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UNPACKING THE SALES CROSS-FUNCTIONAL COLLABORATION: THE ROLE OF SOCIAL IDENTIFICATION AND ORGANIZATIONAL RECIPROCITY
UNPACKING THE SALES CROSS-FUNCTIONAL COLLABORATION: THE ROLE OF SOCIAL IDENTIFICATION AND ORGANIZATIONAL RECIPROCITY

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UNPACKING THE SALES CROSS-FUNCTIONAL COLLABORATION: THE ROLE OF SOCIAL IDENTIFICATION AND ORGANIZATIONAL RECIPROCITY

Tese apresentada como requisito parcial para obtenção do grau de doutor em Administração, do Programa de Pós-Graduação em Administração, da Universidade Estadual de Maringá, sob apreciação da seguinte banca examinadora:

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ABSTRACT

Sales' cross-functional collaboration networks are essential to improve key performance results. Salespeople engage in cross-functional networks when be motivated to act as knowledge brokers, sharing and seeking information with colleagues throughout the organization. However, social network literature focuses only on the results of cross-functional collaboration and does not discuss the factors that influence non-collaboration and the boundary conditions that encourage collaboration. Thus, the purpose of this study was to analyze how organizational reciprocity influences the multiple foci of social identification (organizational and workgroup identifications) to increase the sales' cross-functional collaboration, which in turn, improves performance results. First, based on the social identity theory, we suggest that workgroup identification negatively affects sales' cross-functional collaboration and that organizational identification attenuate this negative effect. Second, based on the theory of reciprocity, we propose that perceived organizational reciprocity amplifies the moderating effect of organizational identification on the relationship between workgroup identification and sales' cross-functional collaboration. Based on the social network literature, we also argue that sales' cross-functional collaboration has positive effects on sales performance and relational performance. We conducted a field study at an agricultural equipment dealership. We used network data of the 81 salespeople to identify cross-functional collaboration. We performed multiple linear regressions to test the hypotheses. We confirmed all hypotheses, demonstrating the negative effect of workgroup identification on sales' cross-functional collaboration and how organizational identification was attenuated this negative effect. We demonstrated that perceived organizational reciprocity amplified the moderating effect of organizational identification on the relationship between workgroup identification and sales' cross-functional collaboration. We also showed that sales' cross-functional collaboration increased sales and relational performances.

RESUMO

As redes de colaboração interfuncional dos vendedores são essenciais para melhorar resultados chaves de desempenho. Para que as redes interfucionais se desenvolvam, os vendedores devem estar motivados para atuar como corretores de conhecimento, compartilhando e buscando informações com colegas de toda a organização. Todavia, a literatura de redes sociais tem uma ênfase apenas nos resultados da colaboração interfuncional e não discutem os fatores que influenciam a não-colaboração bem como as condições de fronteira que encorajam a colaboração. Assim, o objetivo desse estudo foi analisar como a reciprocidade organizacional influencia os múltiplos focos de identificação social (identificação organizacional e identificação com grupo de trabalho) para aumentar a colaboração interfuncional dos vendedores, que por sua vez, melhoram os resultados de desempenho. Primeiro, baseado na teoria da identidade social, sugerimos que a identificação com o grupo de trabalho afeta negativamente a colaboração interfuncional dos vendedores e que a identificação organizacional atenua esse efeito negativo. Segundo, baseado na teoria da reciprocidade, promos que a reciprocidade organizacional percebida amplifica o efeito moderador da identificação organizacional sobre a relação entre identificação com o grupo de trabalho e colaboração interfuncional dos vendedores. Apoiado pela literatura de redes sociais, nós consideramos que a colaboração interfuncional dos vendedores tenha uma relação positiva com desempenho em vendas e desempenho relacional. Realizamos um estudo de campo em uma concessionária de equipamentos agrícolas, que contou com a participação de 81 vendedores. Nós utilizamos dados da rede dos vendedores para identificar a colaboração interfuncional. Realizamos regressões lineares múltiplas para testar as hipóteses de efeitos diretos, moderação dupla e moderação tripla. Todas as hipóteses foram confirmadas, demonstrando o efeito negativo da identificação com o grupo na colaboração interfuncional dos vendedores e como a identificação organizacional atenua esse efeito negativo. Demonstramos que a reciprocidade organizacional percebida amplifica o efeito moderador da identificação organizacional sobre a relação entre identificação com o grupo de trabalho e colaboração interfuncional dos vendedores. Confirmamos também que quando os vendedores possuem uma rede de colaboração interfuncional elevada, o desempenho em vendas e o desempenho relacional dos vendedores aumentam.

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1 INTRODUCTION

Sales’ cross-functional collaboration as the number of ties with colleagues of other key areas of the organization to providing customer-related knowledge and seeking knowledge to improve sales approaches (Claro & Ramos, 2018, Rapp, Agnihotri & Baker, 2015; Menguc et al., 2011; Van den Hooff & Van Weenen, 2004). Research highlights the importance of salespeople’s knowledge to essential marketing outcomes (Claro & Kamakura, 2017; Anaza & Nowlin, 2017; Verbeke, Dietz & Verwall, 2011; Menguc, Auh & Kim, 2011; Yilmaz & Hunt, 2001). The salespeople’s knowledge shared within the organization improves sales performance (Claro & Ramos, 2018; Ahearne, Lam, et al., 2013), maintains satisfactory customer relationships (Hughes, Le Bon, & Malshe 2012), and increases competitive advantage for organizations (Gonzalez, Claro & Palmatier, 2014). Although the literature on salespeople’s knowledge transfer is successful, researchers have recently shown a concern to investigate the transfer of knowledge in a cross-functional collaboration way (Claro & Ramos, 2018).

The salespeople’s engagement in cross-functional collaboration is a new role added to the traditional sales roles (Rapp et al., 2017). Collaborate with knowledge sharing is necessary in the face of the various transformations that occurred in the customer consumption journey, mainly due to the new technologies that have changed the purchase and sale transactions (Lemon & Verhoef, 2016; Moncrief, 2017), and increased the need to respond to the customers’ needs (Hartmann, Wieland & Vargo, 2017). Several studies highlight the importance of salespeople share knowledge in cross-functional collaboration networks (Hayati, Atefi & Ahearne, 2018; Claro & Ramos, 2018, Bolander et al., 2015; Gonzalez et al., 2014; Ustuner & Iacobucci, 2012; Steward et al., 2010).

However, the research flows occurs separately in two different ways. On the one way, social network literature analyzes network attributes that influence sales' cross-functional collaboration and its consequents on performance (e.g., Hall et al., 2017; Rouziès & Hulland, 2014; Plouffe et al., 2016; Claro & Ramos, 2018; Gonzalez et al., 2014). On another way, social psychology literature examines the organizational factors that encourage the knowledge-sharing behavior of the salespeople (e.g., Anaza & Nowlin, 2017; Auh & Menguc, 2013; Menguc et al., 2011; Madhavaram & McDonald, 2010). Despite the importance of the salespeople’s collaboration to share knowledge, studies that examined how the psychological or social aspects of salespeople influence negatively and positively sales’ cross-functional
collaboration and its consequences for performance is lacking (Bolander et al., 2015; Anaza & Nowlin, 2017). In general, sales management researchers -- drawing from the social network and social psychology literature -- view salespeople as “internal knowledge broker” (Plouffe, 2018, p. 249), but ignore factors that influence non-collaboration and their boundary conditions. To address this gap, we develop and empirically validate a framework of the antecedents and consequences of sales’ cross-functional collaboration.

The first research goal is to investigate how multiples social identification motivates salespeople to participate in cross-functional collaboration networks. Little is known about how psychological aspect - as social identification - influences the collaboration of individuals in collaboration networks (Casciaro et al., 2015). Social identification consists of a cognitive, psychological and emotional attachment that an individual develops with a social group (Ashforth, 2016), generating ingroup favoritism (Brewer, 2007). Ingroup favoritism refers to the own tendency to favor the social group that he/she identifies and discriminate against other social groups (Turner, Brown & Tajfel, 1979; Pettigrew & Meertens, 1995). Initially, we argue that when workgroup identification is high, the salespeople tend to favor their sales workgroup (i.e., ingroup favoritism) and consider individuals from other functions as outgroup members, reducing the cross-functional collaboration. Next, we argue that the salespeople's organizational identification attenuate the negative effect of the workgroup identification on sales’ cross-functional collaboration. The organizational identification becomes a superordinate entity to the workgroup (Gaertner et al., 1994; Ashforth, Harrison & Corley, 2008) resulting from recategorization in which the salespeople include ingroups and outgroup members in a single social group representation (Urban & Miller, 1998).

The second research goal is to investigate how perceived organizational reciprocity encourages increasing the involvement of salespeople in cross-functional collaboration networks. Perceived organizational reciprocity is the extent that a subordinate perceived of a set of organizational practices that were increasing motivation and providing opportunities for employees to engage in reciprocity (Baker & Dutton, 2007; Baker, 2012). Specifically, we propose that perceived organizational reciprocity amplify the effect of multiples social identification on sales' cross-functional collaboration by compensate the costs of sales' cross-functional collaboration and activate the norm of reciprocity. The norm of reciprocity is a universally accepted moral principle that governs social relations by defining as the obligation the act of repaying a favor received (Gouldner, 1960; Molm, Collet & Schaefer, 2007; Mauss, 1924) and generated gratitude in the receptor of the favor (Baker, 2012).
The third research goal is to investigate how sales’ cross-functional collaboration improves key performance outcomes. Although social networks literature provides several studies that investigate the effects of intra-functional collaboration on sales performance, there is still no consensus on the positive or negative effects of sales’ cross-functional collaboration on sales performance. Researchers report that a large number of ties amplifies sales performance by providing non-redundant information and sales’ expertise (Bolander et al., 2015; Ustuner & Iacobucci, 2012; Steward et al., 2010). Otherwise, researchers say that a large number of ties is challenging to manage and that some ties are better than others, therefore, hurting sales performance (Claro & Ramos, 2018; Rouzies & Hulland, 2014). We follow the first point the view and argue that in the agricultural implements retail context, the total ties of the salespeople in the company increases the sales performance. Indeed, while sales performance is sales-oriented and focuses on short-term results, relational performance is customer oriented and focuses on long-term results (Ogilvie et al., 2017, Rust, Moorman & Dickson, 2002). Relational performance catches the customer-relationship initiatives such as that of problem solve and solution development (Claro & Ramos, 2018). To the best of our knowledge, this study is the first to assess the relational performance implications of sales’ cross-functional collaboration.

1.1 RESEARCH GOALS

The primary goal of this study is to analyze how perceived organizational reciprocity influences the multiple foci of social identification (organizational and workgroup identifications) to impact sales’ cross-functional collaboration, which in turn, improves performance results.

The secondary specific objectives are to:

a) Analyze the direct effect of workgroup identification on sales’ cross-functional collaboration.

b) Analyze the direct effects of sales’ cross-functional collaboration on sales performance and relational performance.

c) Analyze the moderating effect of organizational identification on the relationships between workgroup identification on sales’ cross-functional collaboration.
d) Analyze the moderating impact of perceived organizational reciprocity on the effect of interaction between organizational identification and workgroup identification on sales' cross-functional collaboration.

1.2 RESEARCH MAIN ASSUMPTION

Our central thesis is that the perceived organizational reciprocity amplifies the moderating effect of organizational identification on the relationship between workgroup identification and sales’ cross-functional collaboration.

The theoretical logic behind the three-way moderating effect of perceived organizational reciprocity x organizational reciprocity x workgroup identification on sales' cross-functional collaboration is that organizational reciprocity compensates the costs from sales’ cross-functional collaboration and activate the norm of reciprocity. Drawing from the theory of reciprocity (Gouldner, 1960, Baker & Dutton, 2007; Baker, 2012), we defend that high perceived organizational reciprocity would be considered an act of generosity by the salespeople, creating the sense of obligation and gratitude (Baker, 2012; Robinson, Kraatz & Rousseau, 1994), motivating increases sales’ cross-functional collaboration.

1.3 JUSTIFICATION

In this subsection chapter, we presented the research contribution to the social identity theory and theory of reciprocity, and how both explain to sales’ cross-functional collaboration. Next, we show the relevance of this research to the sales context.

1.3.1 Research contribution

First, we contribute with intra-organizational sales networks literature by examining how identification with workgroup may reduce the involvement of salespeople’s cross-functional collaborations. In social network literature, researchers suggest that the psychological attachment of the individual is a reason to collaborate in intra-organizational networks (Reagans & McEvily, 2003; Hansen, 1999). These studies of the social network literature commonly examine the strength of ties or network cohesion to explain the motives of an individual deciding to collaborate with his/her peers. Although this is relevant, we argue
that the strength of ties or network cohesion captures information of the existents networks and not captures motives that an individual choose to enter a network. Besides, the simple fact that two salespeople interact with colleagues of other key areas in the network’s workplace (Steward et al., 2010) does not imply that they will automatically transfer of knowledge in intra-organizational networks. Indeed, despite the crucial role of motivation as a determinant of employee behavior, organizational literature generally has neglected psychological aspects as antecedents of employees’ motivation to engage in collaborative knowledge networks (Casciaro et al., 2015). Our proposal highlights a psychological aspect (i.e., workgroup identification) that in high level restricts the creation of the cross-functional intra-organizational networks.

Second, we contribute to social identification theory by bringing the discussion of how the ingroup favoritism present in workgroup identification reduces sales’ cross-functional collaboration, and how the recategorization of the social identification promoted by the organizational identification attenuates these results. The social identification literature has shown that the identification of employees in specific groups inside or outside the organization guides their decisions and helps to explain their actions of collaboration (Johnson et al., 2006, Hekman, Bigley et al., 2009; Hekman, Steensma et al., 2009; Wieseke et al., 2012). Consistent with this propose, Horton e Griffin (2017, p. 294) suggest that “interactions between career, functional subgroup, and organizational identification predict changes in process, task, and relationship conflict amongst cross-functional team members.” Although there is literature on this topic since the second half of the twentieth century (Miscenko & Day, 2016), little studies examined how social identification influences the collaboration of individuals.

