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# **ARTICLE**

# Cooperative or competitive style of conflict management? Effects on information sharing and agricultural cooperatives' performance

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#### Abstract

This study examines the influence of conflict management styles, both cooperative and competitive, on information sharing and, in turn, on organizational performance. The mediation of information sharing in the relationship between conflict management styles and organizational performance is also examined. The effects of conflict management styles were analyzed at the intragroup level in a field that presupposes cooperation through a survey carried out with professionals who work in agricultural cooperatives. For the analysis of the 91 valid answers, partial least squares structural equation modeling (PLS-SEM) was used. The results indicate a relationship between conflict management styles and information sharing, which is positive for the cooperative style and negative for the competitive style. Furthermore, a positive relationship was observed between information sharing and organizational performance. However, no mediating effect of information sharing on the relationship between cooperative and competitive conflict management styles and organizational performance was found. Based on the results, it is concluded that the cooperative style of conflict management promotes the sharing of information and improves organizational performance. The same was not found for the competitive style of conflict management in the researched cooperatives. This broadens discussions about the possible benefits of conflicts in organizations, contrasting with the approaches about their harmful effects on organizational performance.

Keywords: Conflict management styles. Information sharing. Organizational performance.

# Estilo cooperativo ou competitivo de gerenciamento de conflitos? Efeitos no compartilhamento de informações e no desempenho de cooperativas agropecuárias

#### Resumo

Este estudo examina a influência dos estilos de gerenciamento de conflitos, tanto cooperativos quanto competitivos, no compartilhamento de informações e, por sua vez, deste no desempenho organizacional. Examina-se também a mediação do compartilhamento de informações na relação entre os estilos de gerenciamento de conflitos e o desempenho organizacional. Os efeitos dos estilos de gerenciamento de conflitos foram analisados no nível intragrupo em um campo que pressupõe cooperação por meio de uma survey realizada com profissionais que atuam em cooperativas agropecuárias. Para a análise das 91 respostas válidas, utilizou-se modelagem de equações estruturais por mínimos quadrados parciais (PLS-SEM). Os resultados indicam relação entre estilos de gerenciamento de conflitos e compartilhamento de informações, que é positiva para o estilo cooperativo e negativa para o estilo competitivo. Além disso, foi observada relação positiva entre compartilhamento de informações e desempenho organizacional. No entanto, não se verificou um efeito mediador do compartilhamento de informações na relação entre os estilos de gerenciamento de conflitos cooperativo e competitivo e o desempenho organizacional. Com base nos resultados, conclui-se que o estilo cooperativo de gerenciamento de conflitos promove o compartilhamento de informações e melhora o desempenho organizacional. O mesmo não foi constatado para o estilo competitivo de gerenciamento de conflitos nas cooperativas pesquisadas. Isso amplia as discussões sobre os possíveis benefícios dos conflitos nas organizações, contrastando com as abordagens sobre seus efeitos maléficos no desempenho organizacional. **Palavras-chave:** Estilos de gerenciamento de conflitos. Compartilhamento de informações. Desempenho organizacional.

# ¿Estilo cooperativo o competitivo de gestión de conflictos? Efectos sobre el intercambio de información y desempeño de cooperativas agropecuarias

#### Resumen

Este estudio examina la influencia de los estilos de gestión de conflictos, tanto cooperativo como competitivo, en el intercambio de información y, a su vez, en el desempeño organizacional. También se examina la mediación del intercambio de información en la relación entre los estilos de gestión de conflictos y el desempeño organizacional. Los efectos de los estilos de gestión de conflictos se analizaron a nivel intragrupal en un campo que presupone la cooperación, a través de una encuesta realizada a profesionales que trabajan en cooperativas agropecuarias. Para el análisis de las 91 respuestas válidas se utilizó el modelo de ecuaciones estructurales por mínimos cuadrados parciales (PLS-SEM). Los resultados indican una relación entre los estilos de gestión de conflictos e intercambio de información, que es positiva para el estilo cooperativo y negativa para el estilo competitivo. Además, se observó una relación positiva entre intercambio de información y desempeño organizacional. Sin embargo, no se encontró un efecto mediador del intercambio de información en la relación entre los estilos cooperativo y competitivo de gestión de conflictos y el desempeño organizacional. Con base en los resultados, se concluye que el estilo cooperativo de gestión de conflictos promove el intercambio de información y mejora el desempeño organizacional, mientras que no se observó lo mismo para el estilo competitivo de gestión de conflictos en las cooperativas investigadas. Así, se amplían las discusiones sobre los posibles beneficios de los conflictos en las organizaciones, contrastando con los enfoques sobre sus efectos nocivos en el desempeño organizacional.

Palabras clave: Estilos de gestión de conflictos. Intercambio de información. Desempeño organizacional.

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#### INTRODUCTION

Cognitive dissonance is important from an organizational point of view, as it can facilitate the creation of new ideas and thus contribute to creativity, innovation and generate conditions for competitive advantage (Mancini & Ribiere, 2018). This assumption is supported by the Cognitive Dissonance Theory (CDT), which advocates that individuals who find some divergence in their group will seek to adopt actions to reduce or eliminate it as soon as possible (Festinger, 1957). This indicates the importance of conflict management in improving the communication process and stimulating desirable behavior in individuals, which consequently leads to an increase in organizational performance.

Conflicts can be both constructive, used to develop quality solutions and strengthen relationships, and destructive, when they frustrate communication and make it difficult to solve problems (Deutsch, 2014). In this regard, the challenge lies in identifying how and when individuals and groups can discuss and deal with conflicts in order to make them beneficial for themselves and the organization (Deutsch, 2014). It is argued that if conflicts are managed effectively, there can be improvements in decision quality and individual and organizational performance (John-Eke & Akintokunbo, 2020).

