

ACOPLAMIENTOS ORGANIZACIONALES: UNA REVISIÓN DE LA

RESUMEN: la perspectiva de los sistemas débilmente acoplados (LCS, en inglés) surgió como una nueva forma de comprender la aestructura de las organizaciones desde la óptica de los estudios organizacionales. Por ello, este artículo busca describir las principales características de dicha perspectiva a partir de una revisión sistemática de 76 artículos publicados durante un período de 36 años (1983-2019). Los hallazgos indican que los principales conceptos estudiados en torno a los sistemas débilmente acoplados han sido el acoplamiento débil, el acoplamiento fuerte, el desacoplamiento, el grado de acoplamiento y los mecanismos de acoplamiento, los cuales han sido analizados con base en la relación dialéctica entre singularidad y capacidad de respuesta. Así mismo, se evidencia que el estudio de los acoplamientos organizacionales se ha desarrollado a través de metodologías cualitativas y el uso de estudios de casos, entrevistas y revisiones documentales. En particular, existen dos marcos teóricos ampliamente utilizados junto con este enfoque (el nuevo institucionalismo sociológico y la teoría de los accidentes normales), dando lugar a investigaciones futrusas en temas como el desacoplamiento y la normalidad en la ocurrencia de accidentes, entre otros. Este artículo contribuye a la discusión alrededor de los vínculos organizacionales en tanto reconoce la importancia de los sistemas débilmente acoplados y su utilidad para la comprensión de los problemas actuales y futuros de las organizaciones desde el campo de los estudios organizacionales, promoviendo una mayor adopción de los fundamentos de esta corriente en Latinoamérica y precisando las categorías esenciales de los acoplamientos organizacionales y su funcionamiento.

PALABRAS CLAVE: acoplamiento, sistemas débilmente acoplados, organización, estudios organizacionales, revisión.

#### ACOPLAMENTOS ORGANIZACIONAIS: UMA REVISÃO DA LITERATURAE

RESUMO: a perspectiva de sistemas fracamente acoplados (Lcs, na sigla em inglês) surgiu como uma nova forma de entender a estrutura organizacional a partir do campo dos Estudos Organizacionais. O objetivo deste artigo é apresentar as principais características de pesquisas anteriores que abordaram a perspectiva de sistemas fracamente acoplados. Este artigo baseia-se em uma revisão sistemática da literatura de 76 artigos publicados durante um período de 36 anos (1983-2019). As descobertas indicam que os principais conceitos estudados em torno dessa perspectiva têm sido "acoplamento fraco", "acoplamento forte", "desacoplamento", "grau de acoplamento e "mecanismos de acoplamento", que são analisados considerando a relação dialética entre distinção e responsividade. Da mesma forma, o estudo dos acoplamentos organizacionais tem sido amplamente desenvolvido por meio de metodología qualitativa com estudos de caso, entrevistas e revisão documental. Em particular, há dois marcos teóricos mais utilizados juntamente com essa perspectiva, o novo institucionalismo sociológico e a teoria dos acidentes normais, que dão origem a futuras pesquisas sobre temas como o desacoplamento e a normalidade dos acidentes, entre outros. Este artigo contribiu para a discussão dos laços organizacionais ao destacar a relevância contemporânea da perspectiva do tcs, sua utilidade para a compreensão das questões organizacionais atuais e futuras no campo dos Estudos Organizacionais incentivar uma maior adoção da análise do LCs na América Latina. Além disso, este artigo fornece clareza conceitual sobre as principais categorias de acoplamentos organizacionais e sua operacionalização.

PALAVRAS-CHAVE: acoplamento, sistemas fracamente acoplados, organização, estudos organizacionais, revisão.

#### COUPLAGES ORGANISATIONNELS: UNE REVUE DE LA LITTÉRATURE

RÉSUMÉ: La perspective des systèmes faiblement couplés (LCS) est apparue dans le domaine des études organisationnelles comme une nouvelle façon de comprendre la structure organisationnelle. Le but de cet article est de présenter les principales caractéristiques des études de recherche précédentes qui ont abordé la perspective des systèmes faiblement couplés. Cet article se fonde sur une revue systématique de la littérature de 76 articles publiés pendant une période de 36 ans (1983-2019). Les résultats indiquent que les concepts principaux étudiés autour de cette perspective ont été le couplage lâche, le couplage étroit, le découplage, le degré de couplage et les mécanismes de couplage, qui sont analysée en tenant compte de la relation dialectique entre le caractère distinctif et la réactivité. De même, l'étude des couplages organisationnels a été largement développée à travers une méthodologie qualitative avec des études de cas, des entretiens et une revue documentaire. En particulier, cette perspective emploie surtout deux cadres théoriques, le nouvel institutionnalisme sociologique et la théorie des accidents normaux, qui donnent lieu à de futures recherches sur des sujets tels que le découplage et la normalité des accidents, entre autres. Cet article contribue à la discussion sur les liens organisationnels en soulignant la pertinence contemporaine de la perspective LCs, son utilité pour comprendre les problèmes organisationnels actuels et futurs dans le domaine des études d'organisation, et encourage une plus grande adoption de l'analyse LCs en Amérique latine. De plus, cet article apporte une clarté conceptuelle sur les principales catégories de couplages organisationnels et leur opérationnalisation.

MOTS-CLÉ: Couplage, systèmes faiblement couplés, organisation, études d'orqanisation, revue.

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# Organizational Couplings: A Literature Review

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ABSTRACT: The loosely coupled systems (LCS) perspective emerged as a new way to understand the organizational structure from the field of Organization Studies. The purpose of this article is to present the main features of previous research studies that have addressed the perspective of loosely coupled systems. This article is based on a systematic literature review of 76 papers published during a 36-year period (1983-2019). The findings indicate that the main concepts studied around this perspective have been loose coupling, tight coupling, decoupling, degree of coupling, and coupling mechanisms, which are analyzed considering the dialectical relationship between distinctiveness and responsiveness. Likewise, the study of organizational couplings has been extensively developed through qualitative methodology with case studies, interviews and documentary reviews. In particular, there are two theoretical frameworks broadly used along with this perspective, the sociological new institutionalism and the theory of normal accidents, which give rise to future research on topics such as decoupling and the normality of accidents, among others. This article contributes to the discussion of organizational ties by highlighting the contemporary relevance of the LCS perspective, its usefulness for understanding current and future organizational issues in the field of Organization Studies, and encouraging greater adoption of LCS analysis in Latin America. Additionally, this paper provides conceptual clarity on the main categories of organizational couplings and its operationalization.

KEYWORDS: Coupling, loosely coupled systems, organization, organization studies, review.

## Introduction

Organizations can be studied from different perspectives, been one of them the Loosely Coupled Systems (LSC) (Babb & Chorev, 2016; Lingard *et al.*, 2014). From this perspective, the organization is characterized by its antagonistic nature resulting from the coexistence of interdependent aspects such as the rational and the emotional, the deliberate and the spontaneous, as well as being constituted by organizational units (areas or teams) that interrelate with each other.

In the field of Organization Studies, the concept of loose coupling has been key to analyze organizations (Alarid, Sims, & Ruiz, 2011) and understood

in different ways due to its multiple meanings (Hautala, Helander, & Korhonen, 2018). Fundamentally, loose coupling implies a dialectical framework because it studies contradictory aspects (Brusoni & Prencipe, 2001). Indeed, the couplings imply interactions between the formal and the informal, and between the rational and the emotional (Hautala *et al.*, 2018).

The perspective of LCS was coined by Weick (1976) as a new way of explaining the organizational structure, constituting an alternative view to the theory of bureaucracy. Specifically, this perspective is part of a theoretical approach known as Theories of Organizational Ambiguity (Ibarra-Colado, 2000) or Theory of Organized Anarchy (Cohen, March, & Olsen, 1972). Contemporary organization theory advances the thesis that organizations are not best conceived as rational instruments for achieving societal goals but as organized anarchies, or LCS (Palumbo & Nachmias, 1983). In fact, according to Hannaway and Woodroffe (2003), LCS and organized anarchies were the terms used to characterize educational organizations that were inconsistent with classic bureaucratic theory: the goals and objectives of the organization were not good predictors of members' behavior; rules and procedures seemed to promote external legitimacy but did not seem to direct work; what went on at one level of the organization was only loosely connected to what went on at other levels; and inspection of organizational output was limited.

Additionally, organizational theorists have identified limitations on organizational control with phrases as garbage can decision-making and LCS (Mitchell, 1980). Thus, according to Browning and Hawes (1991), Weick's LCS theory and March's garbage can model can be read as American versions of postmodern organization theory. Following Orton and Weick (1990), coupling analysis is the result of many years of effort by organization scholars to combine contradictory concepts that coexist in organizations. Authors as Swanson, Gregory, and Raspiller (2012), Lingard *et al.* (2014), and Pancs (2017) have used LCS perspective to study the ties between organizational internal elements, while others as Dorée and Holmen (2004), Alarid *et al.* (2011), and Babb and Chorev (2016) have focused on the ties between organizations and external elements.

However, there are many differences in the use and definition of coupling (Ingersoll, 1991). Thus, Yair (1997) has indicated that the measurement of couplings has not been consistently defined. Besides, given the variety of meanings, it seems unlikely to develop a unique and parsimonious set of measures of coupling (Firestone, 1984). According to Fennell (1994), the concept of coupling has been difficult to operationalize for research purposes. Furthermore, as Trein (2017) points out, coupling is a poorly specified term that needs to be defined.

Rowan (2002) considers that scholars have done little to develop LCS as a serious empirical analysis tool. Firestone (1984) added that the greatest difficulty is the creation of a definition of loose coupling that facilitates research. Similarly, Spender and Grevesen (1999) point out that not much is said about how the concept of loose coupling operates in practice, and this difficulty faced by empirical researchers is clearly significant.

Based on the above, the main objective of this article is to identify the key aspects discussed around this perspective, the most outstanding methodological aspects, and the future lines of research on organizational couplings and LCS. This work is based on a rigorous literature review in two main databases: Web of Science (wos) and Scopus. The search was also made in databases more focused on the Latin American region, but no articles were found that could be included in this review, which shows the potential that this work could have for this region.

The findings reveal that there are five main LCs concepts addressed: loose coupling, tight coupling, decoupling, degree of coupling, and coupling mechanisms. These elements are important because they constitute the central categories to approach an organizational analysis from this perspective. These have been supported in the dialectical relationship between distinctiveness and responsiveness of organizational elements.