Third, the literature has revealed organizational identification is a basis that positively influences a variety of attitudes and behaviors desired by organizations (Lee, Park & Koo, 2015). However, researchers questioned the ubiquity of organizational identification (Ashforth, 2016; Ramarajan, 2014). For example, workgroup identification can also coexist and contrast with organizational identification. The workgroup identification occurs at the interpersonal and affective level so that idiosyncratic relationships with co-workers overlap with organizational identification because the latter happens in a more abstract and normative way (Miscenko & Day, 2016; Johnson, Chang & Yang, 2010). This recent preoccupation with other focus of social identification gave rise to several calls to invite researchers to advance the recognition of multiple identifications in the workplace (see Ramarajan, 2014, Miscenko & Day, 2016, Ashforth, 2016). Thus, the understanding of how organizational identification
and workgroup identification impact in an isolated and simultaneous manner in the sales’ cross-functional collaborations becomes relevant for the literature of social identification, justifying the proposal of this research.

Fourth, we use the theory of reciprocity (Gouldner, 1960) to explain how organizations can manage multiples social identifications to increase salespeople’s collaboration. Although the literature has given recent attention to reciprocity as a valuable resource for sales force management (Chung & Narayandas, 2017), the research did not find a direct expressive effect of organizational reciprocity on sales performance. In our view, organizational reciprocity is not sufficient to increases sales performance directly because does not have the same function as incentives. The incentives are conditioned to greater salespeople's effort in sales activities. The organizational reciprocity - activated by unconditional compensation - encourages non-sales activities as sales' cross-functional collaboration. This research contributes to the theory of reciprocity when suggests that the organizational reciprocity is a mechanism that the organization can use to provide stability in the relations with its employees, acting jointly with the multiple foci of social identification to provide cross-functional collaboration. While the literature of social identification is based exclusively on the notion that individuals present a tendency for ingroup favoritism, the norm of reciprocity shows how the organization can to regulate and further intergroup social interactions.

Finally, this research contributes to sales network literature by examining how sales’ cross-functional collaboration contributes to other key outcomes beyond sales performance. Recent research revealed that salespeople’s cross-functional collaboration impacts sales performance (Claro & Ramos, 2018; Bolander et al., 2015; Gonzalez et al., 2014, Ploufee et al., 2016), but evidence provided mixed results. On the one way, researchers report that a large number of ties amplify sales performance by providing non-redundant information and sales’ expertise (Bolander et al., 2015; Ustuner & Iacobucci, 2012; Steward et al., 2010). Otherwise, researchers say that a large number of ties is challenging to manage and that some ties are better than others which can reduce sales performance (Claro & Ramos, 2018; Rouzies & Hulland, 2014). We follow the first way by defending that the total cross-functional collaboration (i.e., the sum of ties with all functions) improves sales performance because salespeople create ties to provide and/or seek knowledge. In addition, while it is intuitive to think that salespeople with a high level of cross-functional collaboration are more able to solve problems and propose solutions to maintain excellent relationships with their customers, to the best of our knowledge, this is the first study that empirically reports how
sales’ cross-functional collaboration impact on relational performance. Our study responds to the calls to unpack the sales’ cross-functional collaboration and key marketing outcomes (Claro & Ramos, 2018; Bolander et al., 2015).

1.3.2 Managerial justification

The knowledge of the factors that motivate the sales’ cross-functional collaborations is essential to overcome the challenges posed by recent changes in the sales contexts. The technological transformations changed salespeople’s role in the 21st century (Moncrief, 2017; Ahearne & Rapp, 2010) because customers have replaced the salespeople’s service and started to buy in online channels or with robots of artificial intelligence (Grace et al., 2017). In the face of these technological transformations, salespeople will be essential to provide complex services and solutions for customers (Viiro & Grönroos, 2014) as the agricultural equipment retail context.

The dealers of agricultural equipment commercialize tractors and loaders, harvesters, hay and forage equipment, planting equipment, seeding equipment, sprayers and precision agriculture technology. The agriculture equipment is evolving quickly with the adoption of technology (EXAME, 2018). The technological specialization of the agricultural equipment has made the sales process more complex, and the salespeople have to engage in more strategic conversations around solutions rather than product features. Thus, salespeople need the high knowledge and expertise to be able to serve their customers. Through the cross-functional collaboration, salespeople can involve colleagues of the other technics functions in the selling process. In this scenario, it is important to consider that the salespeople’s role is not only that of persuasion during the sales approach (Hartmann et al., 2017, Rapp et al., 2017, Moncrief, 2017). The position of salespeople as frontline employees (Weitz & Bradford, 1999) impose on them the role of collecting more relevant and unique customer information than technological devices. Furthermore, salespeople should transmit this information to other key areas of the organization with the aim of promoting more precise strategies for the organization (e.g., Verbeke et al., 2011).

To encourage sales’ cross-functional collaboration, the sales managers need to understand the factors that affect this collaboration. Our research show how sales managers can understanding of the salespeople’s social identification and how to use reciprocity mechanisms with salespeople's non-collaborate to promote greater collaboration.
In addition to this introductory section, the theoretical section discusses the literature on social identification and reciprocity. In the next section, we explain the hypotheses. Afterward, we describe the method. Next, we present the results, analyzes, conclusions, limitations, and suggestion of studies futures.
2 THEORETICAL FRAMEWORK

In this section, we present the literature on cross-functional collaboration, social identification and reciprocity.

2.1 SALES’ CROSS-FUNCTIONAL COLLABORATION

Market-based organizational learning involves values, knowledge, and behavior in the creation of companies’ competitive advantage (Sinkula et al., 1997). Several studies have been examining the transfer of intra-organizational knowledge (van Wijk, Jansen & Lyles, 2008). The salespeople’s knowledge at the individual level is a fundamental input learning at the organizational level (Bell, Menguc & Widing, 2010). In this research, we conceive that the salespeople’s knowledge is the information that encompasses contextualized facts and data (Kogut & Zander, 1992), and know-how involves the skills and expertise that an individual develops over time that allows he or she to perform their tasks with success (Kogut & Zander, 1992).

The current flow of research that examines the salespeople’s knowledge-sharing walks separately. On the one hand, researchers investigate the “intra-organizational knowledge-sharing behavior with coworkers from different functional areas (engineering, logistics, finance, production, etc.)” (Menguc et al., 2011, p. 103). This process of the intra-organizational knowledge-sharing consists of one of the activities of exchange of knowledge among an organization’s employees: the providing knowledge (Van den Hooff & Van Weenen, 2004).

On the other hand, researchers investigate the salespeople’s competitive intelligence that consists in the process of “gathering and use of information in the organization and how this information can help them enhance their performance” (Rapp et al., 2015, p. 357). This salespeople’s competitive intelligence involves the second activity of knowledge exchange: the seeking knowledge (Van den Hooff & Van Weenen, 2004). Despite the two flows (provide and seek knowledge), research on intra-organizational social networks did not examine the two collaborating activities concomitantly. We believe that both elements need to be addressed jointly because a salesperson can engage in collaboration with the intra-organizational network only to seek but not provide, and vice versa.

We define sales’ cross-functional collaborations as the number of ties with colleagues of other key areas of the organization to providing your customer-related knowledge and
seeking knowledge to improve your sales approaches (Claro & Ramos, 2018, Rapp et al., 2015; Menguc et al., 2011; Van den Hooff & Van Weenen, 2004). Based on social network perspective, our theoretical model captures the two exchange activities provides a more holistic view of cross-functional collaboration since “individuals are embedded in networks of interrelationships that provide opportunities and constraints on behavior” (Soltis, Brass & Lepak, 2018, p. 4). We argue that sales’ cross-functional collaboration encompasses two specific actions: sharing of salespeople’s customer-related knowledge with colleagues from other key areas of the organization and gaining knowledge of colleagues from other areas of the organization (Menguc et al., 2011).

The salespeople's position as frontline agents allows they to access privilege knowledge about customers, suppliers, competitor, others salespeople, etc., which help to carry out their work with greater success (Ahearne, Lam, et al., 2013). The specific access to sources of knowledge involves “the depth and width of the knowledge base that salespeople need to size up sales situations, classify prospects, and select appropriate sales strategies for clients” (Verbeke et al., 2011; 409). When the salespeople share this knowledge in cross-functional collaboration networks, employees in other key areas -- such as marketing or sales functions -- can use customer-related knowledge to respond to customers more readily and customized (Gonzalez et al., 2014). Besides, salespeople often receive feedback from colleagues of other areas that enable better approaches with customers, such as information from long-term plans obtained from the marketing department (e.g., Ernst et al., 2010). In this way, we understand the feedbacks of colleagues from other key areas of the company help the salespeople to fulfill their sales objectives (Menguc et al., 2011).

Although sharing and obtaining of knowledge in cross-functional collaboration networks are relevant, we argue that sales’ cross-functional collaboration reduces when salespeople have ingroup favoritism targeted to social groups competing with the organization.

Table 1, summarizes prior findings of representative research on intra-organizational sales networks.
Table 1. Representative research on intra-organizational sales networks.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Network collaboration</th>
<th>Nature of collaboration</th>
<th>Key findings</th>
<th>Antecedents of collaboration</th>
<th>Moderators</th>
<th>Consequences of collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ahearne. Lam et al. (2013)</td>
<td>Intra-functional</td>
<td>Competitive intelligence quality</td>
<td>Competitive intelligence quality increase sales performance. The position of the sales managers with peer managers moderates this relationship.</td>
<td>N.A.</td>
<td>In-degree of centrality of sales manager; Competitive intelligence quality and diversity</td>
<td>Sales performance. (Objective data: sales quota achievement)</td>
</tr>
<tr>
<td>Claro &amp; Ramos (2018)</td>
<td>Cross-functional (sales, marketing, and customer service functions)</td>
<td>Solution development collaboration.</td>
<td>Few strong ties with marketing and a large number of weak ties with customer service increase sales performance.</td>
<td>N.A.</td>
<td>Interplay effect between total ties and tie strength on performance</td>
<td>Sales performance. (Objective data: Sales growth)</td>
</tr>
<tr>
<td>Hall et al. (2017)</td>
<td>Intra-functional</td>
<td>Provide knowledge (Market Intelligence)</td>
<td>Market intelligence sharing by expert peer and sales manager decrease salespeople’s market intelligence generation efforts.</td>
<td>Sales manager sharing; Expert peer sharing.</td>
<td>Interplay between sales manager sharing and expert peer sharing.</td>
<td>Salespeople’s market intelligence generation efforts.</td>
</tr>
<tr>
<td>Reference</td>
<td>Type</td>
<td>Interaction</td>
<td>Effect on Network Centrality</td>
<td>Effect on Strategy Commitment</td>
<td>Performance Indicator</td>
<td></td>
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<tr>
<td>-------------------------</td>
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<td></td>
</tr>
<tr>
<td>Hayati et al. (2018)</td>
<td>Intra-functional</td>
<td>Seek selling-related knowledge; Strategy commitment.</td>
<td>High network centrality and low strategy commitment decreases peers’ commitment and hurt the effectiveness of a transformational manager.</td>
<td>Transactional and Transformational Leadership; Strategy commitment.</td>
<td>Sales performance. (Objective data: sales quota achievement)</td>
<td></td>
</tr>
<tr>
<td>Lam, Kraus, and Ahearne (2010)</td>
<td>Intra-functional</td>
<td>Market orientation</td>
<td>A large number of ties informal improve learning market orientation with expert contacts.</td>
<td>Organizational identification;</td>
<td>Network size and transfer of individual-level market orientation Diffusion of marketing orientation.</td>
<td></td>
</tr>
<tr>
<td>Rouziès and Hulland (2014)</td>
<td>Cross-functional (sales and marketing functions)</td>
<td>Social capital.</td>
<td>Sales-marketing collaboration increase sales performance. Level of concentration of customers decreases this relationship.</td>
<td>Customer concentration</td>
<td>Customer concentration and sales-marketing tie strength Sales performance. (Subjective data)</td>
<td></td>
</tr>
<tr>
<td>Ustuner and Iacobucci (2012)</td>
<td>Cross-functional</td>
<td>Communication and socialization.</td>
<td>Work or social networks can be more or less effective for key outcomes.</td>
<td>Total ties; Strenght ties.</td>
<td>Total ties with sales tasks, and tie strength with sales tasks Opportunity-identification; Solution-creation; Closing the deal.</td>
<td></td>
</tr>
<tr>
<td>This research</td>
<td>Cross-functional</td>
<td>Provide and seek selling-related knowledge.</td>
<td>Sales' cross-functional collaboration decrease with high workgroup identification; High organizational identification attenuate of the negative effect of workgroup identification on sales’ cross-functional collaboration decrease; High organizational reciprocity amplifies the interactive effect between organizational and workgroup identifications on sales’ cross-functional collaboration; Sales’ cross-functional collaboration increases sales and relational performance.</td>
<td>Workgroup identification.</td>
<td>Interplay effect between organizational reciprocity; organizational identification and workgroup identification on sales’ cross-functional collaboration;</td>
<td>Sales performance (Objective data); Relational performance (Subjective data).</td>
</tr>
</tbody>
</table>

*Note. NA = not available

Adapted from Claro & Ramos (2018)*
2.2 SOCIAL IDENTIFICATION

In this section, we demonstrate elements of the social identity theory - which provide the central base of the social identification, the ingroup favoritism, the concepts of organizational identification, the workgroup identification and the multiple social identifications.

