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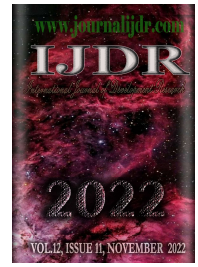
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RESEARCH ARTICLE

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RELATIONSHIP BETWEEN ORGANIZATIONAL CULTURE AND INNOVATION DEGREE IN MICRO OR SMALL COMPANIES EVALUATED BY OPERATIONAL PROCESS TO CONDUCT A CASE STUDY AND EVIDENCE ANALYSIS PROCESS

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ABSTRACT

The present case study gathered detailed and systematized information on the relationship between organizational culture and innovation degree. The theory that with the improvement of organizational culture, the degree of innovation increases was confronted and tested in a micro and small enterprise based in the Metropolitan Region of Vale do Paraíba (Brazil). To this end, the face-to-face interview was selected as a data collection instrument, one of the six stages of the operational process for carrying out the study. Subsequently, a four-step process was used in the evidence analysis strategy – transcription, description, analysis, and comparison. The evidence identified in companies with a higher and lower degree of innovation reinforces the idea that organizational culture is directly related to the degree of innovation and that knowledge of the current organizational culture could guide the management of companies. In addition, the instruments for collecting and analyzing evidence proved adequate for the present investigation.

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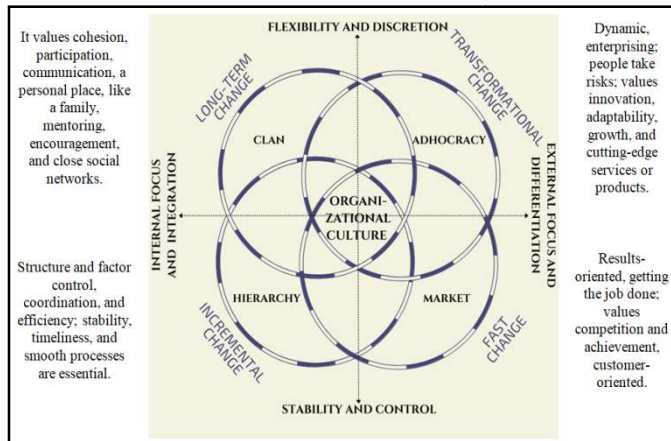
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INTRODUCTION

The establishment of the mission, vision, and values is considered a guide in the strategic management of the company, from the integration of operations to the company's strategy to the motivation of the team, a tool suitable for all sizes of companies, especially those that are being created for the market (Nakagawa, 2012). The importance of establishing a company's mission, vision, and values is reinforced by Edgar Schein's well-known ideas, which treat (Schein & Schein, 2007) organizational values and beliefs as pillars of an organization's culture. Furthermore, this workplace culture reflects on motivation and how internal customers interact with and behave with external customers. Organizational culture is anchored in tacit behaviors, mindsets, and social patterns; it can significantly influence a company's performance and effectiveness, the morale and productivity of its employees, and its ability to attract, motivate and retain talented people (Warrick, 2017). Unfortunately, many leaders are unaware of the significant impact culture can have and leave it unmanaged or relegated to the human resource department, where it is left to chance (Groysberg, Lee, Price, & Cheng, 2018; Warrick, 2017). Developing organizational culture requires much more than discussing culture and emphasizing its importance.

Building and sustaining culture requires leaders who see it as one of their main tasks and understand the importance of aligning organizational strategies and decision-making with cultural ideals to achieve the best results. Building a culture by model requires innovative, focused work (Warrick, 2017). The Cameron and Quinn model (Cameron & Quinn, 1999, 2006, 2011) is one of the most used validated models for realistically analyzing and representing organizational culture (Figure 1), and this framework emerged from research on the criteria that predict if an organization performs effectively. It is also called the OCAI questionnaire (Organization Culture Assessment Instrument). Cameron and Quinn (Cameron & Quinn, 1999; Sawhney, Wolcott, & Arroniz, 2021) used a four-factor model to classify culture – clan, adhocratic, hierarchical, or market – along two continuous axes, the first axis having internal *versus* external organizational focus and the second axis as related preferential work approaches with the organizational structure emphasizing stability *versus* flexibility (Figure 1). The internal focus represents the importance given to the well-being and development of people in the organization, and the external focus emphasizes the well-being and development of the organization itself. Another essential factor for organizations is to know the degree and type of innovation desired so that they can manage the business systems that add the most value. Business innovation is much broader than

