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Conditioning Factors of Interorganizational Cost Management in Manufacturing Companies

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Abstract

The aim of this study was to analyze the impact of conditioning factors in the adoption and use of interorganizational cost management practices in manufacturing companies. The data was collected through a questionnaire applied to the controllers of the manufacturing companies listed in B3. The sample consisted of 33 companies. The findings contribute to improving the understanding of how conditioning factors (Products, Components, Relationship Levels, Chain Types and Mechanisms) influence interorganizational cost management practices. The results indicate that conditioning factors, Relationship Levels and Mechanisms can influence the use of inter-organizational cost management practices. According to the results, it can be inferred that throughout the organization's trajectory it is necessary to establish partnerships with suppliers. In general, it is highlighted that sharing information between companies in the supply chain provides greater trust, favoring everyone involved in the supply chain.

Keywords: interorganizational cost management, conditioning factors, cluster analysis

Fatores Condicionantes da Gestão de Custos Interorganizacionais em Empresas de Manufatura

Resumo

O objetivo deste estudo foi analisar o impacto de condicionantes na adoção e utilização de práticas de gestão de custos interorganizacionais em empresas de manufatura. Os dados foram coletados por meio de questionário aplicado aos controllers das empresas manufatureiras listadas na B3. A amostra foi composta por 33 empresas. Os achados contribuem para o melhor entendimento de como os condicionantes (Produtos, Componentes, Níveis de Relacionamento, Tipos de Cadeias e Mecanismos) influenciam as práticas de gestão de custos interorganizacionais. Os resultados indicam que os fatores condicionantes Níveis de Relacionamento e Mecanismos podem influenciar o uso das práticas de gestão de custos interorganizacionais. De acordo com os resultados, pode-se inferir que ao longo da trajetória da organização é necessário estabelecer parcerias com fornecedores. De forma geral, destaca-se que o compartilhamento de informações entre as empresas da cadeia de abastecimento proporciona maior confiança favorecendo todos os envolvidos na cadeia de abastecimento.

Palavras-chave: gestão de custos interorganizacionais, fatores condicionantes, análise de agrupamento

Condicionantes de la Gestión de Costos Interorganizacional en Empresas Manufactureras

Resumen

El objetivo del estudio fue analizar el impacto de los factores condicionantes en la adopción y uso de prácticas de gestión de costos interorganizacionales en empresas manufactureras. Los datos fueron recolectados a través de un cuestionario aplicado a los controladores de las empresas manufactureras listadas en B3. La muestra estuvo compuesta por 33 empresas. Los hallazgos contribuyen a mejorar la comprensión de cómo los factores condicionantes (Productos, Componentes, Niveles de Relación, Tipos de cadenas y Mecanismos) influyen en las prácticas de gestión de costos interorganizacionales. Los resultados indican que los factores condicionantes, los Niveles de Relación y los Mecanismos pueden influir en el uso de prácticas de gestión de costos interorganizacionales. De acuerdo a los resultados se puede inferir que a lo largo de la trayectoria de la organización es necesario establecer alianzas con proveedores. Se destaca que compartir información entre empresas de la cadena de suministro proporciona una mayor confianza, favoreciendo a todos los involucrados en la cadena de suministro.

Palabras clave: gestión de costos interorganizacional, factores condicionantes, análisis de conglomerados

INTRODUCTION

No company or business operation exists in isolation. Indeed, it is part of a larger network linked to other operations and/or companies in a supply chain. Thus, given the complexity of supply chains, requiring greater coordination of activities, there is a need for effective ways of controlling processes involving chain agents (Christopher, 2007).

In this scenario, Interorganizational Cost Management (IOCM) aims to promote the structured coordination of activities in a supply network, providing those involved with a set of information about the activities carried out in the supply chain. This allows managers to make joint decisions, aiming at the reduction of total production costs of partner companies and contributing to the creation of competitive advantage (Cooper & Slagmulder, 1999; Hoffjan & Kruse, 2006).