Likewise, among the most representative theoretical frameworks, sociological new institutionalism, theory of normal accidents, organizational innovation, and organizational change are to be remarked. The main approach to study organizations from LCS is qualitative, although the results reveal various ways of operationalizing this perspective, such as some patterns from the qualitative approach or specific measures from quantitative studies. Finally, some lines for future research were identified, such as organizational complexity and adaptive capacity, among others.

The LCS perspective, as part of the field of organization studies, enables a comprehensive analysis of organizational phenomena. According to Weick (1976), the perspective of LCS is a theoretical device that sensitizes the researcher to address organizational couplings. In addition, it is based on a methodology that highlights the details of the organizational context, which characterizes this perspective as comprehensive rather than functionalist, as it has no interest in pointing out possible weaknesses of the organization but in identifying and understanding the couplings that occur in it, recognizing that many of those couplings are modestly predictable at best. The comprehensive and nonfunctionalist nature of this perspective is further evident in its intention to be an alternative to those views that try to



understand organizational phenomena from a rigid angle. This is highlighted by Weick's own statement: "researchers should then be eager to look at complex issues such as patterns of tight and loose coupling keeping in mind that loose coupling creates major problems for the researcher because he is trained and equipped to decipher predictable, tightly coupled worlds" (p. 16). Authors such as DiBiasio and Ecker (1982), Merz (2006), ten-Cate and Carrie-Cheng (2016), Boxenbaum and Jonsson (2017), Papadonikolaki (2018), and Huang-Yin, Goh, and Law (2019) also highlight the comprehensive nature of the LCS perspective.

This paper demonstrates that this perspective can encourage research to addresses local troublesome, since organizations are not monolithic and rational but characterized by ambiguity, irrationality and dialectical issues that can be studied from this perspective. Additionally, the literature shows that there are different points of view on organizational couplings, which makes their application difficult. This work also makes a contribution in this regard, determining how they can be operationalized and promoting their greater adoption in Latin American research.

This paper is developed in the following sections. After this introduction, some conceptual considerations on LCS are presented. Then, the method used to carry out this research is described. After that, the corresponding discussion of the findings is made. Finally, some concluding remarks and the limitations of the research are developed.

# Loosely coupled systems: Some conceptual considerations

The LCS perspective offers a powerful analysis capability to understand different degrees of coupling in organizational structures (Orton & Weick, 1990). This implies that the organization is not all loosely or tightly coupled, but some of its elements are tightly coupled while others are loosely coupled (Orton & Weick, 1988). The three types of couplings that make up the focus of LCS perspective are tight coupling, loose coupling, and decoupling. Dhanaraj and Parkhe (2006) and Trein (2017) make this assessment clear by noting that regarding organizational couplings Orton and Weick (1990) argue: "If there is responsiveness

without distinctiveness, the system is tightly coupled. If there is distinctiveness without responsiveness, the system is decoupled. If there is both distinctiveness and responsiveness, the system is loosely coupled" (p. 205).

According to Corbett (1987), tight coupling means there is no slack or buffer between two organizational units, that is, what happens in one directly affects what happens in the other. On the contrary, loose coupling means that organizational units are complementary but do not depend too strongly on each other (Kiesling, 2018). Finally, as suggested by Parada, Gimeno, Samara, and Saris (2020), decoupling means that organizations may adopt governance structures ceremonially (only on paper) to comply with institutional pressures while carrying on their business as usual.

When the organizational elements are coupled they exhibit a physical or logical distinctiveness and are responsive to other elements (Weick, 1976). Thus, distinctiveness and responsiveness are relevant concepts between coupled elements. In addition, loose couplings are characterized by having a limited duration, they are infrequent, present a weak affectation between elements, they are not relevant, and slow responders. Indeed, even in a tightly coupled system, there will be some disconnections between elements (Dimmock & Tan, 2013).

The most common would be that a tight coupling in one part of the system will exist while in another part of the system there is a loose coupling, that is, loose couplings in one part of the organization could involve tight couplings in another part (Weick, 1976). Hautala *et al.* (2018) indicate that in the literature the terms loose and tight coupling generally appear together and that the relationship between them has been a topic widely debated in the academic field during the last four decades. This debate may be derived from the fact that it was certainly difficult for Weick (1976) to clearly distinguish between tight and loose couplings (Dorée & Holmen, 2004).

Simultaneous couplings are presented in the organization, which implies that the organizational components vary in the tightness and looseness of their ties in different situations (Hautala *et al.*, 2018). Thus, it would not be appropriate to consider organizations as tightly or loosely coupled, but rather as organizations that have both tight and loose couplings (Orton & Weick, 1988). As Dubois and Gadde (2002) proved, for the industrial sector each activity is somehow tied with other activities.

Beyond determining whether the type of coupling between organizational elements is tight or loose, it is necessary to pay attention to how those couplings change. This implies

that it is not the type of coupling itself that constitutes a key determinant of the functioning of the organization over time, but the pattern of tight and loose couplings that occur in the organization (Weick, 1976). Indeed, the organizational couplings are mutually interrelated and, therefore, the change of one coupling affects the others (Dubois & Gadde, 2002). Besides, it has implications at the individual and social levels (Hökkä & Vähäsantanen, 2014).

## Method

The approach adopted in this literature review follows the stages of the framework proposed by Arksey and O'Malley (2005), which guarantee a rigorous and transparent procedure, grant reliability to the presented results, and allow to replicate the study design. The stages indicated are: identify the research question, identify relevant studies, study selection, charting the data, and reporting the results.

## **Research questions**

The guiding guestions of this literature review are:

RQ1: What are the main aspects discussed around the perspective of LCS?

**RQ2:** What are the main methodological considerations pointed out by the authors for the analysis of organizational couplings and their operationalization?

RQ3: What are the main considerations regarding future research on LCS?

#### Relevant studies

To identify the most relevant studies, search terms have been defined following the next steps: first, seminal literature about LCS was reviewed; second, some thesaurus were revised to find synonyms; and third, researchers who were very familiar with the LCS perspective were consulted. As a result, the following key search terms were defined: "loosely coupled system" or "loosely coupled organization" or "loosely coupled organization" or "loosely coupled organizations" or "loosely coupled organizations" or "loose coupling" or "loose and tight coupling" or "tight and loose couplings" or "loose and tight coupling" or "tight and loose coupling" or "loose or tight coupling" or "tight or loose coupling" or "loose or tight couplings" or "tight or loose couplings" or "loose or tight couplings" or "tight or loose couplings."

The review was made on December 4, 2019. The search for articles was done in wos and Scopus. Working papers, conference papers, book chapters and gray literature were not included. Only articles and reviews were considered and filtered by discipline areas (Business, Management, and Accounting). A complementary search was made in Ebsco Host, Latindex, Redalyc, and Scielo databases, using search terms in Spanish. However, no relevant results were obtained for this review.

It is necessary to indicate that this literature review did not consider book chapters or books. Following Duangchan and Matthews (2020), this is justified for the following reasons: many are not primary source materials, some of them are not peer-reviewed empirical research studies, and they could have insufficient details to evaluate methods and quality of research findings. These criteria for their non-inclusion are important because in this way this literature review was limited to those works that were peer-reviewed, and thus scientifically valid (Etuk, Keen, & Wall, 2012). Additionally, in line with Armstrong, Riemenschneider, and Giddens (2018), book chapters are often predecessors of journal articles or aggregations of multiple studies, and as such, including these in this review would not add to the findings.

## Study selection

Altogether, 333 relevant articles were found from wos (90) and Scopus (243). Then, works went through four exclusion

criteria (figure 1): 1- duplicate works; 2- journal impact factor (more than 1.0); 3- articles from the engineering and computer science area (which are not within the focus of this research); 4- articles that do not address the main research topic (only mention it occasionally). As a result, 76 articles were selected for deeper analysis.

## Charting the data and reporting the results

In this section, findings will be presented. For this purpose, the three research questions will be responded as a guide for our analysis. Following Drake, Pytlarz, and Patel (2018) and Evergreen (2019), some tables and graphs will be used in order to present the results in a clear and simple structure.

## Answering RQ1. What are the main aspects discussed around the perspective of LCs?

According to our findings, the main aspects discussed around the LCS approach are the theoretical frameworks that complement this perspective and its related concepts. These theoretical frameworks, indeed, when considered in the organizational analysis together with the LCS, enhance the researchers' analysis. Furthermore, the concepts

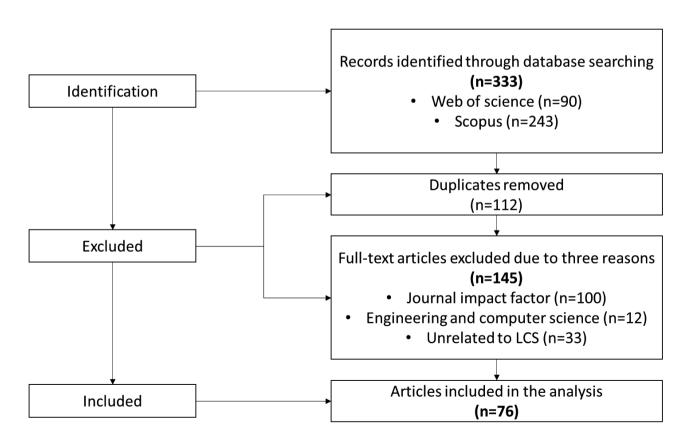


Figure 1. Flow diagram of the screening and selection process. Source: authors.

associated with LCS are those most frequently considered by researchers in the field of organization studies. Below we will delve into these aspects.

## Main concepts of the LCS perspective

The main concepts from the perspective of LCS addressed are loose coupling, tight coupling, decoupling, degree of coupling and coupling mechanisms. Table 1 presents a detailed analysis of each of these concepts.

#### LOOSE COUPLING

Loose coupling implies that the coupled units are responsive to each other, but have some degree of freedom to act independently (Bierly & Spender, 1995; Burns *et al.*, 2001; Covaleski & Dirsmith, 1983; Nätti & Ojasalo, 2008). Likewise, loose coupling indicates that in the organization the control is not completely centralized and the interdependence between the units is limited (Bierly, Gallagher, & Spender, 2008; Burke, 2014; Collier, 2001). Table 2 presents the definitions of loose coupling identified in the reviewed articles, arranged chronologically.

According to table 2, the definitions of loose coupling are supported on two aspects from a dialectical approach: distinctiveness and responsiveness. Distinctiveness is what makes each organizational unit unique (Goldspink, 2007; Lei, Hitt, & Goldhar 1996; Wagner, Mizgier, & Arnez 2014). It can be observed in organizations through their differentiating characteristics (Karlsson & Honig, 2009; Puusa, Kuittinen, & Kuusela, 2013). It is essentially its own characteristics that do not disappear when the units are grouped (Dhanaraj & Parkhe, 2006). For Danneels (2003), these traits precisely differentiate each unit. Examples of these are the meaning that members of each unit have over a specific attribute (Newton *et al.*, 2014;

Weick, 2010), and the companionship, internal cohesion, individuality and constant development (Puusa *et al.*, 2013).

