRIGUES, 2015). The management accounting (SANTOS, 2019) has an essential role in this dimension of the sustainable development. It is through the management accounting that the referring numbers are exposed to the public and can be analyzed by the company management. To manage the resources destinated to the environment it is necessary for carbon credit purchase and sale calculations.

4 | CONCLUSIONS

For a company to sustain itself, not only financially, but regarding the community and maintain sustainable actions regarding to the environment and its own business model, the ontologic model presented helps to organize knowledge, concerning the social, economic, and environmental dimensions. Without a defined concept, containing the directions to be followed, it would be impracticable to successfully design the most important points that a company should follow to reach the sustainable development.

It should maintain good conditions for employees, taking care of its stakeholders, in every step of the process. Variables like contribute to the decrease of unemployment rate, increase of female participation in the effectives, poverty reduction, increase of average income, high life expectancy and improvements in the public health system are large examples of what should be highlighted in the social dimension, which will impact directly in the company's results.

REFERENCES

ALHADDI, Hanan. **Triple Bottom Line and Sustainability: A Literature Review. Business and Management Studies**, [S. l.], v. 1, n. 2, p. 6–10, 2015. Disponível em: https://doi.org/10.11114/bms.v1i2.752

ANDRADE, Maria Teresinha Tamanini; FERREIRA, Cristiano Vasconcelos; PEREIRA, Hernane Borges de Barros. **Uma ontologia para gestão do conhecimento no processo de desenvolvimento de produto**. [s. l.], 2010. Disponível em: http://www.scielo.br/pdf/gp/v17n3/08.pdf. Acesso em: 24 fev. 2014.

BARRAL, Claudio Eduardo et al. **AS ORGANIZAÇÕES POTENCIALIZAM A GAMIFICAÇÃO COMO ESTRATÉGIA PARA GESTÃO DO CONHECIMENTO**. South American Development Society Journal, [S. l.], 2019. Disponível em: https://doi.org/10.24325/issn.2446-5763.v5i14p161-175

BATISTA, Bruna Campanharo et al. **Perfil metodológico dos incentivos fiscais aplicados em políticas públicas: uma análise do cenário de 2006 a 2016.** Revista Produção Online, [S. l.], v. 18, n. 4, p. 1301–1321, 2018. Disponível em: https://doi.org/10.14488/1676-1901.v18i4.2922

BOONS, Frank; LÜDEKE-FREUND, Florian. **Business models for sustainable innovation: State-of-the-art and steps towards a research agenda.** Journal of Cleaner Production, [S. l.], v. 45, p. 9–19, 2013. Disponível em: https://doi.org/10.1016/j.jclepro.2012.07.007

CHIAVENATO, Idalberto. **Administração de recursos humanos: fundamentos básicos.** [S. l.]: Atlas, 2003. E-book.

DIAS, Ana Carolina. **A RESPONSABILIDADE SOCIAL DAS EMPRESAS VIABILIZADA PELOS INCENTIVOS FISCAIS GOVERNAMENTAIS COM O INTUITO DE FOMENTAR O DESENVOLVIMENTO ECONÔMICO.** [S. l.: s. n.].

DUQUE, Cláudio Gottschalg; BASTOS, Geraldino Gonçalves. **Ontologia aplicada a um modelo de gestão organizacional: contribuições da ciência da informação.** Ciência da Informação, [S. l.], v. 46, n. 1, 2017. Disponível em: http://revista.ibict.br/ciinf/article/view/4023/3723. Acesso em: 6 abr. 2020.

FERREIRA, Marielle Cristina Gonçalves et al. **Social representations of older adults regarding quality of life.** Revista brasileira de enfermagem, [S. l.], v. 70, n. 4, p. 806–813, 2017. Disponível em: https://doi.org/10.1590/0034-7167-2017-0097

FOLADORI, Guillermo. **Avanços e limites da sustentabilidade social.** [s. l.], 2002. Disponível em: http://www.ipardes.pr.gov.br/ojs/index.php/revistaparanaense/article/viewFile/214/176. Acesso em: 15 out. 2014.

FRAILE SORDI, Victor; CUNHA, Cristiano; NAKAYAMA, Marina. **Criação de conhecimento nas organizações: Epistemologia, tipologia, facilitadores e barreiras.** Perspectivas em Gestão & Conhecimento, [S. l.], 2017. Disponível em: https://doi.org/10.22478/ufpb.2236-417X.2017v7n2.28851

GESSI, Liliana; ERGANG, Sandro. **A sustentabilidade e o composto de marketing**. [S. l.], 2011.

GHISELLINI, Patrizia; CIALANI, Catia; ULGIATI, Sergio. **A review on circular economy: The expected transition to a balanced interplay of environmental and economic systems**. Journal of Cleaner Production, [S. l.], v. 114, p. 11–32, 2016. Disponível em: https://doi.org/10.1016/j.jclepro.2015.09.007

GIL, Antônio Carlos. **Métodos e ténicas da pesquisa social**. [S. l.: s. n.]. E-book.

GRUBER, Thomas R. Technical Report KSL 92-71 Revised April 1993 A **Translation Approach to Portable Ontology Specifications by A Translation Approach to Portable Ontology Specifications.** [S. l.], n. April, 1993.

