administrative sciences

MDPI

*Article*

# The Maturity of Strategic Networks' Governance: Proposal of an Analysis Model

**Marione Winkler [1], Douglas Wegner [2,*] and Clea Beatriz Macagnan [1]**

[1] Business School, Unisinos University, Porto Alegre 91330-002, Brazil; marionew@uol.com.br (M.W.); clea@unisinos.br (C.B.M.)
[2] Fundação Dom Cabral, Campus Aloysio Faria, Nova Lima 34018-006, Brazil
* Correspondence: dwegner@fdc.org.br

**Abstract:** Strategic Networks (SNs) consist of dozens to hundreds of organizations that work together to achieve common goals but remain legally independent. Because most SNs are managed by hired professionals rather than member companies, more structured governance models are recommended as the number of members grows. In addition, removing the network members from management roles allows for the emergence of a conflict of interest and the problem of information asymmetry. The purpose of this study is to propose a model for assessing the maturity level of SNs' governance. Using Design Science Research (DSR), a model of 34 items was developed to measure the maturity level of SN governance and serve as a guide for analyzing this type of inter-organizational collaboration. Using these indicators can provide opportunities for governance system improvements, resulting in better management of SNs.

**Keywords:** strategic SNs; SN governance; cooperation; design science research



**Citation:** Winkler, Marione, Douglas Wegner, and Clea Beatriz Macagnan. 2023. The Maturity of Strategic Networks' Governance: Proposal of an Analysis Model. *Administrative Sciences* 13: 134. https://doi.org/10.3390/admsci13050134

Received: 11 April 2023
Revised: 10 May 2023
Accepted: 12 May 2023
Published: 17 May 2023



## 1. Introduction

Small and medium-sized enterprises (SMEs[1]) do not have the same capabilities as large corporations, but collaboration can enhance their competitiveness (Wegner 2019). Cooperation through Strategic Networks (SNs) enables SMEs to develop collective solutions and access strategic resources, which can improve their performance (Partanen et al. 2020). SNs consist of legally independent yet interconnected firms collaborating to produce joint outcomes (da Costa et al. 2022; Pastore et al. 2020). Nevertheless, these SNs require management efforts and skilled professionals focused on improving business processes (da Costa et al. 2022; Rojas-Lema et al. 2019). These professionals take charge of the network organization's decisions and must prioritize its interests.

Although these professionals are hired to make decisions in the best interests of network members, they may also make decisions that benefit themselves, even if it goes against the members' interests. As a result, agency risks may affect network effectiveness and potentially lead to network failure. Moreover, the growth of network members increases information asymmetry and creates difficulties in keeping each member fully informed about the network strategies and directions. Therefore, the risk of misconduct underpins the relevance of establishing a governance system aligned with the context and characteristics of this organizational model, reducing information asymmetry and mitigating the emergence of conflicts of interest between managers and participants (da Costa et al. 2022; Wegner et al. 2022a).

The governance system comprises a set of practices and rules designed to safeguard the interests of the organization's owners (Buertey et al. 2020). The need to implement a governance system arises as the organization grows in size and complexity and hires executives to manage the day-to-day operations (CVM 2019a). The governance system is a set of procedures designed to optimize an organization's performance by protecting stakeholders, fostering a trusting environment, and avoiding an imbalance in meeting the interests of participants (CVM 2002; Crisóstomo et al. 2021; GT Interagentes 2016; Pillai and Al-Malkawi 2018). The governance system comprises four principles: disclosure, accountability, equity, and social responsibility. In this perspective, when the managers of the network organization render accounts and disclose information about their decisions, they confirm or not whether they are acting in the interests of the network members. The governance system also helps to promote better social and environmental practices (Gregory et al. 2014; Knoepfel 2004). Organizations that adopt good environmental, social, and governance practices can reap several benefits, including increased profitability and competitive advantage (World Economic Forum 2020). So, the corporate governance system can indicate the quality of management and an organization's risk level across various legal configurations (Almeida 2011; Boyko and Derun 2016; La Porta et al. 2002; Lima 2013; Lima et al. 2017; Punsuvo 2006; Shleifer and Vishny 1997).

Strategic Networks are not legally obligated to implement a governance system since they are not traditional corporations (Provan and Kenis 2008) and use to operate as business associations, cooperatives, or non-profit organizations (Wegner 2019). However, as they become more complex and involve dozens or even hundreds of independent firms, governance may help them prevent conflicts or failure. Moreover, SNS and their members have a significant economic impact in several countries. In Germany, for instance, are approximately 310 SNs involving 230,000 SMEs (Mittelstandsverbund 2023). More than 500 SNs operate in different business sectors in Brazil (Monticelli and Wegner 2022; Wegner et al. 2017), and 350 SNs that comprise 220,000 SMEs operate in Spain (Anceco 2023). Such numbers and the unique characteristics of SNs underscore the importance of developing tools to analyze the maturity of SNs' governance and how they can improve it.

Thus, this study proposes a model for assessing the maturity level of SNs' governance. Therefore, this research developed a model for determining the governance maturity of SNs, which makes it possible to offer recommendations for its improvement. Such a tool intends to increase transparency regarding the management and sustainability of SNs while mitigating the problems of information asymmetry and conflicts of interest among stakeholders. Furthermore, the proposal to assess the level of governance of SNs based on their characteristics makes a valuable contribution to SNs' management research.

## 2. Literature Review

### *2.1. Characteristics of SNs*

SNs are collaborative agreements that have been the subject of research and organizational practices since the 1990s (Oliver and Ebers 1998; Wegner 2019). They enable firms to address environmental challenges such as rapid technological changes, demand uncertainty, and product obsolescence (Mueller 2021). SNs refer to a group of interconnected firms that collaborate while maintaining their legal independence (Provan and Kenis 2008; Wegner 2019). Participating companies may require knowledge, skills, or experience to compete effectively. Through collaboration, they can access the complementary resources of other organizations (Lahiri et al. 2021). SNs differ significantly from Strategic Alliances (Gulati 1998) and Joint Ventures. First, they are legally structured as cooperatives and business associations and follow the principle of "one member, one vote" (Wegner et al. 2016). Second, network members can leave the SN whenever they want, and new members may join the SNs if they comply with a set of guidelines (Wegner et al. 2022b).

This study focuses on SNs composed of small and medium-sized enterprises (SMEs). These SNs are long-term collaborative arrangements that establish a collective purpose and a management style to achieve common goals and generate competitive advantages for their members (Jarillo 1993; Provan and Kenis 2008; Verschoore et al. 2015). SNs are an organizational form distinct from traditional businesses. Their management includes characteristics that distinguish them from the model of a company that operates independently, necessitating specific management functions and practices (Verschoore et al. 2015). Members maintain their legal independence, participate in decision-making, and share the benefits and gains from collective efforts with other members. For example, Redemac is a Brazilian SN composed of more than one hundred SMEs in the building materials sector. ToyPlanet is an SN formed by 220 toy stores in Spain, and Intersport is made up of more than 1500 sporting goods retailers in Germany.