Research on conflict management has considered the five styles presented by Rahim and Bonoma (1979): integrating, obliging, compromising, dominating and avoiding. Each conflict management style can act differently when it comes to sharing information. Mutual exchange and discussion between individuals and groups stem from the process of integrating, obliging and compromising of management styles, and can contribute to beneficial resolutions and innovative ideas, whereas dominating and avoiding conflicts would lead to deadlocks or unsatisfactory solutions (Chen et al., 2012). This exchange process is assumed to provide superior organizational performance if anchored in information sharing.

Information sharing among individuals in an organization reduces the likelihood of the use of power (Fisher et al., 2002). Consequently, this contributes to reducing the need to dominate conflicts. On the one hand, information sharing, embodied in characteristics such as quality, reliability and accuracy of information (Moores & Yuen, 2001), provides support to improve the decision-making process of stakeholders, which does not occur when there are limitations in the exchange of information (Treurniet & Wolbers, 2021). On the other hand, improvements in the decision-making process favor information sharing, which provides conditions for improving organizational performance (Beuren et al., 2020; Yang & Maxwell, 2011).

Organizational performance is approached in the literature in different ways, ranging from financial results to evaluated performance, which leads to different results. Although the literature points to connections between this construct and several others, there is a gap in the constructs addressed here and their joint analysis, which may have additional implications.

Therefore, this study examines the influence of conflict management styles, both cooperative and competitive, on information sharing and, in turn, on organizational performance. It also examines the mediation of information sharing in the relationship between conflict management styles and organizational performance. We conducted a survey with managers of agricultural cooperatives, since conflict management is necessary in the face of possible conflicts of interest between internal agents, with regard to the organization's strategies, and agency problems with cooperative members (Maciel et al., 2018).

The results of the research provide a contribution to the literature that addresses the relationships proposed here between conflict management styles and information sharing (e.g. Chen et al., 2012), information sharing and organizational performance (e.g. Khalil et al., 2019), as well as the mediating effect of information sharing (Super et al., 2016). Another contribution of this study is to position the conflict literature more centrally, as the research flow indicates that conflicts have been addressed in an isolated manner, disconnected from other topics in organizational behavior (Gelfand et al., 2012).

There are also benefits for management practice, since the need to manage conflicts in order to benefit the organization is considered. Managers should be aware of internal pressure, as it can lead to degeneration and loss of cooperative identity (Oczkowski et al., 2013). When managed properly, conflicts can help to satisfy group members, contribute to their efficiency and

organizational performance, otherwise they can cause organizational inefficiency and negative effects on results (Chen et al., 2012). Research on conflict management is important for understanding intra-organizational relationships in order to make them more effective and to guide managers in dealing with and resolving conflicts that can frustrate joint progress (Tjosvold et al., 2019).

#### THEORETICAL BACKGROUND AND HYPOTHESES

# Conflict management styles and information sharing

Conflict management is required for disagreements between group members, which can occur due to different emotions or a task (Desivilya et al., 2010). However, an individual's divergence from his or her group is not necessarily negative. Supported by the CDT, Festinger (1957) argues that if conflict is managed in such a way that action is taken as soon as possible to reduce or eliminate disagreements, it can bring benefits to the group and the organization. Dissonance can, for example, lead to discussions that stimulate team creativity and innovation and thus contribute to organizational performance and competitive advantage (Mancini & Ribiere, 2018).

Although conflicts can occur in all organizations, certain governance systems seem to favor their occurrence. One example is cooperatives, where agency problems can arise from the cooperation structure (Silva et al., 2011). The authors point out the need to adopt good governance practices in order to prevent conflicts that could jeopardize the relationship between management and cooperative members, especially in the face of unclear roles. It is argued that everyone needs to be responsible for management and participate effectively, which presupposes a system of cooperation in which everyone is focused on achieving common goals.

The literature presents different approaches to conflict management styles, but Rahim and Bonoma's (1979) conceptualization has been used systematically due to its compatibility with the propositions of Face-Negotiation Theory, which explain the influence of different elements on conflict styles (Ting-Toomey et al., 2001). This approach focuses on two main issues: the way individuals care about themselves and other members of the group; and characteristics that define them as cooperative or competitive (Rahim et al., 2000). Both combine to create five conflict management styles (Rahim & Bonoma, 1979): integrating, obliging and compromising – considered cooperative –; dominating and avoiding – qualified as competitive (Rahim et al., 2000).

The integrating and avoiding styles are the most mutually exclusive, since in the former there is a high degree of concern for oneself and others, while in the latter there is a low degree of concern for oneself and others (Rahim & Bonoma, 1979). The integrating style is defined by the exchange of information and assessment of differences in order to reach a solution that is acceptable to the parties involved and to reduce organizational conflicts through collaboration, which makes the strategy more effective (Gross & Guerrero, 2000; Rahim & Bonoma, 1979). On the other hand, the avoiding style is associated with situations of abstention, detour or evasion and aims to avoid dealing with conflict situations (Rahim & Bonoma, 1979).

In the accommodation style, there is a low degree of concern for oneself and a high degree of concern for others, in an attempt to harmonize differences and similarities (Rahim & Bonoma, 1979). In the compromising style, on the other hand, there is a moderate degree of concern for oneself and others; thus, the parties involved may give up something so that a mutually acceptable decision can be made (Rahim & Bonoma, 1979). Finally, the dominating style refers to a low degree of concern for others and a high degree of concern for oneself, so that an individual can ignore the needs and expectations of others, becoming inappropriate in various situations (Gross & Guerrero, 2000; Rahim & Bonoma, 1979).