GUARINO, Nicola. **Formal Ontology and Information Systems.** [S. l.], n. June, p. 3–15, 1998. Disponível em: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.29.1776&rep=rep1&type=pdf

JACOBI, Pedro. **Educação ambiental, cidadania e sustentabilidade.** [s. l.], 2003. Disponível em: http://www.scielo.br/pdf/cp/n118/16834.pdf. Acesso em: 24 fev. 2014.

KOTLER, Philip. **Princípios de Marketing.** 12a ed. São Paulo: Prentice Hall, 2008. v. 10a Edição, E-book.

LARA, Luiz Gustavo Alves de et al. **A ideologia do crescimento econômico e o discurso empresarial do desenvolvimento sustentável.** Cadernos EBAPE.BR, [S. l.], v. 15, n. 2, p. 326–348, 2017. Disponível em: https://doi.org/10.1590/1679-395159387. Acesso em: 2 ago. 2017.

LUIS, Sergio. **Teoria da criação do conhecimento de Nonaka: Aplicações e Limitações.** [S. l.], 2011.

MEDEIROS, Carlos Aguiar de; DE, Carlos Aguiar. **Inserção externa, crescimento e padrões de consumo na economia brasileira.** http://www.ipea.gov.br, [S. l.], 2015. Disponível em: http://repositorio.ipea.gov.br/handle/11058/3845. Acesso em: 14 jul. 2018.

MILANI FILHO, Marco Antonio Figueiredo. **Responsabilidade social e investimento social privado: entre o discurso e a evidenciação.** Revista Contabilidade & Finanças, [S. l.], v. 19, n. 47, p. 89–101, 2008. Disponível em: https://doi.org/10.1590/S1519-70772008000200008. Acesso em: 2 ago. 2017.

MOODY, James; WHITE, Douglas R. **Structural Cohesion and Embeddedness: A Hierarchical Concept of Social Groups.** American Sociological Review, [S. l.], v. 68, n. 1, p. 103, 2003. Disponível em: https://doi.org/10.2307/3088904. Acesso em: 14 jul. 2018.

PROTEGE (2000). **The Protege Project**. Disponível em: http://protege.stanford.edu. Acesso em: 14 jul. 2020.

REIME, Marit Hegg et al. **Learning by viewing versus learning by doing: A comparative study of observer and participant experiences during an interprofessional simulation training**. Journal of Interprofessional Care, [S. l.], v. 31, n. 1, p. 51–58, 2017. Disponível em: https://doi.org/10.1080/13561820.2016.1233390

RICHARDSON, Julie. **The triple bottom line: Does it all add up?: Assessing the sustainability of business and CSR**. [S. l.]: Taylor and Francis, 2013. E-book. Disponível em: https://doi.org/10.4324/9781849773348

RODRIGUES, Douglas de Souza. Sustentabilidade, **Marketing e Sistemas de informação: Uma visão ontológica.** 2015. - Universidade Federal Fluminense, [s. l.], 2015.

SANTOS, Diórgenes de Melo. a **Importância Da Contabilidade Gerencial No Processo De Tomada De Decisão Das Microempresas – Case.** Revista Encontros Científicos FVS | ISSN: 2595-959X |, [S. l.], 2019.

SÁTYRO, Natália Guimarães Duarte; D'ALBUQUERQUE, Raquel Wanderley. **O que é um Estudo de Caso e quais as suas potencialidades.** Sociedade e Cultura, [S. l.], 2020. Disponível em: https://doi.org/10.5216/sec.v23i.55631

SLAPER, TIMOTHY F. The **Triple Bottom Line: What Is It and How Does It Work?** [S. l.], p. 4–8, 2011.

SOUTO, Cristiane; TBG, Frota. **Teoria da Criação do Conhecimento Organizacional de Nonaka e Takeuchi.** [S. l.], p. 1–11, 2006.

The Oxford handbook of innovation management. Choice Reviews Online, [S. l.], v. 52, n. 04, p. 52-2079-52–2079, 2014. Disponível em: https://doi.org/10.5860/choice.185118

TULIN, Marina; POLLET, Thomas V.; LEHMANN-WILLENBROCK, Nale. **Perceived group cohesion versus actual social structure: A study using social network analysis of egocentric Facebook networks**. Social Science Research, [S. l.], v. 74, p. 161–175, 2018. Disponível em: https://doi.org/10.1016/J.SSRESEARCH.2018.04.004. Acesso em: 14 jul. 2018.

VERGARA, Sylvia Constant; PECI, Alketa. **Escolhas metodológicas em estudos organizacionais**. Organizações & Sociedade, [S. l.], 2003. Disponível em: https://doi.org/10.1590/s1984-92302003000300001

WIEK, Arnim; WITHYCOMBE, Lauren; REDMAN, Charles L. **Key competencies in sustainability: a reference framework for academic program development**. Sustainability Science, [S. l.], v. 6, n. 2, p. 203–218, 2011. Disponível em: https://doi.org/10.1007/s11625-011-0132-6. Acesso em: 14 jul. 2018.

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