For its part, responsiveness refers to the interactions between organizational units. These can be strong or weak (Beekun & Glick, 2001). The former indicate that the coupling between units is tight, the latter that coupling is loose. In fact, Doolin (2001) refer to responsiveness as the integration between units. Some examples of responsiveness are commitment, information sharing, communication (Christensen, Firat, & Torp 2008), as well as decisionmaking and collaboration (Lengnick-Hall, Lengnick-Hall, & Abdinnour-Helm, 2004).

According with the last, responsiveness indicates the extent to which the elements respond to the changes experienced by other elements, while the distinctiveness refer to the differences between elements (Lengnick-Hall et al., 2004). This means that in a LCS the elements are interrelated but not determined exclusively by those ties (Danneels, 2003). This results in coupling patterns that are the regularities in the relationship between responsiveness and distinctiveness (Luo, Liu, Zhang, & Huang 2011). Thus, the organization as a LCS combines the responsiveness of the whole with the distinctiveness of its parts (Acharya et al., 2019). Indeed, organizations have different parts, which are interrelated for the organization to function, although each one is different (Lei et al., 1996).

The dialectical approach derives from the fact that the loose coupling is the result of combining contradictory concepts such as distinctiveness and responsiveness (Nor-Aziah & Scapens, 2007), and as such, it represents a dialectical concept (Luo *et al.*, 2008). This concept indicates that the coupled elements are interrelated although each one preserves its distinctiveness (Misangyi, 2016). Consequently, if responsiveness and distinctiveness are present then it is a LCS (Papadonikolaki, 2018).

Table 1. Key concepts of the LCS perspective.

Concept	Authors		
Loose coupling	Staber and Sydow (2002); Nor-Aziah and Scapens (2007); Nätti and Ojasalo (2008); Marriott, Mellett, and Macniven (2011); Berente and Yoo (2012); Akgün, Keskin, and Byrne (2012); Rocha and Chelladurai (2013); Burke (2014); Newton, Ewing, and Collier (2014); Alnuami and George (2016); Goddard, Assad, Issa, Malagila, and Mkasiwa (2016); Laine, Järvinen, Hyvönen, and Kantola (2017); Shen, Gao, and Xia (2017); Papadonikolaki (2018); Bahemia, Sillince, and Vanhaverbeke (2018); Sapir and Kameo (2019); Thornton and Klyver (2019); Acharya, Gottschalg, Hahn, and Kehoe (2019); Mahdad, De-Marco, Piccaluga, and Di-Minin (2020).		
Tight coupling	Horne (1992); London and London (1996); Roe, Schulman, van-Eeten, and de-Bruijne (2005); Perrow (2009); Marley and Wa (2013); Silvast and Kelman (2013); Lom (2016).		
Decoupling	Dirsmith, Fogarty, and Gupta (2000); Grosvold, Hoejmose, and Roehrich (2014); Snelson-Powell, Grosvold, and Millington (2016).		
Degree of coupling	Cabigiosu and Camuffo (2012); MacCormack, Baldwin, and Rusnak (2012); Rasche (2012).		
Coupling mechanisms	Beekun and Glick (2001); Chen <i>et al.</i> (2011); Liu, Huang, Luo, and Zhao (2012).		

Source: authors.

Table 2.

Definition of loose coupling.

Authors	Definition		
Staber and Sydow (2002)	The various units and activities are relatively independent and can adjust to changing demands in different ways and at varying rates.		
Nor-Aziah and Scapens (2007)	The separation between the systems used to secure external legitimacy and those used to manage the activities of thorganization.		
Nätti and Ojasalo (2008)	The parts of a system influence each other and react to each other whilst retaining their separateness and their ow characteristics.		
Marriott et al. (2011)	Is the relationship between two or more systems or organizations with some kind of exchange relationship, e.g. inform tion, and is the name for the operational ties within such a structure.		
Akgün <i>et al.</i> (2012)	(1) The various units and activities are relatively independent and can adjust to changing demands in different way at varying rates; (2) control is decentralized and information travels slowly and unevenly; (3) members may draw variety of inconsistently related criteria to interpret their participation; and (4) norms by which rules are evaluate scattered thinly throughout the system.		
Berente and Yoo (2012)	Refers to patterns of action that are distinct, or separate from each other, yet are still responsive to each other in so fashion.		
Rocha and Chelladurai (2013)	When managers and employees negotiate adaptations of rules.		
Burke (2014)	Is a no formal hierarchy, little interdependence, and less centrally control.		
Newton et al. (2014)	The work activities of actors within the social entity become distinct from, yet remain interconnected with, the symbol displays of the broader social entity.		
Alnuami and George (2016)	The distinct units can complete day-to-day activities without needing to coordinate activities or communicate w members from other units.		
Goddard et al. (2016)	Refers to the separation of symbolic display for external, legitimacy-seeking purposes from operating-level practices a actions in organizations.		
Laine <i>et al.</i> (2017)	Refers to patterns of action that are distinct or separate from each other, yet still responsive to each other in so fashion.		
Shen <i>et al.</i> (2017)	Meant that events were attached to each other to some degree; however, each event retained its own identity.		
Papadonikolaki (2018)	When the elements display both distinctiveness and responsiveness.		
Bahemia et al. (2018)	Elements are responsive, but retain evidence of separateness.		
Acharya et al. (2019)	While the distinctiveness aspect pertains to autonomy granted to organizational actors, the responsiveness pertains the integrating mechanism that couples these actors together in achieving a common objective.		
Mahdad <i>et al.</i> (2019)	When a system presents few or weak common variables among its elements.		
Sapir and Kameo (2019)	Situations in which different elements are responsive to one another while retaining evidence of separateness a identity.		
Thornton and Klyver (2019)	The separation between the institutional external forces and the individual identities and capacities.		

Source: authors

#### TIGHT COUPLING

From an LCS perspective, tight coupling refers to the fact that organizational units are closely tied and therefore affect each other frequently. Tight coupling manifests when it is not easy to replace one unit with another (Roe *et al.*, 2005) or when the units manage to coordinate to achieve a specific objective (Andriopoulos & Lewis, 2009). Table 3 presents the definitions of tight coupling identified in the reviewed articles, arranged chronologically.

The definitions in table 3 refer to the situation in which the organizational units are tied so strongly that some variation in one of them causes a change in all the other units (Danneels, 2003; London & London, 1996). This indicates that under a tight coupling scenario the organizational units have a limited margin of action, that is, they have little distinctiveness but a lot of responsiveness (Marley & Ward, 2013; Silvast & Kelman, 2013).

One of the research lines of tight couplings with an important development has been the one proposed by Charles Perrow, which is based on the notion of "normal accidents." It basically suggests that there are certain organizations such as nuclear power plants or highly complex projects

Table 3. Definition of tight coupling.

Authors	Definition	
Horne (1992)	A situation in which control is strongly exercised and in which members of the organization can be pressured to meet the desired objectives.	
London and London (1996)	When the units exhibit repeatedly functionally similar patterns of behavior often in situations of prime importance and visibility.	
Roe et al. (2005)	The careful management of fluctuations in core processes within a specific rank.	
Perrow (2009)	The presence of redundancies, mindfulness, training, or resilience in and between units.	
Marley and Ward (2013)	The level of buffering within the system.	
Silvast and Kelman (2013)	When disturbances may spread quickly from one unit to others.	
Lom (2016)	Refers to surveillance, internalization, and self-imposed discipline.	

Source: authors.

(such as the Challenger project) with numerous units that, when found tightly coupled, could trigger a catastrophe as a consequence of a small failure. This, given these circumstances, ends up being an accident that can be classified as "normal." In this literature review, some works that are based on Perrow's theory of normal accidents have been identified, such as that of Roe *et al.* (2005), Marley and Ward (2013), and that of Silvast and Kelman (2013).

## **D**ECOUPLING

For Dirsmith et al. (2000), decoupling is the tendency to avoid massive dysfunction between intra organizational practices and the processes that must be followed so that the organization gains societal support and performs its mission. Grosvold et al. (2014) consider it as the firm's protection of its technical core -its management practices, technical practices and measurements—from external demands for change to those practices. Decoupling occurs when activities or policies are signaled externally, but not implemented internally (Snelson-Powell et al., 2016). Likewise, decoupling is presented when organizations adopt a legitimating program or policy and at the same time fail to implement some or all of the requisite practices expected to go with the adoption, and it is typically used by organizations as a means of reconciling conflicting institutional demands.

It is important to consider that these definitions of decoupling derive from the work of Meyer and Rowan (1977), which opened a fruitful line of investigation of LCs understood from the neo-institutional perspective. According to the proposal of these authors and subsequent developments, the concepts of loose coupling and decoupling are used interchangeably; in other words, they are synonyms, as Bromley and Powell (2012) point out: "as is often the

case in neo-institutional research, we treat the terms loose coupling and decoupling interchangeably" (p. 38).

Additionally, the neo-institutional view describes loose couplings as an internal buffer between organizational elements to protect the technical center of organization from practices that are imposed by broad institutional demands (Berente & Yoo, 2012; Misangyi, 2016). In this regard, Ogawa and Paredes Scribner (2002) point out that Weick, Meyer, and Rowan share the view that loosely coupled organizations are not necessarily indeterminate organizations, but that their elements are interrelated according to a logic that, although it differs from technical rationality, offers order and reduces uncertainty. However, despite the shared vision of these authors, Weick is not a neo-institutionalist (Ogawa & Paredes Scribner, 2002).

## **DEGREE OF COUPLING**

The degree of coupling is the extent to which the organizations involved in the design and production of the components of a product, communicate and exchange business and technological information, coordinating their decisions, actions, and efforts (Cabigiosu & Camuffo, 2012). It is considered a key issue when organizations and architectures are similarly aligned whenever different product architectures require different tasks to be performed (MacCormack *et al.*, 2012). Rasche (2012) indicates that the degree of coupling is present when units interact on a regular basis, and hence affect each other constantly rather than occasionally.

These definitions are based on the work by Sanchez and Mahoney (1996) and refer to the concept of modularity between units or organizations, that is, to the assembly that corresponds to a series of elements that are arranged in such a way that they can be adjusted according to

specific needs. This is what characterizes an organization as a LCS and makes it, according to Rivkin (2001), an effective competitor.