However, for the success of business strategies that rely on the effective use of IOCM, a cooperative relationship among the involved agents is necessary. Several authors have been discussing the conditioning factors (Products, Components, Levels of Relationship, Types of Chain, Mechanisms) that can interfere as facilitators or inhibitors of ICOM practices (Camacho, 2010; Coad & Cullen, 2006; Cooper & Slagmulder, 1999, 2003, 2004; Hoffjan & Kruse, 2006; Souza, 2008; Souza & Rocha, 2009; Pacassa et al., 2022).

Thus, there is a need to investigate whether factors internal and external to organizations, related to products, components, relationship levels, types of chain and organizational control mechanisms, become conditioning factors of IOCM. Few studies can be found in the literature that discussed the adoption and use of interorganizational cost management practices in manufacturing companies.

Thus, in this research, the conditioning factors of the adoption and use of interorganizational cost management practices in industrial companies listed in the Brazilian stock exchange ("Brazil, Bolsa, Balcão" or "B3"), were studied.

The relevance of the research is related to the need to check whether organizational performance and conditioning factors promote a better relationship between the members of the supply chain. Furthermore, it is justified due to fact that the vast majority of research on IOCM, is based on case studies, therefore, there is a gap regarding the analysis of the applicability of IOCM from a much more large-scale perspective, mainly regarding publicly traded companies with shares available on the stock exchange of values. Thus, the study intends to contribute theoretically to the disclosure of the IOCM practices adopted by industrial companies listed in B3, whether Brazilian or international.

2 THEORETICAL FRAMEWORK

According to Cooper and Slagmulder (1999) IOCM is a facilitating tool for cooperation between different organizations in a supply chain, through coordinated actions, aiming a better performance for all involved. Supply chain cooperation ends up benefiting all participants, reducing costs and creating value (Coad & Cullen, 2006). IOCM enables the expansion of the relationship, greater sharing of information related to accounting in general and costs in particular, in addition to promoting trust and building relationships at strategic level in order to reduce costs and obtain competitive advantage (Khare et al., 2012; Moura & Lima, 2016; Vanathi & Swamynathan, 2014).

Precursors in the approach to IOCM, Cooper and Yoshikawa (1994) and Cooper and Slagmulder (1999, 2003, 2004), proposed a conceptual model with five categories of conditioning factors that can influence the adoption and use of IOCM, which are: Product, Components, Levels Relationship, Chain Types and Mechanisms. This conceptual model was discussed later by other authors, such as Coad and Cullen (2006), Duarte (2017), Kajüter and Kulmala (2005); Souza (2008) and Barbosa et al. (2012). According to Souza e Rocha (2009), the applicability of IOCM must pass through the analysis of the conditioning factors in its five dimensions, in order to identify whether the characteristics of the chain favor the practice of this strategy.

The product conditioning factor takes into consideration product characteristics, such as their functions and profitability. The purpose is to understand if specific products or some product's characteristics turn those products more able for the application of the IOCM philosophy (Camacho, 2010; Cooper & Slagmulder, 1999, 2004; Souza, 2008).

The component factor considers the existence of technological restrictions and value index (relating cost to the degree of importance of the supply resource) that can be found in the supply chain (Cooper & Slagmulder, 1999; Souza & Rocha, 2009).

In turn, relationship types and levels are also conditioning factors because there are different levels of stability, cooperation, trust and interdependence between companies, characteristics that make more or less favorable and effective the IOCM approach (Cooper &

Slagmulder, 1999; Farias et al., 2016; Kajüter & Kulmala, 2005; Souza, 2008). The literature shows that relationships of mutual trust have been shown to be essential in IOCM relationships and practices (Uddin, Fu, & Akhter, 2020), aiming to satisfy the continuity of relationships and take advantage of the opportunities of interdependencies (Rocha & Fehr, 2018; Schuijer, 2020).

Supply chains can be classified is several types, namely, tyranny, oligarchy and democracy, which can provide greater or lesser efficiency in the application of IOCM, since in the case of a dominant focal company, it stands out the others (Cooper & Slagmulder, 1999; Souza & Rocha, 2009). Finally, there is the conditioning factor Mechanisms, which are related to planning and control instruments (trainers, disciplinarians and incentives) used to assist in the implementation of IOCM, with the aim of improving, guiding and encouraging the use of this approach (Farias et al., 2016).