SNs' members carry out joint actions and exchange resources to achieve mutually beneficial objectives. They employ traditional management processes such as planning, organizing, and directing and develop long-term strategies and objectives. Management is carried out by a Network Administrative Organization (NAO), responsible for making strategic decisions for the SN (Provan and Kenis 2008; Wegner 2019). The NAO is managed by contracted professionals, with separate control and ownership of resources. The separation of ownership and control creates a problem of information asymmetry and the possibility of a conflict of interest between managers and network members (Akerlof 1970; Arrow 1978; Macagnan 2009; Tahir et al. 2021).

Information asymmetry can result in opportunistic managerial behavior, which impacts the organization's performance and results (Pahi and Yadav 2019; Priyanath and Buthsala 2017; Williamson 1985). In other words, managers, who possess company information, may make decisions for their benefit at the cost of network members' interests (Jensen and Meckling 1976; Eisenhardt 1989). As a result, SNs tend to implement a governance system as they grow in size and complexity (Wegner 2019) to reduce information asymmetry and mitigate conflicts of interest between management and ownership (IBGC 2014; Bilyay-Erdogan 2022). Although members are represented on boards, committees, and councils, a small group of executives may significantly influence decisions and direct the SN on behalf of others. Therefore, it is essential to structure a governance system to ensure that the SNs' objectives are met while minimizing the risks for participants.

### *2.2. Corporative Governance*

The governance system minimizes conflicts that arise from the division of ownership and divergent interests among various partners and managers. Companies that adhere to standards of corporate governance are more likely to gain investor confidence and support for business development (Cadbury 1992). In the aftermath of financial scandals at large American corporations such as Enron, WorldCom, and Arthur Andersen, the market's vulnerability to fraud became clear, leading to a confidence crisis (Carioca et al. 2010). Therefore, the Sarbanes-Oxley Act was enacted in July 2002, and it is mandatory for all publicly traded companies operating in the US capital market. This law aims to ensure transparency and veracity of information presented by companies to restore the capital market's credibility (Engel et al. 2007).

Corporate governance, as defined by the Organization for Economic Cooperation and Development (OECD), refers to a set of formal and informal regulations that companies in both the public and private sectors must adhere to. According to the Securities and Exchange Commission (CVM), corporate governance refers to a set of practices to enhance a company's performance by safeguarding stakeholders' interests, including investors, employees, and creditors, and facilitating access to capital. Companies that implement a comprehensive governance system that covers all their investors tend to be more valuable in the market. This is because investors perceive that all will equally share the return on investment (CVM 2019a). In addition, the corporate governance system is based on principles that enhance the efficiency of capital markets and increase confidence in boards of directors and financial reports (Cadbury 1992).

The OECD published the first version of the "OECD Principles on Corporate Governance" in 1999, intending to establish a set of corporate governance standards and guidelines for publicly traded companies. These principles have since then become a global reference for policymakers, investors, companies, and other stakeholders (Bosáková et al. 2019; OECD 2004). This document was updated in 2004, and covers six major themes (Abu-Tapanjeh 2009; Bosáková et al. 2019; OECD 2004): (i) ensuring a corporate governance structure through a legal, regulatory, and institutional basis that promotes confidence to market participants; (ii) the corporate governance structure must ensure that shareholders' property rights are protected, so that they can be confident that the capital they invest will not be misused or misappropriated by corporate executives; (iii) the corporate governance structure must treat all shareholders equally, according to their category, ensuring equal treatment of shareholders; (iv) the governance structure should encourage active cooperation, safeguard the rights of stakeholders, and recognize rights that are legally enshrined or established; (v) the corporate governance structure must ensure the disclosure of relevant information related to the financial situation, performance, and equity interests; and (vi) responsibilities of the board of directors.

The Brazilian Code of Corporate Governance establishes four principles of corporate governance that support the governance structure in organizations and contribute to the reduction in conflicts of interest (GT Interagentes 2016), namely: (i) transparency, which consists of the desire to make information available to all interested parties, not just those mandated by laws or regulations; (ii) equity, which is characterized by fair and equitable treatment to all partners; (iii) accountability, which focuses on accountability to all partners; and (iv) corporate responsibility, which means that governance agents must ensure the organization's economic and financial viability and sustainability (GT Interagentes 2016).

To ensure the long-term viability of organizations in Brazil, CVM Resolution No. 59 of 2021 has amended CVM Instruction No. 480 and CVM Instruction No. 481, both of which were issued in 2009. This Resolution addresses the need for companies to adapt their systems and routines to report information on environmental, social, and corporate governance (ESG) topics. Adopting good environmental, social, and governance practices began with the publication of the report 'Who Cares Wins' by the World Bank in collaboration with the United Nations (UN) Global Compact and financial institutions from nine countries (Knoepfel 2004). The concept of Environmental, Social, and Governance (ESG) was introduced in this report, arguing that organizations that adopt better environmental, social, and governance practices will be more profitable and have a competitive advantage over their competitors (World Economic Forum 2020).

According to CVM (2019a), the pillars of corporate governance serve as best practices and can be used by any organization, regardless of size, legal structure, or type of control. It should be noted, however, that privately held companies face distinct challenges compared to publicly traded companies whose shares are traded on the stock exchange (IBGC 2014). Therefore, while governance is not mandatory for SNs, they have the option to implement such a governance system to safeguard the interests of their members and enhance their reputation and social responsibility through ethical and sustainable practices. Table 1 presents a summary of the governance principles that have been identified in the literature.

**Table 1.** Summary of governance principles.

| Principle | Description | References |
|---|---|---|
| Transparency | Establishes that the corporate governance structure must ensure the disclosure of relevant information regarding the financial situation and performance to all interested parties, not just those mandated by laws or regulations. | Abu-Tapanjeh (2009); Bosáková et al. (2019); Cadbury (1992); Cheung et al. (2010); GT Interagentes (2016); OECD (2004). |
| Equity | All partners/shareholders and other stakeholders must be treated fairly and equally by the corporate governance structure, with their rights, duties, needs, interests, and expectations safeguarded. In addition, the organization should ensure that its partners and shareholders have the right to participate in and influence the decisions made by the organization. | Abu-Tapanjeh (2009); Bosáková et al. (2019); Cadbury (1992); GT Interagentes (2016); OECD (2004). |

**Table 1.** *Cont.*

| Principle | Description | References |
|---|---|---|
| Accountability | Governance agents, represented by partners, administrators, fiscal councilors, and auditors, must account for their actions and accept full responsibility for any consequences resulting from their actions and omissions. They should act with diligence and responsibility within the scope of their roles. | Abu-Tapanjeh (2009); Bosáková et al. (2019); Cadbury (1992); GT Interagentes (2016); OECD (2004). |
| Corporate Responsibility | Governance agents must ensure the organization's economic and financial viability and sustainability while also reducing negative externalities and increasing positive ones. They should also consider the positive impacts of the organization's activities, products, and services in the short, medium, and long term. | Abu-Tapanjeh (2009); Bosáková et al. (2019); Cadbury (1992); GT Interagentes (2016); OECD (2004). |

Source: Developed by the authors (2023).