Sanchez and Mahoney's 1996 work, according to Lampel and Bhalla (2011), is focused on organizational design. One of the advantages of this modularity in organizational design is that a supplier that manages to adapt to local environmental contingency would not have to make a complete change to the system, which increases the possibilities of adaptation and survival (Acharya *et al.*, 2019). On the other hand, Rasche's definition (2012) refers to the intensity of the tie between two organizational units, a tie that can sometimes be tight and sometimes loose.

#### **COUPLING MECHANISMS**

Couplings mechanisms are the practices (e.g., rules, norms, values) or processes (e.g., supervision, coordination by plan or by standardization) that cause units to function together (Beekun & Glick, 2001). They are those who increase individual judgment to respond to changing environments or those who strengthen control to achieve organizational efficiency (Chen *et al.*, 2011). Coupling mechanisms connect units into identifiable clusters on the basis of a common process (Liu *et al.*, 2012).

The definitions indicate that the coupling mechanism is the glue that links the organizational units. It acts as a mechanism that allows the organization to remain united over time as an organizational whole (Beekun & Glick, 2001; Shen *et al.*, 2017). In other words, the coupling mechanisms represent a kind of amalgam that generates cohesion between organizational units.

For Beekun and Glick (2001), coupling mechanisms not only coupled to the organizational members but also to the work units or even to different organizations. These authors also consider that structural mechanisms represent the formal side of the organization, while cultural mechanisms represent the informal or symbolic side. Chen et al. (2011) indicate that coupling mechanisms have the function of tightening or loosing couplings between organizational units. For their part, Liu et al. (2012) argue that organizational units can vary in the degree of coupling, from loose to tight, and this is thanks to coupling mechanisms.

Furthermore, in addition to the five concepts already presented, other articles simultaneously address several of the previously mentioned concepts, such as tight coupling and loose coupling (Andriopoulos & Lewis, 2009; Danneels, 2003; Hinings *et al.*, 2003; Salvador, 2007; Vuori, 2015), loose coupling and decoupling (Elston, 2017; Spender & Grinyer, 1995), tight coupling, loose coupling and

decoupling (Aagaard, 2015; Sanchez & Mahoney, 1996). Likewise, additional concepts from the LCS perspective addressed in other of the reviewed works are the coupling elements, the coupling domains and the coupling dimensions (Bachmann, 2006; Beekun & Ginn 1993), tight coupling and decoupling (Roberts, 2018), and relational and contractual coupling (Luo *et al.*, 2011).

## Complementary theoretical frameworks

The main theoretical frameworks used as a complement to the LCS perspective is the sociological new institutionalism. Others theoretical frameworks are the theory of normal accidents, organizational innovation, organizational change, corporate social responsibility (CSR), supply chain management, and the mirroring hypothesis (table 4).

Table 4.

Complementary theoretical frameworks.

Framework	Articles	Share
Sociological new institutionalism	20	26%
Theory of normal accidents	6	8%
Organizational innovation	5	7%
Organizational change	3	4%
Corporate social responsibility	3	4%
Supply chain management	3	4%
The mirroring hypothesis	2	3%
Other theoretical frameworks	34	44%
Total	76	100%

Source: authors.

The sociological new institutionalism studies the relationships between organizations and their environments (Perkowski, 2019), and makes available to researchers various theoretical tools that allow analyzing how organizations respond to the changes presented in those environments. Indeed, institutional theory complements the LCS perspective by understanding the different couplings and decouplings that emerge in complex institutional fields (Misangyi, 2016). Likewise, the theory of normal accidents indicates that even if the best effort is made and all the recommendations of the high reliability theory are followed, there will nevertheless be other sources of accidents (Perrow, 2009).

Perrow developed a distinction between tightly coupled systems where normal accidents are predictable and LCS that allow more flexibility for error detection and prevention (Furrow, 2002). According to Cavnor (2018), LCS benefit by having more heterogeneous response options, as remedies

can be more diverse than tightly coupled systems, as Perrow wrote in *Normal Accidents: Living with High-Risk Technologies* (1999). Thus, LCS are able to avoid normal accidents because they have the slack needed to absorb any disturbances. That is why normal accidents are a danger only when complexly interactive systems are combined with tight coupling (Heimann, 2010).

Organizational innovation, for its part, refers to the innovation strategy required, given the need for organizations to adapt the way they distribute tasks and responsibilities, so that they can align them with the business, which implies reconfiguring their processes, resources and activities (Mahdad *et al.*, 2019). Moreover, the advantages noted in the literature on LCS for organizational innovation are: (i) they offer a psychological haven for creativity, (ii) provide obscurity from senior management scrutiny, and (iii) buffer the organization from innovators' failures (Heller, 1999). Similarly, according to Rau, Neyer, and Möslein (2012), in a context of organizational innovation, organizational units may be loosely coupled, where ambiguity and interrelationships influence on its degree of coupling.

Regarding CSR, Laine *et al.* (2017) point out that this consists of the voluntary provision of social and environmental disclosures, which has become a global and daily practice for many organizations. In loosely coupled and tightly coupled systems, several patterns of CSR adoption may interact with existing core routines in distinct ways, thereby affecting coherence and internal consistency of the organization (Yuan, Bao, & Verbeke, 2011). According to Zyglidopoulo, Carroll, Georgiadis, and Siegel (2009), one would expect that CSR linked to organizational activities, which are more tightly coupled with the remainder of the organization, to be harder to change than CSR linked to activities, which are more loosely coupled with the remainder of the organization.

For Acharya *et al.* (2019), supply chain management implies that service structures and activities can be broken down through loose couplings, constituting different activities carried out by specialized members of the supply chain, who couple their coordinated efforts to achieve the organizational goal. Similarly, Shen *et al.* (2017) understand organizational change as the possibility that organizations have to adjust to changing conditions, for which they can strengthen or weaken the couplings between organizational units. Additionally, the mirroring hypothesis establishes that different organizational forms will produce products with notably different architectures (MacCormack *et al.*, 2012). This implies that loosely coupled organizations will develop more modular designs than tightly coupled organizations.

# Answering RQ2. What are the main methodological considerations pointed out by the authors for the analysis of organizational couplings and their operationalization?

According to our findings, the methodologies used for the analysis of the organizational couplings are the qualitative, quantitative and mixed, respectively. In line with this, the main methodological approaches used are the multiple case study and the single case study. Also, the most common information collection instruments are the interview and the documentary review.

Of the 76 articles studied, 71% follow a qualitative methodology, 21% are based on a quantitative methodology, and 8% use a mixed methodology. In terms of the methodological approach, 36% of these works use the multiple case study, while 28% use the single case study. The interview is used in 38% of articles, and the documentary review in 34%. Regarding the industrial sectors studied by selected works, the business sector (50%) and the education sector (15%) stand out mainly, followed by health (9%), public (8%), energy (3%), and telecommunications (3%) sectors.

## General methodological considerations

According to this literature review, the first methodological consideration that emerges is that the concepts of tight and loose coupling do not seek to be specific, but invite researchers to assign meaning according to the organizational context studied. This is why organizations that are described as coupled systems represent ways of thinking but not specific technical definitions of an explicit organizational structure.

Organizations understood as LCS are not new in the organizational analysis (Beekun & Ginn, 1993; Egelhoff, 2010; Horne, 1992). Loose coupling has been a lasting concept because it explains the simultaneous existence of rationality and indeterminacy in the organization without placing them in two different places (Nätti & Ojasalo, 2008). This suggests that it is important for the researcher to recognize that different forms of coupling can occur simultaneously in the organization (Bachmann, 2006; Gavetti, Levinthal, & Ocasio, 2007).

For the corresponding analysis, the researcher must specify what he understands by tight and loose coupling. Rasche (2012) indicates that to characterize an organization as a LCS it is necessary to define which elements are loosely coupled. In other words, to do research on tight and loose coupling, the coupling components and the definitions of what is meant by tight and loose must be declared.

The greatest potential of the loose coupling concept lies precisely in its dialectical character. Indeed, loose coupling allows theorists of the organization to intertwine concepts that can be contradictory, such as interrelation and autonomy (Laine *et al.*, 2017; Lee, 2008; Shen *et al.*, 2017). In other words, the concept of coupling constitutes a powerful way for researchers to approach organizational phenomena.

When the loose coupling concept is maintained in its dialectical sense, it allows identifying, measuring and understanding organizations as interpretive systems (Beekun & Glick, 2001; Burns *et al.*, 2001; Luo, 2005). Maintaining this dialectical sense could improve the quality of organizational research (Moitra & Ganesh, 2005; Nor-Aziah & Scapens, 2007; Ocasio & Joseph, 2008). Indeed, the dialectical sense of the loose coupling concept is more concerned with processes than with a rigid structure.

The concept of loose coupling points more towards the interrelation between people; it is essentially something of a social nature. This concept directs attention to the symbolic and cultural side of the organization (Beekun & Glick, 2001). Thus, social activities are influenced by the mental models of individuals (Danneels, 2003). In summary, the concept of loose coupling is about the perceptions of individuals.

## Operationalization of organizational couplings

The operationalization of organizational couplings refers to how tight and loose couplings have been measured. Considering if they are approached from a qualitative or quantitative methodology, this operationalization will be different. Authors like Firestone (1984), Spender and Grevesen (1999), and Rowan (2002) have pointed out the importance of defining specific measures to determine when a coupling is tight and when it is loose, in order to reduce ambiguities in the analysis of organizational couplings and to establish contrasts between the findings of the different studies carried out.

## QUALITATIVE OPERATIONALIZATION

According to this literature review, the qualitative operationalization of couplings consists of identifying behavioral patterns of organizational units without using mathematical or statistical measures. Additionally, the literature from the LCS perspective operationalizes couplings into two groups, the first is that of tight couplings and the second is that of loose couplings.

In the first group, tight coupling is operationalized by London and London (1996) by determining whether similar

patterns of behavior are repeatedly exhibited between units. In addition, Staber and Sydow (2002) operationalize tight coupling by identifying those disturbing events that spread quickly and completely throughout the organization. For their part, Danneels (2003) and Burke (2014) operationalize this coupling by establishing whether the units are strongly mutually dependent and constrained.

Other ways in which tight couplings have been operationalized are establishing if one organizational unit cannot be easily replaced by another (Roe *et al.*, 2005), if collective rather than individual knowledge is more frequent (Nätti & Ojasalo, 2008), if the units coordinate to achieve a common goal (Andriopoulos & Lewis, 2009), and if the system is very complex and a small error in one part is transmitted to the whole (Lampel & Bhalla, 2011; Marley & Ward, 2013; Perrow, 2009; Silvast & Kelman, 2013).