3 RESEARCH METHODOLOGY

This research uses a survey and a quantitative approach for the collection and analysis of the data. Factor and cluster analysis and the mean difference test (t test) were used among other statistical analysis. The study population corresponds to 168 industrial companies listed in the Brazilian stock exchange, Brazil, Bolsa, Balcão - B3. The population was delimited considering that the industrial sector may be more conducive to the applicability of IOCM, since the sharing of information and collaborative cost management practices when designing products result in greater efficiency, reducing costs in the global chain, as stated by Cooper and Yoshikawa (1994). Finally, the sample size of this study comprises the data obtained through 33 responses from the controllers of industrial companies listed in B3. Table 1 presents the construct for the analysis of conditioning factors of IOCM.

Table 1. Construct for IOCM conditioning factors

Conditioning Factors	Statements	Code
Products	Uses cost management practices in products with reduced contribution margin	Q1
	Negotiation is carried out with suppliers of products with a lower contribution margin	Q2
	The selling price is established from an analysis of competitive (market) prices	Q3
	Non-complex products, easily found in the industry/competitors	Q4
Components	The product is exclusive	Q5
	Products with embedded technology require confidentiality and cannot be demonstrated to suppliers.	Q6
Relationship Levels	Sharing cost information with suppliers in order to carry out joint data analysis to facilitate more effective cost management practices	Q7
	Cost sharing with suppliers in negotiations	Q8
	Constant monitoring of competitors' prices	Q9
	Dependence of the main suppliers	Q10
	Purchases are more representative of the billing of the main suppliers	Q11
	Long-term relationship between the company and its main supplier	Q12
	Company's main supplier is available to work on the benefit of the company, even if it does not directly or immediately benefit it	Q13
	The main supplier performs its activities appropriate	Q14
	The main supplier behaves genuinely in the commercial relations	Q15
	There is confidence in the main supplier in difficult situations	Q16
	The main supplier would take advantage of possible company vulnerabilities	Q17
	The main supplier has the competence to contribute decisively to the success of important projects in which the company is involved	Q18
	The main supplier would take harmful actions against the company even if they could be avoided	Q19
	The main supplier has a strong sense of fairness in conducting the relationship with the company	Q20
	The main supplier has enough capacity/resources to fulfill what is expected in its relations with the company	Q21
	The main supplier is concerned with what is good for the company	Q22
	The main supplier respects its promises	Q23
	The company does not check the service performed by suppliers, because there is a high level of trust.	Q24
Types of Chains	There is only one dominant company in the supply chain to which the company belongs.	Q25
	The company has great negotiating power with all suppliers.	Q26
Mechanisms	The company makes use of mechanisms to impose the use of cost management practices in the entire supply chain, aiming to maximize the return of all members	Q27
	The company has formalized contracts / agreements with suppliers regarding price negotiations in order to benefit both parties	Q28
	Suppliers promote training involving company employees	Q29
	Suppliers establish goals that, if achieved, result in awards / benefits for the company	Q30

Source: Adapted from Cooper and Slagmulder (2004); Souza (2008); Souza and Rocha (2009); Duarte (2017).

Table 1 shows the five types of conditioning factors considered in this study, product factor, component factor, factor levels of relationships, factor types of chains and factor mechanisms. Within each of these dimensions, questions were asked to the controllers of the companies studied, aiming to identify the configuration of these factors in the analyzed companies. The questionnaire used, presented affirmative, objective and closed statements, evaluated using a five-point Likert scale, where 1 represents total disagreement and 5 total agreements. Therefore, Table 2 presents the construct related to IOCM practices.