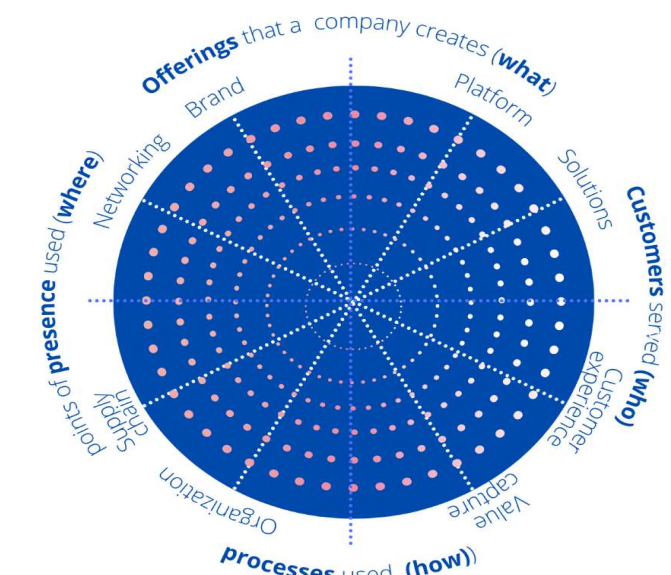
technological or product innovation (Sawhney et al., 2021). One of the methods to diagnose the degree and type of organizational innovation is the structure called “innovation radar” (Figure 2) which is the junction of the 12 different dimensions along which a company can innovate (Sawhney, Wolcott, & Arroniz, 2006). The "innovation radar" methodology quantifies qualitative data and helps companies with a narrow view of innovation, thus avoiding missed opportunities. In the present case study of the constant comparison type, the theory was tested – that with the improvement of the organizational culture, the degree of innovation increases – elaborated through an empirical study. Therefore, a qualitative approach was adopted in the present investigation.



Source: Cameron and Quinn's (2006) figure was modified by the authors.

Figure 1. Concurrent values framework proposed by Cameron and Quinn

Two companies were selected for this case study. Honoring the commitment to confidentiality assumed, the identity of the companies and the interviewees were omitted and coded as EMP01 and EMP02. The purpose of this case study was to gather detailed information in a systematic way about the relationship between organizational culture and the degree of innovation of micro and small companies, EMP01 and EMP02, respectively. Furthermore, the empirical results obtained in previous research (Cruz Junior, Profeta, & Hanai-Yoshida, 2022) were compared with the evidence of the present case study. Therefore, it became necessary to deepen and validate the findings that organizational culture is directly linked to the degree of innovation in companies. The organizations participating in this study are classified as micro, or small companies, based in the Metropolitan Region of Vale do Paraíba (Brazil) in 2019.



Source: Adapted from Sawhney, Wolcott, and Arroniz (2021)

Figure 2. The structure of the innovation radar is composed of the 12 different dimensions for business innovation

Data Collection Instrument: The operational process for the effective conduct of the research consisted of six steps (Figure 3): (1st) The initial contact with the organizations to obtain authorization to carry out the research was done by calling the owner of EMP01 and the person responsible for the commercial department of EMP02. (02) The organizations received an explanation of the objectives of this study. (03) The person interviewed from EMP01 was an employee designated by the owner, and from EMP02, he was the industrial manager. (04) The agreement term was signed by the parties. One of the conditions for carrying out this research was the confidentiality of all data from the respondent and the company. EMP02 made the material available for documental research and reports. (05) The evidence collection was mainly through direct face-to-face and semi-structured interviews, and the average duration of the interviews was thirty minutes. However, when the organization made documentary material available, such as letters, websites, memos, reports, and clippings, these were also considered evidence. (06) The study's validation was through the organization's feedback.