In the second group, loose coupling is operationalized by Sanchez and Mahoney (1996) by identifying if low levels of coordination are required between organizational units, while Staber and Sydow (2002) do so by determining if units and activities are relatively independent and they adjust to changes in different ways and at different rates. Hinings *et al.* (2003) operationalize loose coupling by identifying organizational units that can respond relatively independently to changes across the organization.

Furthermore, Bachmann (2006) operationalizes loose coupling by corroborating that units are connected to each other with only minimal interdependence, so interaction outcomes are fairly unpredictable, leaving room for creative or innovative events to take place. Nor-Aziah and Scapens (2007) determine if there is a separation between external legitimacy and the activities of the organization. Besides, Luo et al. (2008) operationalize loose coupling by detecting whether units strengthen mutual reciprocity, while Andriopoulos and Lewis (2009) do so by finding units that are free to experiment and anticipate future situations. In the same way, Rasche (2012) detects the units that have high specialization but that are still integrated with the others, and Mahdad et al. (2019) identify whether there is decentralization of control along with slow and unequal flows of knowledge and information.

Loose coupling has been operationalized by identifying if the units are coupled but preserve a certain degree of independence (Bahemia *et al.*, 2018; Berente & Yoo, 2012; Elston, 2017; Laine *et al.*, 2017; Papadonikolaki, 2018; Salvador, 2007; Sapir & Kameo, 2019; Vuori, 2015), and determining whether internal procedures persist and maintain even while external forces impose reforms on the organization (Goddard *et al.*, 2016; Grosvold *et al.*, 2014; Marriott *et al.*, 2011; Misangyi, 2016; Newton *et al.*, 2014; Snelson-Powell *et al.*, 2016; Roberts, 2018).

#### QUANTITATIVE OPERATIONALIZATION

Beekun and Ginn (1993) measure couplings through network analysis by adding the number of ties between the units that are coupled in terms of the information and resources they share, so that the more ties are counted the tighter the coupling. These authors consider that such an analysis is desirable because it offers a mathematical language for formalization by increasing the clarity and precision of the arguments. In a later study, Beekun and Glick (2001) use network analysis to measure couplings taking into account three variables: reciprocity (the number of relations a unit *i* sends out to and receives from other units *j*), dependency (the larger the number of units an element can obtain the same input(s) from, the less dependent it will be on any single unit), and strength (measured by the inverse of the path distance between units).

Akgün *et al.* (2012) use multi-item scales to measure coupling based on a 5-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5). Additionally, an exploratory factor analysis (EFA) was conducted taking into account three coupling items (autonomous behaviors of departments, loose management style, and uneven/slow information travel in organizations). Based on the responses to a questionnaire, Cabigiosu and Camuffo (2012) use component modularity and buyer-supplier information sharing equations to measure the degree of coupling between product architectures and between organizations.

MacCormack *et al.* (2012) measure the level of coupling through the degree to which a change to any single element causes a (potential) change to other elements in the system, either directly or indirectly (*i.e.*, through a chain of dependencies that exist across elements). This analysis is based upon the concept of reachability matrices, which requires using the quantitative technique of matrix multiplication. On the other hand, Liu *et al.* (2012) use degree-symmetry approach, a technique used on operating relationship performance of dyad from the paired data. These authors use structural equation models with maximum likelihood estimation to test three coupling variables: knowledge exchange, continuous commitment, and relationship investment.

Some other works, such as that by Rocha and Chelladurai (2013), use structural equation models, while Alnuaimi and George (2016) apply negative binomial regressions and negative binomial models with firm fixed effects. Shen et al. (2017) use a two-level hierarchical linear modeling (HLM) method, while Thornton and Klyver (2019) relied on a three-level hierarchical generalized linear model (HGLM) with a Bernoulli-type distribution. Acharya et al. (2019) asked respondents to rate a statement on a 7-point Likert

scale with anchor points ranging from strongly disagree to strongly agree. These authors also used confirmatory factor analysis and structural equation modeling.

## Answering RQ3 - What are the main considerations regarding future research on LCS?

The following future lines of research are highlighted taking into account the works included in this literature review that have been published during the last ten years: organizational complexity, legitimacy and institutional prestige, adaptive capacity, corporate social performance, and organizational design.

In the field of organizational complexity, future research should contrast the proposals presented in the work by Marley and Ward (2013), who use the LCS perspective to study the relationship between lean management and normal accidents. Additionally, it is necessary to delve into the concept of "normality" of accidents in order to reduce its potential in the future (Silvast & Kelman, 2013).

With respect to institutional legitimacy and prestige, future research could examine organizations' failed attempts at loosely coupling with the institutional environment and the potential disadvantages of this method of coupling (Newton *et al.*, 2014). In that sense, research on legitimacy, loose coupling, and isomorphism becomes necessary to understand accounting practices in public sector accounting (Goddard *et al.*, 2016). In the case of business schools, it is necessary to deepen the relationship between prestige, tight coupling and sustainability (Snelson-Powell *et al.*, 2016).

In the same way, more research is needed on the coupling between organizations and their managers' responses to conflicting institutional cognitive pressures (Misangyi, 2016) and on the complex nature of schools, in order to analyze the varied interactions that take place within them (Hawkins & James, 2018). In this context, Thornton and Klyver (2019) suggest additional analysis of couplings to understand the entrepreneurial intentions of women and men to start new businesses.

In terms of adaptive capacity, it would also be interesting to examine the relationship between standardization and innovation from the perspective of LCS (de-Vries & Verhagen, 2016), the failures associated with the transition between closed and open innovation (Bahemia *et al.*, 2018), and the challenges of open innovation and other alternative properties of adaptive capacities (Mahdad *et al.*, 2019).

Regarding corporate social performance, more research is required in order to analyze the nature of couplings of

multi-stakeholder initiatives (Rasche, 2012). It is also suggested to explore how public sector organizations and stakeholders are coupled, as well as the information disclosure requirements established for these organizations (Laine *et al.* 2017). As for organizational design, further research could adopt a much more detailed definition of organizational design parameters in order to determine those with the greatest effect on product design decisions (MacCormack *et al.*, 2012).

## Some final remarks

As indicated in the introduction, the LCS perspective is part of the Theory of Organizational Ambiguity or Theory of Organized Anarchy, aimed at understanding the ambiguities that coexist within organizations. In fact, an organization is not loosely coupled or tightly coupled, but some of its elements are loosely coupled while others are tightly coupled, and these couplings coexist permanently.

This is not a contradiction, but part of an organization's life. If the whole organization were loosely coupled, its elements would go in different directions and tend to fragment until it ceases to be an all. On the other hand, if an organization was tightly coupled, its elements would be so strongly tied that they would be unable to respond to the variations of the organizational environment and, consequently, such an organization would tend to disappear.

A great purpose of this work is to provide clarity on the subject of LCS. For example, although some authors use the concepts of loose coupling and decoupling interchangeably, it should be considered that the second concerns the sociological new institutionalism. Consequently, it is recommended to be more careful when using these concepts, given that their connotation is clearly different.

Similarly, coupling mechanisms are neither tight nor loose, they only allow the couplings between organizational elements to be loose or tight. Therefore, a coupling mechanism allows the formation of tight and loose couplings. In any case, it is appropriate to deepen the concept of coupling mechanisms, and its uses, in future research.

The distinctiveness should not have any degree of variation since it deals with the unique and differentiating characteristics of each organizational element. This implies that the analysis of the dialectical relationship between distinctiveness and responsiveness should consider two aspects: i) responsiveness varies between two organizational elements according to the context in which its coupling is established, while ii) distinctiveness does not vary, regardless of the context in which said element is found.

Additionally, the perspective of LCS is more useful when it is studied from a comprehensive approach and not from a functionalist one. The latter could leave aside the analysis of essential aspects of the couplings that cannot be described based on cause-effect relationships. The perspective of LCS also constitutes an important analytical framework for the understanding of organizational phenomena from its structural perspective, not because it studies causal relationships between elements of the structure, but because it allows understanding the different aspects related to the structure, which can even be contradictory. That is the reason why Orton and Weick (1990, p. 216) pointed out that if "loose coupling is maintained as a dialectical concept, it can illuminate the answers to several organizational puzzles that have eluded organization theorists."

Organization studies, through the LCS perspective, have a great opportunity to approach organizational phenomena from a more comprehensive and localized view, especially in Latin America. Despite the small number of studies, some works prepared in this region can be highlighted, such as the working paper by McGinn (2002), who studies reforms in the education sector in Latin America; the conference proceeding by Pérez-Martelo, Vinck, and Zarama (2014), who analyze the coupling and uncoupling processes that promote scientific collaboration networks in Colombia; the master dissertation by Jaramillo-García (2014), which studies the tension between researchers and administrators during the execution of a research project financed by a Colombian public entity; and the doctoral dissertation by Ramírez-Cardona (2018), who examines the relationship of the modernization process of a Colombian university and its LCS.

The above represents an opportunity to develop works that enable new discussion scenarios to broaden the understanding of the characteristics and the nature of organizations in Latin American contexts. According to a recent research, the field of organization studies in the region is characterized by a strong tendency towards administrative theory with a functional orientation. More comprehensive perspectives, such as organization studies, are in an incipient state and under construction (Gentilin, Gonzales-Miranda, & Ocampo-Salazar, 2019). Additionally, as stated by Gonzales-Miranda (2014), organization studies constitute a set of useful viewpoints to broaden the understanding of organizations in Latin America. In response to this, the LCS perspective allows approaching the study of organizations from a comprehensive view, which goes beyond functional and formal imperatives, to also address aspects of less visible characteristics, such as social phenomena that occur within organizations.

Institutional, structural and predetermined logics coexist with others of a cultural and spontaneous nature as a result of sense-making and the experiences of individuals in the day-to-day life of organizations.

## Limitations

First, the queries built for searches in wos and Scopus incorporate the key search terms shown before. Therefore, the inclusion of additional terms, and the use of alternative combinations of these, could expand the scope of this literature review. However, in all literature reviews authors must make choices and, at the same time, make some resignations, which will determine the final result of the research presented to the academic community.

Second, numerous works on LCS are based on the sociological new institutional approach. One of the most common aspects of this approach is the analysis of the decoupling concept. However, the detailed analysis of decoupling has been outside the scope of this work and, consequently, constitutes a possible future line of research in the field of organization studies.

Third, we recognize that the non-inclusion of books, book chapters and doctoral dissertations constitutes a limitation of this research, given that if said works had been analyzed, different results could have been obtained in terms of key concepts, theoretical frameworks and operationalization of the LCS perspective.

## **Disclosures**

Authors declare no conflicts of interest.