Table 2. Construct for IOCM practices

Statements	Code
Analysis of interorganizational cost information in order to classify costs as fixed or variable	P1
Development of demand, sales or order forecasts	P2
Measurement of interorganizational costs according to the activities that drive costs	P3
Use of information about the activities that drive IOCM to manage and control those activities	P4
Involvement in continuous improvement processes (Kaizen, for example) to control interorganizational costs	P5
Use of interorganizational costing processes to meet market prices and target costs for the product, providing the desirable profit margin for the company and partners	P6
Involvement in interorganizational cost investigations, in order to analyze the cost structure of processes / functions / products that have an impact on both companies	P7
Involvement in exercises of price-quality-functionality (trade-off) to manage common costs, in order to offer an adequate level of functionality, price and quality	P8
Open book accounting practices with partner companies	P9
Carrying out the redesign of business processes and product components to manage and control interorganizational costs	P10
Use of inventory management and control processes (for example, Just-in-Time) to control interorganizational costs	P11
Sharing of assets, common assets, with partners or the availability of the main partner company to coordinate activities and/or to reduce costs	P12
Availability of employees to perform the same function in a partner company, and vice versa, to coordinate activities and collaborate on product or service plans, design and collaborative product and processes development	P13
Promotion and development of interorganizational cost management through collaborative activities, to manage and control the global costs of both companies	P14
Analysis and management of global costs of the supply chain or value chain, which go beyond the company and the main partner company	P15
Management of quality costs in the interorganizational value chain	P16

Source: Adapted from Fayard et al. (2012) and Michels (2016)

From the construct presented in Table 2, it was possible to verify the perception of the level of adoption of Interorganizational Cost Management practices in the industrial companies listed in B3.

4 DATA ANALYSIS

Initially, we sought to identify the level of adoption of interorganizational cost management practices in the companies surveyed, using factor analysis. Table 3 shows the extraction of factors through the Factor Analysis of IOCM practices.

Table 3. Factor Analysis of IOCM

Component	Initial eigenvalues			Extraction sums of squared loads			Extraction of factors			
	Total	% Variance	% Cumulative	Total	% Variance	% Cumulative	Factor 1	Factor 2	Factor 3	Factor 4
1	4,231	26,447	26,447	4,231	26,447	26,447	*0,709*	-0,190	-0,334	0,370
2	2,771	17,320	43,767	2,771	17,320	43,767	0,259	0,254	-0,267	*0,612*
3	2,365	14,783	58,550	2,365	14,783	58,550	*0,748*		0,191	-0,101
4	1,714	10,711	69,261	1,714	10,711	69,261	*0,736*	0,118	0,245	
5	1,046	6,538	75,799				*0,899*			-0,167
6	0,896	5,598	81,397				*0,815*	0,354		
7	0,770	4,813	86,211				0,117	*0,695*		0,198
8	0,669	4,181	90,391					*0,882*		0,140
9	0,421	2,630	93,021					0,151	0,257	*0,632*
10	0,335	2,094	95,115				0,445	*0,688*		0,197
11	0,248	1,552	96,667					*0,859*	0,106	
12	0,202	1,261	97,928				-0,300	0,154		*0,647*
13	0,133	0,833	98,761					-0,508	0,462	*0,625*
14	0,107	0,667	99,428						*0,887*	
15	0,065	0,407	99,836				0,103	0,102	*0,844*	0,220
16	0,026	0,164	100,000				0,359	0,399	*0,472*	-0,237

Kaiser-Meyer-Olkin measure of sampling adequacy.		0,468
Bartlett's sphericity test	Approx. Chi-square	321,372
	df	120
	Sig.	0,000*

Source: Research data.

The results obtained through the Kaiser-Meyer-Olkin (KMO) and Bartlett tests, suggest their adequacy regarding the use of Factor Analysis. According to the criteria established by Kaiser, we selected the four factors that together can explain 69.26% of the data variance, indicating the correct adequacy of the adjusted data

For the reduction in four factors, the statements (Table 2) were grouped according to the approach of Hair et al. (2009), who emphasizes the importance of the composition of the factors through the union of questions that demonstrate a minimum factor load of 0.75.