## 3. Method

This research aims to develop a model for assessing the governance maturity of SNs comprised of small and medium-sized firms and provide recommendations for improving it. We used the Design Science Research (DSR) method to achieve this objective. The method allows for creating and evaluating artifacts that transform theoretical knowledge into organizational tools, methods, or processes (Dresch et al. 2015). The general stages of Design Science Research were completed to create an artifact to assess the maturity of SNs' governance, as shown in Figure 1.

The study began by identifying the problem to be solved concerning the need to enhance the transparency and sustainability of SNs, reduce information asymmetry, and mitigate conflicts of interest among stakeholders. First, we interviewed four executives from SNs and entities to identify the extent to which the problem is relevant for their SNs. These interviews were conducted from 1 September to 15 September 2021, to understand whether the lack of a governance system poses a problem for SNs. All interviewees reported that transparency and sustainability are significant issues for SNs as they contribute to their effectiveness, attract new members, and ensure long-term sustainability.

During the problem identification and awareness stages, we reviewed the literature to search for solutions, artifacts, or models that could help identify treatment options (Dresch et al. 2015). The Systematic Literature Review followed the recommendations of Dresch et al. (2015) and included searches in both scientific databases and grey literature. We searched in Scopus and Web of Science for articles related to "business networks", "strategic networks", "small-firm networks", and "governance." We selected articles published in peer-reviewed journals, in the fields of Business, Management, and Accounting, both in English and Portuguese. Regarding Corporate Governance, we searched for reports, white papers, and documents that have been published by international entities, organizations, and associations (e.g., OECD). The literature review identified the German Network Governance Code (Braun 2012; Deutscher Franchiseverband 2010). This Code does not describe an ideal management model but recommends minimum governance standards, classified as best practices (Braun 2012; Deutscher Franchiseverband 2010). Nevertheless, the Code can serve as the foundation for professional and successful SN management, and its implementation can help cooperative organizations succeed (Braun 2012; Deutscher Franchiseverband 2010).

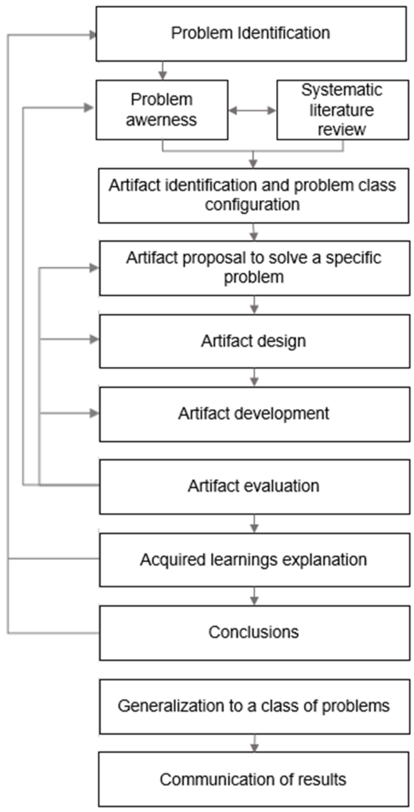



**Figure 1.** Stages of Design Science Research. Source: Dresch et al. (2015, p. 134).

The next step referred to proposing the first version of the artifact. The following factors were considered in the creation of the first version: (i) presentation of the four fundamental pillars of governance and the items for each principle, considering the German Network Governance Code's minimum standards of governance; (ii) level attendance and request for evidence; and (iii) development of a summary for quick identification of the SN, respondent, and consolidation of the evaluation of each principle. A chart was created to illustrate the SN governance maturity.

Under the utility guidance, artifacts are evaluated for their applicability and generalizability (Deng and Ji 2018). Three Brazilian SNs from the construction materials retail sector were invited to participate in the final testing stage. Table 2 displays the information regarding the SNs and managers who participated in the testing stage.

**Table 2.** General characteristics of the SNs and managers who participated in validating the tool.

| SN [1] | Existence Time | Operation Region | Number of Associated Firms | Code [1] | Manager Role | Manager Participation Time in the SN |
|---|---|---|---|---|---|---|
| A | 22 years | São Paulo—Brazil | 18 member firms and 33 stores | G01 | SN Manager | 4 years |
| B | 22 years | Rio Grande do Sul—Brazil | 78 member firms and 108 stores | G02 | CEO | 6 years |
| C | 20 years | 9 Brazilian states | 16 member firms and 17 stores | G03 | SN Manager | 10 years |

[1] To maintain their anonymity, SNs and participants were coded.

The SN managers were accompanied as they used the tool and reported the evidence to support their answers. Throughout the research, three versions of the artifact were created:

version zero (v0), version one (v1), and version two (v2). The next session describes the steps followed to produce the artifact.

## 4. Artifact Development

The Design Science Research method proposed by Dresch et al. (2015) was used to develop an artifact for measuring the governance maturity of SNs. First, raising awareness and identifying the problem required gathering information from SNs' executives. Based on the interviews and the literature review, we identified that the recommendations for implementing a governance system target large corporations and privately held organizations of various types (CVM 2019b). Thus, to construct the artifact, we followed the CVM's fundamental governance pillars of transparency, equity, accountability, and corporate responsibility (GT Interagentes 2016).

The concepts of the fundamental pillars were supplemented by elements of the German Network Governance Code (Deutscher Franchiseverband 2010). This Code provides recommendations that aim to build trust within and outside the organization while encouraging accountability and engagement among SN members. The Code recommends compliance with minimum standards in corporate strategy, partner management, and regulations to promote greater transparency and professional management beyond what is legally required.

After analyzing the fundamental pillars of governance and the minimum standards outlined by the German Network Governance Code (Deutscher Franchiseverband 2010), and conducting interviews with four managers and executives from SNs and entities, a list of items for evaluation was created, leading to the development of the initial version (v0) of the artifact. This preliminary version of the artifact was presented to experts in online meetings lasting 40 to 60 min. These experts have over five years of experience in organizational management consulting and SNs management.

After these meetings, version zero (v0) of the artifact was emailed to each expert so that they could contribute to identifying new items and improving the wording of the items already listed. The experts' suggestions were compiled, and the updated version of the artifact (v1) has been shared with the group. As the experts identified new suggestions for changes, they were recorded and contributed to creating a new version of the artifact, version two (v2). For example, CVM Resolution No. 59, issued on 22 December 2021, recommends including items related to environmental, social, and corporate governance (ESG). These items were added to version two (v2) of the artifact. Finally, version two (v2) was returned to the experts for review, and they approved it without any changes. Appendix A shows the full version of the proposed artifact.

According to experts' assessment, data collection for measuring governance maturity using the artifact should be undertaken through auditing rather than self-application. Furthermore, the respondent should provide evidence to support their answers.

After validating version two (v2), we concluded that the design and development stages of the model had been completed. All expert contributions were consolidated and included in this final version. The model's initial version (v0) consisted of 23 items designed to evaluate the governance of social networks (SNs). The final version includes 34 items related to environmental, social, and corporate governance (ESG). Each item is scored on a zero-to-three-point scale, with the respondent indicating the level of compliance in their SN (Table 3) and providing corresponding evidence to support the selected level.

**Table 3.** Maturity level measurement scale.

| Scale Performance | Score |
|---|---|
| Fully complies | 3 |
| Complies | 2 |
| Partially complies | 1 |
| Does not comply | 0 |

In addition to the 34 indicators, the model was built with maturity levels to assess the maturity level of strategic SN governance.