## References

- Aagaard, K. (2015). How incentives trickle down: Local use of a national bibliometric indicator system. *Science and Public Policy*, *42*(5), 725-737. https://doi.org/10.1093/scipol/scu087
- Acharya, V. V., Gottschalg, O. F., Hahn, M., & Kehoe, C. (2013). Corporate governance and value creation: Evidence from private equity. *The Review of Financial Studies*, 26(2), 368-402. https://doi.org/10.1093/rfs/hhs117
- Akgün, A. E., Keskin, H., & Byrne, J. (2012). Antecedents and contingent effects of organizational adaptive capability on firm product innovativeness. *Journal of Product Innovation Management*, 29(S1), 171-189. https://doi.org/10.1111/j.1540-5885.2012.00949.x
- Alarid, L. F., Sims, B. A., & Ruiz, J. (2011). Juvenile probation and police partnerships as loosely coupled systems: A qualitative analysis. *Youth Violence and Juvenile Justice*, *9*(1), 79-95. https://doi.org/10.1177/1541204010374298
- Alnuaimi, T., & George, G. (2016). Appropriability and the retrieval of knowledge after spillovers. *Strategic Management Journal*, *37*(7), 1263-1279. https://doi.org/10.1002/smj.2383

- Andriopoulos, C., & Lewis, M. W. (2009). Exploitation-exploration tensions and organizational ambidexterity: Managing paradoxes of innovation. *Organization Science*, 20(4), 696-717. https://doi.org/10.1287/orsc.1080.0406
- Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology*, 8(1), 19-32. https://doi.org/10.1080/1364557032000 119616
- Armstrong, D. J., Riemenschneider, C. K., & Giddens, L. G. (2018). The advancement and persistence of women in the information technology profession: An extension of Ahuja's gendered theory of IT career stages. *Information Systems Journal*, *28*(6), 1082-1124. https://doi.org/10.1111/isj.12185
- Babb, S., & Chorev, N. (2016). International organizations: Loose and tight coupling in the development regime. *Studies in Comparative International Development*, *51*, 81-102. https://doi.org/10.1007/s12116-016-9217-7
- Bachmann, A. S. (2006). Melting pot or tossed salad? Implications for designing effective multicultural workgroups. *Management International Review, 46*, 721-748. https://doi.org/10.1007/s11575-006-0124-4
- Bahemia, H., Sillince, J., & Vanhaverbeke, W. (2018). The timing of openness in a radical innovation project, a temporal and loose coupling perspective. *Research Policy*, 47(10), 2066-2076. https://doi.org/10.1016/j.respol.2018.07.015
- Beekun, R. I., & Ginn, G. O. (1993). Business strategy and interorganizational linkages within the acute care hospital industry: An expansion of the Miles and Snow typology. *Human Relations*, *46*(11), 1291-1318. https://doi.org/10.1177/001872679304601102
- Beekun, R. I., & Glick, W. H. (2001). Organization structure from a loose coupling perspective: A multidimensional approach. *Decision Sciences*, *32*(2), 227-250. https://doi.org/10.1111/j.1540-5915.2001. tb00959.x
- Berente, N., & Yoo, Y. (2012). Institutional contradictions and loose coupling: Postimplementation of NASA's enterprise information system. *Information Systems Research*, 23(2), 376-396. https://doi.org/10.1287/isre.1110.0373
- Bierly, P. E., Gallagher, S., & Spender, J.-C. (2008). Innovation and learning in high-reliability organizations: A case study of United States and Russian nuclear attack submarines, 1970-2000. *IEEE Transactions on Engineering Management*, 55(3), 393-408. https://doi.org/10.1109/TEM.2008.922643
- Bierly, P. E., & Spender, J.-C. (1995). Culture and high reliability organizations: The case of the nuclear submarine. *Journal of Management*, *21*(4), 639-656. https://doi.org/10.1016/0149-2063(95)90003-9
- Boxenbaum, E., & Jonsson, S. (2017). Isomorphism, diffusion and decoupling: Concept evolution and theoretical challenges. In R. Greenwood, C. Oliver, T.B. Lawrence and R. E. Meyer (Eds.), *The Sage Handbook of Organizational Institutionalism* (2 ed.), (pp. 79-104). London: Sage Publications. http://dx.doi.org/10.4135/9781446280669.n4
- Bromley, P., & Powell, W. W. (2012). From smoke and mirrors to walking the talk: Decoupling in the contemporary world. *Academy of Management Annals*, *6*(1), 483-530. https://doi.org/10.5465/19416520.2012.684462
- Browning, L. D., & Hawes, L. C. (1991). Style, process, surface, context: Consulting as postmodern art. *Journal of Applied Communication Research*, 19(1-2), 32-54. https://doi.org/10.1080/00909889109365291
- Brusoni, S., & Prencipe, A. (2001). Managing knowledge in loosely coupled networks: Exploring the links between product and knowledge dynamics. *Journal of Management Studies*, *38*(7), 1019-1035. https://doi.org/10.1111/1467-6486.00270

- Burke, W. W. (2014). Changing loosely coupled systems. *The Journal of Applied Behavioral Science*, 50(4), 423-444. https://doi.org/10.1177/0021886314549923
- Burns, L. R., Walston, S. L., Alexander, J. A., Zuckerman, H. S., Andersen, R. M., Torrens, P. R., & Hilberman, D. (2001). Just how integrated are integrated delivery systems? Results from a national survey. Health Care Management Review, 26(1), 20-39. http://doi.org/10.1097/00004010-200101000-00003
- Cabigiosu, A., & Camuffo, A. (2012). Beyond the "mirroring" hypothesis: Product modularity and interorganizational relations in the air conditioning industry. *Organization Science*, *23*(3), 686-703. https://doi.org/10.1287/orsc.1110.0655
- Cavnor, C. D. (2018). Fighting the fire in our own house: How poor decisions are smoldering within the U.S. fire service (Master Thesis).

  Naval Postgraduate School, Monterey, ca, usa. https://calhoun.nps.edu/handle/10945/58281
- Chen, Y.-D., Brown, S. A., Hu, P. J.-H., King, C.-C., & Chen, H. (2011). Managing emerging infectious diseases with information systems: Reconceptualizing outbreak management through the lens of loose coupling. *Information Systems Research*, 22(3), 447-468. https://doi.org/10.1287/isre.1110.0376
- Christensen, L. T., Fırat, A. F., & Torp, S. (2008). The organisation of integrated communications: Toward flexible integration. *Eu*ropean Journal of Marketing, 42(3-4), 423-452. https://doi. org/10.1108/03090560810853002
- Cohen, M. D., March, J. G., & Olsen, J. P. (1972). A garbage can model of organizational choice. *Administrative Science Quarterly*, *17*(1), 1-25. https://doi.org/10.2307/2392088
- Collier, P. M. (2001). The power of accounting: A field study of local financial management in a police force. *Management Accounting Research*, *12*(4), 465-486. https://doi.org/10.1006/mare.2001.0157
- Corbett, J. M. (1987). A psychological study of advanced manufacturing technology: The concept of coupling. *Behaviour & Information Technology*, *6*(4), 441-453. https://doi.org/10.1080/01449298708901855
- Covaleski, M. A., & Dirsmith, M. W. (1983). Budgeting as a means for control and loose coupling. *Accounting, Organizations and Society*, 8(4), 323-340. https://doi.org/10.1016/0361-3682(83)90047-8
- Danneels, E. (2003). Tight-loose coupling with customers: The enactment of customer orientation. *Strategic Management Journal*, 24(6), 559-576. https://doi.org/10.1002/smj.319
- de-Vries, H. J., & Verhagen, W. P. (2016). Impact of changes in regulatory performance standards on innovation: A case of energy performance standards for newly-built houses. *Technovation*, 48-49, 56-68. https://doi.org/10.1016/j.technovation.2016.01.008
- Dhanaraj, C., & Parkhe, A. (2006). Orchestrating innovation networks. *Academy of Management Review*, *31*(3), 659-669. https://doi.org/10.5465/amr.2006.21318923
- DiBiasio, D. A., & Ecker, G. (1982). Academic program review in a loosely coupled system. *Annual Meeting of the American Educational Research Association*. New York, NY, USA.
- Dimmock, C., & Tan, C. Y. (2013). Educational leadership in Singapore. *Journal of Educational Administration*, 51(3), 320-340. https://doi.org/10.1108/09578231311311492
- Dirsmith, M. W., Fogarty, T. J., & Gupta, P. (2000). Institutional pressures and symbolic displays in a GAO context. *Organization Studies*, 21(3), 515-537. https://doi.org/10.1177/0170840600213002
- Doolin, B. (2001). Doctors as managers-new public management in a New Zealand hospital. *Public Management Review*, *3*(2), 231-254. https://doi.org/10.1080/14616670010029601

- Dorée, A. G., & Holmen, E. (2004). Achieving the unlikely: Innovating in the loosely coupled construction system. *Construction Management and Economics*, *22*(8), 827-838. https://doi.org/10.1080/0144619042000190225
- Drake, B. M., Pytlarz, I., & Patel, M. (2018). Let me paint you a picture: Utilizing visualizations to make data more accessible. In K. Webber (Ed). *Building Capacity in Institutional Research and Decision Support in Higher Education* (pp. 81-93). Springer. https://doi.org/10.1007/978-3-319-71162-1\_6
- Duangchan, C., & Matthews, A. K. (2020). The effects of nurse-led smoking cessation interventions for patients with cancer: A systematic review. *Pacific Rim International Journal of Nursing Research*, 24(1), 118-139. https://he02.tci-thaijo.org/index.php/PRIJNR/article/view/181109
- Dubois, A., & Gadde, L.-E. (2002). The construction industry as a loosely coupled system: Implications for productivity and innovation. *Construction Management & Economics*, 20(7), 621-631. https://doi.org/10.1080/01446190210163543
- Egelhoff, W. G. (2010). How the parent headquarters adds value to an MNC. Management International Review, 50, 413-431. https://doi.org/10.1007/s11575-010-0043-2
- Elston, T. (2017). Conflict between explicit and tacit public service bargains in U. K. executive agencies. *Governance: An International Journal of Policy, Administration, and Institutions*, *30*(1), 85-104. https://doi.org/10.1111/gove.12191
- Etuk, L., Keen, M., & Wall, C. (2012). The factors associated with rural community success. Oregon State University 1-63. http://dev.agsci.oregonstate.edu/sites/agsci.oregonstate.edu/files/community\_vitality\_lit\_review\_-\_6-15-12.pdf
- Evergreen, S. D. (2019). *Effective data visualization: The right chart for the right data*. Thousand Oaks: Sage Publications.
- Fennell, H. A. (1994). Organizational linkages: Expanding the existing metaphor. *Journal of Educational Administration*, *32*(1), 23-33. https://doi.org/10.1108/09578239410051826
- Firestone, W. A. (1984). The study of loose coupling: Problems, progress, and prospects. *The Annual Meeting of the American Educational Research Association*. New Orleans, LA, USA.
- Furrow, B. R. (2002). Medical mistakes: Tiptoeing toward safety. *Journal of Health Law*, *3*(3), 181-217.
- Gavetti, G., Levinthal, D., & Ocasio, W. (2007). Perspective—Neo-Carnegie: The Carnegie school's past, present, and reconstructing for the future. *Organization Science*, *18*(3), 523-536. https://doi.org/10.1287/orsc.1070.0277
- Gentilin, M., Gonzales-Miranda, D., & Ocampo-Salazar, C. (2019). Estudio de las organizaciones: un análisis comparativo del ámbito internacional y latinoamericano (2000-2014). In S. Clegg, H. C., T. B. Lawrence, W. R. Nord, D. Gonzales-Miranda, & G. Ramírez-Martínez (Eds.), *Tratado de estudios organizacionales* (Vol. II) (pp. 1187-1224). Medellín: UAM, REMINEO, REOC, Editorial Universidad FAFIT SACE
- Goddard, A., Assad, M., Issa, S., Malagila, J., & Mkasiwa, T. A. (2016). The two publics and institutional theory. A study of public sector accounting in Tanzania. *Critical Perspectives on Accounting*, 40, 8-25. https://doi.org/10.1016/j.cpa.2015.02.002
- Goldspink, C. (2007). Rethinking educational reform: A loosely coupled and complex systems perspective. *Educational Management Administration & Leadership, 35*(1), 27-50. https://doi.org/10.1177/1741143207068219
- Gonzales-Miranda, D. R. (2014). Los estudios organizacionales. Un campo de conocimiento comprensivo para el estudio de las organizaciones. *Innovar*, *24*(54), 43-58. https://doi.org/10.15446/innovar.v24n54.46431