2.1.1 Social identity theory

Social identification consists of a cognitive, psychological and emotional attachment that a person develops with a group (e.g., organizations and work teams) by internalizing the entity’s beliefs and norms as part of self-concept (Ashforth, 2016). In social identification, the individual incorporates of norms and values of a social group to which he or she identifies (Mael & Ashforth, 1992). The incorporation of norms and values leading people to see themselves and the other members of the group as having the similar behavior standard (Turner et al., 1979).

The discussion of social identification started with Social Identity Theory (Tajfel & Turner, 1986). In this theory, Tajfel and Turner (1986) suggest that the self-concept is built partly by the awareness of belonging to one or more social groups. What makes an individual aware of belonging to one social group is the categorization (Ashforth et al., 2008).

Mael and Ashforth (1992) highlight that the individuals tend to categorize social groups into two somewhat separate categories: our ingroup ("we") and several outgroups ("they"). The categorization occurs through the creation of discrete social categories that seek to simplify the structure and regulate individuals’ understanding of interactions with others (Brewer, 2007). The categorization accentuates the dissimilarity between members of the different categories and increases the similarities between the members that belong to the same category (Tajfel & Turner, 1986). The function of the categorization is making the perception the individual on social reality easier (Hogg & Terry, 2000).

In sum, Social Identity Theory suggests that individual categorize social groups and identifies with one of these groups, generates ingroup favoritism. We show the ingroup favoritism in next section.


2.1.2 Ingroup favoritism

Ingroup favoritism consists in the action of the salesperson to collaborate with a specific target of social identification by having a predisposition to share their knowledge with ingroup members (Turner et al., 1979). The ingroup favoritism makes an individual have a preference to favor ingroup and perception of the threat on outgroup.

Preference to favor ingroup does not necessarily imply hostile behaviors with the outgroup (Brewer, 2007). Mummendey et al. (1992) highlight that individuals prefer to favor the ingroup to the detriment of the outgroups, but reluctant to impair outgroups directly. Pettigrew and Meertens (1995) suggest that willing to favor the ingroup can manifest merely as a “subtle prejudice” for the outgroup (p. 58), without deliberate and direct hostility towards members of the outgroup.

Ingroup favoritism also generates a perception that collaboration with outgroup members creates a threat to the ingroup. According to Brewer (2007), ingroup individuals consider the outgroup as a threat to “the integrity, interests or identity of the ingroup as a whole” (p. 697). Specifically, Jetten, Spears, and Postmes (2004) emphasize that the collaboration of an individual with outgroup members can create a sense of interdependence, threaten the distinction between ingroup and outgroup members. The perceived threat occurs because the social identification with a group is dependent on the clarity of the ingroup boundaries (i.e., intergroup distinction) and the collaboration with outgroup members threaten the social identification (Branscombe et al., 1999). Thus, the threat of losing the distinctiveness the social group, can inhibit the individual to the pursuit of common goals with outgroups and lead to resistance to collaboration (Sluss & Ashforth, 2007).

2.1.3 Social identification in organizations

We referred to organizational identification as the degree to which the individual defines himself in terms of his association and belonging to the organization where he works (Mael & Ashforth, 1992). Mael and Ashfort (1992) sought to examine how employees build their sense of identity by introducing the term of organizational identification. Organizational identification is the most explored construct within the work identity literature (Mischenko & Day, 2016). However, several studies (Sluss & Ashforth, 2007; Vough, 2012; Ahearne, Haumann, et al., 2013) sought to explore other social groups that are identifiable in the workplace, and how these identifications coexist and influence employee behavior.
Dutton, Dukerich, and Harquail (1994) explain that organizational identification is the extent to which people psychologically associate with the organization and visualize, in their identity, the identity of the organization. According to Ashforth (2016), the organizational identification leads the individual to connect with the organization and integrate of the company identity in your self-definition. This process occurs both through the recognition of similarity between the values of the organization and those of the individual, as well as the change in personal values and beliefs of the individual to become similar to the values and beliefs of the organization (Fernandes, Marques & Carrié, 2009). In the sales literature, a large number of studies explored salespeople’s organizational identification over time (Johnson & Ashforth, 2008, Netemeyer, Heilman & Maxham, 2012, Wieseke et al., 2012, Kraus et al., 2012, Ahearne, Haumann et al., 2013, Kraus et al., 2015). These studies showed that when salespeople have high organizational identification, marketing results are better, such as sales performance and customer satisfaction.

We define workgroup identification as the degree to which the individual defines her/himself in terms of her/his association and belonging to the group of people she/he works (Miscenko & Day, 2016). According to Miscenko and Day (2016), workgroup identification takes place on an interpersonal plane, where idiosyncratic characteristics of individuals can appear as pathways to social categorization and consequent identification. The workgroup identification emerges from the face-to-face communication between individual of a workgroup at a relational level and presumes physical proximity among the members of this team (Brewer & Gardner, 1996; Miscenko & Day, 2016).

2.1.4 Multiple social identifications

The research that deals with multiple social identifications (e.g., Vough, 2012; Johnson et al., 2006; George & Chattopadhyay, 2005) breaks with the notion that social identities are mutually exclusive, that is, when the individual identifies with only one social category at any time (Brewer, 2007). The multiple social identifications literature explores how individual maintain various social identifications at different levels of inclusion (Roccas & Brewer, 2002).

Gaertner et al. (1994) explain that when an individual identifies with two or more targets in the workplace, they can to recategorize your identification in an inclusive superordinate identity. When performing recategorization for a superordinate identity, members of the ingroup and outgroup define themselves concerning a new common social
order of higher order (Gaertner et al., 1993). Brewer (2007) highlights individuals do not have to abandon identification with the current group when they identify with a superordinate social group. Multiple identifications can lead to attitudes with even more positive outgroups than those identified with only one group (Hornsey & Hogg, 2000). That is, the identification with a social group superordinate leads the individual to obtain on the benefits of ingroup and advantages of the outgroup (Brewer, 2007).

In this research, we seek to analyze the identification the salespeople with the organization and with the sales team (Hekman, Steensma, et al., 2009; Hekman, Bigley, et al., 2009; Johnson et al., 2006). Salespeople may have high identification with the two social groups simultaneously (Wieseke et al., 2012; Hornsey & Hogg, 2000) or may consider themselves first as sales team members and then as organizations members. Salespeople also might be “lone wolf” (Dixon et al., 2003), that is, they do not consider themselves members of any group in the organizational domain. Salespeople with "lone wolf tendency" consider themselves independent of the organization, have to lack organizational commitment and do not perceive the need for interaction with colleagues of the work (Mulki et al., 2007). By having a low workgroup identification and low organizational identification, we hope that salespeople “lone wolf” did not perform cross-functional collaboration.

As a synthesis, this section demonstrated how the social identification occurs and how this identification can imply in intergroup relations. Besides, we described the two identifications examined in this research (organizational identification and workgroup identification). Finally, we presented the recent literature that suggests that individuals can have multiple social identifications simultaneously. In the next section, we address the reciprocity theory.

2.2 THEORY OF RECIPROCITY

In this section, we describe organizational reciprocity as well as the discussion about the reciprocity norm.
2.2.1 Organizational reciprocity

In the previous section, we argue that sales’ cross-functional collaboration can be encouraged or impaired because of the social identification that the salespeople develop in organizations. In this section, we propose that social identification can be managed through organizational reciprocity to mitigate the adverse effects of ingroup favoritism.

Molm et al. (2007) describe that in reciprocity, part A provides resources for part B with the expectation, but not explicitly required that part B provide resources for part A at one point over time. Perceived organizational reciprocity is the extent that a subordinate perceived of a set of organizational practices that were increasing employees’ motivation to engage in reciprocity and providing opportunities for employees to engage in reciprocity (Baker & Dutton, 2007; Baker, 2012).

According to Baker and Dutton (2007, p. 332), we consider the organizational practices the “recurrent, materially bounded, situated activities of a particular organization”. This organizational practices can be represented by objective or subjective unconditional compensation that an employer award to employee (Chung, Narayandas, 2016; Wu et al., 2006), with the intention of rewarding their act of collaboration (Kube et al., 2012). The fact that the act of compensation is unconditional implies that there is no explicit contractual negotiation involved in the granting of the bonus or benefit (Serenko, Bontis & Hull, 2016).

One company with a high level the perceived organizational reciprocity performs practices that promote positive social capital of the employees (Baker & Dutton, 2007). For example, a company may acts of unconditional compensation whenever it identifies the need to offer its employees an extra benefit, in which extrapolate the formal obligations of the work contract, with the intention of creating motivation and opportunities for employees to engage in reciprocity. Under the norm of reciprocity, the extra benefit is perceived by the employees as generous acts of giving that must be rewarded, stimulating the collaboration of the groups.

In the context of sales, the sales manager can promote organizational reciprocity by providing bonuses or other benefits granted to salespeople. These bonuses and benefits not should be linked to a specific sales target (Serenko et al., 2016). Indeed, the sales manager should reward more subjective aspects related to the effort and time spent by salespeople, such as creativity, concern with the company and collaboration with colleagues of the other functions.

Chung and Narayandas (2016) conducted a field experiment with salespeople to evaluate the effect of organizational reciprocity on sales performance. In the study, the
authors provided non-activity compensations at random to salespeople over time and identified that the acts of compensation increased the performance of the salespeople marginally. These findings are a first effort to examine how organizational reciprocity influences salespeople. However, unlike from this research, the authors have only concerned themselves with the effect of organizational reciprocity on short-term sales performance, neglecting how organizational reciprocity can influence other roles that salespeople can perform (e.g., Rapp et al., 2017).

In the following subsection, we present the assumptions the norm of reciprocity.

### 2.2.2 Norm of reciprocity

Gouldner (1960) suggests that the norm of reciprocity has two social functions: (1) stabilizing function, which provides a defense for maintaining the stability of social systems and overcoming possible deviations of confidence.; and (2) an initial mechanism function, in which reciprocity supports individual to initiate social interaction when they do not know the other parts.

According to Mauss (1924), the essence of reciprocity has a universal character of the threefold obligation to give, receive and reciprocate. Giving a gift generates an obligation for the receiver, creating a connection between the actors of the gift (i.e., donor and receiver). This notion that gift-giving, through the circulation of goods and services, and the obligation to reciprocate (i.e., reciprocity) forms the basis of social ties that overlap the perspective of simple commodity exchange (Sabourin, 2008). For Mauss (1924), the offering of a good or service initiates and creates a link between the donor and the receiver, initiating and continuing social systems, different from the mercantile exchange, which ends with the end of the exchange trading.

Mauss’s view is extended by Gouldner (1960) who describes that the norm of reciprocity is the basis for understanding the relationship between individuals and groups embedded in social systems. Gouldner (1960) proposes that reciprocity responds to a universal norm supported by two premises that are socially conditioned and minimally related: “(1) people should help those who helped them, and (2) people should not harm those who helped her” (p. 171). This norm of reciprocity is implicit in social relations and ensures that a person who initiates a relationship of exchange or collaboration with another person usually has the assurance that the receiver will return the reciprocal act. According to Whatley
et al. (1999), this behavior arises from the internalization of a norm that obliges the receiver to reciprocate the benefactor.

In addition to the obligation to reciprocate the benefactor, the norm of reciprocity involved moral feelings that also encourage the behavior of reciprocity. Specifically, Baker (2012) suggests that receiving help leads a person to feel gratitude. Gratitude is the "positive emotion one feels when another person has intentionally given, or attempted to give, something of value" (Bartlett & DeSteno, 2006: 319). Indeed, Baker (2012, p. 411) highlights that “feelings of gratitude are the specific positive emotions behind the moral sentiments driving reciprocity”. Thus, we expect the benefits and compensation provided by the company in the form of acts of generosity will arouse a sense of obligation on the employee and a feeling of gratitude. We argue that both encourage salespeople to collaborate.

In this research, we used the principles of Mauss (1924) and Gouldner (1960) to describe organizational reciprocity. We started from a cognitive psychology perspective to identify and measure organizational reciprocity. The logic presented in the perception of organizational reciprocity suggests that there are situations in organizations in which employees spend effort and time in acts of work (Baker, 2012). For example, behaviors of collaboration, creativity, defense of the principles of the organization, when they realize the necessity to offer the organization an extra job quota, which goes beyond the formal work obligations (Kube et al., 2012).

According to the norm of reciprocity, the employee envisions the collaboration as favors to the organization (Baker, 2012). As a result of this favors, the employees develop beliefs of future retributions of the organization (Siqueira, 2005). In this way, the employee acts as a donor and the organization as a receiver. Since reciprocity acts in both ways (sometimes the organization is a receiver, sometimes it is a donor), the organization can also provide benefits to employees, hoping for a future contribution (Gilchrist, Luca & Malhotra, 2016).

A psychological contract established between the organization and the employee ensures the fulfiller of the norm of reciprocity (Russeau et al., 1994). Coyle-shapiro and Kessler (2002) emphasize that the psychological contract represent the subjective understanding of the employee on the real reciprocity. The subjective understanding of reciprocity consists of a cognitive system that individuals use to seek facts and feelings of the past relations (Siqueira, 2005). The people use these facts and feelings to assess the current and future relations (Coyle-Shapiro & Kessler, 2002).
In this cognitive approach, a mental schema structure the norm of reciprocity becomes a cognitive pattern that enables employees to expect future compensation from the collaboration in the present moment (Coyle-Shapiro & Kessler, 200; Van Horn et al., 2001). Is from these mental schemes that employees incorporate the norm of reciprocity.

In the following section, we describe the theoretical model and hypotheses.
3 HYPOTHESES DEVELOPMENT

The theoretical framework presents the research hypotheses (Figure 1). First, we demonstrated the main effect of the workgroup identification on sales’ cross-functional collaboration. Besides, we showed a moderate role of organizational identification on the relationships between workgroup identification on sales’ cross-functional collaboration. Then, we also explained that organizational reciprocity is a variable of triple moderation on the effect of interaction between organizational identification and workgroup identification on sales’ cross-functional collaboration. Finally, we illustrated the direct effects of sales’ cross-functional collaboration on sales performance and relational performance. Covariates correct the effects on sales’ cross-functional collaboration, sales performance, and relational performance.