### 4.1. Governance Maturity Levels

Five levels of compliance were considered to evaluate the maturity of SNs' governance (Table 4). SNs whose answers to the 34 evaluation items reach up to 20% of the maximum score are considered to have the lowest maturity level (Level 0—which we call Immature). At the other end of the spectrum, SNs whose responses exceed 80% of the maximum score have achieved the highest level of maturity (Level 4—Mature).

**Table 4.** Parameters for determining maturity level.

| Level | Percentage | Description |
|---|---|---|
| Level 4 Mature | >80% to 100% | Congratulations, the SN structured its governance system and adopted good governance practices. These practices are based on the fundamental governance pillars and are applied within the context of SNs. Governance contributes to aligning the interests of all parties involved and promotes transparency in activities, with the ultimate goal of preserving the long-term value of the network. |
| Level 3 Founded | >60% to 80% | The SN adopts good governance practices in a relatively structured manner. There is an opportunity to consolidate and improve the use of good practices while considering the SN's context. Please note the specific dimensions that require further improvement. |
| Level 2 Regular | >40% to 60% | The SN adopts some good governance practices, but there is room for improvement. There is an opportunity to develop and standardize governance practices across various pillars. The SN should analyze which pillars can provide the most value in the current context and for its current needs. |
| Level 1 Incipient | >20% to 40% | The SN has incipient levels of good governance practices. There is an opportunity to formalize and institutionalize the adoption of good governance practices, and it is essential to consider the SN's current context. The institutionalization of governance practices in the SN may provide greater transparency to members, restrict managers' autonomy, and professionalize management. |
| Level 0 Immature | 0% to 20% | The SN does not adopt good governance practices. The SN should begin to reflect on the importance of governance practices, considering the SN structure and characteristics. Governance helps to ensure transparency, protect members' interests, and preserve the SN's long-term value. The pillars considered are the foundation for governance practices and can be implemented by any organization, regardless of its size, legal structure, or type of control. |

The maximum number of points that can be achieved in measuring the maturity level of an SN is 102 (there are 34 evaluation items, each with a maximum score of 3 points). The total score achieved by the SN is then divided by the maximum possible score to determine the SN's percentage. Table 5 provides an example of the assessment.

The SN scored 72 points, representing 71% of the maximum possible score. Hence, the maturity level of this SN is defined as "level 3", with a percentage range of over 60% to 80%. Therefore, the answers to the 34 items, organized into five pillars, and shown in Table 5, indicate the level of governance maturity described in Table 4, along with its respective characteristics. Finally, we present the results in a figure highlighting the scores obtained in each pillar and the overall maturity of SN's governance (see Appendix B).

**Table 5.** Example of governance maturity level measurement.

| Basic Pillars + ESG | Number of Items | Maximum Score Possible | Score Obtained in the Assessment |
|---|---|---|---|
| Transparency | 6 | 18 | 12 |
| Equity | 6 | 18 | 18 |
| Accountability | 6 | 18 | 12 |
| Corporate Responsibility | 6 | 18 | 18 |
| ESG | 10 | 30 | 12 |
| Total | 34 | 102 points | 72 points |
| | | 100% | 71% |

### *4.2. Testing the Model and Data Generated in the Testing Stage*

We tested the model on three SNs. The executive managers of these SNs participated in 60-min online meetings. We asked the interviewee to evaluate each item of the governance model and provide supporting evidence for their answers. As shown in Table 6, the scores obtained by the three SNs are detailed below, considering the fundamental pillars and ESG presented in the proposed artifact.

**Table 6.** The maximum score of each fundamental pillar + ESG and score obtained by the three SNs.

| Basic Pillars + ESG | Number of Items | Maximum Possible Score | Score Strategic Network A | Score Strategic Network B | Score Strategic Network C |
|---|---|---|---|---|---|
| Transparency | 6 | 18 | 14 | 10 | 9 |
| Equity | 6 | 18 | 15 | 13 | 11 |
| Accountability | 6 | 18 | 12 | 10 | 8 |
| Corporate Responsibility | 6 | 18 | 12 | 12 | 9 |
| ESG | 10 | 30 | 6 | 8 | 4 |
| Total | 34 | 102 | 59 | 53 | 41 |
| Percentage | | 100% | 58% | 52% | 40% |
| Maturity level | | | Level 2 Regular | Level 2—Regular | Level 1—Incipient |

The overall percentage of SNs A and B was 58% and 52%, respectively, resulting in a Level 2 governance maturity. There is an opportunity for these SNs to broaden the adoption of good governance practices. However, it is important for these SNs to consider their management context. The governance maturity of SN C is at level 1, with an overall achievement percentage of 40%. This SN needs to improve almost all aspects of governance pillars to effectively manage the SN.

A final evaluation was sent to these managers after the online meetings. This evaluation consisted of four questions with a scale ranging from "Totally disagree" to "Totally agree": (1) In your opinion, do the statements used in the interview accurately reflect the reality and context of SNs? (2) In your opinion, do the statements used in the interview measure items that comply with the reality of your SN? (3) In your opinion, does the tool allow for assessing the governance of your SN and does it help identify opportunities for improvement? (4) Does the tool accurately measure your SN's governance level?

The three respondents reported a good perception of the tool as they answered "I agree" to questions 1 and 2. Regarding question 3, which aimed to identify the practical use of the artifact, two respondents indicated "I agree," and one respondent indicated "I totally agree." Furthermore, Question 4, which aimed to evaluate whether the tool offers a clearer view of the SN's governance level, received two "I agree" responses and one "I neither agree nor disagree" response. The results make us confident that the tool provides a valid and relevant measure for the maturity level of SNs.

## 5. Conclusions

This research aimed to develop a model for assessing the maturity level of governance in SNs. To achieve this objective, we analyzed principles and best practices of governance, establishing a relationship between fundamental governance principles and their maturity levels concerning the context and characteristics of SNs. Additionally, after analyzing the current state of SNs' governance and their pursuit of development and membership growth, we identified the necessity of enhancing their transparency and sustainability.

We followed the Design Science Research method to develop a tool that allows for assessing the governance maturity of SNs and provides suggestions for enhancement. The first step involved raising awareness, identifying the problem, reviewing the literature, and designing the model. We then produced the artifact by combining the CVM's fundamental governance pillars (GT Interagentes 2016) with the German Code of Network Governance (Deutscher Franchiseverband 2010).

The evidence obtained during the artifact's testing phase demonstrated that the proposed model preserved the SNs' characteristics and context. As a result, SNs can use the governance maturity model to mitigate information asymmetry and potential conflicts of interest that may arise between various stakeholders, particularly network members and SN management. However, the requirements for managing and controlling SNs differ from those for managing capital market-oriented companies (Deutscher Franchiseverband 2010). The final model required adjustments to accommodate the unique characteristics of SNs. Therefore, the findings of our study cannot be generalized. Still, other types of inter-organizational networks can use the proposed artifact with slight modifications.