Cooperative styles tend to be geared towards constructive negotiations and collaborative problem-solving, while in competitive styles there is a tendency towards domination among partners, who are closed to negotiations (Gelfand et al., 2012). Constructive styles enhance the development of actions that allow individuals to express their opinions, as well as favoring the identification of potential problems and a variety of perspectives to meet existing needs (Desivilya et al., 2010). Cooperative management styles seem to be prominent in the literature, possibly due to the prevalence of positive effects (John-Eke & Akintokunbo, 2020).

However, disagreements among team members can require different styles of conflict management, from cooperative to competitive. In conflict management, it is necessary to consider that disagreements in teams stimulate discussion and promote cooperative relationships, which are essential for collaboration between groups and contributions to the organization (Tjosvold et al., 2019). Constructive actions in conflict management can promote positive effects on individuals or groups in an organization, since they create conditions for the use of cognitive resources (Schulze et al., 2014). This enables problem analysis and the generation of beneficial ideas and solutions (Desivilya et al., 2010).

These actions are presumably supported by the sharing of information within the organization, and it is essential that this occurs among all team members (Mannes et al., 2022). When information is shared, stakeholders begin to cooperate in order to achieve common goals, which generates trust and can improve organizational results (Sridharan & Simatupang, 2013). Thus, constructive actions can develop more consistently when supported by information sharing. It is also assumed that cooperative management styles provide individuals with the opportunity to have a voice and express their opinions, as well as stimulating perceptions of an organizational culture that encourages knowledge sharing (Kremer et al., 2019). With these arguments, we conjecture that:

**H1a:** The cooperative conflict management style (integrating, obliging, and compromising) has a direct and positive influence on information sharing.

**H1b:** The competitive conflict management style (dominating and avoiding) has a direct and negative influence on information sharing.

# Information sharing and organizational performance

We can assess organizational performance based on goals, using financial and non-financial metrics (Novak, 2017). These parameters are also applicable to cooperatives, since they need to monitor the performance of their activities. Even if cooperatives do not aim to maximize profits, they conduct business; therefore, they need to calculate results and evaluate their performance, which does not make them any different from organizations in general, according to Amene (2017). The author argues that cooperatives need to provide goods and services to their members in order to achieve superior performance (Amene, 2017).

Evaluating performance in agricultural cooperatives is fraught with challenges, since not only do members perform different functions, but it is also difficult to obtain the information needed for calculations (Grashuis, 2018). The lack of specific standards for cooperatives leads to the adoption of traditional economic-financial and non-financial evaluation indicators (Soboh et al., 2009). This refers to the "selection" and "presentation of information" attributes, which need to be adapted to the organizational reality and strategy (Beuren & Rengel, 2012). The relevance of information in decision-making implies diversified types and sources of information, in a proper format.

From this perspective, sharing information can be important in improving organizational performance, since information with the right attributes improves the quality of decisions (Yang & Maxwell, 2011). Information sharing also has the capacity to promote conditions that help learning and the innovation process, while at the same time providing greater flexibility and understanding of what the organization wants, which are relevant aspects for competitiveness (Hatala & Lutta, 2009). However, the information must be relevant, reliable, accurate and timely (Popovič et al., 2012).

Seeking better solutions for the organization, members of a given group become more inclined to help each other by sharing information (Argote et al., 2003). Sharing information facilitates the execution of activities in teams and in the organization, providing greater satisfaction for those involved. This practice helps to reduce waste and direct employees' attention to their core competencies, offering financial and non-financial benefits (Wu et al., 2014).

These effects on individuals and teams have an impact on organizational performance. The performance of an organization also depends on the competence of its employees, who represent an important part of it and form teams that work towards achieving organizational goals (Almatrooshi et al., 2016). Teamwork, on the one hand, can promote different advantages in relation to the decision-making process; on the other hand, it requires effective sharing and use of information by all group members (Xiao et al., 2016).

In the context of agricultural cooperatives, the interaction between cohesion and internal exchanges is key to superior performance (Ruben & Heras, 2012). However, cooperative success depends on effective participation, decision-making skills and loyalty from everyone (Amene, 2017). This reinforces the need for the cooperative to invest in activities and resources that promote sharing and achievement of common interests and encourage the commitment of its members (Pesämaa et al., 2013). Wang et al. (2021) point out that cooperatives should, in addition to internal information sharing and intra-group collaboration, focus on strategic collaborations external to their environment.

Thus, the effective sharing of information can provide superior performance for the group and, consequently, for the organization, since it improves the quality of decisions (Bezrukova et al., 2009; Shin et al., 2012). Khalil et al. (2019) found, in their research, that organizational performance can be influenced by the quality of information sharing. Based on the above, we assume that:

**H2:** Information sharing has a direct and positive influence on organizational performance.

# The mediating effect of information sharing between conflict management styles and organizational performance

The way conflicts are managed determines whether they are characterized as cooperative (constructive) or competitive (destructive) – (Schulze et al., 2014; Vollmer, 2015). Song et al. (2006) observed that integrating, obliging and compromising have a positive influence on constructive conflict, while dominating and avoiding are associated with lower levels of constructive conflict. Therefore, the different conflict management styles have an impact on different aspects of groups and organizations.

The integrating style allows lines of communication to be opened, favoring the sharing of information (Gross & Guerrero, 2000). In addition, integrating and compromising are styles that can contribute to mutual exchange and open discussions among individuals within the organization, which helps in the development of beneficial solutions (Chen et al., 2012). Dominating and avoiding styles, on the other hand, frustrate the communication process and tend to trigger unsatisfactory solutions (Chen et al., 2012).