Figure 1. Theoretical framework
3.1 THE EFFECT OF SOCIAL IDENTIFICATION ON SALES’ CROSS-FUNCTIONAL COLLABORATION

We propose that high salespeople’s workgroup identification has a negative relationship to sales’ cross-functional collaboration. Identification with sales team members occurs at the interpersonal level, where the salesperson develops a sense of association and belonging to the group of people he or she works (Miscenko & Day, 2016). When the workgroup identification is high, the sales team group becomes more relevant than the other identifications (Brown et al., 1999). That is, the high workgroup identification makes the salespeople categorized their colleagues the sales team with members and colleagues of other functions as outgroups members (Brewer, 2007). This categorization between ingroup and outgroup members generates ingroup favoritism. The ingroup favoritism consists in preference of salespeople in favors colleagues of the sales team and a subtle prejudice for colleagues of the others functions (Pettigrew & Meertens, 1995; Mummendey et al., 1992). The ingroup favoritism also can make the salespeople believing that the collaboration with colleagues of the other functions threatens the distinctiveness of the sales team (Jetten et al., 2004; Branscombe et al., 1999). By tending to favor sales team members and considering the outgroup collaboration a threat, the salesperson might maintain ties of collaboration only with colleagues of the sales team, reducing the sales’ cross-functional collaboration.

H₁: A high salespeople’s workgroup identification is negatively related with sales’ cross-functional collaboration.

3.2 THE MODERATE EFFECT OF MULTIPLE FOCUS OF SOCIAL IDENTIFICATION ON SALES’ CROSS-FUNCTIONAL COLLABORATION

We propose that organizational identification attenuates the negative effect of high salespeople’s workgroup identification on sales’ cross-functional collaboration. While the workgroup identification occurs at the interpersonal level, organizational identification occurs within a broader social category. Drawing on the Social Identity Theory, Gaertner et al. (1993) highlight the recategorization process in which identification with the organization becomes a superordinate category to the workgroup identification. Recategorization consists of identifying the individual for a superordinate category (i.e., the category that includes other
categories) that contains the ingroups and outgroup members in a single social group representation (Urban & Miller, 1998).

Indeed, in the previous hypothesis, we suggested that in the face of a high workgroup identification, the salespeople categorizes ingroups (sales team) and outgroups (colleagues of the others functions) creating a conflict "us" against "them" (Brewer, 2007). This conflict occurs because the salespeople tend to respond more favorably to colleagues perceived as belonging to their group than to different groups (Heckman, Steensma, et al., 2009; Wieseke et al., 2012). However, as the organizational identification of the salespeople increases and becomes concomitant to the workgroup identification, the recategorization can reduce the conflict (Gaertner et al., 1993). Specifically, if the salespeople have high workgroup identification and organizational identification, a new superordinate salient category is created at level organizational (Brewer, 2007). In this new salient category, the salespeople to emphasize the similarities between the members of the ingroups and outgroups and suppressed the differences, eliminating of the "us" against "them" conflict (Hornsey & Hogg, 2000). Gaertner et al. (1993) found that evaluations of outgroup members have improved significantly as these individuals identify with the more inclusive upper group. The finds the Gaertner et al. (1993) revealed that identifications with multiples focis in the workplace can have overlap in recategorization situations.

In this sense, we argue that this recategorization weakens the salespeople's preference to favor the ingroup and to reduce narrows the salespeople' perception of the threat to collaborate with members of other functional areas. Therefore, a high organizational identification generates a superordinate categorization that attenuates the negative effect of high identification workgroup on sales' cross-functional collaboration.

**H2:** The negative effect of high workgroup identification on sales’ cross-functional collaboration will be attenuated when the salespeople present a high organizational identification simultaneously.

### 3.3 THE MODERATING EFFECT OF ORGANIZATIONAL RECIPROCITY

We suggest that high perceived organizational reciprocity amplifies the positive effect of the organizational identification on the relationships between workgroup identification and sales’ cross-functional collaboration. A high workgroup identification and high organizational identification reduce intergroup conflict, but both are not enough to encourage an increase in
cross-functional collaboration. In other words, highly-identified salespeople with workgroup and organization appreciate the members of the company as all but do not have enough motivation to substitute intra-functional collaboration for the cross-functional collaboration.

Cross-functional collaboration is costly to the salespeople, and the benefits of multiples identification do not compensate for the substitution of intra-functional contacts by cross-functional contacts. The cost of the cross-functional collaborations involves the task interdependency in the sales team (Reagans & Zuckerman, 2001), the difficulty to communicate and understand information from others functional areas (Reagans & McEvily, 2003), and the effort and time spent to perform a non-sales activity (Hansen, 1999; Rapp et al., 2017).

We advocate that an organization with a high perceived organizational reciprocity can provide compensation unconditional to reward the costs the sales’ cross-functional collaboration. This compensation unconditional are practices that increase motivation and providing opportunities for employees to engage in reciprocity (Baker & Dutton, 2007). Specifically, the organization can reward salespeople who care about the goals of the organization as a whole by reduces the cost of the task interdependency centered only in the sales team (Wieseke et al., 2012). The organization also can reward the cost of the salespeople's creativity and collaboration, valuing salespeople that find creative ways to communicate their knowledge and that can understand the knowledge of colleagues in other functions (Fisher, Maltz & Jaworski, 1997). Finally, the organization can reward extra time and effort the salespeople to engage in the non-sales activity as the cross-functional collaboration (Ahearne et al., 2010). By rewarding the costs, the high perceived organizational reciprocity would be considered an act of generosity by the salespeople, motivating increases sales’ cross-functional collaboration.

Besides rewarding the costs of the cross-functional collaboration, the compensations unconditional should activate a salespeople's obligation and gratitude feelings (Baker, 2012; Gouldner, 1960). Reciprocity is a universal norm of exchange that arouses a feeling in individuals to obliged to return favors. (Gouldner, 1960). Through of reciprocity, people feel a sense of obligation to do something for someone who has done something for them (Das & Teng, 2002). In an organizational context, employees return the treatment received by adjusting their obligations to the company (Robinson et al., 1994). Also, the received of compensation generates gratitude feelings (Baker, 2012). Baker (2012) suggests that gratitude is the specific positive emotions behind the moral sentiments that lead to reciprocity.
By rewarding the costs of the cross-functional collaboration and generating on salespeople an obligation to reciprocates and gratitude felling, the high perceived organizational reciprocity will amplify the moderating effect of the organizational identification on the relationships between workgroup identification and sales' cross-functional collaboration. Formally:

**H3**: The perceived organizational reciprocity will amplify the moderating effect of organizational identification on relationships between workgroup identification and sales' cross-functional collaboration. That is, under high (vs. low) perceived organizational reciprocity conditions, a high organizational identification will have a greater positive (vs. lower) effect on sales' cross-functional collaboration when there is a high workgroup identification.

3.4 THE EFFECT SALES’ CROSS-FUNCTIONAL COLLABORATION ON KEY PERFORMANCE RESULTS

We argue that sales’ cross-functional collaboration increases sales performance. Ustuner and Iacobucci (2012) suggest that effective salespeople seek selling-related knowledge and expertise needed to build a customer’s solution successfully from diffuse sources. In line, Gonzalez et al. (2014) show that the seek knowledge outside the sales unit allow the salespeople to obtain non-redundant information about customers, products, and services. Podolny and Page (1998) report that intra-organizational networks are essential to improve performance "by encouraging novel syntheses of information that are qualitatively distinct from the information that previously resided within the distinct nodes" (p 61).

Thus, cross-functional collaboration networks allow the salespeople to improve sales performance by acquire selling-related knowledge and sales’ expertise (Claro & Ramos, 2018; Bolander et al., 2015). Selling-related knowledge is “the knowledge base that salespeople need to size up sales situations, classify prospects, and select appropriate sales strategies for clients” (Verbeke et al., 2011, 409). Sales' expertise allows the salespeople to have in-depth technical knowledge about products and services and can manage customers’ demands about financial, problem solve, logistic issues, etc. (Steward et al.; 2010; Ustuner & Iacobucci, 2012; Belonax, Newell & Plank, 2007). Besides, in cross-functions networks, salespeople also can provide selling-related knowledge and sales’ expertise to members of other functions can be part of the sales process (Ustuner & Iacobucci, 2012). This extensive
selling-related knowledge and sales’ expertise shared from salespeople allows all organization for further enhancement of creative solutions to customers (Bell et al., 2010).

Thus, when salespeople connect with cross-functional contacts to seek or provide information, increases selling-related knowledge and sales’ expertise, and make other functional areas part of the sales process, increasing sales performance.

**H4:** A high degree of sales’ cross-functional collaboration is positively related to sales performance.

We also suggest that sales’ cross-functional collaboration has a positive effect on relational performance by providing selling-related knowledge and sales’ expertise. Salespeople’s relational performance “takes place with the primary goal of securing, building, and maintaining long-term relationships with profitable customers” (Ahearne, Jelinek & Jones, 2007, p. 603). The relational performance is a complex task because of demands much information that is beyond the capabilities of a single salesperson (Steward et al., 2010). By this complexity the relational performance, salespeople need cross-functional collaboration to have high selling-related knowledge and sales’ expertise to assess customer demands and choose sales strategies effectively (Arli, Bauer & Palmatier, 2018; Verbeke et al., 2011). Thus, when the salespeople seek and provide knowledge in cross-functional collaboration networks, they to access non-redundant selling-related knowledge and develop sales’ expertise (Ustuner & Iacobucci, 2012, Bolander et al., 2015). This non-redundant selling-related knowledge and expertise enables the salespeople to know what solutions are available to solve customer’s problem, communicate the success of those solutions to colleagues in other areas, and change them to ensure that they meet customer demands in the future, if necessary (Ustuner & Iacobucci, 2012; Verbeke et al., 2011; Belonax et al., 2007), improving relational performance. Formally:

**H5:** A high degree of sales’ cross-functional collaboration is positively related with relational performance.
4 METHODOLOGICAL PROCEDURES

In this section, we present the methodological and data collection procedures.

4.1 SAMPLE AND DATA COLLECTION

*Research.* We chose to conduct a cross-sectional survey. In the cross-sectional survey, the researcher collects all data of study at a set point in time (Malhotra, 2012). The method of cross-sectional survey is usually used in descriptive research and aim to obtain data to examine a particular phenomenon at that particular point in time (Churchill & Iacobucci, 2006).

*Sample.* We chose a non-probabilistic sample with convenience sampling. In this type of sampling, the researcher determines the sample by judgment, according to convenience (Malhotra, 2012). We opted for the non-probabilistic method because cross-functional network analysis demands the choice of a single organization, making a probabilistic sample impracticable. The sample is made up of salespeople from an agricultural equipment dealership, which sells harvesters, tractors, and agricultural implements. The dealer has thirteen units in different municipalities in the northwestern region of Paraná and serves farmers from approximately 100 municipalities. Each unit counts on average with a sales team with ten salespeople. In the work routine, salespeople are required to visit farmers on the spot and return at the end of the day to the unit to provide feedback. Salespeople weekly participate in a weekly meeting with the sales team and a monthly meeting with all unit employees (parts department, financial department, customer service, post-sales sector). These meetings allow the salespeople to share and gain insight into their work. The salespeople have individual sales goals that are determined jointly by the general administration and unit manager. The company sets the salaries of salespeople based in sales revenue, sales amount, new clients prospecting. The company also provides various types of bonuses and compensations non-conditioned on sales, such as trips and brand-related products (e.g., boots, caps, hats, t-shirts, pens and barbecue and hunting utensils). The sales portfolio has approximately 100 products with a price variation of 2,000 to 400,000 dollars. In table 2, we relate the main products commercialized by the company and average sales prices.
Table 2. Agricultural machines and equipment commercialized in the company average sales prices

<table>
<thead>
<tr>
<th>Agricultural machines and equipment</th>
<th>Average sales prices (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tractors</td>
<td>30.000 – 100.000</td>
</tr>
<tr>
<td>Front loader for tractors</td>
<td>5.000 – 20.000</td>
</tr>
<tr>
<td>Shovels for tractors</td>
<td>5.000 – 20.000</td>
</tr>
<tr>
<td>Grinders, plows and graders</td>
<td>10.000 – 100.000</td>
</tr>
<tr>
<td>Sprayers for nutrient and defensive application</td>
<td>50.000 – 200.000</td>
</tr>
<tr>
<td>Grain planters</td>
<td>30.000 – 100.000</td>
</tr>
<tr>
<td>Grain harvesters</td>
<td>80.000 – 300.000</td>
</tr>
<tr>
<td>Cane harvesters</td>
<td>100.000 – 400.000</td>
</tr>
<tr>
<td>Steering system and machine controls (precision agriculture)</td>
<td>2.000 – 20.000</td>
</tr>
<tr>
<td>Receivers and monitors for precision agriculture</td>
<td>2.000 – 20.000</td>
</tr>
</tbody>
</table>

*Note.* Data provided by sales manager.

Data collect. We used a printed self-administered questionnaire and applied the social identification and organizational reciprocity scales to the salespeople. The salespeople also answered the sociometric instrument with a free-recall method (Bolander et al., 2015) to measure the degree of cross-functional collaboration. In the free-recall method, the salespeople informed in a list which colleagues that they provide or seek knowledge (with a required minimum of two and a maximum of ten). The invitation for the participation of the respondents was carried out in loco during the weekly meetings (with previous authorization of the management). The researcher himself explained the content of the research and delivered the questionnaire to the respondents, seeking to reduce possible biases in the responses.