### 5.1. Theoretical and Managerial Contributions

The study offers theoretical and practical contributions. While previous research has focused on understanding how SN governance and management contribute to results, development, and innovation (Klein et al. 2022; Provan and Kenis 2008; Wang and Ran 2022; Wegner et al. 2022a, 2022b; Wegner and Verschoore 2022), this study followed a prescriptive approach by proposing a model that allows measuring the maturity of SNs' governance.

Adopting good governance practices aligns the interests of organizations, enhances management quality, and mitigates management issues and conflicts that may arise between network members and SN management. The artifact connects the topics of governance and SNs. SN federations can use it to understand the maturity level of their members, while individual SNs can use it to showcase their governance maturity and attract new members. This tool should be used under the supervision of external evaluators to prevent biased responses. Conducting an audit requires a significant amount of time and investment. However, gathering data and evidence through auditing enhances the research process and enables the researcher to engage with the studied field.

### 5.2. Limitations and Suggestions for Future Studies

This study, like all others, has limitations. The main limitation is the scope of the validation tests we conducted, as only managers of SNs in the construction materials sector were included in the research. Future studies could test the artifact with managers from various market segments, enabling its application in SNs across different industries. Moreover, future studies that utilize the artifact can analyze how good governance practices influence SNs' performance and sustainability. Finally, another research opportunity involves conducting studies on environmental, social, and governance (ESG) topics in SNs and how their development impacts members' satisfaction and intention to remain connected to the SN over time.

**Author Contributions:** Conceptualization, M.W., D.W. and C.B.M.; methodology, M.W. and D.W.; investigation, M.W.; resources, D.W.; writing—original draft preparation, M.W.; writing—review and editing, D.W. and C.B.M.; supervision, D.W. and C.B.M.; project administration, M.W. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research was funded by CNPq Grant 423317/2018-0 and CNPq Grant 308011/2020-1.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** Data available by request.

**Conflicts of Interest:** The authors declare no conflict of interest.

## Appendix A. The Full Version of the Proposed Artifact

| Fundamental Pillars of Governance and Themes (ESG) | Final Artifact | Based on |
|---|---|---|
| Transparency | (1) Despite the need for SN management transparency, managers recognize the importance of data protection and privacy and implement procedures to comply with the General Personal Data Protection Law (LGPD), Law No. 13,709. | Deutscher Franchiseverband (2010); Return of the experts (2021). |
| | (2) SN Management—Formal disclosure of information related to SN management processes, rules, responsibilities, and attributions. | Deutscher Franchiseverband (2010) |
| | (3) SN Management—The members are aware of the requirements, criteria, and skills for selecting SN management members, which are decisive. | Deutscher Franchiseverband (2010) |
| | (4) Conflict resolution—SN members are constantly updated on any conflicts of interest arising in the SN and how these conflicts were resolved. | Deutscher Franchiseverband (2010) |
| | (5) SN Management—Membership—As part of pre-contractual clarification, SN management contributes to information transparency and entry and exit conditions for potential SN members. It allows potential SN participants to gain insight into the SN's economic situation. | Deutscher Franchiseverband (2010) |
| | (6) SN Management—Information transparency from the SN to external stakeholders—SN management provides information to various external stakeholders relevant to their cooperation with the SN. | Deutscher Franchiseverband (2010); GT Interagentes (2016) |
| Equity | (1) SN Management—Assembly and dialogue with members on the SN's situation and development—The SN's general meeting provides an open dialogue about the SN's situation and development between members and the SN administration. | Deutscher Franchiseverband (2010); GT Interagentes (2016) |
| | (2) SN Management—Elections of members of the Board of Directors and Fiscal Council—Members are aware of and have access to information about the criteria and requirements for participating in elections as members of the Board of Directors and Fiscal Council, allowing it to ensure equal rights to all members under the same conditions. | Deutscher Franchiseverband (2010); GT Interagentes (2016) |

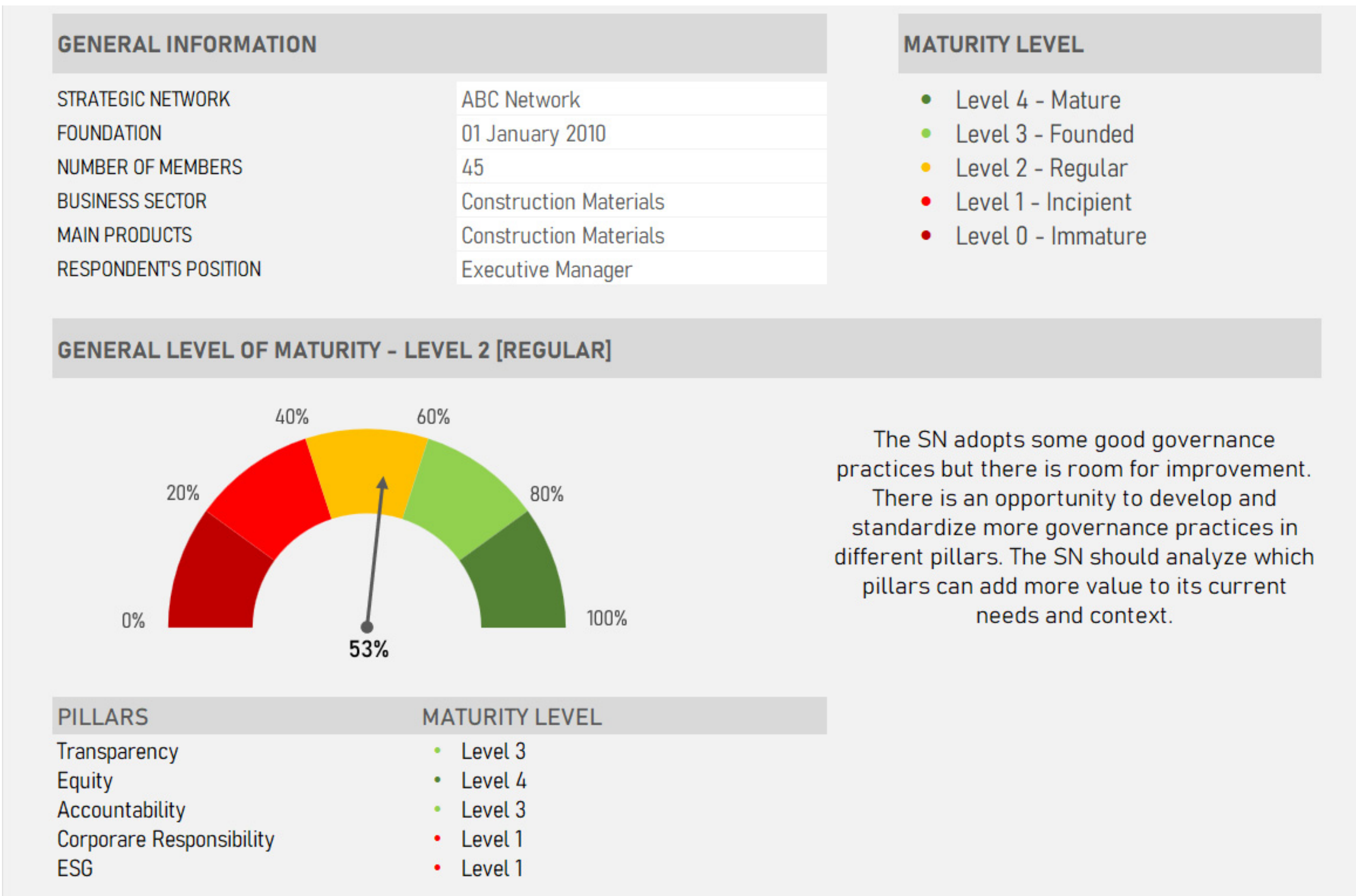
| Fundamental Pillars of Governance and Themes (ESG) | Final Artifact | Based on |
|---|---|---|
| | (3) SN Management—Communication that allows for dialogue and alignment of activities with members' interests—There is an open channel of communication that allows for dialogue between SN management and members to align SN activities with members' interests. | Deutscher Franchiseverband (2010); GT Interagentes (2016) |
| | (4) SN Management—Compliance with the SN Bylaws and Regulations by its managers and members—They adhere to the SN Bylaws and Regulations. | Deutscher Franchiseverband (2010); GT Interagentes (2016) |
| | (5) SN Management—SN Committees: Other committees are formed to meet the mutual needs of participation and information, such as working groups or experience exchange groups, in addition to the control committees (board of directors, supervisory board) and advisory committees (advisory board that advises management). | Deutscher Franchiseverband (2010); GT Interagentes (2016) |
| | (6) SN Management—Member entry and exit conditions | Deutscher Franchiseverband (2010); GT Interagentes (2016) |
| **Accountability** | (1) Trust and responsibility—The SNs' management presents and provides transparency of the records of its acts performed to the board of directors and supervisory board, or, in their absence, to the members, as these actions are necessary to create the necessary environment of mutual trust, while always adhering to the duty of confidentiality regarding information. | Deutscher Franchiseverband (2010); GT Interagentes (2016) |
| | (2) Risk management and information transparency—SN management acts with diligence (commitment) and accountability. | Deutscher Franchiseverband (2010); GT Interagentes (2016) |
| | (3) Risk Management—Risk assessment and management. A Risk Committee or Responsible Group meets regularly to analyze and manage risks, allowing the SN to monitor its effectiveness. | Deutscher Franchiseverband (2010); GT Interagentes (2016) |
| | (4) SN Management—Accountability of the Fiscal Council and Board of Directors—A fiscal council and board of directors accounts for its management acts and the exercise of its attributions regularly. | Deutscher Franchiseverband (2010); GT Interagentes (2016) |
| | (5) SN Management—Internal audit—The Fiscal Council performs the internal audit, and council members have the technical conditions for this attribution and sharing reports generated with SN management. | Deutscher Franchiseverband (2010); GT Interagentes (2016) |
| | (6) SN Management—External Audit—An independent external audit is hired, and the general meeting determines the audit's remuneration. | Deutscher Franchiseverband (2010); GT Interagentes (2016) |