According to the results obtained (Table 3), 4 factors that explain the use of interorganizational cost management practices will be considered. Grouping practices 1, 3, 4, 5 and 6, Factor 1 called Focal Company Cost Management. Practices 7, 8, 10 and 11 form Factor 2, called Cost Management for Process Improvement. Practices 14, 15 and 16 form Factor 3, called Cost Management Globally in the Supply Chain. Finally, practices 2, 9, 12 and 13 form Factor 4, called Cost Management Sharing Between Buyer and Supplier. To meet the objective of the study, the cluster formation technique was used, with the purpose of grouping companies that make greater use or less use of IOCM practices. The cluster analysis of the sample companies, according to each factor of the use of IOCM practices, is shown in Table 4.

Table 4. Relationship between the conditioning factors and IOCM approaches

Cond. Factors \ IOCM approaches	Cost management made by the focal company			Improvement of Cost Management Processes			Use of the Global Chain for Cost Management			Interorganizational Sharing for Cost Management		
	Cluster 1 n=4	Cluster 2 n=29	Teste t	Cluster 1 n=4	Cluster 2 n=29	Teste t	Cluster 1 n=16	Cluster 2 n=17	Teste t	Cluster 1 n=22	Cluster 2 n=11	Teste t
Factor 1	Less Use mean 3,38	Greater Use mean 3,92	Sig.	Less Use mean 3,50	Greater Use mean 3,75	Sig.	Less Use mean 3,06	Greater Use mean 3,09	Sig.	Greater Use mean 3,03	Less Use mean 3,10	Sig.
Q1	3,00	3,45	0,806	3,00	3,45	0,806	3,19	3,59	0,421	3,41	3,36	0,114
Q2	3,00	3,38	0,784	3,00	3,38	0,784	3,19	3,47	0,134	3,56	2,91	0,218
Q3	3,50	3,48	0,861	3,50	3,48	0,861	3,44	3,53	0,871	3,41	3,64	0,396
Q4	2,75	3,24	0,856	2,75	3,24	0,856	3,06	3,29	0,574	3,18	3,18	0,269
Factor 2	Less Use	Greater Use	Sig.	Less Use	Greater Use	Sig.	Less Use	Greater Use	Sig.	Greater Use	Less Use	Sig.
Q5	3,00	3,10	0,840	2,50	3,17	0,530	3,31	2,88	0,329	3,09	3,06	*0,085*
Q6	3,00	3,66	0,463	3,25	3,62	0,748	3,63	3,53	0,449	3,86	3,00	*0,003*
Factor 3	Less Use	Greater Use	Sig.	Less Use	Greater Use	Sig.	Less Use	Greater Use	Sig.	Greater Use	Less Use	Sig.
Q7	3,250	2,655	0,269	3,25	2,66	0,269	2,50	2,94	0,156	3,09	2,00	*0,026*
Q8	2,250	2,724	*0,081*	2,50	2,69	0,901	2,69	2,65	0,244	2,86	2,27	*0,080*
Q9	3,500	3,828	0,515	4,00	3,76	*0,036*	3,69	3,88	0,818	3,82	3,73	*0,007*
Q10	2,750	3,241	0,203	2,25	3,31	0,862	3,50	2,88	0,687	3,05	3,46	*0,016*
Q11	4,000	3,379	*0,003*	3,75	3,42	0,139	3,50	3,41	0,977	3,59	3,18	*0,037*
Q12	3,750	3,966	*0,038*	4,00	3,93	0,574	3,75	4,19	0,181	3,96	3,91	*0,009*
Q13	4,000	3,483	*0,002*	3,50	3,55	0,284	3,75	3,35	0,313	3,36	3,91	*0,000*
Q14	4,250	4,172	0,509	4,50	4,14	*0,050*	4,13	4,24	0,107	4,14	4,27	*0,082*
Q15	4,250	4,138	0,319	4,25	4,14	0,319	4,13	4,18	0,425	4,09	4,37	*0,011*
Q16	3,750	3,586	0,301	3,75	3,59	0,301	3,44	3,77	*0,003*	3,64	3,55	0,710
Q17	2,500	2,586	0,927	3,25	2,48	0,740	2,69	2,47	*0,099*	2,55	2,64	0,488
Q18	3,750	4,000	0,305	4,25	3,93	0,410	3,88	4,06	*0,092*	4,09	3,73	*0,024*
Q19	2,000	2,138	0,185	1,75	2,17	0,850	2,25	2,00	*0,010*	2,09	2,18	0,456
Q20	3,500	3,793	0,744	3,50	3,79	0,744	3,56	3,94	*0,001*	3,91	3,46	*0,009*
Q21	4,000	3,931	0,327	4,00	3,93	0,327	3,81	4,06	*0,031*	3,96	3,91	0,369
Q22	3,500	3,828	0,245	3,50	3,83	0,245	3,88	3,71	0,555	4,00	3,36	*0,000*
Q23	4,000	4,069	0,263	4,00	4,07	0,263	4,06	4,05	0,932	4,05	4,09	0,324
Q24	2,750	3,207	0,032	3,00	3,17	0,652	3,44	2,88	0,214	3,09	3,27	0,906
Factor 4	Less Use	Greater Use	Sig.	Less Use	Greater Use	Sig.	Less Use	Greater Use	Sig.	Greater Use	Less Use	Sig.
Q25	1,75	2,17	0,679	2,25	2,10	*0,000*	2,13	2,12	0,450	2,23	1,91	0,103
Q26	3,00	3,59	0,170	3,00	3,59	0,170	3,69	3,53	0,446	3,64	3,27	*0,056*
Factor 5	Less Use	Greater Use	Sig.	Less Use	Greater Use	Sig.	Less Use	Greater Use	Sig.	Greater Use	Less Use	Sig.
Q27	3,00	3,10	0,609	3,50	3,03	0,664	3,44	2,77	0,243	2,96	3,36	0,247
Q28	3,00	3,31	0,836	3,00	3,31	0,836	3,25	3,29	0,421	3,41	3,00	0,163
Q29	3,75	3,17	*0,033*	3,25	3,24	0,701	3,19	3,29	0,185	3,50	2,73	*0,020*
Q30	2,75	2,45	0,958	2,75	2,45	0,958	2,56	2,41	0,446	2,73	2,00	0,323