4.2 MEASUREMENT

Organizational Identification. Organizational identification consists in the degree to which the salespeople define himself in terms of his association and membership in the organization where he works (Mael & Ashforth, 1992). As an operational definition, Ashforth et al. (2008) describe that the core of organizational identification has the degree of self-definition of the individual concerning the organization, degree of importance of the organization to itself and degree of affection with the organization. The scale of organizational identification has four items is used was validated by Mael and Ashforth (1992).
**Workgroup Identification.** Workgroup identification consists of the degree to which the salespeople define himself concerning his association and membership of the sales team he works (Miscenko & Day, 2016). As an operational definition, the core of the workgroup identification comprises the degree of self-definition of the individual concerning the colleagues of the workgroup, the degree of importance of the colleagues of the workgroup for themselves and degree of affection with colleagues in the workgroup (Ashforth et al., 2008). We used four items from the Wieseke et al. (2012) to measure organizational identification.

**Perceived organizational Reciprocity.** Perceived organizational reciprocity is the degree to which the salesperson perceived that the organization perform a set of organizational practices that were increasing employees’ motivation to engage in reciprocity and providing opportunities for employees to engage in reciprocity (Baker & Dutton, 2007; Baker, 2012).

To measure the perceived organizational reciprocity, we used the model from measure of reciprocity (Van Horn et al., 2001; Thomas & Rose, 2010) that assesses the difference between investment and reward global for reciprocal trade relations between salespeople and the organization. The salespeople evaluated the perceived level of investment regarding the collaboration he performed and the level of reward that the organization has paid back for his investment. The scale has five points for each exchange ratio. To measure the perceived organizational reciprocity, the salesperson indicated the level of investment for five items that reflect salespeople’s attitudes of donation (collaboration, time, effort, creativity, and concern with company goals). Afterward, the salesperson indicated their assessment regarding the level of reward that the organization has rendered for each attitude.

For each reciprocal exchange ratio, we calculated an investment-reward ratio by dividing the reward (R) by the investment (I). Then, we calculated an average of the reward-investment ratio scores. The final product shows if the ratios are reciprocal (ratio = 1). A ratio score higher than 1 indicated a reciprocal relationship where the employee received more than invested. A ratio score of fewer than 1 points a non-reciprocal relationship where the employee spends more than earned.

**Sales’ cross-functional collaboration.** We define sales’ cross-functional collaborations as the action of salespeople to sharing customer-related knowledge with colleagues of other functions and gaining insight with these colleagues to improve sales approaches (Rapp et al., 2015; Menguc et al., 2011). We used a name-generating instrument (Bolander et al., 2015) to measure the degree of cross-functional collaboration of the salespeople. The salesperson indicated up to ten colleagues from any area/department of the company that he shared his
customer-related knowledge and/or seek knowledge that provides support at work. We used an Internal/External Index (Index I/E) to create the sales' cross-functional collaboration measure (Krackhardt & Stern, 1988). The socio-metric instrument captured two groups: (1) Group constitutes by colleagues of the sales team is denominated as Internal (IL), and (2) Group constitutes by colleagues of others areas/departments is denominated as External (EL).

The formula for calculating Index I/E is:

\[
\text{EL} - \text{IL} / \text{EL} + \text{IL}
\]

where EL is the number of external links and IL is the number of internal links.

Sales performance. We measured sales performance regarding growth sales following previous research (Gonzalez et al., 2014; Claro & Ramos, 2018). The company provided a report with sales performance data for the years 2016 (t) and 2017 (t + 1). We used these data to measure the growth of the salespeople’s sales volume over time. To measure sales growth, we calculated the ratio of salespeople’s revenue for the year 2017 to the salespeople's revenue for the year 2016, followed previous approaches (Claro & Ramos, 2018; Palmatier, Scheer, & Steenkamp, 2007).

Relational performance. Relational performance is salespeople’s ability to improve actions to promote customer satisfaction. Sales managers rated employees’ relational performance for each salesperson using the four-item reported by Rust et al. (2002). We translated all psychometric scales from English into Portuguese and from Portuguese to English - reverse translation - to ensure the semantic meaning of the scale. We did a pre-test to verify if there is no understanding problem on the part of the chosen sample. We applied the identification scales (workgroup and organizational) with the Likert scale of the 7 points. The respondent attributed for each item of the scales a single score ranging from 1 to "totally disagree" to 7 for "totally agree" for three items in the scale. We enter the fourth item on a graphical scale, to help the salespeople categorize their degree of identification between the two social group (Shamir & Kark, 2004).

A semantic differential scale measured the organizational reciprocity scale with a 5-point distribution. We measured the relational performance scale whit Likert scale of 10 points. The sales manager attributed an item of the scales from 1 "worst" to 10 "better" for each salesperson. The variables collect from different sources and with different scales forms minimize common method variance, we suggest by Podsakoff, MacKenzie, and Podsakoff (2003) and Palmatier (2016).
Covariates. We inserted the following covariates in the model: age in years; sales experience in years; time in the company in years; time in the sales team (measured by the average time in the company of the salespeople of each sales team); size of the sales team (measured by numerous of employee in units). We also considered salespeople’s ego-network characteristics as a covariate (measured by the degree of network formalization, the degree of network hierarchy and the degree of network informational status).

Network Formalization. To measure the degree of network formalization, the salespeople indicated if the network contact is formal or informal. Formal contacts refer to the organizational structure to perform specific tasks, and informal contacts arise spontaneously in response to the social interaction needs of organizational members (Gonzalez et al., 2014). The score of the degree of network formalization is composed of the sum of formal contacts indicated by the salespeople.

Network Hierarchy. To we measured the degree of network hierarchy, the company provided a list with the name and the position of command of each employee. The degree of network hierarchy refers to the sum of contacts with command positions indicated by the salespeople (Podolny & Page, 1998).

Network Informational Status. To measure the degree of network informational status, we asked each salesperson to indicate two people in the organization who have greater customer and product knowledge and who solve more customer problems. Then, we determined the position of informational status for each member of the organization (Maciel & Chaves, 2017). Next, we added the informational status of the intra- and cross-functional network. This covariate indicates whether the level of knowledge of the network contacts influences salespeople’s interest in establishing a cross-functional network.

4.3 DATA ANALYSIS

We analyzed the data according to descriptive analysis, normality analysis, asymmetry and kurtosis, missing values, outliers, Confirmatory factorial analysis, convergent validity, Average Extracted Variance, Composite Reliability and discriminant analysis (Root of Average Extracted Variance), according to Byrne (2013).
5 RESULTS

The sample is made up of salespeople from an agricultural equipment dealer, which selling harvesters, tractors, and agricultural implements. We obtained answers from 81 salespeople, for a response rate of 93.8%. The sample consisted of 81 male salespeople (100%). The salespeople had on average 41.16 years (SD = 9.04). The education level distribution in the sample is as follows: college (39.5%), High school (33.3%) and graduate (27.2%). The salespeople have worked, on average, 13.46 years in the sales (SD = 5.51), 5.07 years in the current company (SD = 2.65), and 4.81 years in the current company (SD = 1.18).

The respondents composed 13 sales teams almost equally distributed. On average, we had 6.23 respondents per team. The survey yielded 598 ties between salespeople and company colleagues. We proposed to investigate how sales' cross-functional collaboration is formed by salespeople that providing and seek knowledge. We believed that salespeople could crate intra-functional network to providing and/or seek knowledge. Table 3 provides a summary of the nature of ties.

Table 3. Network collaboration x sharing activities cross-table

<table>
<thead>
<tr>
<th>Sharing activities</th>
<th>Provide knowledge</th>
<th>Seek knowledge</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intra-functional</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Network</td>
<td>38,4%</td>
<td>61,6%</td>
<td>100,0%</td>
</tr>
<tr>
<td>% Activities</td>
<td>34,9%</td>
<td>37,8%</td>
<td>36,6%</td>
</tr>
<tr>
<td>% Total</td>
<td>14,0%</td>
<td>22,6%</td>
<td>36,6%</td>
</tr>
<tr>
<td>Cross-functional</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Network</td>
<td>41,4%</td>
<td>58,6%</td>
<td>100,0%</td>
</tr>
<tr>
<td>% Activities</td>
<td>65,1%</td>
<td>62,2%</td>
<td>63,4%</td>
</tr>
<tr>
<td>% Total</td>
<td>26,3%</td>
<td>37,1%</td>
<td>63,4%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>241</td>
<td>357</td>
<td>598</td>
</tr>
<tr>
<td>% in Network</td>
<td>40,3%</td>
<td>59,7%</td>
<td>100,0%</td>
</tr>
<tr>
<td>% in Activities</td>
<td>100,0%</td>
<td>100,0%</td>
<td>100,0%</td>
</tr>
<tr>
<td>% of Total</td>
<td>40,3%</td>
<td>59,7%</td>
<td>100,0%</td>
</tr>
</tbody>
</table>

Note: Pearson's chi-square = .54, p < .46.
From the total ties, 219 (36.6%) ties were with the sales team, and 379 (63.4%) ties with colleagues of other functions. As to the motivation of the activity to exchange knowledge, 241 (40.3%) were to provide and 357 (59.7%) to seek knowledge. These differences are not significant. Table 3 demonstrated that cross-functional collaboration is more significant than intra-functional collaboration, revealed that the salespeople made connections with colleagues the others units to shared knowledge. However, the type of collaboration does not explain whether exchange activity is created to seek or provide knowledge. This result showed that salespeople regard seek or provide knowledge as actions essential to sales work.

5.1. MEASUREMENT MODEL

The confirmatory factor analysis provided indexes that indicate adequate model fit ($\chi^2(100) = 132.66, p < .01; \chi^2/d.f. = 1.354; \text{Comparative fit index} = .93; \text{Tucker-Lewis index} = .92, \text{Global fit index} = .84; \text{Root mean square error of approximation} = .06$). All items loaded on their designated factor with no significant cross-loadings. Table 4 indicates that the reliabilities of the psychometric scales follow the recommended standard (Bagozzi & Yi, 1988). Average variances extracted (AVE) were higher than the .50 criterion (Fornell & Larcker, 1981). The square roots of all AVEs exceeded the inter-construct correlations, indicating discriminant validity (Fornell & Larcker, 1981).

Table 4 shows correlations and descriptive statistics. As expected, sales’ cross-functional collaboration was negatively associated with workgroup identification ($r = -.38; p < .01$) and positively associated with organizational reciprocity ($r = .38; p < .01$). Sales’ cross-functional collaboration was also negatively associated with degree informational status intra-group ($r = -.47; p < .01$). This negative effect indicated that the number of people in the sales team with high informational status has a negative association with the salespeople's motivation to collaborate with colleagues in other functions. Relational performance was positively associated degree informational status cross group ($r = .26; p < .05$) and sales’ cross-functional collaboration ($r = .30; p < .01$). Sales performance, on the other hand, was positively associated only with sales experience ($r = .24; p < .01$).

Table 4 also showed that salespeople age has a negative association with the degree of the network hierarchy ($r = -.22; p < .05$). Younger salespeople prefer to make connections with colleagues in the hierarchy's higher positions. Another intuitive finding is that degree informational status intra-group has a negative relationship with sales' cross-functional
collaboration \( (r = -0.47; p < .01) \). As expected, when salespeople perceive that colleagues the sales team has high informational status, they are less likely to make connections with colleagues in other units.
Table 4. Correlations and descriptive statistics for key study variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
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</thead>
<tbody>
<tr>
<td>1. Salespeople age</td>
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<td></td>
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<tr>
<td>2. Salespeople experience</td>
<td>.57**</td>
<td>1.00</td>
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<tr>
<td>3. Tenure</td>
<td>.22*</td>
<td>.30**</td>
<td>1.00</td>
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<tr>
<td>4. Time of sales team a</td>
<td>.01</td>
<td>.14</td>
<td>.48**</td>
<td>1.00</td>
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<tr>
<td>5. Size of sales team a</td>
<td>.21</td>
<td>.13</td>
<td>.07</td>
<td>.18</td>
<td>1.00</td>
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<tr>
<td>6. Degree informational status intra-group</td>
<td>.13</td>
<td>.05</td>
<td>-.09</td>
<td>-.21</td>
<td>.16</td>
<td>1.00</td>
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<tr>
<td>7. Degree informational status cross-group</td>
<td>.06</td>
<td>.02</td>
<td>.19</td>
<td>.25*</td>
<td>.03</td>
<td>-.28*</td>
<td>1.00</td>
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<tr>
<td>8. Degree of network hierarchy</td>
<td>-.22*</td>
<td>-.11</td>
<td>-.01</td>
<td>.04</td>
<td>-.16</td>
<td>.06</td>
<td>.42**</td>
<td>1.00</td>
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<tr>
<td>9. Degree of network formalization</td>
<td>-.17</td>
<td>-.10</td>
<td>-.20</td>
<td>-.12</td>
<td>-.02</td>
<td>-.01</td>
<td>-.03</td>
<td>-.01</td>
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<tr>
<td>10. Workgroup identification</td>
<td>-.01</td>
<td>-.05</td>
<td>-.07</td>
<td>-.12</td>
<td>-.13</td>
<td>-.06</td>
<td>-.05</td>
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<tr>
<td>11. Organizational identification</td>
<td>.19</td>
<td>.19</td>
<td>-.03</td>
<td>.08</td>
<td>-.10</td>
<td>-.14</td>
<td>.06</td>
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<td>.28**</td>
<td>1.00</td>
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<tr>
<td>12. Perceived organizational reciprocity</td>
<td>-.03</td>
<td>.06</td>
<td>.09</td>
<td>.12</td>
<td>.31**</td>
<td>-.14</td>
<td>.03</td>
<td>.04</td>
<td>.07</td>
<td>-.30**</td>
<td>.03</td>
<td>1.00</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>13. Sales’ cross-functional collaboration</td>
<td>-.01</td>
<td>.00</td>
<td>-.12</td>
<td>-.22</td>
<td>-.15</td>
<td>-.47**</td>
<td>.15</td>
<td>-.05</td>
<td>.21</td>
<td>-.38**</td>
<td>.07</td>
<td>.33**</td>
<td>1.00</td>
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<tr>
<td>14. Relational performance</td>
<td>.01</td>
<td>.18</td>
<td>-.14</td>
<td>.13</td>
<td>-.12</td>
<td>.26*</td>
<td>-.02</td>
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<td>-.01</td>
<td>.14</td>
<td>.30**</td>
<td>1.00</td>
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<td>15. Sales performance</td>
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<td>.24*</td>
<td>-.03</td>
<td>-.14</td>
<td>.15</td>
<td>.20</td>
<td>.14</td>
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<td>-.07</td>
<td>.12</td>
<td>-.04</td>
<td>.15</td>
<td>.14</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>41.16</td>
<td>13.47</td>
<td>5.02</td>
<td>4.81</td>
<td>8.01</td>
<td>4.85</td>
<td>2.36</td>
<td>1.19</td>
<td>3.36</td>
<td>4.41</td>
<td>3.03</td>
<td>.11</td>
<td>.15</td>
<td>5.61</td>
<td>118.48</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>9.05</td>
<td>5.52</td>
<td>2.72</td>
<td>1.18</td>
<td>1.97</td>
<td>3.07</td>
<td>3.49</td>
<td>.99</td>
<td>1.46</td>
<td>1.42</td>
<td>.96</td>
<td>1.18</td>
<td>.37</td>
<td>1.28</td>
<td>61.23</td>
</tr>
<tr>
<td>Average of AVE</td>
<td>.61</td>
<td>.51</td>
<td>.52</td>
<td>.60</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Square root of AVE</td>
<td>.86</td>
<td>.80</td>
<td>.80</td>
<td>.86</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Composite reliability</td>
<td>.78</td>
<td>.71</td>
<td>.72</td>
<td>.77</td>
<td></td>
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</tbody>
</table>