- Grosvold, J., Hoejmose, S. U., & Roehrich, J. K. (2014). Squaring the circle: Management, measurement and performance of sustainability in supply chains. *Supply Chain Management*, *19*(3), 292-305. https://doi.org/10.1108/SCM-12-2013-0440
- Hannaway, J., & Woodroffe, N. (2003). Chapter 1: Policy instruments in education. *Review of Research in Education*, 27(1), 1-24. https://doi.org/10.3102/0091732X027001001
- Hautala, T., Helander, J., & Korhonen, V. (2018). Loose and tight coupling in educational organizations—an integrative literature review. *Journal of Educational Administration*, 56(2), 236-258. https://doi.org/10.1108/JEA-03-2017-0027
- Hawkins, M., & James, C. (2018). Developing a perspective on schools as complex, evolving, loosely linking systems. *Educational Management Administration & Leadership*, *46*(5), 729-748. https://doi.org/10.1177/1741143217711192
- Heimann, C. L. (2010). *Acceptable risks: Politics, policy, and risky tech-nologies*. Ann Harbor. University of Michigan Press. https://doi.org/10.3998/mpub.14948
- Heller, T. (1999). Loosely coupled systems for corporate entrepreneurship: Imagining and managing the innovation project/host organization interface. *Entrepreneurship Theory and Practice*, 24(2), 25-31. https://doi.org/10.1177/104225879902400203
- Hinings, C. R., Casebeer, A., Reay, T., Golden-Biddle, K., Pablo, A., & Greenwood, R. (2003). Regionalizing healthcare in Alberta: Legislated change, uncertainty and loose coupling. *British Journal of Management*, 14, S15-S30. https://doi. org/10.1111/j.1467-8551.2003.00390.x
- Hökkä, P., & Vähäsantanen, K. (2014). Agency-centred coupling—A better way to manage an educational organization? *International Journal of Leadership in Education*, *17*(2), 131-153. https://doi.org/10.1080/13603124.2013.783932
- Horne, S. (1992). Organisation and change within educational systems: Some implications of a loose-coupling model. *Educational Management Administration & Leadership*, *20*(2), 88-98. https://doi.org/10.1177/174114329202000204
- Huang-Yin, C., Goh, E., & Law, R. (2019). Developing inter-organizational relationships with online travel agencies (oTAS) and the hotel industry. *Journal of Travel & Tourism Marketing*, *36*(4), 428-442. https://doi.org/10.1080/10548408.2019.1568951
- Ibarra-Colado, E. (2000). Teoría de la organización: mapa conceptual de un territorio en disputa. En E. de-la-Garza-Toledo (Coord.), *Tratado latinoamericano de sociología del trabajo* (pp. 245-284). Mexico City: Fondo de Cultura Económica.
- Ingersoll, R. (1991). Loosely coupled organizations revisited. *The Annual Meeting of the American Sociological Association*. Cincinnati, он,
- Jaramillo-García, A. (2014). *Tensiones en torno a las prácticas administrativas en un proyecto de investigación financiado por Colciencias [Estudio de caso]* (Master's thesis). Universidad del Valle, Cali, Colombia. http://bibliotecadigital.univalle.edu.co/xmlui/bitstream/handle/10893/10045/CB-0516278.pdf?sequence=1
- Karlsson, T., & Honig, B. (2009). Judging a business by its cover: An institutional perspective on new ventures and the business plan. *Journal of Business Venturing*, 24(1), 27-45. https://doi.org/10.1016/j.jbusvent.2007.10.003
- Kiesling, L. (2018). Toward a market epistemology of the platform economy. In S Horwits (Ed.), Austrian Economics: The Next Generation (pp. 45-70). Emerald Publishing Limited. https://doi. org/10.1108/S1529-213420180000023006
- Laine, M., Järvinen, J. T., Hyvönen, T., & Kantola, H. (2017). Ambiguity of financial environmental information: A case study of a Finnish energy company. *Accounting, Auditing & Accountability Journal*, 30(3), 593-619. https://doi.org/10.1108/AAAJ-02-2015-1961

- Lampel, J., & Bhalla, A. (2011). Living with offshoring: The impact of offshoring on the evolution of organizational configurations. *Journal of World Business*, *46*(3), 346-358. https://doi.org/10.1016/j. jwb.2010.07.007
- Lee, M.-D. P. (2008). A review of the theories of corporate social responsibility: Its evolutionary path and the road ahead. *International Journal of Management Reviews, 10*(1), 53-73. https://doi.org/10.1111/j.1468-2370.2007.00226.x
- Lei, D., Hitt, M. A., & Goldhar, J. D. (1996). Advanced manufacturing technology: Organizational design and strategic flexibility. *Organization Studies*, 17(3), 501-523. https://doi.org/10.1177/017084069601700307
- Lengnick-Hall, C. A., Lengnick-Hall, M. L., & Abdinnour-Helm, S. (2004). The role of social and intellectual capital in achieving competitive advantage through enterprise resource planning (ERP) systems. Journal of Engineering and Technology Management, 21(4), 307-330. https://doi.org/10.1016/j.jengtecman.2004.09.005
- Lingard, L., McDougall, A., Levstik, M., Chandok, N., Spafford, M. M., & Schryer, C. (2014). Using loose coupling theory to understand interprofessional collaborative practice on a transplantation team. *Journal of Research in Interprofessional Practice and Education*, 3(3), 1-17. http://dx.doi.org/10.22230/jripe.2014v3n3a112
- Liu, Y., Huang, Y., Luo, Y., & Zhao, Y. (2012). How does justice matter in achieving buyer–supplier relationship performance? *Journal of Operations Management*, *30*(5), 355-367. https://doi.org/10.1016/j.jom.2012.03.003
- Lom, S. E. (2016). Changing rules, changing practices: The direct and indirect effects of tight coupling in figure skating. *Organization Science*, *27*(1), 36-52. https://doi.org/10.1287/orsc.2015.1018
- London, M., & London, M. M. (1996). Tight coupling in high performing teams. *Human Resource Management Review*, *6*(1), 1-24. https://doi.org/10.1016/S1053-4822(96)90002-9
- Luo, Y. (2005). How important are shared perceptions of procedural justice in cooperative alliances? *Academy of Management Journal*, 48(4), 695-709. https://doi.org/10.5465/amj.2005.17843946
- Luo, Y., Liu, Y., Zhang, L., & Huang, Y. (2011). A taxonomy of control mechanisms and effects on channel cooperation in China. *Journal* of the Academy of Marketing Science, 39, 307-326. https://doi. org/10.1007/s11747-010-0198-1
- Luo, Y., Shenkar, O., & Gurnani, H. (2008). Control-cooperation interfaces in global strategic alliances: A situational typology and strategic responses. *Journal of International Business Studies*, *39*, 428-453. https://doi.org/10.1057/palgrave.jibs.8400365
- MacCormack, A., Baldwin, C., & Rusnak, J. (2012). Exploring the duality between product and organizational architectures: A test of the "mirroring" hypothesis. *Research Policy*, 41(8), 1309-1324. https://doi.org/10.1016/j.respol.2012.04.011
- Mahdad, M., De-Marco, C. E., Piccaluga, A., & Di-Minin, A. (2020). Harnessing adaptive capacity to close the pandora's box of open innovation. *Industry and Innovation*, 27(3), 264-284. https://doi.org/10.1080/13662716.2019.1633910
- Marley, K. A., & Ward, P. T. (2013). Lean management as a countermeasure for "Normal" disruptions. *Operations Management Research*, 6, 44-52. https://doi.org/10.1007/s12063-013-0077-2
- Marriott, N., Mellett, H., & Macniven, L. (2011). Loose coupling in asset management systems in the NHS. Management Accounting Research, 22(3), 198-208. https://doi.org/10.1016/j. mar.2011.05.001
- McGinn, N. (2002). Why we should end reforms in education. *Third meeting: secondary education. Inter-American Development Bank.*Washington, D.C., USA. https://publications.iadb.org/bitstream/handle/11319/2290/Why%20We%20Should%20End%20Reforms%20in%20Education.pdf?sequence=1&isAllowed=y