| Fundamental Pillars of Governance and Themes (ESG) | Final Artifact | Based on |
|---|---|---|
| Corporate Responsibility | (1) SN planning and sustainability—SN management promotes value-aligned management and long-term strategic vision by reflecting on the cycles of growth, maturity, and reorientation of its activities. | Deutscher Franchiseverband (2010); GT Interagentes (2016) |
| | (2) More collaborative and future-oriented SN leadership—Decision-Making Process—The SN management decision-making process is formalized and organized so that the SN can block decisions that meet individual interests but not common interests. | Deutscher Franchiseverband (2010); GT Interagentes (2016) |
| | (3) SN Planning and Longevity—Strategic plan development—SN management develops a strategic plan, which is discussed with the fiscal council and board of directors, establishing guidelines and strategic objectives. These objectives are monitored and disclosed, and, if necessary, action plans to improve results are prepared. | Deutscher Franchiseverband (2010); GT Interagentes (2016) |
| | (4) SN succession planning—The cooperation SN has succession planning in place for the board of directors and the presidency, which includes the identification of potential successors as well as the management transfer process. | Deutscher Franchiseverband (2010); GT Interagentes (2016) |
| | (5) SN Succession Planning—Creating a plan to deal with the departure of Board and Chair members. | Deutscher Franchiseverband (2010); GT Interagentes (2016) |
| | (6) Conflict resolution—In businesses, conflicts of interest are resolved through hierarchical structures, whereas in SNs, conflicts are resolved through participatory processes. Internal conflict resolution procedures may be outlined in the SN's Bylaws. | GT Interagentes (2016) |
| Environmental, social, and corporate governance (ESG) matters | (1) Opportunities related to the ESG theme—The SN considers the objectives and actions to be carried out concerning environmental, social, and corporate governance (ESG) themes in its strategic planning. | CVM (2021) |
| | (2) The SN creates a report or document that contains information about environmental, social, and corporate governance (ESG) topics. | CVM (2021) |
| | (3) Disclosure—The SN discloses social, environmental, and corporate governance (ESG) information in an annual report or another specific document for this purpose and indicates where this document or information can be found on the institutional website. | CVM (2021) |
| | (4) Environmental practices—SN members use renewable energy (e.g., solar panels). | CVM (2021) |
| | (5) Environmental practices—The SN has a code of conduct or policy for working with suppliers (who use organic inputs or even those with environmental certifications). | CVM (2021) |
| | (6) Environmental Practices—The chain has a policy of conduct or negotiation with suppliers who provide reverse logistics of products (e.g., collection of used light bulbs, batteries, and packaging). | CVM (2021) |

**Table A0.** *Cont.*

| Fundamental Pillars of Governance and Themes (ESG) | Final Artifact | Based on |
|---|---|---|
| | (7) Social—Does the SN have a mission statement and strategic guidelines? If this is the case, it should accurately represent the SN's performance and explicitly seeks to benefit society. | CVM (2021) |
| | (8) Social—Training and Development (T&D) for SN directors and employees—The cooperation SN invests in training and development for its directors, president, and employees. | CVM (2021); GT Interagentes (2016) |
| | (9) Social—Diversity—The SN has a specific policy or goals for gender, color, or racial diversity among its management bodies (board of directors, the presidency, and members of the management and supervisory boards). | CVM (2021) |
| | (10) Governance—The SN has established communication channels through which critical issues in ESG matters and practices can be brought to the attention of the presidency or the board of directors, as applicable. | CVM (2021) |

## Appendix B. Example of Artifact's Outcome



## Notes

1 According to the European Commission (2023), medium-sized firms are defined as those with up to 250 employees or up to GBP 50 million in annual revenue. In emerging countries such as Brazil, medium-sized firms are defined as those with up to 99 employees (commerce) or 499 employees (industry)—(BNDES 2023).

## References

Abu-Tapanjeh, Abdussalam Mahmoud. 2009. Corporate governance from the Islamic perspective: A comparative analysis with OECD principles. *Critical Perspectives on Accounting* 20: 556–67. [CrossRef]

Akerlof, George A. 1970. The market for "lemons": Quality uncertainty and the market mechanism. In *Uncertainty in Economics*. Cambridge: Academic Press, pp. 235–51.