Note: AVE = Average Variance Extracted; **p < .01; *p < .05; †We disaggregate Time of sales team and size of sales team at the salesperson.
5.2. THE ANTECEDENTS OF SALES’ CROSS-FUNCTIONAL COLLABORATION

To test our hypotheses, we employed the hierarchical ordinary least squares regression analyses (OLS) and used Hayes’ Process to test moderating effects.

We provided an overview of the results on sales’ cross-functional collaboration in Table 5. First, we isolated the effects of the covariates (see Model 1). Model 2 includes the effects of the covariates plus the main effects of the variables involved in the two- and three-way interactions. We add two-way interactions of organizational identification and workgroup identification in Model 3. In Model 4, we insert the three-way interactions for organizational reciprocity.

In model 1, the covariates explain 23% ($R^2 = .23$) of the sales’ cross-functional collaboration. We chose not to insert the time sales team and the size sales team in the regression model. These covariables are of the sales team level disaggregated at salespeople level. Hox (2002) highlights that data disaggregation increases the risk of the presence of spurious statistical significance in regression models by artificially multiplying the number of observations. The effect of degree informational status intra-group ($\beta = -.49; p < .01$) on sales’ cross-functional collaboration is significant and negative. Tenure ($\beta = -.17; p < .10$) and Degree of network formalization ($\beta = .20; p < .10$) also impact sales at a level of 90% significance. These results indicated that salespeople prefer to collaborate more with colleagues in the sales team rather than colleagues in other functions when they have little time in the company and the colleagues in the sector have a higher informational status. However, salespeople also engaged in cross-functional collaborate in the formal situations required for their role.

In model 2, we tested the main effects. The increase in $R^2$ from .23 to .35 underscores how much variance our independent variables explain. We showed how workgroup identification ($\beta = -.28; p < .05$; $H_1$) has a negative influence on sales’ cross-functional collaboration. These results are consistent with ingroup favoritism argument (Brewer, 2007), showing that the psychological attachment (i.e., identification) of the salespeople with relevant social groups in organizational environment influences in the creation of the cross-functional collaboration networks to knowledge sharing. The find expands understanding the intra-organizational networks sob prism of social identification theory.

Next, we predicted that organizational identification attenuates the $H_1$ negative effect. Consistent with our prediction, we showed that the workgroup identification $\times$ organizational
identification interaction (model 3) is significant and positive ($\beta = .22; p < .05$), supporting $H_2$. The model explains 47% of the variance ($R^2 = .47$).

| Table 5. Regression coefficients for sales’ cross-functional collaboration |
|-----------------|-----------------|-----------------|-----------------|-----------------|
| Independent variables | Dependent variable = Sales’ cross-functional collaboration |
| Covariates | Model 1 | Model 2 | Model 3 | Model 4 |
| Salespeople age | $(\beta)$ | $t$ | $(\beta)$ | $t$ | $(\beta)$ | $t$ | $(\beta)$ | $t$ | $(\beta)$ | $t$ |
| Salespeople experience | .09 | .73 | .07 | .61 | .08 | .70 | .06 | .52 |
| Tenure | -.17 | -1.63 | -.20 | -1.99 | -.22 | -2.26 | -.17 | -1.69 |
| Degree informational status intra-group | -.49 | -4.53 | -.40 | -3.86 | -.38 | -3.77 | -.36 | -3.57 |
| Degree informational status cross-group | .06 | .49 | .08 | .74 | .09 | .81 | .10 | .95 |
| Degree of network hierarchy | -.03 | -2.2 | -.08 | -1.71 | -.08 | -1.78 | -.12 | -1.13 |
| Degree of network formalization | .20 | 1.94 | .15 | 1.55 | .17 | 1.81 | .20 | 2.19 |
| Main effects | | | | |
| Workgroup identification ($H_1$) | $-28^*$ | -2.78 | $-25^*$ | -2.47 | $-29^*$ | -2.92 |
| Organizational identification | .09 | .87 | .08 | .78 | .16 | 1.50 |
| Perceived organizational reciprocity | .20 | 2.04 | .19 | 1.99 | .10 | 1.02 |
| Two-way interactions | | | | |
| Workgroup identification $\times$ Organizational identification ($H_2$) | $22^*$ | 2.14 | $22^*$ | 2.09 |
| Workgroup identification $\times$ Perceived organizational reciprocity | .15 | 1.54 |
| Organizational identification $\times$ Perceived organizational reciprocity | -.10 | -.99 |
| Three-way interaction | | | | |
| Workgroup identification $\times$ Organizational identification $\times$ Perceived organizational reciprocity ($H_3$) | $27^*$ | 2.23 |

R² adjusted | .23 | .35 | .47 | .51 |
Variation inflation factor (superior) | 1.68 | 1.73 | 2.39 | 2.87 |
$F$ (Model) | 4.50 | 5.40 | 5.58 | 4.98 |

Note: $(\beta) =$ Standardized regression coefficients; $(t) t$-value; **$p < .01$; *$p < .05$; †$p < .10$.

Figure 2 illustrated that a high workgroup identification and low organizational identification reduces the sales’ cross-functional collaboration. This result revealed that at low organizational identification levels, workgroup identification tends to harm sales’ cross-functional collaboration. However, we showed that a high level of organizational identification had no moderating on the negative effect of workgroup identification on sales’
cross-functional collaboration. This result revealed that the increase in organizational identification is not able to encourage an increase in cross-functional collaboration, but a drastic reduction of organizational identification in detriment to workgroup identification will be deleterious to cross-functional collaboration.

![Graph showing the interactive effect of workgroup identification and organizational identification on sales' cross-functional collaboration](image)

**Figure 2.** Interactive effect the workgroup identification and organizational identification on sales’ cross-functional collaboration

We used the Johnson-Neyman procedure to determine the significance region (Johnson & Fay, 1950) and found that the interactive effect is not significant for high organizational identification, but it is noteworthy for low organizational identification. This Johnson-Neyman additional test also supports H2. Figure 3 shows the significance region test results.

These results support our expectation that multiples social identifications enhance each other concerning cross-functional collaboration, extending social identity theory (Tajfel & Turner, 1986; Ashforth, 2016). Our research is the first study that examines how multiple social identifications impact on the creation of intra-organizational collaboration networks.
The two-way interaction showed a counterintuitive result (see Figure 2). Salespeople “lone wolf”, this is, with low organizational identification and low workgroup identification, perform a more significant number of cross-functional collaboration. The sales literature suggests that salespeople with “lone wolf tendency” do not collaborate with coworkers (Mulki et al., 2007; Dixon et al., 2003). Otherwise, we showed that salespeople “lone wolf” have the highest level of cross-functional collaboration. In the discussion section, we seek to explain this counterintuitive finding.

Furthermore, we predicted that perceived organizational reciprocity amplifies the effects positives of two-way interactions. Model 4 reveals a significant and a negative three-way interaction of organizational reciprocity × organizational identification × workgroup identification ($\beta = .27; p < .05$), supporting H3. The model 4 explains 51% of the variance ($R^2 = .51$).

According to Figure 4, when perceived organizational reciprocity is high (Right side), there is a positive interaction between organizational identification and workgroup identification. This positive interaction disappears when perceived organizational reciprocity is low (Left side). However, when both workgroup identification and organizational identification are low and perceived organizational reciprocity is high (Right side), sales’ cross-functional collaboration also is high, consistent with the logic that salespeople “lone wolf” realize cross-functional collaboration. We showed with these results that in the absence
of the social identification of salesperson, perceived organizational reciprocity could provide sales’ cross-functional collaboration.

![Diagram showing the interactive effect of workgroup identification, organizational identification, and organizational reciprocity on sales’ cross-functional collaboration.]

**Figure 4.** Interactive effect of workgroup identification, organizational identification, and organizational reciprocity on sales’ cross-functional collaboration

### 5.3. THE PREDICTOR POWER OF SALES’ CROSS-FUNCTIONAL COLLABORATION

Table 6 shows the regressions coefficients of hypotheses H₄ and H₅. In the regression models, we used the company report data for sales performance (models 1 and 2) and sales manager report for relational performance (models 3 and 4), the size of the network created in sales’ cross-functional collaboration, and the covariates.

In our baseline Model 1, we estimated only the control variables. The control variables explain 8% ($R^2 = .08$) of the sales performance. The effect of the salespeople experience ($\beta = .31; p < .05$), degree informational status intra-group ($\beta = .28; p < .05$), and degree informational status cross-group ($\beta = .30; p < .05$) on sales performance are significant and positive. The positive effect the salespeople experience on sales performance is consistent with the literature (see Verbeke et al., 2011). The positive effects of the degree of informational status intra- or cross-functional show that salespeople can improve sales performance when creating contacts of the collaboration with colleagues with high informational status. This result is consistent with previous research (Steward et al., 2010;
Lam et al., 2010) showing that ties with colleagues with higher expertise are beneficial to performance success.

Table 6. Regression coefficients for sales performance and relational performance

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Dependent variable: Sales Performance</th>
<th>Dependent variable: Relational Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1 (β) t</td>
<td>Model 2 (β) t</td>
</tr>
<tr>
<td>Covariates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salespeople age</td>
<td>-.10 .70 -1.33</td>
<td>-.96 -1.33</td>
</tr>
<tr>
<td>Salespeople experience</td>
<td>.31* 2.31 .29* 2.30 .34* 2.59</td>
<td>.33* 2.57</td>
</tr>
<tr>
<td>Tenure</td>
<td>-.15 -1.29 -.09</td>
<td>-.82 -.27 -2.35</td>
</tr>
<tr>
<td>Degree informational status intra-group</td>
<td>.28* 2.36 .44** 3.44</td>
<td>-.02 -1.16</td>
</tr>
<tr>
<td>Degree informational status cross-group</td>
<td>.30* 2.26 .28* 2.20</td>
<td>.39* 3.06</td>
</tr>
<tr>
<td>Degree of network hierarchy</td>
<td>-.12 -.92 -1.11</td>
<td>-.89 -.19 -1.53</td>
</tr>
<tr>
<td>Degree of network formalization</td>
<td>-.07 -.66 -1.14</td>
<td>-1.27 .06</td>
</tr>
<tr>
<td>Main effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales’ cross-functional collaboration (H4 – H5)</td>
<td>.33* 2.69</td>
<td>.26* 2.11</td>
</tr>
<tr>
<td>R² adjusted</td>
<td>.08 .16 .20 .25</td>
<td></td>
</tr>
<tr>
<td>Variation inflation factor (superior)</td>
<td>1.68 1.69</td>
<td>1.68 1.69</td>
</tr>
<tr>
<td>F (Model)</td>
<td>2.11* 2.92*</td>
<td>2.72* 3.05*</td>
</tr>
</tbody>
</table>

Note: (β) = Standardized regression coefficients; (t) t-value; **p < .01; *p < .05; †p < .10.

In the hypothesis H₄, we predicted that sales’ cross-functional collaboration has a positive effect on sales performance. Consistent with our prediction, the coefficient of sales’ cross-functional collaboration on sales performance is significant and positive (β = .33; p < .05), supporting H₄. The model (R² = .16) explains more variance than the model of the covariates effects (R² = .08). This finding shows that salespeople’s collaboration with outside colleagues rather than inside colleagues provides more useful information and increases the sales’ expertise to successful sales.

In the hypothesis H₅, we predicted that sales’ cross-functional collaboration also has a positive effect on relational performance. Consistent with our expectation, we showed that sales’ cross-functional collaboration has a positive and significant effect on relational performance (β = .26; p < .05), supporting H₅. The model 4 (R² = .25) explains more variance than the model 3 (R² = .20). Salespeople experience (β = .34; p < .05), tenure (β = -.27; p < .05) and degree informational status cross-group (β = .39; p < .05) also explain relational performance. This find extend social network literature in sales context (Claro & Ramos, 2018; Bolander et al., 2015; Gonzalez et al., 2014; Steward et al., 2010) by show that the
salespeople’s collaboration with colleagues of the others key areas of the organization is an important driver for salespeople to acquire and maintain long-term relationships with their customers, that is, increase salespeople’s relational performance.