In a scenario such as that of cooperatives, where cooperation represents a guiding principle, the cooperative style of conflict management seems to be inherent to governance and the search for better organizational performance (Ruben & Heras, 2012). This assumption is reinforced in the case of agricultural cooperatives, which have, at their core, the formation of alliances with the aim of developing activities in cooperation with rural producers, in order to ensure their continuity, achieve better organizational performance and gain competitive advantage (Peñalver et al., 2018) while, at the same time, playing a relevant role in the social and economic development of the region where they are established.

The assumption is that, in the scenario described, information sharing plays an intervening role. Although we have not identified any theoretical models in the literature that address the relationships proposed in this study, there are related constructs. For example, in an experiment, Super et al. (2016) examined the effects of group incentives on information sharing, both directly and as a substitute for personality-based motivators. The results showed a link between payment based on group performance and increased information sharing.

Previous studies on cooperatives have also shown evidence of these constructs in various relationships. For example, Beuren et al. (2020) analyzed the effect of information sharing on the social responsibility of cooperatives; Beuren et al. (2019), on the performance of the strategic alliance of cooperatives; and Ruben and Heras (2012), on the performance of coffee cooperatives in Ethiopia. Although they did not analyze the mediating effect, they indicate effects of information sharing. In light of the above, we propose that:

**H3a:** Information sharing mediates the relationship between the cooperative conflict management style and organizational performance.

**H3b:** Information sharing mediates the relationship between the competitive conflict management style and organizational performance.

Figure 1 illustrates the flow of the proposed relationships between the constructs.

Conflict management styles

H1a

Cooperative

H1b

Information sharing

H3b

Control variables
- Length of time in the market
- Organizational size

Figure 1
Theoretical research model

Note: The dashed line indicates a relationship between the independent and dependent variables, mediated by information sharing.

Source: Elaborated by the authors.

We conjecture that the cooperation (H1a) and competition (H1b) conflict management styles have an effect on information sharing. We also postulate that organizational performance is impacted by information sharing (H2). Finally, we conjecture the mediating effect of information sharing on the relationship between the cooperative conflict management style and organizational performance (H3a), as well as between the competitive style and organizational performance (H3b). Conflict management styles have been segregated, given that, in the cooperative style, information sharing is greater compared to the competitive style. In addition, we added two control variables to the model.

## METHODOLOGICAL PROCEDURES

## Population and sample

We conducted a survey with professionals working in agricultural cooperatives. These cooperatives aim to give members access to markets, obtain better prices, add value to products and socialize new technologies; they also seek to bring economic and social development to their members and the region where they operate (Mariano & Albino, 2019). Thus, the choice of agricultural cooperatives stems from the alignment of their characteristics with the scope of this research and their representativeness in comparison to the other segments.

To identify the professionals working in the cooperatives' internal environment, we searched for the positions of "president", "vice-president", "director" and "manager" on the professional network LinkedIn. We selected up to three respondents per cooperative. To request participation in the network, we sent 908 invitations, 401 of which were accepted. After accepting the invitation, a link was sent to access the questionnaire on the QuestionPro platform. In order to increase the sample, the survey link was also sent to 693 professionals from Brazilian agricultural cooperatives listed on the website of the Organization of Brazilian Cooperatives (OCB).

With these procedures, there were 91 valid responses between August and October 2021. To assess the adequacy of the sample size, we considered the parameters proposed by Faul et al. (2009). For the calculation, we used the G\*Power software. Thus, the adoption of the parameters - average effect of 0.15, significance level of  $\alpha$ =0.05 and power of 1- $\theta$ =0.8 - indicated the need for a minimum of 68 responses. Based on these parameters, the 91 obtained responses proved sufficient to test the research model.

## Constructs and research instrument

The theoretical model of the research consists of three constructs: conflict management styles, information sharing and organizational performance. The research instrument (Appendix) was designed using seven-point Likert scale statements, ranging from 1 (= strongly disagree) to 7 (= strongly agree). An exception was the "information sharing" construct, in which the original scale was maintained for the statements, ranging from 1 (= to little or no extent) to 7 (= to a very large extent). The questionnaire included questions about the organizations in which the respondents work.

For conflict management styles, we used the Rahim Organizational Conflict Inventory-II (ROCI-II) scale, adapted from the research by Rahim and Magner (1995). This scale consists of 28 statements, used to assess five conflict management styles and are distributed as follows: integrating (7), obliging (6), dominating (5), avoiding (6) and compromising (4). The original statements, aimed at supervisors, were adapted according to the conflict management style of the respective group to which the respondent belongs.

We measured the "information sharing" construct using six statements adapted from the research by Ahmad and Huvila (2019). It was necessary to make adaptations for the group context, as these authors investigated information sharing in the organizational scope, with hierarchical superiors, junior colleagues, and oneself. Thus, in this study, the investigation took place in the context of the group that the respondent is part of in the organization.

For measuring the "organizational performance" construct, we used ten statements by López-Nicolás and Meroño-Cerdán (2011). These statements were related to the organization's performance over the last three years in comparison with its main competitors. Although investigated from a financial, process and internal point of view, it was considered as a single construct, called organizational performance.

The research instrument was pre-tested with three professionals in the field, who suggested only a few semantic changes before using it with professionals from agricultural cooperatives. In addition, because data collection used a single method and because individuals answered questions relating to all the variables, in order to avoid common method bias (CMB), we included an initial text clarifying the purpose of the research (Podsakoff & Organ, 1986). In addition, we emphasized that: the research follows ethical procedures, there are no right or wrong answers, and the anonymity of the respondents is guaranteed.