- Merz, R. L. (2006). A declaration of American business values: Ethics, equity and efficiency in the new millennium. New Jersey: Values of America Company.
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340-363. https://doi.org/10.1086/226550
- Misangyi, V. F. (2016). Institutional complexity and the meaning of loose coupling: Connecting institutional sayings and (not) doings. *Strategic Organization*, *14*(4), 407-440. https://doi.org/10.1177/1476127016635481
- Mitchell, D. E. (1980). The ideological factor in school politics. *Education and Urban Society*, *12*(4), 436-451. https://doi.org/10.1177/001312458001200405
- Moitra, D., & Ganesh, J. (2005). Web services and flexible business processes: Towards the adaptive enterprise. *Information & Management*, 42(7), 921-933. https://doi.org/10.1016/j.im.2004.10.003
- Nätti, S., & Ojasalo, J. (2008). Loose coupling as an inhibitor of internal customer knowledge transfer: Findings from an empirical study in B-to-B professional services. *Journal of Business & Industrial Marketing*, 23(3), 213-223. https://doi.org/10.1108/08858620810858472
- Newton, J. D., Ewing, M. T., & Collier, P. M. (2014). Resolving contradictions in institutional demands through loose coupling. *Industrial Marketing Management*, 43(5), 747-753. https://doi.org/10.1016/j.indmarman.2014.04.004
- Nor-Aziah, A. K., & Scapens, R. W. (2007). Corporatisation and accounting change: The role of accounting and accountants in a Malaysian public utility. *Management Accounting Research*, 18(2), 209-247. https://doi.org/10.1016/j.mar.2007.03.003
- Ocasio, W., & Joseph, J. (2008). Rise and fall-or transformation? The evolution of strategic planning at the General Electric Company, 1940-2006. *Long Range Planning*, 41(3), 248-272. https://doi.org/10.1016/j.lrp.2008.02.010
- Ogawa, R. T., & Paredes Scribner, S. (2002). Leadership: Spanning the technical and institutional dimensions of organizations. *Journal of Educational Administration*, 40(6), 576-588. https://doi.org/10.1108/09578230210446054
- Orton, J. D., & Weick, K. E. (1988). *Toward a theory of the loosely coupled system*. The University of Michigan working paper 586.
- Orton, J. D., & Weick, K. E. (1990). Loosely coupled systems: A reconceptualization. *Academy of Management Review*, *15*(2), 203-223. https://doi.org/10.5465/amr.1990.4308154
- Palumbo, D. J., & Nachmias, D. (1983). The preconditions for successful evaluation: Is there an ideal paradigm? *Policy Sciences*, *16*, 67-79. https://doi.org/10.1007/BF00138468
- Pancs, R. (2017). Tight and loose coupling in organizations. *The B. E. Journal of Theoretical Economics*, *17*(1), 1-33. https://doi.org/10.1515/bejte-2015-0081
- Papadonikolaki, E. (2018). Loosely coupled systems of innovation: Aligning BIM adoption with implementation in Dutch construction. *Journal of Management in Engineering*, 34(6), 1-43. https://doi.org/10.1061/(ASCE)ME.1943-5479.0000644
- Parada, M. J., Gimeno, A., Samara, G., & Saris, W. (2020). The adoption of governance mechanisms in family businesses: An institutional lens. *Journal of Family Business Management*. https://doi.org/10.1108/JFBM-07-2019-0054
- Pérez-Martelo, C. B., Vinck, D., & Zarama, R. (2014). Mechanisms of self-organization and de(coupling) in scientific networks promoted by public policies: A case in the field of nanotechnologies in Colombia. wosc 2014. Ibagué, Colombia, 15-17 October. https://www.researchgate.net/publication/268035294\_Mechanisms\_of\_Self-organization\_and\_decoupling\_in\_Scientific\_Networks\_Promoted\_by\_Public\_Policies\_A\_case\_in\_the\_field\_of\_nanotechnologies\_in\_Colombia

- Perkowski, N. (2019). 'There are voices in every direction': Organizational decoupling in Frontex. *Journal of Common Market Studies*, *57*(5), 1182-1199. https://doi.org/10.1111/jcms.12897
- Perrow, C. (1999). Normal accidents: Living with high-risk technologies.

  Princeton, New Jersey: Princeton University Press.
- Perrow, C. (2009). What's needed is application, not reconciliation: A response to Shrivastava, Sonpar and Pazzaglia (2009). *Human Relations*, 62(9), 1391-1393. https://doi.org/10.1177/0018726709339120
- Puusa, A., Kuittinen, M., & Kuusela, P. (2013). Paradoxical change and construction of identity in an educational organization. *Educational Management Administration & Leadership*, 41(2), 165-178. https://doi.org/10.1177/1741143212468347
- Ramírez-Cardona, C. A. (2018). Modernidad y sistemas flojamente acoplados. Una mirada desde el proceso de modernización de la Universidad de Manizales (Doctoral dissertation). Universidad Autónoma Metropolitana, Unidad Iztapalapa, Mexico City. http://tesiuami.izt.uam.mx/uam/aspuam/presentatesis.php?recno=22542&docs=UAMI22542.pdf
- Rasche, A. (2012). Global policies and local practice: Loose and tight couplings in multi-stakeholder initiatives. *Business Ethics Quarterly*, 22(4), 679-708. https://doi.org/10.5840/beq201222444
- Rau, C., Neyer, A. -K., & Möslein, K. M. (2012). Innovation practices and their boundary-crossing mechanisms: A review and proposals for the future. *Technology Analysis & Strategic Management*, 24(2), 181-217. https://doi.org/10.1080/09537325.2012.647647
- Rivkin, J. W. (2001). Reproducing knowledge: Replication without imitation at moderate complexity. *Organization Science*, 12(3), 274-293. https://doi.org/10.1287/orsc.12.3.274.10106
- Roberts, J. (2018). Managing *only with* transparency: The strategic functions of ignorance. *Critical Perspectives on Accounting*, *55*, 53-60. https://doi.org/10.1016/j.cpa.2017.12.004
- Rocha, C. M., & Chelladurai, P. (2013). Patterns of bureaucracy in intercollegiate athletic departments. *Journal of Sport Management*, 27(2), 114-129. https://doi.org/10.1123/jsm.27.2.114
- Roe, E., Schulman, P., van-Eeten, M., & de Bruijne, M. (2005). High-reliability bandwidth management in large technical systems: Findings and implications of two case studies. *Journal of Public Administration Research and Theory*, 15(2), 263-280. https://doi.org/10.1093/jopart/mui015
- Rowan, B. (2002). Rationality and reality in organizational management: Using the coupling metaphor to understand educational (and other) organizations—a concluding comment. *Journal of Educational Administration*, 40(6), 604-611. https://doi.org/10.1108/09578230210446072
- Salvador, F. (2007). Toward a product system modularity construct: Literature review and reconceptualization. *IEEE Transactions on Engineering Management*, *54*(2), 219-240. https://doi.org/10.1109/TEM.2007.893996
- Sanchez, R., & Mahoney, J. T. (1996). Modularity, flexibility, and knowledge management in product and organization design. *Strategic Management Journal*, 17(S2), 63-76. https://doi.org/10.1002/smj.4250171107
- Sapir, A., & Kameo, N. (2019). Rethinking loose coupling of rules and entrepreneurial practices among university scientists: A Japan-Israel comparison. *The Journal of Technology Transfer*, 44, 49-72. https://doi.org/10.1007/s10961-017-9596-6
- Shen, J., Gao, X., & Xia, J. (2017). School as a loosely coupled organization? An empirical examination using national sass 2003-04 data. *Educational Management Administration & Leadership*, 45(4), 657-681. https://doi.org/10.1177/1741143216628533

- Silvast, A., & Kelman, I. (2013). Is the Normal Accidents perspective falsifiable? *Disaster Prevention and Management*, 22(1), 7-16. https:// doi.org/10.1108/09653561311301934
- Snelson-Powell, A., Grosvold, J., & Millington, A. (2016). Business school legitimacy and the challenge of sustainability: A fuzzy set analysis of institutional decoupling. *Academy of Management Learning & Education*, 15(4), 703-723. https://doi.org/10.5465/ amle.2015.0307
- Spender, J. C., & Grinyer, P. H. (1995). Organizational renewal: Top management's role in a loosely coupled system. *Human Relations*, 48(8), 909-926. https://doi.org/10.1177/001872679504800805
- Spender, J. C., & Grevesen, W. (1999). The multinational enterprise as a loosely coupled system: The global integration–local responsiveness dilemma. *Managerial Finance*, *25*(2), 63-84. https://doi.org/10.1108/03074359910765911
- Staber, U., & Sydow, J. (2002). Organizational adaptive capacity: A structuration perspective. *Journal of Management Inquiry, 11*(4), 408-424. https://doi.org/10.1177/1056492602238848
- Swanson, T. A., Gregory, D. E., & Raspiller, E. E. (2012). Striking a balance: Managing blogs in loosely coupled systems. *Community College Enterprise*, *18*(1), 62-85.
- ten-Cate, O., & Carrie-Chen, H. (2016). The parts, the sum and the whole—Evaluating students in teams. *Medical teacher*, *38*(7), 639-641. https://doi.org/10.3109/0142159X.2016.1170794
- Thornton, P. H., & Klyver, K. (2019). Who is more likely to walk the talk? The symbolic management of entrepreneurial intentions by gender and work status. *Innovation: Organization & Management, 21*(1), 102-127. https://doi.org/10.1080/14479338.2018.1497448

- Trein, P. (2017). A new way to compare horizontal connections of policy sectors: "Coupling" of actors, institutions and policies. *Journal of Comparative Policy Analysis: Research and Practice*, 19(5), 419-434. https://doi.org/10.1080/13876988.2016.1225342
- Vuori, J. (2015). Enacting the common script: Management ideas at Finnish universities of applied sciences. Educational Management Administration & Leadership, 43(4), 646-660. https://doi. org/10.1177/1741143214523016
- Wagner, S. M., Mizgier, K. J., & Arnez, P. (2014). Disruptions in tightly coupled supply chain networks: The case of the us offshore oil industry. *Production Planning & Control*, *25*(6), 494-508. https://doi.org/10.1080/09537287.2012.705355
- Weick, K. E. (1976). Educational organizations as loosely coupled systems. Administrative Science Quarterly, 21(1), 1-19. https://doi.org/10.2307/2391875
- Weick, K. E. (2010). Reflections on enacted sensemaking in the Bhopal disaster. *Journal of Management Studies*, *47*(3), 537-550. https://doi.org/10.1111/j.1467-6486.2010.00900.x
- Yair, G. (1997). Method effects on theory testing: The case of organizational coupling in education. *Journal of Educational Administration*, 35(4), 290-311. https://doi.org/10.1108/09578239710171901
- Yuan, W., Bao, Y., & Verbeke, A. (2011). Integrating CSR initiatives in business: An organizing framework. *Journal of Business Ethics*, 101, 75-92. https://doi.org/10.1007/s10551-010-0710-z
- Zyglidopoulos, S. C., Carroll, C. E., Georgiadis, A., & Siegel, D. S. (2009). The evolution of corporate social performance and the role of media visibility.ssrN https://doi.org/10.2139/ssrn.1514385