* Factor 1 - Product; Factor 2 - Components; Factor 3 - Relationship Levels; Factor 4 - Chain types; Factor 5 - Mechanisms.

Source: Research data.

Therefore, each factor was grouped into two clusters. In each group, we sought to verify whether the companies in cluster 1 (less use of the factor) in relation to the companies in cluster 2 (greater use of the factor) have different perceptions about the conditioning factors (Table 1).

4.1 Cost Management at the Focal Company

The results (Table 4) show that the interorganizational cost conditioning factors related to the Product, Types of Chain and Component did not present statistically significant differences due to the Cost Management made by the Focal Company. However, in the conditioning factor Relationship Levels, some statistically significant differences were found at the levels of 5% and 10%, for example: in companies with greater use of Cost Management by the Focal Company, there is a greater perception that suppliers share cost information in the negotiations (0.081), business with the main supplier has a long-term duration (0.038), and the certainty that the main supplier performed its work correctly (0.032). The findings are consistent with those of Caglio (2018), Cooper and Slagmulder (2004), Farias et al. (2016), Kajüter and Kulmala (2005) and Souza (2008) who state that it is necessary to seek partnerships with other suppliers.

Accordingly, the results found in the conditioning factor Relationship Levels corroborate the findings of Gadde et al. (2010), who emphasize that operational efficiency of IOCM can be improved, namely, through two generic strategies which are managing a higher number of suppliers, and a deeper relationship with important or key suppliers.

As Souza and Rocha (2009) point out, the trust among organizations can be linked to the behavior established between them, in which one seeks to know the other, through the attitudes, information and transactions made. On the other hand, a stability in these relationships can be observed, which is originated by the commitment assumed between both parties, which directly influences its sustainability in the long run, highlighting a positive association as verified in the study of Caglio (2018). In this way, it can be inferred that the conditioning factor Relationship Levels facilitates the application of IOCM (Windolph & Moeller, 2012).

On the other hand, it appears that situations with less use of Cost Management by the Focal Company result in purchases with high representativeness in the billing of the main suppliers (0.003), and the main supplier wants the best for the company even if does not directly benefit from that (0.002).