Almeida, Carlos Alberto Tavares de. 2011. Fundos de pensão e governança corporativa no Brasil. Master's thesis, FGV, Rio de Janeiro, Brazil. Available online: http://bibliotecadigital.fgv.br/dspace/handle/10438/8483 (accessed on 5 May 2023).

Anceco. 2023. Las CCS en España. Available online: https://anceco.com/actualidad-ccs/las-ccs-en-espana/ (accessed on 5 May 2023).

Arrow, Kenneth J. 1978. Uncertainty and the welfare economics of medical care. In *Uncertainty in Economics*. Cambridge: Academic Press, pp. 345–75.

Bilyay-Erdogan, Seda. 2022. Corporate ESG engagement and information asymmetry: The moderating role of country-level institutional differences. *Journal of Sustainable Finance & Investment*. *early view*. [CrossRef]

BNDES BANCO NACIONAL DE DESENVOLVIMENTO. 2023. Porte de empresa. Available online: https://www.bndes.gov.br/wps/portal/site/home/financiamento/guia/porte-de-empresa (accessed on 5 May 2023).

Bosáková, Ivana, Aleš Kubíček, and Jiří Strouhal. 2019. Governance Codes in the developing and emerging countries: Do they look for the international role model? *Economics and Sociology* 12: 251–72. [CrossRef]

Boyko, Kateryna, and Ivan Derun. 2016. Disclosure of non-financial information in corporate social reporting as a strategy for improving management effectiveness. *Journal of International Studies* 9: 159–77. [CrossRef]

Braun, Susanne. 2012. Network Governance Kodex: Steigerung der Wettbewerbsfähigkeit von Unternehmen (snetzwerken) durch Selbstverpflichtung. *ZfKE–Zeitschrift für KMU und Entrepreneurship* 60: 239–56. [CrossRef]

Buertey, Samuel, Eun-Jung Sun, Jang Soon Lee, and Juhee Hwang. 2020. Corporate social responsibility and earnings management: The moderating effect of corporate governance mechanisms. *Corporate Social Responsibility and Environmental Management* 27: 256–71. [CrossRef]

Cadbury, Adrian. 1992. Committee on the Financial Aspects of Corporate Governance. Gee, London. Available online: https://ecgi.global/code/cadbury-report-financial-aspects-corporate-governance (accessed on 10 September 2021).

Carioca, Karla Jeanny Falcão, Márcia Martins Mendes De Luca, and Vera Maria Rodrigues Ponte. 2010. Implementação da Lei Sarbanes-Oxley e seus impactos nos controles internos e nas práticas de governança corporativa: Um estudo na companhia energética do Ceará-Coelce. *Revista Universo Contábil* 6: 50–67. [CrossRef]

Cheung, Yan-Leung, Ping Jiang, and Weiqiang Tan. 2010. A transparency disclosure index measuring disclosures: Chinese listed companies. *Journal of Accounting and Public Policy* 29: 259–80.

Comissão de Valores Mobiliários—CVM. 2002. *Recomendações da CVM sobre governança corporativa.* Comissão de Valores Mobiliário. Available online: http://conteudo.cvm.gov.br/export/sites/cvm/decisoes/anexos/0001/3935.pdf (accessed on 26 February 2022).

Comissão de Valores Mobiliários—CVM. 2019a. Instrução CVM nº 480, de 07 de dezembro de 2009. Dispõe sobre o registro de emissores de valores mobiliários admitidos à negociação em mercados regulamentados de valores mobiliários. Available online: https://conteudo.cvm.gov.br/legislacao/instrucoes/inst480.html (accessed on 8 January 2022).

Comissão de Valores Mobiliários—CVM. 2019b. *Mercado de valores mobiliários brasileiro*, 4th ed. Comissão de Valores Mobiliário: Available online: https://www.investidor.gov.br/portaldoinvestidor/export/sites/portaldoinvestidor/publicacao/Livro/livro_TOP_mercado_de_valores_mobiliarios_brasileiro_4ed.pdf (accessed on 8 January 2022).

Comissão de Valores Mobiliários—CVM. 2021. *Resolução CVM nº 59, de 22 de dezembro de 2021*. Altera a Instrução CVM nº 480, de 7 de dezembro de 2009, e a Instrução CVM nº 481, de 17 de dezembro de 2009. Available online: https://conteudo.cvm.gov.br/legislacao/resolucoes/resol059.html (accessed on 18 December 2021).

Crisóstomo, Vicente Lima, Victor Daniel Vasconcelos, and Célia Maria Braga Carneiro. 2021. Análise da relação entre responsabilidade social corporativa e governança corporativa na empresa brasileira. *Perspectivas Contemporâneas* 16: 1–20. [CrossRef]

da Costa, Caroline Cordova Bicudo, Aruana Rosa Souza Luz, and Douglas Wegner. 2022. Are there differences between governing and managing strategic networks of different sizes and ages? *Journal of Management & Organization*. *early view*. [CrossRef]

Deng, Qi, and Shaobo Ji. 2018. A review of design science research in information systems: Concept, process, outcome, and evaluation. *Pacific Asia Journal of the Association for Information Systems* 10: 2. [CrossRef]

Deutscher Franchiseverband. 2010. Network-governance-kodex: Exzellente unternehmensführung in kooperativen unternehmensnetzwerken. Available online: www.mittelstandsverbund.de/media/f3b71225-6af7-430d-b966-03cd724e41d0/0Q7mYg/Import/network-governance-kodex_druckversion.pdf (accessed on 10 January 2021).

Dresch, Aline, Daniel Pacheco Lacerda, and José Antonio Valle Antunes Junior. 2015. *Design science research: Método de pesquisa para avanço da ciência e tecnologia*. Porto Alegre: Bookman Editora.