# **Control variables**

Two control variables were included in the research model: length of time in the market and organizational size. Measuring the length of time the organization has been active in the market consisted of evaluating the duration (in years) of the organization's activity. This variable was considered a dummy, where "1" represents organizations that are at least 20 years old and "0" those that are less than 20 years old (Bedford, 2015). The organizational size was measured by the natural logarithm of the number of professionals working directly in the cooperatives investigated, as in Bedford's research (2015). This information was collected through open-ended questions and is presented in the section that characterizes the organization.

# Data analysis techniques and procedures

We applied factor analysis to the statements in the research instrument, since it makes it possible to simplify or reduce a large number of variables by determining factors (Hair et al., 2017). The statements showed satisfactory reliability indices after removing some whose factor loading was less than 0.60, the minimum recommended for exploratory research (Hair et al., 2017). We removed one statement from the "conflict management style" construct, called integrating (statement 5), one statement from the "information sharing" construct (statement 6) and two from the "organizational performance" construct (statements 1 and 2).

We used structural equations modeling (SEM), estimated using partial least squares (PLS), to test the hypotheses, using SmartPLS 3.0. SEM is a multivariate analysis technique, which combines factor analysis and multiple regression methods, used to examine the structure of the relationships between constructs (Hair et al., 2017). In the model, the construct "conflict management styles" was implemented as a second-order construct (Hair et al., 2017), which consists of cooperative styles (integrating, obliging, and compromising) and competitive styles (dominating and avoiding).

To analyze the measurement model and the significance of the relationships between the latent variables, we considered bootstrapping with 5,000 resamples, the bias-corrected and accelerated confidence interval and the two-tailed test (Hair et al., 2017).

### **DESCRIPTION AND ANALYSIS OF THE RESULTS**

The survey respondents work in agricultural cooperatives in the following segments: supply goods and inputs (42%); industrial products of animal origin (18%); and industrial products of plant origin (18%). However, some cooperatives operate in more than one segment. They are mainly located in the South (46%) and Southeast (31%). In terms of length of time in the market, it varies between 6 and 96 years, with an average of 34 years. The majority are large companies, as 68% have more than 100 employees.

The demographic profile of the respondents indicated that 91% were male. The age range varied between 23 and 70 years, with a sample average of 47 years. Regarding the position or role they hold in the cooperative, 5% indicated presidency or vice-presidency, 8% directorship, and 87% management. The position or role they hold in the cooperative suggests that the respondents meet the necessary conditions to answer the questionnaire.

# Measurement model

The first step in analyzing the measurement model is to assess reliability, to measure the internal consistency of the items in each construct, and validity, to assess the degree to which the items are measurable (Hair et al., 2017). Table 1 shows the values in two panels, segregating the first- and second-order constructs. Modeling of the latent variables considered the repetition of the indicators of the first-order variables in the second-order variable.

Table 1
Reliability and convergent validity

| Panel A - Reliability and convergent validity - 1st order constructs          |                     |       |             |       |  |  |  |
|---|---------------------|-------|-------------|-------|--|--|--|
| Variables   | Cronbach's<br>alpha | rho_A | CR          | AVE   |  |  |  |
| 1. Integrating  | 0.794               | 0.800 | 0.853       | 0.492 |  |  |  |
| 2. Obliging   | 0.863               | 0.875 | 0.875 0.896 |       |  |  |  |
| 3. Compromising   | 0.751               | 0.764 | 0.843       | 0.574 |  |  |  |
| 4. Dominating   | 0.838               | 0.860 | 0.885       | 0.610 |  |  |  |
| 5. Avoiding   | 0.846               | 0.850 | 0.887       | 0.567 |  |  |  |
| Panel B - Reliability and convergent validity - Main and 2nd order constructs |                     |       |             |       |  |  |  |
| Variables   | Cronbach's<br>alpha | rho_A | CR          | AVE   |  |  |  |
| 1. Cooperative conflict management styles                                     | 0.867               | 0.875 | 0.827       | 0.615 |  |  |  |
| 2. Competitive conflict management styles                                     | 0.833               | 0.842 | 0.787       | 0.649 |  |  |  |
| 3. Information sharing  | 0.774               | 0.818 | 0.844       | 0.524 |  |  |  |
| 4. Organizational performance   | 0.898               | 0.907 | 0.918       | 0.584 |  |  |  |

Note: Cronbach's Alpha (>0.70); rho\_A (>0.70); CR = Composite Reliability (>0.70); AVE = Average Variance Extracted (>0.50).

Source: Research data.

The research model shows validity and reliability, with Cronbach's alpha, rho\_A and composite reliability (CR) greater than 0.70 for all constructs, both first and second order. As for convergent validity, measured by the average variance extracted (AVE), the first-order construct, called integrating, had the lowest convergent validity; however, since its value is close to 0.50, it enables validation. Among the second-order constructs, information sharing had the lowest value. For the discriminant validity analysis, we used the Fornell-Larcker criteria, and it is shown in Table 2.

Table 2
Correlations and results of discriminant validity

| Panel A - Correlations and discriminant validity - 1st order constructs          |        |        |        |        |       |      |  |
|--|--------|--------|--------|--------|-------|------|--|
| Variables  | 1      | 2      | 3      | 4      |       | 5    |  |
| 1. Integrating   | 0.702  |        |        |        |       |      |  |
| 2. Obliging  | 0.439  | 0.769  |        |        |       |      |  |
| 3. Compromising  | 0.414  | 0.430  | 0.758  |        |       |      |  |
| 4. Dominating  | -0.097 | 0.264  | 0.195  | 0.783  | 1     |      |  |
| 5. Avoiding  | -0.037 | 0.232  | 0.258  | 0.300  | 0.    | .753 |  |
| Panel B - Correlations and discriminant validity - Main and 2nd order constructs |        |        |        |        |       |      |  |
| Variables  | 1      | 2      | 3      | 4      | 5     | 6    |  |
| 1. Cooperative conflict management styles  | 0.784  |        |        |        |       |      |  |
| 2. Competitive conflict management styles  | 0.201  | 0.805  |        |        |       |      |  |
| 3. Information sharing   | 0.399  | -0.099 | 0.724  |        |       |      |  |
| 4. Organizational performance  | 0.249  | -0.039 | 0.339  | 0.764  |       |      |  |
| 5. Length of time in the market  | -0.063 | 0.071  | -0.153 | -0.149 | -     |      |  |
| 6. Organizational size   | -0.036 | -0.154 | -0.090 | -0.006 | 0.409 | -    |  |

Note: The values in bold represent the square roots of the AVE; the lower diagonal indicates the correlations for access to the Fornell-Larcker criterion.