Figure 3. The six steps of the operational process for conducting the case study

Evidence Analysis Strategies: The evidence analysis process proposed in this study had four stages (Figure 4). The first step consisted of the reliable transcription of the interviews that were organized and sent to the interviewees for validation. In the second stage, a detailed description of the collected evidence was made. The analysis based on the theoretical framework represented the third stage. The comparison of evidence between the cases constituted the fourth step. The cases were analyzed in the first three steps independently (within-case), and a cross-case analysis was carried out in the fourth step.

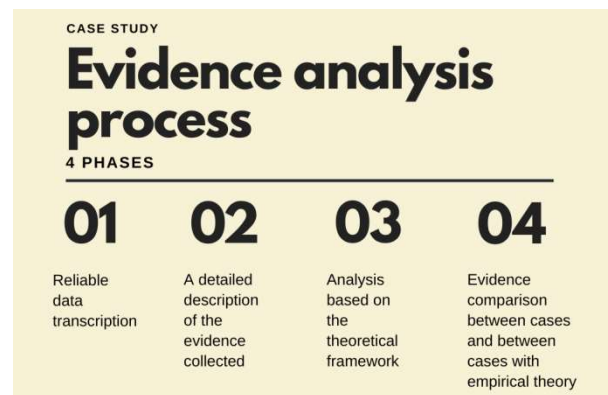


Figure 4. The four steps of the evidence analysis process for a case study

PHASE 01 - Transcription of data/interview

EMP01 case: Cultural values understood as necessary for meeting organizational objectives from the point of view of an EMP01 employee were reported as follows.

"[...] the company respects its employees; it is a pleasant environment to work here. I really like the owner, but I consider this job as just a side job to be able to support my family [...]"

"[...] the boss does not lead, on the contrary, he works as if he were a co-worker. We do not have pre-determined activities here, in fact, everyone does everything [...]. [...] A few days ago I ended up answering a customer's call and I said that he could bring the engine for analysis, but I had no idea that he needed to do the work on the engine because production was stopped, so he gave the biggest confusion, this is the problem of everyone doing everyone else's work [...]"

The manager/owner's perception of the level of innovation of EMP01 was prospected considering the four types of innovation – product, process, marketing, and organizational – and described below.

"[...] I have a good profit, but I believe that now is not the time to invest, as I am helping my daughters in their search for a property to live in [...]"

How the interviewee perceived the degree of innovation of EMP01 was explored considering the four types of innovation described below.

"[...] the company here does not think about developing anything, it just waits for customers to come and ask for services from us, but I have already told the owner that for him to grow he needs to run after technological equipment and new partners [...]"

"[...] I already told the owner that some days a week, we need to visit customers and suppliers to find out how we are serving and how our suppliers are working, but I see that he doesn't want to grow, so I don't say anything else, but I see that the company can grow a lot, as we have relatively large customers [...]"

EMP02 case

The cultural values understood as important for meeting the organizational objectives from the point of view of the Industrial Manager of EMP02 were reported as follows.

"[...] the company respects its employees; it is a pleasant environment to work here. It is a structured and controlled environment, focused on results with the concern of carrying out the work. The company makes employees seek new challenges and be competitive [...]"

"[...] the leadership does not guide entrepreneurship, but guides to organize and make the company more effective and efficient, with style characterized by group work and the participation of employees, but also aims at job stability [...]"

"[...] we have 15-minute daily meetings where we convey what we want employees to perform and what the company's goals are on the day of the meeting and the importance of achieving the goal [...]"

"[...] in this company, there are action plans throughout the production chain, in order to make the decision and ensure greater assertiveness [...]"

"[...] the company emphasizes to its employees that its objective is to develop, produce products and provide service with quality, deadlines, low costs and safety to satisfy customers. It wants to grow and conquer new markets and that her employees will make it better than she is today [...]"

How the interviewee perceived the degree of innovation of EMP02 was explored considering the four types of innovation described below.