In relation to the conditioning factor Mechanisms, the findings indicate that when suppliers promote training involving company's employees of the focal company they perform to a lesser extent Cost Management (0.033) and inhibiting GCI practices. Such findings corroborate those found by Farias et al. (2016), Fayard et al. (2012), Kajüter and Kulmala (2005) and Ylä-Kujala et al. (2018), in which the conditioning factor Mechanisms can inhibit the use of IOCM practices. As a justification for this, can be the informality in the relationship or the absence of mechanisms that regulate the existing partnership between the organization and suppliers, which can contribute to the inhibition of interorganizational cost management practices.

4.2 Cost Management for Processes Improvements

The results evidenced in Table 4 show that the interorganizational cost conditioning factors related to the Product, Component and Mechanisms did not show statistically significant differences due to the improvement in the cost management processes. The results indicate that there is a greater perception of constant monitoring in competitors' prices (0.036), that the main supplier performs its activities correctly (0.050), and that in the supply chain there is only one company that dominates the chain as a whole (0.000).

It is verified the importance of the companies to use practices that improve the processes related to the management of the costs, considering that IOCM does not appear in a random way. It involves a cooperative information management system that involves other organizations present in the value chain (Moura & Lima, 2016).

As Kajüter and Kulmala (2005) and Souza (2008) point out, with the correct application of IOCM, it is possible to improve the management process, in which constant monitoring of competitors' processes and the existence of domination in the supply chain contribute to the sharing of information related to costs and other accounting data, aimed at the entire production chain, through strategic cost management.

However, it can be observed (Table 4) that even companies conditioned to a lower use of Improvement in Cost Management Processes have a perception of monitoring competitors and the existence of a company that dominates the supply chain, each company inserted in this link seeks self-interest, which corroborates the findings of Kajüter and Kulmala (2005), who point out that companies are not willing to adapt their cost accounting systems according to the requirements to participate in the network. In this context, the applicability of IOCM to leverage its strategies and increase revenue individually may not be sufficient, given that its performance may depend on other factors that will influence its efficiency (Souza & Rocha, 2009).

4.3 Cost Management Globally in the Supply Chain

In the Global Chain for Cost Management cluster (Table 4), the conditioning factors Product, Components, Types of Chain and Mechanisms do not predict improvement factors in the cost management processes. It is observed that the results indicate that there is trust in the relationship with suppliers if they need assistance in times of difficulty (0.003), trust the competence of the supplier to achieve successful projects linked to the organization (0.092), verify a sense of justice in the relationship established with suppliers (0.001) and believe in the technical capacity of the supplier in fulfilling expected activities (0.031).

On the other hand, it is noticed that organizations that make less use of the Global Chain for Cost Management, perceive that their suppliers would have opportunistic actions in view of their performance in this collaborative network (0.099), seeking to obtain individual advantages, without mutual favor with the collaborative chain (0.010), confirming the results of Kajüter and Kulmala (2005). However, empirical evidence indicates that the partnership and the relationships originated, eventually succumb, from the moment when the mutual benefits are no longer seen by the members of the value chain (Cooper & Slagmulder, 1999; Kajüter & Kulmala, 2005; Souza, 2008; Pacassa et al., 2022).

4.4 Sharing of Cost Management Between Buyer and Supplier

The conditioning factor of interorganizational costs Product did not show significant differences due to the Interorganizational Sharing for Cost Management (Table 4). However, in the conditioning factor Components, some statistically significant differences were found, such as: in companies with greater use of interorganizational sharing, there is a greater perception that the technology used in the elaboration of their products must be kept confidential, thus, there is not a need to demonstrate it to suppliers (0.003) and that the products are exclusive (0.085). For Fayard et al. (2012) and Caglio (2018) sharing of information promotes cooperation between organizations and has positive effects in the planning and control of organizational goals, being essential to enable IOCM practices.