Source: Research data.

Discriminant validity shows that the assumptions of the Fornell-Larcker criterion have been met, since the square root of the AVE is greater than the correlation between the first- and second-order constructs (Hair et al., 2017). The results of the tests of the measurement model for reliability and convergent validity, as well as discriminant validity, allow us to proceed with the analysis of the structural model and test the hypotheses.

# Structural model

We estimated the path coefficients for the proposed model using the SmartPLS software. The results are in Table 3.

Table 3
Results of the structural model - Direct effects

| Hypotheses |  | Beta (β) | t-statistic | p-value  | F <sup>2</sup> |
|------------|--|----------|-------------|----------|----------------|
| H1a        | Cooperative conflict management styles $ ightarrow$ Information sharing  | 0.436    | 3.733       | 0.000*** | 0.226          |
| H1b        | Competitive conflict management styles $\rightarrow$ Information sharing | -0.186   | 1.774       | 0.081*   | 0.041          |
| H2         | Information sharing → Organizational performance                         | 0.267    | 1.787       | 0.074*   | 0.066          |
| -          | Length of time in the market $\rightarrow$ Organizational performance    | -0.127   | 1.105       | 0.269    | 0.015          |
| -          | Organizational size → Organizational performance                         | 0.072    | 0.587       | 0.557    | 0.005          |

Note 1: \*p<0.10; \*\*p<0.05; \*\*\*p<0.01.

Note 2: R<sup>2</sup>: Information sharing = 0.187; Organizational performance = 0.190. Q<sup>2</sup>: Organizational performance = 0.094.

VIF: Minimum value = 1.000 and Maximum value = 1.232.

Source: Research data.

The construct "conflict management styles" was separated into H1a, which predicts a direct and positive relationship between cooperative conflict management styles and information sharing, and H1b, which predicts a direct and negative relationship between competitive conflict management styles and information sharing. In both hypotheses, H1a (p<0.01) and H1b (p<0.10), there is support for not rejecting them. H2, which predicts a relationship between information sharing and organizational performance, shows significance (p<0.10), which supports the non-rejection of the hypothesis. The control variables, length of time in the market and organizational size, do not seem to influence organizational performance.

In addition to the path coefficients, when evaluating the structural model, we assessed the variance inflation factor (VIF) values, for which values below 3.0 are recommended (Hair et al., 2017). The VIF values of the constructs met the established criteria, indicating the absence of multicollinearity. The analysis of explained variance ( $R^2$ ) indicated a medium effect (Ringle et al., 2014) in relation to the "organizational performance" construct (19.0%). The predictive relevance ( $Q^2$ ) showed a value greater than zero (Hair et al., 2017), which indicates predictive relevance for the organizational performance construct.

The effect size test ( $F^2$ ) was based on redundancy (Blindfolding module). The results of the  $F^2$  test indicate a medium effect for the relationship between cooperative conflict management styles and information sharing, and a small effect for the other proposed relationships. For this evaluation, we followed Cohen's (1988) guidelines: an  $F^2$  equal to 0.02 indicates a small effect; equal to 0.15, a medium effect; and equal to 0.35, a large effect.

Table 4 shows the results of the analysis of the indirect effects of the structural model.

Table 4
Results of the structural model - Indirect effects

|     | Hypotheses   | Beta (β) | t-statistic | p-value |
|-----|--|----------|-------------|---------|
| НЗа | Cooperative conflict management style $\rightarrow$ Information sharing $\rightarrow$ Organizational performance | 0.116    | 1.604       | 0.109   |
| НЗЬ | Competitive conflict management style $\rightarrow$ Information sharing $\rightarrow$ Organizational performance | -0.05    | 1.185       | 0.236   |

Note: \*p<0.10; \*\*p<0.05; \*\*\*p<0.01

Source: Research data.

The indirect effects reveal that the cooperative conflict management style does not influence organizational performance through information sharing ( $\beta$ =0.116, p-value=0.109). Similarly, the competitive conflict management style was not significant. Thus, it is reasonable to reject hypotheses H3a and H3b.

#### **DISCUSSION OF RESULTS**

The discussion was based on the research hypotheses. In the case of H1a, which predicted a positive relationship between cooperative conflict management styles and information sharing, there is support for not rejecting it ( $\beta$ =0.430; p<0.01). This result is in line with the findings of Desivilya et al. (2010), in which the integration of teams in conflict management plays an important role in the ability to mitigate the adverse effect of relationship conflict and maximize the potential gains from task conflict. In the context of cooperative conflict management styles, the respondents assigned higher values to the integrating statements than to the obliging and compromising statements. The role of "integrating" in information sharing is manifested in statements such as "I exchange accurate information with my group members so we can solve a problem together" and "I collaborate with my group members to come up with decisions acceptable to us".