"[...] The company has a high interest in developing new products because the market is very competitive, and we cannot just stick to bread and butter [...]"

"[...] we hold daily 15-minute meetings with everyone in the company, aiming to guide them to seek continuous improvement in manufacturing processes and processes in the support areas..."

we realize that we can greatly improve processes with small ideas operational people, so we are happy to have this daily meeting, even if some days we don't have much productivity in ideas or information, but people feel better and more important with these meetings [...]"

"[...] we are almost always going to fairs or visiting technological centers for technological evolution, and we are always in contact with the customer to check if we can develop a new product for them, so much so that we have partnered with the customer in order to reduce the cost of the part in the manufacture of a product that is used in the turbine [...]"

"[...] we have all the processes documented and standardized, so much so that we can easily achieve certification and recertification of the AS9100 standard [...]"

PHASE 02 - Description of the evidence

EMP01 case: During the initial contact, the manager and owner of EMP01 reported some of the company's customs and history to understand its functioning. According to the manager, he and his brother were partners in a maintenance and construction company for small and large engines. However, after their disagreement, the company was interrupted, and both started a company in the same segment. The manager reported that he did not know how to run a company, so he sought specialized people to help him in the opening process. As a result, the company comprises three employees, all of whom work informally, without a formal contract. The interview was carried out with one of the employees, who revealed that he was happy to work at the company due to the manager's respectful treatment of employees and the work environment. He considers work as an informal and provisional "side job" (as he describes it). The interview with the employee also revealed the absence of organizational structure in EMP01, confirmed by the statement that "[...] the boss does not lead, on the contrary, he works as if he were a co-worker [...]", so there is no organizational chart. In addition, the lack of standardized work and leadership for the distribution of activities among employees was evidenced. It was found in the interview that the manager does not seem to focus on the search for innovation for the company but measures the success of the enterprise by the profit generated. Accordingly, the employee observes the manager's lack of interest in innovation and company growth, despite the company having this opportunity. The latter was evidenced by the statement that "[...] I see that the company can grow a lot, as we have relatively large customers [...]". The evidence, in this case, points to the absence of quality certifications and standardization of processes, products, and services. Finally, the absence of the mission, vision, and values statement was observed, including on the company's official website.

EMP02 case

As for the history of EMP02, the industrial manager reported that the organization started its activities in 1991, from the idea of two brothers to create a company with the objective of manufacturing parts for aerospace industries. In 1998, they designed a headquarters with 2,500 m² built on 10,000 m². Initially, the company focused only on service, but currently, it operates in the areas of serial machining of various types of parts and aerospace machining, in the manufacture of stamping tooling, injection molds, devices, and special machines. This organization employs 75 employees and has a wide area of projects and technology. The data collected showed that EMP02 adopts a structure organized by traditional and vertical functions, with sectors described in documents as the industrial directorate, which subordinates the production and planning areas, and the financial directorate, to which the commercial and supply areas respond to it. EMP02's mission and vision are repeatedly reminded of its employees and stated to the public. The interviewee was happy to work at the company. However, aspects such as valuing the employee, respect for the professional, and safety at work proved essential. It was found that the leadership of EMP02 is oriented to coordinate, organize and make the organization more efficient and that they should seek job stability for all employees. In addition, the organization presented

communication elements since the culture aim at social interaction, where activities are based on exchanging messages and meetings. The signs of the search for innovation in EMP02 were exemplified by the planning and implementation of a project with all the consolidated information about the desired objective.