5.4 POST-HOC ANALYSIS OF SOCIAL IDENTIFICATIONS AS MEDIATORS

To understand the antecedents of cross-functional collaboration, we performed a mediation test in which organizational reciprocity acts as a predictor variable. Gouldner (1960) suggests that reciprocity has two functions: (1) a function of regulating existing social systems to confer stability, and (2) the initial mechanism function, to confer confidence on the collaboration between the parties when there is no social connection (i.e., social identification). The first function suggested by Gouldner (1960) highlights that reciprocity is a norm that acts as a contextual factor capable of regulating and modifying existing social relations. In this situation, members of an organization developed reciprocity over time, during social interaction. The second function suggested by Gouldner (1960) describes that the norm of reciprocity is a necessary mechanism to initiate social interactions. The author suggests that the reciprocity rule acts as a safety factor against the lack of trust between members who need to start a relationship.

The assumption this thesis is consistent with the first function described by Gouldner (1960). We showed that salespeople identify with workgroup or organization and, after, perceived organizational practices that arouse the norm of reciprocity. In this way, reciprocity acts as a contextual factor capable of moderating multiple social identifications and sales’ cross-functional collaboration. However, according to the second function the Gouldner (1960), also is possible assumed that this organizational practices that arouse the norm of reciprocity can bring an arise of the identification with workgroup or organization. In this way, reciprocity acts as a factor capable of generating multiple social identifications, this is, reciprocity is a predictor.

According to the second function the reciprocity, we tested a rival model. In the rival model, we suggest that organizational reciprocity initiates the process of collaboration, preceding the emergence of salespeople's social identification, which in turn, influence the sales’ cross-functional collaboration.
Figure 5. Effects of organizational reciprocity on sales’ cross-functional collaboration mediated by social identification

Note. (β) = Standardized regression coefficients; In parentheses, the total effect of organizational reciprocity on sales’ cross-functional collaboration before the inclusion of the mediators; **p < .01; *p < .05; ns (non-significant).

We conducted the mediation analysis with the Process (Hayes, 2013). We performed two models. The first model (A) examines the effect of perceived organizational reciprocity on cross-functional sales mediated by workgroup identification. The second model (B) examines the effect of perceived organizational reciprocity on cross-functional sales mediated by organizational identification. We inserted all the control variables in the tests but omitted the presentation for better visualization of the Figure 4.

In model A (Figure 5), we observed a mediating effect of workgroup identification on the relationship between perceived organizational reciprocity and sales’ cross-functional collaboration. The results indicated that workgroup identification acts as an important mediating variable in the relationship between perceived organizational reciprocity and sales’ cross-functional collaboration. Specifically, we revealed that reciprocity has an indirect effect on sales’ cross-functional collaboration by reducing workgroup identification. However, the model is a competitive mediation (where the direct and indirect paths influence the dependent variable with opposing signs) (Zao et al., 2010). Zao et al. (2010) suggest that in competitive mediations, possibly there is another mediator to explain the indirect relationship better. Therefore, we showed that the mediation model only partially explains sales’ cross-functional collaboration. In model B (Figure 4), we not verified the mediating effect of organizational identification.

Although this rival model is plausible and has already been partially tested in the organizational literature, we discovered the competitive mediation (Zao et al., 2010) and the model explains less the variance of the sales’ cross-functional collaboration than our model.
proposed. The $R^2$ of the rival model reports .42 (Model A) and .37 (Model B), and only workgroup identification is a significant mediator, while our models with the moderation show $R^2$ of .47 and $R^2$ of .51 (Table 5). Therefore, we find that perceived organizational reciprocity as a boundary condition (i.e., moderator) explains sales’ cross-functional collaboration better than a prediction variable.

5.5 POST-HOC ANALYSIS OF SALES CROSS-FUNCTIONAL COLLABORATION

We performed post-hoc to extend knowledge about the effect of cross-functional collaboration networks on sales performance and relational performance. This additional test aims to examine whether collaboration with some specific work functions can increase the predictor power the sales’ cross-functional collaboration on sales performance and relational performance.

We followed the procedures of Claro and Ramos (2018) and examined the impact of the type of cross-functional network. We opted to analyze the effect of sales team total ties (i.e., intra-group network) and customer service total ties. In the company this study, the marketing department not is defined in the organizational structure, so we could not replicate precisely the study of Claro and Ramos (2018).

In Table 7 we showed the results. In model 1, we observed that customer services total ties has a positive effect on sales performance ($\beta = .32; p < .05$). This result indicates that the higher the number of relations between the salespeople to service department colleagues, the higher the sales performance. Consistent with Claro and Ramos (2018), we have found that sharing information with colleagues in customer service increases the knowledge and expertise of the salespeople to offer better deals to their customers (Bolander et al., 2015; Steward et al., 2010). However, we did not find the quadratic effect of customer service total ties on sales performance (Model 2).
Table 7. Regression coefficients for sales performance and relational performance

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Dependent variable: Sales Performance</th>
<th>Dependent variable: Relational Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
</tr>
<tr>
<td></td>
<td>(β)</td>
<td>(β)</td>
</tr>
<tr>
<td>Covariates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salespeople age</td>
<td>-.12</td>
<td>-1.28</td>
</tr>
<tr>
<td>Salespeople experience</td>
<td>.29</td>
<td>2.34</td>
</tr>
<tr>
<td>Tenure</td>
<td>-.04</td>
<td>-1.90</td>
</tr>
<tr>
<td>Degree informational status intra-group</td>
<td>.41**</td>
<td>3.33</td>
</tr>
<tr>
<td>Degree informational status cross-group</td>
<td>.24†</td>
<td>1.97</td>
</tr>
<tr>
<td>Degree of network hierarchy</td>
<td>-.05</td>
<td>-1.05</td>
</tr>
<tr>
<td>Degree of network formalization</td>
<td>-.15</td>
<td>-1.45</td>
</tr>
<tr>
<td>Main effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales team total ties</td>
<td>-.12</td>
<td>-1.28</td>
</tr>
<tr>
<td>Sales team total ties²</td>
<td>-.11</td>
<td>-1.20</td>
</tr>
<tr>
<td>Customer service total ties</td>
<td>.32†</td>
<td>2.23</td>
</tr>
<tr>
<td>Customer service ties²</td>
<td>.04</td>
<td>.40</td>
</tr>
<tr>
<td>R² adjusted</td>
<td>.20</td>
<td>.20</td>
</tr>
<tr>
<td>Variation inflation factor (superior)</td>
<td>2.23</td>
<td>2.16</td>
</tr>
<tr>
<td>F (Model)</td>
<td>3.28†</td>
<td>2.80†</td>
</tr>
</tbody>
</table>

Note: (β) = Standardized regression coefficients; (t) t-value; **p < .01; *p < .05; †p < .10.

The Table 7 indicates that sales team total ties has no direct effect (β = -.12; ns) and quadratic effect (β = -.11; ns) on sales performance. Although not significant, the beta of the direct effect is negative, indicating that the higher the number of salespeople's ties to colleagues in the sales team, the lower the sales performance (see Figure 6). This result is consistent with the notion that redundant information does not provide better sales performance.
In model 3 and 4 (Table 7), we examined the direct effects and quadratic effects of customer service total ties and sales team total tie on relational performance. The results indicated that customer service total ties have no direct ($\beta = .03; \text{ns}$) and quadratic effect ($\beta = -.13; \text{ns}$) on relational performance. However, we found a direct negative effect of sales team total ties on relational performance ($\beta = .32; p < .05$) and also a quadratic effect ($\beta = .22; p < .05$). The direct effect indicates that the number of salespeople's ties to their peers in the sales team tends to decreases the salespeople's ability to maintain relationships with their customers. The logic behind this negative effect follows the principle that intra-group ties generate redundant information that does not help salespeople to solve problems and propose solutions for customers (Claro & Ramos, 2018). The quadratic effect indicates that relational performance increases if salespeople maintain a large number of ties to their sales team (see Figure 7). An explanation for this quadratic effect of the sales team total ties on relational performance is that a large number of contacts of salespeople with others salespeople can reduce the effort for obtaining routine information that facilitate their relational performance (Oglivie et al., 2017).
Figure 7. Quadratic effect of the sales team total ties on relational performance
6 DISCUSSION AND CONCLUSIONS

Considering the challenges that managers to encourage cross-functional collaboration networks, it is surprising the lack of research that investigates psychological and social factors that motivation of the salespeople to sharing knowledge in intra-organizational networks (Anaza & Nowlin, 2017; Casciari et al., 2015). We developed a framework that investigated antecedents, boundary conditions and performance consequences of sales’ cross-functional collaboration. Specifically, we analyzed how perceived organizational reciprocity influenced multiple foci of social identification to impact sales’ cross-functional collaboration (organizational and workgroup identifications), which in turn, improves performance outcomes. The results of our analyses confirmed the assumption that perceived organizational reciprocity amplifies the moderating effect of organizational identification on the relationship between workgroup identification and sales’ cross-functional collaboration. In the next section, we summarize the main results and demonstrate the theoretical contributions.

6.1 THEORETICAL DISCUSSION

Sales’ Cross-Functional Collaboration. Whereas prior research on selling-related knowledge sharing in cross-functional collaboration does not consider conjunctly the distinct activities of providing and seeking (or receiving) knowledge (e.g., Hayati et al., 2018; Hall et al., 2017; Bolander et al., 2015; Gonzalez et al., 2014; Plouffe et al., 2016). If the salespeople is an "internal knowledge broker" (Plouffe, 2018, p. 248), he or she must be willing both to provide and to seek knowledge in the intra-organizational networks. Our study advances the knowledge of this gap. In support of our proposition, Table 3 showed that salespeople could engage equally in collaboration to provide (40.3%) and seek (59.7%) knowledge and these links can be intra- (36.6%) or cross-functional (63.4%). These finds reveal recurrence practices to exchange knowledge beyond the sales function. Recent empirical research has indicated that salespeople can engage in cross-functional collaboration with marketing or customer service functions to propose solutions (Claro & Ramos, 2018), and our study further highlights a context in which salespeople simultaneously engage in intra-organizational networks for providing and seeking (or receiving) knowledge. We extend intra-organizational network literature in a sales context to provide a better comprehension of how salespeople
share — provide or seek knowledge — selling-related knowledge in cross-functional networks.

Inhibitors of sales’ Cross-Functional Collaboration. Previous research has focused on organizational, structural and relational factors that may enable or harm salespeople to engage in cross-functional collaboration (e.g., Bolander et al., 2015; Auh et al., 2013; Megunc et al., 2011). Eventually, salespeople building the identification with social groups in the organizational domain by need build the self-concept e and maintain a positive identity (Mael & Ashforth, 1992; Ashforth, 2016). Our study underscored the indispensable role of social identifications targets that inhibit motivation an about how to provide and seek knowledge in networks cross-functional collaboration. In particular, our study provided evidence of a negative effect of the workgroup identification on sales’ cross-functional collaboration. The ingroup favoritism generated by salespeople's high identification with the sales team prevents that salespeople initiating linkages with colleagues in other functions (Brewer, 2007), inhibiting cross-functional collaboration networks. We advance in the sales management literature by integrating the perspectives of the Social Identity Theory (Turner & Tajfel, 1986) and Social Network Theory (Granovetter, 1973) to explain more deeply how psychological aspects of the salespeople (i.e., favoritism ingroup) influences the formation of intra-organizational networks. To the best of our knowledge, our investigation is the first to consider a psychological aspect that influences the non-collaboration of salespeople to selling-related knowledge share in cross-functional networks.

Facilitators of sales’ cross-functional collaboration. Our analysis provides new insights into the multiple social identification literature by shows that the negative effect of workgroup identifications on sales’ cross-functional collaboration is attenuated enhanced when salespeople also have high organizational identification. With this discussion, we responded to several calls to advance the understanding of multiple identifications in the workplace (Ramarajan, 2014, Miscenko & Day, 2016, Ashforth, 2016). Previous research has shown that the identification of employees in ingroups or outgroups guides their decisions and helps to explain their attitudes and behaviors in workplace (Horton & Griffin, 2017; Wieske et al., 2012, Hekman, Bigley et al., 2009; Hekman, Steensma et al., 2009; Johnson et al., 2006). We build on this literature by examining how two targets of identification interact in shaping workplace cross-functional collaboration networks. Our discussion shows that organizational identification is a boundary condition (Busse, Kach & Wagner, 2016) that improved the accuracy of the knowledge about the effects of the ingroup favoritism from Social Identity Theory (Turner & Tajfel, 1986). Specifically, we extend Social Identity
Theory by demonstrating that multiple identities and these identifications are requisite for the formation of social ties in the workplace, shaping the intra-organizational networks of the salespeople.

Although we consider relevant the positive effect the multiples identifications on sales’ cross functional collaboration, we look at these findings with some caution. Because cross-functional collaboration is costly, we have not been able to show that multiple social identifications amplify cross-functional collaboration rather than intra-functional collaboration. Conceptual work cites the importance of the social identification to individual collaborating in groups (Brewer, 2007) and previous empirical research highlights the relevance of these multiples social identifications for salespeople who need to collaborate with organizational objectives (Wieseke et al., 2012; Hekman, Steensma, et al., 2009). Our study highlights that the workgroup and organizational identifications jointly include such psychological aspects that reduce the conflict "us" against "they" of the salespeople, but no provide sufficient motivation to salespeople give up the contacts in the sales team in favor of connections with colleagues of the others key areas of the organization. Therefore, we advance in the literature of multiple social identifications (Ashforth, 2016) by showing that double identification is not sufficient to promote all kinds of collaboration.