Eisenhardt, Kathleen M. 1989. Agency theory: An assessment and review. *Academy of Management Review* 14: 57–74. [CrossRef]
Engel, Ellen, Rachel M. Hayes, and Xue Wang. 2007. The Sarbanes–Oxley Act and firms' going-private decisions. *Journal of Accounting and Economics* 44: 116–45. [CrossRef]
European Commission. 2023. SME Definition. Available online: https://single-market-economy.ec.europa.eu/smes/sme-definition_en (accessed on 5 May 2023).
Gregory, Alan, Rajesh Tharyan, and Julie Whittaker. 2014. Corporate social responsibility and firm value: Disaggregating the effects on cash flow, risk, and growth. *Journal of Business Ethics* 124: 633–57. [CrossRef]
GT Interagentes. 2016. Código Brasileiro de Governança Corporativa: Companhias Abertas. Instituto Brasileiro de Governança Corporativa. Available online: https://www.anbima.com.br/data/files/F8/D2/98/00/02D885104D66888568A80AC2/Codigo-Brasileiro-de-Governanca-Corporativa_1_.pdf (accessed on 10 January 2021).
Gulati, Ranjay. 1998. Alliances and networks. *Strategic Management Journal* 19: 293–317. [CrossRef]
Instituto Brasileiro de Governança Corporativa. 2014. Caderno de boas práticas de governança corporativa para empresas de capital fechado: Um guia para sociedades limitadas e sociedades por ações fechadas. São Paulo. Available online: http://www.ibgc.org.br/userfiles/files/2014/files/Arquivos_Site/Caderno_12.PDF (accessed on 10 January 2021).
Jarillo, J. Carlos. 1993. *Strategic Networks: Creating the Borderless Organization*. Oxford: Butterwoth-Heinemann.
Jensen, Michael C., and William H. Meckling. 1976. Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics* 3: 305–60. [CrossRef]
Klein, Leander Luiz, Nelson Beuter Júnior, and Kadígia Faccin. 2022. Innovation in networks of companies with different governance structures. *International Journal of Business Excellence* 27: 125–46. [CrossRef]
Knoepfel, Ivo. 2004. Who Cares Wins: Connecting Financial Markets to a Changing World. UN Environment Programme. Available online: https://d306pr3pise (accessed on 10 September 2021).
La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert Vishny. 2002. Investor protection and corporate valuation. *The Journal of Finance* 57: 1147–70. [CrossRef]
Lahiri, Somnath, Sumit Kundu, and Surender Munjal. 2021. Processes underlying interfirm cooperation. *British Journal of Management* 32: 7–19. [CrossRef]
Lima, Luciana de Souza. 2013. Governança Corporativa, Valor e Desempenho de Empresas com Participação Acionária de Fundos de Pensão no Brasil. Doctoral dissertation, PUC-RJ, Rio de Janeiro, Brazil.
Lima, Luciana de Souza, Luiz Felipe Jacques da Motta, André Luiz Carvalhal da Silva, and Vinícius Mothé Maia. 2017. Governança corporativa, valor e desempenho de empresas com participação acionária de fundos de pensão. *Gestão Contemporânea* 19: 123–44.
Macagnan, Clea Beatriz. 2009. Voluntary disclosure of intangible resources and stock profitability. *Intangible Capital* 5: 1–32. [CrossRef]
Mittelstandsverbund. 2023. Stark für den Mittelstand. Available online: https://www.mittelstandsverbund.de/ (accessed on 5 May 2023).
Monticelli, Jefferson Marlon, and Douglas Wegner. 2022. Institutional change and stability in strategic networks in the Brazilian pharmaceutical industry. *International Journal of Pharmaceutical and Healthcare Marketing* 16: 260–81. [CrossRef]
Mueller, Elisabeth F. 2021. Towards a theory of network facilitation: A micro-foundations perspective on the antecedents, practices, and outcomes of network facilitation. *British Journal of Management* 32: 80–96. [CrossRef]
OECD. 2004. The OECD principles of corporate governance. *Contaduría y Administración* 216: 183–94.
Oliver, Amalya L., and Mark Ebers. 1998. Networking network studies: An analysis of conceptual configurations in the study of inter-organizational relationships. *Organization Studies* 19: 549–83. [CrossRef]
Pahi, Debasis, and Inder Sekhar Yadav. 2019. Does corporate governance affect dividend policy in India? Firm-level evidence from new indices. *Managerial Finance* 45: 1219–38. [CrossRef]
Partanen, Jukka, Olli-Pekka Kauppila, Fabian Sepulveda, and Mika Gabrielsson. 2020. Turning strategic network resources into performance: The mediating role of network identity of small-and medium-sized enterprises. *Strategic Entrepreneurship Journal* 14: 178–97. [CrossRef]
Pastore, Patrizia, Antonio Ricciardi, and Silvia Tommaso. 2020. Contractual networks: An organizational model to reduce the competitive disadvantage of small and medium enterprises (SMEs) in Europe's less developed regions. A survey in southern Italy. *International Entrepreneurship and Management Journal* 16: 1503–35. [CrossRef]
Pillai, Rekha, and Husam-Aldin Nizar Al-Malkawi. 2018. On the relationship between corporate governance and firm performance: Evidence from GCC countries. *Research in International Business and Finance* 44: 394–410. [CrossRef]
Priyanath, H. M. S., and Awanthi Buthsala. 2017. Information, opportunism and business performance: A case of small businesses managed by women entrepreneurs in Sri Lanka. *Asian Journal of Multidisciplinary Studies* 5: 230–39.
Provan, Keith G., and Patrick Kenis. 2008. Modes of network governance: Structure, management, and effectiveness. *Journal of Public Administration Research and Theory* 18: 229–52. [CrossRef]
Punsuvo, Fábio Riberi. 2006. Qualidade da Governança Corporativa e a participação societária dos Fundos de Pensão nas empresas de capital aberto brasileiras. Master's thesis, Universidade Presbiteriana Mackenzie, São Paulo, Brazil.
Rojas-Lema, Ximena, Victor Pumisacho, Juan-José Alfaro-Saiz, and Daniela García. 2019. Evaluating management practices in horizontal cooperation SMEs networks: The Ecuadorian context. *Gestão & Produção* 26: 1–13.
Shleifer, Andrei, and Robert W. Vishny. 1997. A Survey of Corporate Governance. *Journal of Finance* 52: 737–83. [CrossRef]

Tahir, Samya, Sadaf Ehsan, Mohammad Kabir Hassan, and Qamar Uz Zaman. 2021. Does corporate governance compliance condition information asymmetries? Moderating role of voluntary disclosures. *Journal of Asian Business and Economic Studies* 30: 2–25. [CrossRef]

Verschoore, Jorge Renato, Douglas Wegner, and Alsones Balestrin. 2015. The evolution of collaborative practices in small-firm networks: A qualitative analysis of four Brazilian cases. *International Journal of Management Practice* 8: 152–68. [CrossRef]

Wang, Huanming, and Bing Ran. 2022. Network governance and collaborative Governance: A thematic analysis on their similarities, differences, and entanglements. *Public Management Review*. *early view*. [CrossRef]

Wegner, Douglas. 2019. *Redes, alianças e parcerias: Ferramentas para a gestão da cooperação empresarial*. Porto Alegre: EST.

Wegner, Douglas, and Jorge Renato Verschoore. 2022. Network governance in action: Functions and practices to foster collaborative environments. *Administration & Society* 54: 479–99.

Wegner, Douglas, Felipe de Mattos Zarpelon, Jorge Renato Verschoore, and Alsones Balestrin. 2017. Management practices of small-firm networks and the performance of member firms. *Business: Theory and Practice* 18: 197. [CrossRef]

Wegner, Douglas, Greici Sarturi, and Leander Luiz Klein. 2022a. The governance of strategic networks: How do different configurations influence the performance of member firms? *Journal of Management and Governance* 26: 1063–87. [CrossRef]

Wegner, Douglas, Ingridi Vargas Bortolaso, and Patrinês Aparecida França Zonatto. 2016. Small-Firm Networks and Strategies for Consolidation: Evidence from the Brazilian context. *Revista Brasileira de Gestão de Negócios* 18: 525–44. [CrossRef]

Wegner, Douglas, Marcelo Fernandes Pacheco Dias, Ana Cláudia Azevedo, and Diego Antonio Bittencourt Marconatto. 2022b. Configuring the governance and management of strategic networks for higher performance. *Journal of Business & Industrial Marketing* 37: 2501–14.

Williamson, Oliver Eaton. 1985. *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting*. New York: Free Press.

World Economic Forum. 2020. *Embracing the New Age of Materiality: Harnessing the Pace of Change in ESG*. Geneva: World Economic Forum.