H1b, which predicted a negative relationship between competitive conflict management styles and information sharing, was supported ( $\beta$ =-0.187; p<0.10) and, therefore, not rejected. The negative effect found in H1b, in contrast to the positive effect in H1a, is compatible with the results of the study by Rahim and Bonoma (1979), in which the "integrating" (cooperative) and "avoiding" (competitive) styles were the most mutually exclusive. In the investigated cooperatives,

managers attributed lower values to competitive conflict management styles compared to cooperative styles, and avoiding styles were less prominent than dominating styles. The lower values observed in this style, in statements such as "I use my influence to get my ideas accepted" and "I sometimes use my power to win a competitive situation", indicate that the respondents do not use their influence or power for their own benefit. It follows that they usually listen to and share information with group members.

The evidence allows us to infer, given the support for not rejecting H1, that cooperative conflict management styles have a positive impact on information sharing in agricultural cooperatives, while competitive styles have a negative impact. In line with the literature, cooperative conflict management styles lead to fewer conflicts in groups, due to the management of threats and reduction of frustrations arising from misunderstandings (Esbati & Korunka, 2021). For these authors, this may be due to the encouragement of communication, since it allows disagreements to be verbalized in a useful and less obstructive way. On the other hand, competitive conflict management styles can increase emotional disagreements and damage interpersonal relationships and the union of the group, leading individuals to contribute less at work and thus impact results (Chen et al., 2012).

H2 predicted a direct and positive relationship between information sharing and organizational performance, which was confirmed ( $\beta$ =0.262; p<0.05), with no reason to reject it. This finding is in line with the studies by Bezrukova et al. (2009), Khalil et al. (2019) and Shin et al. (2012), according to which information sharing can provide conditions for improving organizational performance. However, it is necessary to observe and manage the group's interaction patterns, since they can stimulate or inhibit the way information sharing occurs (Super et al., 2016). In agricultural cooperatives, sharing information can be decisive in terms of performance, since this group behavior is a potential incentive for farmers to access new markets and technologies, more attractive prices and greater added value, as well as reinforcing cooperative principles (Mariano & Albino, 2019).

The results of the research indicate a high degree of agreement among the top managers of the cooperatives regarding the importance of sharing information with all members of the group and with senior and junior managers. This is due to their perception that, in this way, their organizations can achieve greater growth and profitability compared to their competitors. This scenario can be illustrated through statements such as "I share work-related information with the other members of my group" and "the members of my group share a lot of work-related information with me". Thus, sharing information drives the group to seek superior solutions, which provides advantages and conditions to leverage their performance, optimize tasks and the organization (Super et al., 2016; Yang & Maxwell, 2011).

In addition to direct relationships, we also analyzed indirect effects. However, the mediating effects of information sharing on the relationship between cooperative and competitive conflict management styles and organizational performance were not confirmed. Thus, hypotheses H3a and H3b were not supported. This finding contrasts with studies on cooperatives that have shown the effect of information sharing on social responsibility (Beuren et al., 2020), strategic alliance performance (Beuren et al., 2019) and organizational performance (Ruben & Heras, 2012). However, these studies did not investigate the mediating effect, which was added to the model in this study.

The control variables "length of time in the market" and "organizational size", included in the model, did not show statistically significant evidence of a relationship with organizational performance. These findings are not completely in line with those of Bedford (2015), who noted the importance of the length of time in the market. We conjecture that the lack of statistical significance of the control variables may be due to the fact that the investigated agricultural cooperatives share common characteristics: the majority (68%) are large and have been operating in the market for more than 20 years, with an average of 34 years. Organizations that have been active in the market for a long time and have a larger structure tend to outperform smaller, less established organizations (Bedford, 2015; Detthamrong et al., 2017).

The propositions of the CDT support the research findings, as they highlight the need to manage conflicts in order to reduce their negative effects on the organizational environment. In a cooperative environment, there are conditions that enable information sharing and, consequently, boost organizational performance. At the heart of cooperatives is the pursuit of common goals, which can be a determining factor for internal cohesion and organizational performance (Ruben & Heras, 2012). This reinforces the need for cooperative management that encourages information sharing, such as expressing conflicts through debates, in order to generate beneficial results and increase information sharing (Tsai & Bendersky, 2016). Therefore, it is necessary to create a governance structure that allows for the management of conflicts among all the agents involved, managers or cooperative members, whether they have any knowledge or not (Maciel et al., 2018).

## **CONCLUSION AND IMPLICATIONS**

This study assessed the influence of conflict management styles, both cooperative and competitive, on information sharing and, in turn, on organizational performance. It also assessed the mediation of information sharing in the relationship between conflict management styles and organizational performance. The results showed that conflict management styles influence information sharing, with this relationship being positive for cooperative styles (integrating, obliging and compromising) and negative for competitive styles (dominating and avoiding). Information sharing had a direct effect on organizational performance. However, the mediating effects of information sharing on the relationship between cooperative and competitive conflict management styles and organizational performance were not confirmed. Finally, the statistical evidence did not confirm the effect of the control variables on organizational performance, indicating that the length of time in the market and organizational size do not seem to be determining factors in the performance of cooperatives.

Based on the results, we conclude that cooperative conflict management is able to promote information sharing and, consequently, improve organizational performance, which is not the case with competitive management. Studies show that effective conflict management can improve personal and organizational performance, but point out the need to observe the different situational contexts, as each management style is appropriate for a specific circumstance (Chen et al., 2012). The contributory nature of cooperative conflict management styles is implicit. This encourages the adoption of these styles in the cooperative environment, to facilitate information sharing and promote better organizational performance.