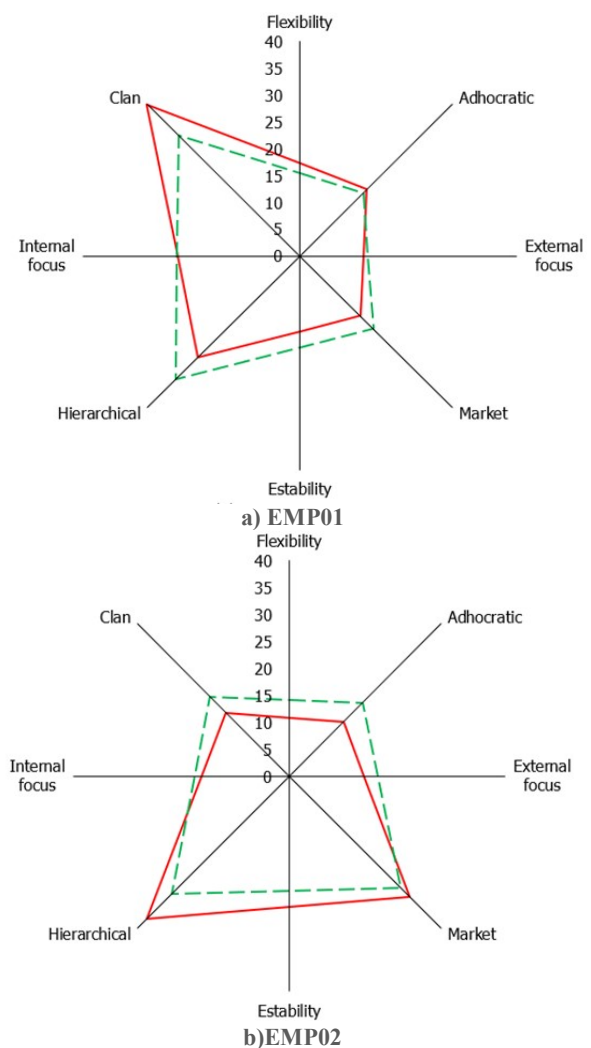
That is, the definitions of activities to implement it, including the physical, financial, and human resources, among others necessary, allowing all decisions to be taken even before they are put into practice, ensuring more assertiveness and prior correction of any problems. The EMP02 company, even being classified as small, carries out strategic plans aiming at incremental growth, sometimes fast or in the long term. It has a positioning, purpose, and organizational identity and carries out participatory planning, where these elements are guided by the company's mission and vision statements. As for the search for innovation in EMP02, it is constant to reduce costs and increase productivity, as highlighted by the interviewee. In addition, the company values customer satisfaction following market growth and the evolution of competitors' and partners' products and seeks new markets with sales and technical teams. EMP02's focus on quality was evidenced by certification to the AS9100 Standard, a quality management system widely adopted and standardized by the aerospace industry and helped the organization optimize its supply chain and build mutually beneficial relationships with its suppliers (as delivery times and costs can be reduced by working together).

PHASE 03 - Analysis of the evidence: The evidence identified in the EMP01 company regarding the failure to establish the mission, vision, and values partially explains the fragile organizational culture and the absence of future planning. This finding differs from the ideas of Edgar Schein (Schein & Schein, 2007), who believes in the importance of establishing a company's mission, vision, and values as pillars of organizational culture. Moreover, this workplace culture reflects on motivation and how employees interact with each other and behave with customers—corroborating with Nakagawa (2012) and PeprahandGanu (2018) regarding establishing the mission, vision, and values as a guiding tool for management strategies. When the interviewee from EMP02 reports that "[...] the company emphasizes to its employees that its objective is to develop, produce products and provide service with quality, deadlines, low costs and safety to satisfy customers. It wants to grow and conquer new markets and that her employees will make her better than it is today [...]" the employee demonstrates science and respect for the company's mission and vision. Consequently, it highlights the managers' concern with aspects of the current and intended organizational culture (Figure 5). While all organizations exhibit some attributes of each type of culture, usually, one of them dominates (Gorzelay, Gorzelay-Dziadkowiec, et al., 2021). The predominant organizational culture of the clan type – classified according to the structure of the competing values proposed by Cameron and Quinn (2006) shown in Figure 1 – was evidenced in EMP01 during the dialogue with the manager and the interview with the employee.