In the conditioning factor Relationship Levels, there are statistical differences regarding companies that make greater use of interorganizational cost sharing. Furthermore, it is seen that companies that make greater use of interorganizational cost sharing have greater confidence in their suppliers (0.011), which makes it possible to infer that these organizations are more likely to take risks, to reduce their costs and uncertainties in the face of market (Azfar et al., 2014; Fayard et al., 2012; Kajüter & Kulmala, 2005). Alves, Barreto and Martins (2015), indicate the importance of understanding about trust in interorganizational relationships in supply chains.

Thus, trust requires time to develop. Cooper and Slagmulder (2004), Fayard et al. (2012), Caglio (2018) and Pacassa et al. (2022), argue that trust developed through effective communication is an important resource that can lead to competitive advantage for both partners in an interorganizational relationship and an important prerequisite for IOCM practices.

On the other hand, organizations that make less use of Interorganizational Cost Sharing perceive that they would have difficulties to change the main supplier if there was a need for such action (0.016), they see the main supplier as the one who wants the best for the company, even if this does not directly benefit the supplier (0.000); that the main supplier performs its activities correctly (0.082), and that the main supplier behaves truly in the relationships with buyers (0.011).

Regarding the conditioning factor Types of Chain, statistical differences were found with respect to organizations that make greater use of interorganizational cost sharing, a great deal of negotiation power with suppliers is perceived (0.056). The findings corroborate those of Kajüter and Kulmala (2005) and Romano and Formentini (2012), who show that in order to achieve success in the use of IOCM, it is necessary that the purchasing sector of organizations increase the use of collaboration mechanisms within the supply chain, drafting cooperation agreements between them, which influences the bargaining power of companies vis-à-vis the market (Farias et al., 2016).

It is observed in the conditioning factor of interorganizational costs Mechanisms, that the statistical differences found are related to companies that make greater use of interorganizational cost sharing, in which it is noticed that suppliers promote training involving the employees of the responding organizations (0.020). In this sense, it can be inferred that there is a concern and use of IOCM in this relationship, since the main reason for mutual cooperation is cost reduction, with no other reasons that limit the sharing of information from one organization to another, for example (Coad & Cullen, 2006; Cooper & Slagmulder, 2004). Thus, it confirms the results of previous research, such as Kajüter and Kulmala (2005) and Seal et al. (1999), that simple cost accounting and weak cost data are obstacles to the adoption of IOCM practices. It is necessary to adopt cooperative approaches by supply chain partners, based on the understanding that the cost of a company is relevant to the overall competitiveness of the supply chain.

5 CONCLUSIONS

The objective of this study was to identify differences in the characteristics of organizations and conditioning factors due to the adoption of interorganizational cost management practices in industrial companies listed in B3. To this end, descriptive research was carried out, with a quantitative approach and characterized as a survey or survey for data collection. The sample consisted of 33 industrial companies listed on B3.

The results obtained in this research contribute by pointing out differences regarding the perception of the conditioning factors of IOCM practices. The relevance of interorganizational relations for the management of interorganizational costs is highlighted, as evidenced by the level of relationship, in which establishing partnerships with suppliers will contribute to operational efficiency; as well as the importance of information sharing between companies in the supply chain, which provides greater trust and more stable relationships, contributing to the application of IOCM and favoring everyone involved in the supply chain.

As for the conditioning mechanisms, this presents itself as a possible inhibitor of cost management practices. It was observed that the lack of formality in the relations exercised by the organizations, becomes a preponderant factor for this, considering that mechanisms that regulate these relations bring security and benefits to those involved, in which both will have protection in the negotiations carried out, aiming at better quality and lower cost. Thus, there is a need in such companies to use tools that contribute to a significant improvement in management, in order to monitor the processes of the entire value chain and also competitors and seek dominance in the supply chain which implies sharing cost information and a high efficiency in management.

Among the limitations of this study, we can mention the difficulties in obtaining data through a survey, which leads to the need for different approaches and strategies for collecting information, enabling more robust statistical tests.

Therefore, considering the importance of the topic in organizations that intend to remain competitive and profitable, this study can be extended to all companies listed on the Brazilian stock exchange. In addition, the influence of Interorganizational Cost Management on the financial performance and market value of companies can be also studied.

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