The results of this research present implications for the literature that addresses the relationship between conflict management styles and information sharing (Desivilya et al., 2010). In this respect, it confirms the results of studies that observed an association between information sharing and organizational performance (Bezrukova et al., 2009; Shin et al., 2012). In addition to corroborating the results of previous studies, this study offers new perspectives on the proposed relationships. It is noteworthy that several studies that addressed cooperative aspects and information sharing have considered the context of supply chains (e.g. Nazifa & Ramachandran, 2019). On the other hand, the contribution of this research is to broaden the perspective of observing information sharing beyond the context of external relations, focusing on the internal environment of agricultural cooperatives.

The results also contribute to management practice. We emphasize the importance of encouraging beneficial conflicts and adopting conflict management strategies that lead to the best performance of groups and the organization as a whole, preventing conflicts from becoming destructive forces within the groups. In addition, actions to encourage information sharing are necessary, in order to increase competitiveness and improve organizational performance. Sharing information enables improvements in efficiency, learning, innovation and understanding of organizational goals, and contributes to improving performance (Hatala & Lutta, 2009; Yang & Maxwell, 2011). In this context, cooperatives often form alliances to cooperate on projects aimed at gaining competitive advantage and improving performance (Peñalver et al., 2018).

The limitations of this study may provide insights for further research. The need to exclude statements from the constructs "conflict management style", "information sharing" and "organizational performance" in the factor analysis may be due to the transposition of the original statements to the context of this research. Therefore, we recommend using other research instruments that have already been validated in similar contexts. In this research, we grouped conflict management styles into cooperative and competitive. Future research can analyze conflict management styles separately and investigate another cooperative segment. There is also the possibility of adding variables relating managers' characteristics to conflict management styles. Despite the measures taken to overcome the problems of common method bias, it is recommended that future research consider other ways of empirically measuring the constructs, such as longitudinal and in-depth studies. This can also help to overcome limitations arising from surveys, such as the respondents considering a desired situation that does not necessarily represent the situational reality, or having a biased perception of the phenomenon under investigation.

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Renata Mendes de Oliveira: Project administration (Equal); Supervision (Equal); Validation (Equal); Visualization (Lead); Writing-original draft (Lead); Writing-review & editing (Equal).

Ilse Maria Beuren: Project administration (Equal); Supervision (Equal); Validation (Equal); Visualization (Supporting); Writing - original draft (Supporting); Writing - review & editing (Equal).

#### DATA AVAILABILITY

The dataset supporting the results of this study is not publicly available.

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#### **APPENDIX**

# **QUESTIONNAIRE**

# 1. Conflict management styles (Rahim & Magner, 1995)

Indicate to what extent each of the statements below characterizes the conflict management style of the group you belong to in your organization. Scale from 1 (totally disagree) to 7 (totally agree).

# **Integrating**

- 1. I try to investigate an issue with my group members to find a solution acceptable to us.
- 2. I try to integrate my ideas with those of my group members to come up with a decision jointly.
- 3. I try to work with my group members to find solutions to a problem that satisfies all our expectations.
- 4. I exchange accurate information with my group members so we can solve a problem together.
- 5. I try to bring all our concerns out in the open so that the issues can be resolved in the best possible way. (\*)
- 6. I collaborate with my group members to come up with decisions acceptable to us.
- 7. I try to work with my group members to develop a proper understanding of the task.

# **Obliging**

- 8. I generally try to satisfy the needs of my group members.
- 9. I usually accommodate the wishes of my group members.
- 10. I give in to the wishes of my group members.
- 11. I usually concede to my group members.
- 12. I often go along with the suggestions of my group members.
- 13. I try to satisfy the expectations of my group members.

# **Dominating**

- 14. I use my influence to get my ideas accepted.
- 15. I use my authority to get my ideas accepted.
- 16. I use my expertise to help my group members make a decision in my favor.
- 17. I am usually firm in pursuing my side of an issue.
- 18. I sometimes use my power to win a competitive situation.

# Avoiding

- 19. I attempt to avoid being "put on the spot" and try to keep my conflict with my group members to myself.
- 20. I usually avoid open discussion of my differences with my group members.
- 21. I try to stay away from disagreeing with my group members.
- 22. I avoid clashing with my group members.
- 23. I try to keep any disagreement with my group members to myself in order to avoid hard feelings.
- 24. I avoid any unpleasant exchanges with my group members.

# **Compromising**

- 25. I try to find a middle course to resolve an impasse my group has reached.
- 26. I usually propose a middle ground for breaking deadlocks.
- 27. I negotiate with my group members so we can reach a compromise.
- 28. I "give and take" so a compromise can be made.

# **2. Information sharing** (Ahmad & Huvila, 2019)

Indicate to what extent each of the statements below characterizes information sharing in the group you belong to in your organization. Scale from 1 (little or no extent) to 7 (very large extent).

- 1. I share work-related information with the other members of my group.
- 2. I share work-related information with the superiors of my group.
- 3. I share work-related information with the junior members of my group.
- 4. My group members share a lot of work-related information with me.
- 5. My junior group members share a lot of information with me.
- 6. My superior group members share a lot of work-related information with me. (\*)

# 3. Organizational performance (López-Nicolás & Meroño-Cerdán, 2011)

Indicate to what extent each of the statements below characterizes your organization's performance over the last three years in comparison with its main competitors. Scale from 1 (totally disagree) to 7 (totally agree).

- 1. It is growing faster. (\*)
- 2. It is more profitable. (\*)
- 3. It achieves higher customer satisfaction.
- 4. It provides higher quality products and/or services.
- 5. It is more efficient in using resources.
- 6. It has internal processes oriented to quality.
- 7. It delivers orders more quickly.
- 8. It has more satisfied employees.
- 9. It has more qualified employees.
- 10. It has more creative and innovative employees.

Note: (\*) Statements removed because their factor loading was less than 0.60.