This classification is because the company is a personal place and people relate to each other as a family. Evidence of the market culture was also observed in the statement, "[...] the company can grow a lot, as we have relatively large customers". Although discreet, EMP01 exhibited a tendency towards internal focus and emphasis on flexibility, evidenced by the statement that "everyone does everything". Based on the statements of the industrial manager of EMP02, it was evident that the predominant organizational culture is hierarchical, despite the characteristics of the market, clan, and adhocratic cultures having been identified in this order of prevalence. Evidence is tenuous regarding innovation in EMP01, suggesting a low degree of innovation due to the manager's decision not to reinvest in the company and the employee's opinion that the company does not want to develop anything. The industrial manager described the latent innovation in EMP02. It is likely that positioning on the innovation radar of Sawhney, Wolcott, and Aroniz (Sawhney et al., 2021), must fit into more than one of the 12 dimensions for a company to

innovate. Therefore, there are indications that EMP02 has a high degree of innovation.

PHASE 04 - Comparison of cases with the empirical study: For both companies, EMP01, and EMP02, knowledge of the organizational characterization and type of business is essential, as the institutional context allows us to understand what produced the current management system and how future recommendations can be identified and met (Gorzelay, Gorzelay-Dziadkowiec, et al., 2021). For this reason, it is recommended to consider and analyze institutions at various levels of governance and the interaction between them. Institutional analysis can be performed in a general and qualitative way or be subjected to tests (Tachizawa, 2019). In a quantitative study (Cruz Junior et al., 2022), the predominant organizational culture of EMP01 (Figure 5a) and EMP02 (Figure 5b) was classified as clan and hierarchical, respectively. However, characteristics of hierarchical, adhocratic, and market cultures were identified for EMP01; and market, clan, and adhocratic cultures for EMP02, in that order of prevalence. The evidence from the present case study corroborates the findings of the quantitative study. The tendency of companies (to a greater degree for EMP01 than for EMP02) to focus on internal decision-making guidance was identified. Thus, decision-making emphasizes the well-being and development of people in the organization to the detriment of the well-being and development of the organization itself. Although, regarding how managers prefer their company to be organized, according to deductions through the Cameron and Quinn model, EMP01 demonstrated a focus on flexibility and EMP02 on stability.



Note: The lines in red and green represent the categorization of the predominant organizational culture □ current and ▭ intended, respectively— Source: Cruz Junior et al., 2022.

Figure 5. Diagram of the concurrent values structure of EMP01 and EMP02

In EMP01, a predominance in the upper left quadrant identifies values that focus on internal organic control. For example, the clan's organizational culture may highlight tools and techniques such as teamwork, collaboration, talent management, empowerment, or interpersonal relationships (Cameron & Quinn, 2006). Despite the potential for innovation identified in EMP01, the manager's lack of interest seems to be the limiting factor for the company's innovation and growth. Opposing tools or techniques focused on evaluating and measuring, controlling processes, structuring, and improving efficiency, for quality improvement could be addressed in the lower left quadrant (Cameron & Quinn, 2006). Therefore, EMP02 would be framed as a company with a predominance of hierarchical organizational culture, despite identifying in this case study a mixed organizational orientation, with an internal and external focus, but with organizational decision-making emphasizing stability and control. A low degree of innovation was identified in EMP01 and high in EMP02 with the application of the "innovation radar" and verifying a positive relationship between organizational culture variables and degree of innovation. This evidence-based assumption of this case study is in line with the results of empirical research (Cruz Junior *et al.*, 2022). The results of this in-depth study in companies with a lower degree of innovation and a higher degree of innovation reinforce the idea that organizational culture is directly associated with the degree of innovation. Furthermore, the evidence suggests that knowledge of organizational culture can guide managers to avoid missed opportunities and increase their degree of innovation. Consequently, it can enable the company's and its employees' growth, moving from being an obstacle to systemic development (Wagner, 2018).

FINAL CONSIDERATIONS

The evidence identified in this study of the predominant organizational culture, with face-to-face interviews in companies with a more significant and lesser degree of innovation, validated the results of previous research. Furthermore, they reinforce the idea that organizational culture is directly related to the degree of innovation. The six-step operational process for carrying out the case study and the four-step strategy for analyzing the evidence proved adequate to validate the results of the previous quantitative study. A suggested contribution to management is monitoring organizational culture and innovation through replicating the "OCAI questionnaire" and "innovation radar" tools, which could be an indicator and guide of the transformation over time and build solid cultural policies to sustain and/or increase the innovation capacity of companies.

REFERENCES

Cameron, K. S. & Quinn, R. E. (1999). Diagnosing and changing organizational culture: Based on the competing values framework. (Addison-Wesley series on organization development, Ed.) (1st ed.). Massachusetts: Addison-Wesley.

- Cameron, K. S. & Quinn, R. E. (2006). Diagnosing and changing organizational culture: Based on the competing values framework. (The Jossey-Bass business & management series, Ed.) (2nd ed.). San Francisco: John Wiley & Sons.
- Cameron, K. S. & Quinn, R. E. (2011). Diagnosing and changing organizational culture: Based on the competing values framework. (Jossey-Bass, Ed.) (3rd ed.). San Francisco: John Wiley & Sons.
- Cruz Junior, A. C. O., Profeta, R. A. & Hanai-Yoshida, V. M. (2022). Relationship between organizational culture and business innovation in micro and small enterprises. *International Journal of Innovation*, 10(2), 646–663. <https://doi.org/10.5585/iji.v10i4.21166>
- Gorzelany, J., Gorzelany-Dziadkowiec, M., Luty, L., Firlej, K., Gaisch, M., Dudziak, O. & Scott, C. (2021). Finding links between organisation's culture and innovation. The impact of organisational culture on university innovativeness. *PLoS ONE*, 16(10 October), 1–21. <https://doi.org/10.1371/journal.pone.0257962>
- Gorzelany, J., Gorzelany-Dziadkowiec, M., Luty, L., Firlej, K., Gaisch, M., Dudziak, O. & Scott, C. (2021). Finding links between organisation's culture and innovation. The impact of organisational culture on university innovativeness. *PLOS ONE*, 16(10), e0257962. <https://doi.org/10.1371/journal.pone.0257962>
- Groysberg, B., Lee, J., Price, J., & Cheng, J. Y.-J. (2018). *Organizational Culture: The Leader's Guide to Corporate Culture*. Harvard Business Publishing, 1–15. Retrieved from <https://hbr.org/2018/01/the-leaders-guide-to-corporate-culture>
- Nakagawa, M. (2012). Ferramenta: missão, visão, valores (clássico). Retrieved 15 August 2022, from https://www.sebrae.com.br/Sebrae/Portal%20Sebrae/Anexos/ME_Missao-Visao-Valores.PDF
- Peprah, W. K. & Ganu, J. (2018). The convergence of organizational culture, structure and human capital performance: a conceptual analysis. *Archives of Business Research*, 6(5), 212–221. <https://doi.org/10.14738/abr.65.4626>
- Sawhney, M., Wolcott, R. C., & Arroniz, I. (2006). The 12 different ways for companies to innovate. *IEEE Engineering Management Review*, 35(1), 45–45. <https://doi.org/10.1109/EMR.2007.329139>
- Sawhney, M., Wolcott, R. C. & Arroniz, I. (2021). Ways for Companies to Innovate. In E. Ween & R. Henzen (Eds.), *Mastering the Circular Economy: A Practical Approach to the Circular Business Model Transformation*. United Kingdom: Kogan Page.
- Schein, E. H. & Schein, P. (2007). *Organizational Culture and Leadership*. On J-B US non-Franchise Leadership (5th ed., Vol. 1). Hoboken, New Jersey: John Wiley & Sons. Retrieved from <https://books.google.com.br/books?id=xhmezdokfnYC>
- Tachizawa, T. (2019). *Gestão Ambiental e Responsabilidade Social Corporativa* (9th ed.). Atlas.
- Wagner, R. (2018). *A invenção da cultura* (Vol. 1). e-book: Ubu Editora.
- Warrick, D. D. (2017). What leaders need to know about organizational culture. *Business Horizons*, 60(3), 395–404. <https://doi.org/10.1016/j.bushor.2017.01.011>