Perceived Organizational Reciprocity as Moderator. Our study reveals that salespeople’s responses to organizational reciprocity create conditions that improve the functionality of the multiples social identification to encourages sales’ cross-functional collaboration. This result is the main contribution of this thesis. We advanced in the literature underscore the importance of considering the perceived organizational reciprocity how a boundary condition to manage identifications in organizations. Given that multiple social identifications only inhibited the non-collaboration cross-functional, we revealed that organizational reciprocity could motivate an increase in sales' cross-functional collaboration. We found that high perceived organizational reciprocity -- activate by unconditional compensations that the company use to reward the salespeople -- enables the norm of reciprocity in which the “people should help those who helped them” (Gouldner, 1960, p. 171). Salespeople can consider the organizational reciprocity as an act of generosity that compensates the cost of the cross-functional collaboration and creating the sense of obligation and gratitude (Baker, 2012; Robinson et al., 1994). Thus, when the perceived organizational reciprocity is high, the organizational identification purposefully guides high-workgroup identified salespeople task engagement in collaboration with colleagues of the others functions, shaping to sales’ cross-functional collaboration. Otherwise, when the organization
has low levels of reciprocity, the organizational identification becomes ineffective to attenuate the negative effect of workgroup identification. Thus, organizational and workgroup identification promote cross-functional collaboration only at high levels of organizational reciprocity.

The impact of the "lone wolf" on sales' cross-functional collaboration. We showed an intriguing find. The salespeople who presented the highest levels of sales' cross-functional collaboration has "lone wolf tendency" (Mulki et al., 2007). The sales management literature highlights that salespeople with "lone wolf tendency" not perform connections with other colleagues in the workplace (Dixon et al., 2003) and lack a psychological attachment to the firm (Griffeth et al., 1999). The salespeople “lone wolf” is consistent with our finds, in which the salespeople have low organizational identification and low workgroup identification. Current research showed only the negative results the salespeople with "lone wolf tendency" (Dixon et al., 2003; Mulki et al., 2007). However, our finds demonstrated one situation in which lone wolf salespeople reported positive results. Specifically, we observed that lone wolves perform more sales cross-functional collaboration than salespeople with high multiple social identifications. When the organization has a high level of perceived organizational reciprocity, the level of sales' cross-functional collaboration of the lone wolf is even higher.

One logical explanation behind this result is that lone wolves do not feel the need to make connections with workplace colleagues by psychological attachment (Dixon et al., 2003; Griffeth et al., 1999), as suggested in social identity theory. This provides a freedom to the lone wolves to create connections with a purpose utility. In our research, we have shown that lone wolves have a high level of cross-functional collaboration to gain knowledge that can assist them in achieving their individualistic goals. And when the organization provides practices that enable reciprocity, lone wolves visualize more favorable conditions to create more utilitarian connections. This counterintuitive finding reveals a new face of salespeople with "lone wolf tendency" expanding the current literature on inter-functional collaboration networks and social identification in the workplace.

Other factors might inhibit or facilitate sales’ cross-functional collaboration. For example, our control variables suggested that tenure and degree informational status intra-group has a significant negative impact and degree informational status cross-function (see Table 4). These finding revealed that the time of the salespeople in sales team and the presence of the colleagues in sales team are sufficient sources of salespeople knowledge (Claro & Ramos, 2018; Claro & Kamakura, 2017; Chan, Li & Pierce, 2014) and, therefore, inhibited salespeople to provide and seek knowledge with colleagues the others key areas.
However, if colleagues from other areas have degree informational status cross-function, the cross-functional collaboration will be activated. Our study of antecedents of sales’ cross-functional collaboration invites further extension studies.

Performance Key Outcomes of sales’ Cross-Functional Collaboration. Our research showed the role of the cross-functional collaboration for two critical results for companies: sales performance regarding sales growth and relational performance of salespeople. Recent research shows that selling-related knowledge sharing in cross-functional collaboration impacts sales performance (Bolander et al., 2015; Gonzalez et al., 2014), but researchers report positive (Ustuner & Iacobucci, 2012; Steward et al., 2010) or negative effects (Claro & Ramos, 2018; Rouzies & Hulland, 2014) of the cross-functional collaboration on sales performance. Despite studies reporting that some cross-functional ties may have a negative impact on performance, our results suggest that information provided from other areas can compensate for the lack of quality of information obtained from one area. So, we showed that the total cross-functional collaboration (i.e., the sum of sharing with all functions) improve sales performance. We also offer a counterpoint to the assumption that large numbers of ties decrease sales performance by the difficulty of managing all network ties. We found that salespeople can establish ties only to seek information, to provide information, or to perform both exchange activities. We believe that the salespeople should balance the nature of the ties (i.e., seek and/or provide knowledge) in order to obtain the benefits of the cross-functional collaboration.

Besides, to the best of our knowledge, our study is the first to investigate the sales’ cross-functional collaboration-relational performance relationship. We pointed that salespeople with a high level of cross-functional collaboration are more able to solve problems and propose solutions to maintain good relationships with their customers. Our study responded to the calls to unpack the sales’ cross-functional collaboration and key marketing outcomes (Claro & Ramos, 2018; Bolander et al., 2015; Gonzalez et al., 2014). In sum, we expanded sales networks literature by revealing that sales’ cross-functional collaboration leads to sales performance and relational performance, highlighting the complementary effects of providing and seek knowledge with colleagues of other key areas of the organization. Our research provides insight that the knowledge gained outside the unit is more effective in improving results in the short-term (sales performance) and long-term outcomes (relational performance).
6.2. MANAGERIAL APPLICATIONS

Our study offers useful insights and recommendations for managers encourage sales’ cross-functional collaboration. First, managers can reduce identification with workgroup by inserting salespeople into multifunctional teams that pursue collective goals and are rewarded by these collective goals. The need to work together with colleagues from other roles to achieve common goals shows the sales people that other functions of the organization are also relevant and therefore there will be a higher motivation to share knowledge.

Second, managers can increase organizational identification of the sales team. Salespeople can identify with the organization and build a unique identity for the organization, which can become superordinate to the other identifications. The construction of a strong, unique identity involves actions that highlight the external prestige of the organization for salespeople (Bergami & Bagozzi, 2000); the promotion of performance benchmarks compared to benchmarking with external organizations, which increases internal employee cohesion (Van Dick et al., 2005); and the promotion of an organizational culture that fosters collaboration rather than internal competition (Hatch & Schultz, 1997).

Third, sales manager can promote actions of reciprocity with the intention of activating an obligation of reciprocity of the salespeople. Generally, bonuses and benefits not tied to a work contract can be useful how reciprocal acts (Kube et al., 2012). These bonuses and benefits are of an unexpected nature and therefore can enable greater engagement in the salespeople to collaborate with the organization (Chung & Narayandas, 2016). However, research suggests that the employee’s perception that the compensation received in the organization is higher than in competing companies can already activate the norm of reciprocity (Brandes & Franck, 2012). Indeed, Gilchrist et al. (2016, p. 10) suggest that “how you pay” can be as important as “what you pay”. Companies can employ actions that promote the visibility of benefits and rewards granted. For example, companies can raise the salary offered to employees above the local or national standard. These companies should communicate with current employees and new employees that the salary offered is, in fact, higher than the competitors are because the company wants to treat its employees well and pay a fair wage. Improve the gift label instead of just declaring the starting salary and assuming that the employee concludes that the wage is generous, will be more useful for the company (Gilchrist et al., 2016). We expected that this effort to communicate organizational reciprocity show how the company is generous and promote greater salespeople’s obligation
and gratitude feelings. Thus, the salespeople will be more engaged in cross-functional collaboration.

Finally, we suggested that managers adopt communication support systems (e.g., virtual social networks) to make available knowledge accumulated across all areas of the organization (Rapp et al., 2015, Agnihotri et al., 2012). The knowledge gained from other key areas of the organization will better enable salespeople to improve their sales pitch and increase the ability to meet customer needs. Besides, the firm must promote behavior-based rewards that encourage sales’ cross-functional collaboration (Ahearne et al., 2010). These behavior-based rewards will send a message to the salespeople that cross-functional collaboration is necessary for the organization.

6.3 LIMITATIONS

Next, we presented the limitation of our study. First, we used sample of a single company. We must exercise caution to generalize the results of the study. Studies that examine intra-organizational social networks typically report single sample (Bolander et al., 2015; Ahearne, Lam, et al., 2013) because they seek to reduce contextual effects when comparing networks of different organizations. However, we can not generalize our results to another context (e.g., B2B sales).

Second, our study highlights the complexity related to shaping sales’ cross-functional collaboration, as well as the importance of considering how salespeople’s social identification impacts their attitudes and behavior at the workplace. We focus on organizational identification and organizational reciprocity as boundary conditions that overcoming deleterious effects of the ingroup favoritism. Discovering boundary conditions is a useful way to extend and expand existing theories (Busse et al., 2017).

Third, we recognize the knowledge-sharing literature highlights also the importance of inter-organizational knowledge (Van Wijk et al., 2008; Reagans & McEvily, 2003), as competitive intelligence. The competitive intelligence emphasizes that salespeople’s knowledge is a sum of information obtained from sources inside and outside of the organization (e.g., customers, salespeople from other organizations, competitors, suppliers, etc.). Our research is limited to understand the antecedents of cross-functional collaboration in intra-organizational networks. This limitation occurs because of the difficulty of measuring a network that goes beyond the boundaries of an organization.
Four, we examine reciprocity through a cognitive perspective. We believe that organizational reciprocity is an individual-level variable of a firm-level trait. Employees of the same organization may have different perceptions because reciprocity is a ratio between the donation that the employee invests and the reward that the company retributes in exchange for the donation (Van Horn et al., 2001). However, our evaluation focused only on subjective organizational reciprocity, when it can also be objective (e.g., Chung, Narayandas, 2016; Wu et al., 2006; Kube et al., 2012).

Finally, we recognized that crucial sellers' outcomes are many, and to some degree, all imply the competitive advantage for the organization. We restricted ourselves to two key results (sales performance and relational performance). Although this is a breakthrough for the literature, it does not yet contemplate the salespeople's constellation of results.

6.4. RECOMMENDATIONS FOR FUTURE RESEARCH

Next, we presented recommendations for future research. First, we suggest that further research to study the role of other individual and environmental aspects that shaping cross-functional collaboration, such as identification with the managers (Ahearne, Haumann, et al., 2013), identification with the consumer (Ahearne, Bhattacharya & Gruen, 2005), compensation structures (Chung & Narayandas, 2016). For example, Anteby, Chan e Dibenigno (2016) defend that the modern man tends to change more of organizations than of occupation. That is, individuals of the present generation seek to maintain occupations of more stable jobs throughout their lives, but they change organizations more frequently. We suggest that an occupational identification may be more durable than a workgroup identification, and both may coexist and influence the behaviors and attitudes of individuals in organizations.

Second, future research can expand the notion of cross-functional collaboration by considering links from outside the organization as a relevant source of knowledge that can influence key sales results and be influenced by psychological aspects such as multiple social identifications.

Third, despite the difficulty of examining objective reciprocity in the field (Chung, Narayandas, 2016; Gilchrist et al., 2016), future research can explore the gap by reviewing the employees' perception of the benefits and rewards of unexpected nature objectively. For example, how much can an employee feel the obligation to reciprocate to the company by
courtesy of a trip? Moreover, how will a marginal increase in the duly informed salary affect the collaboration? Future studies can examine these and other issues.

Finally, further research may examine how sales' cross-functional collaboration implies in the profit margin and customer satisfaction. We seek the sales manager as a reliable source to evaluate salespeople's relational performance. Although the human perception of performance is positively related to objective assessments (Pappalardo et al., 2017), we think that the customer's perception of their satisfaction will be more accurate than the information reported by the manager.
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Olá! Meu nome é Juliano Domingues da Silva e esta pesquisa é parte do meu projeto de doutorado pela Universidade Estadual de Maringá/Paraná (UEM). Esta pesquisa busca conhecer um pouco mais sobre a rede dos vendedores com colegas da concessionária de veículos e a sua participação é muito importante. As respostas são confidenciais e apenas para uso acadêmico. Qualquer dúvida, entrar em contato por meio do e-mail ou telefone: jdsilva2@uem.br ou (44) 99709-1835.

A figura abaixo pretende avaliar seu relacionamento com a empresa [NOME DA EMPRESA].

Você pode notar que há 7 retângulos. Em cada retângulo há 2 círculos. O retângulo branco representa VOCÊ e o retângulo cinza representa a [NOME DA EMPRESA]. Em cada retângulo, os círculos se sobrepõem de forma diferente.

No primeiro retângulo (número 1), eles são totalmente separados e representam uma situação em que VOCÊ não se identifica e no último retângulo (número 7), os círculos estão totalmente sobrepostos e representam uma situação na qual VOCÊ se identifica fortemente.

Marque um X em um dos retângulos que mais representa o grau em que VOCÊ se identifica com a empresa [NOME DA EMPRESA].

A figura abaixo pretende avaliar seu relacionamento com os colegas de sua EQUIPE DE VENDAS.

O retângulo branco representa VOCÊ e o retângulo cinza representa os colegas de sua EQUIPE DE VENDAS.

Na mesma lógica da questão anterior, marque um X em um dos retângulos que mais representa o grau em que VOCÊ se identifica com os colegas de sua EQUIPE DE VENDAS.

**Refita a sua relação com a empresa [NOME DA EMPRESA] e com a EQUIPE DE VENDAS e assinale com um X o número que melhor define essa relação**

<table>
<thead>
<tr>
<th>Discordo totalmente</th>
<th>Concordo totalmente</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Quando falo sobre a [NOME DA EMPRESA], costumo dizer "nós" em vez de "eles".

Quando alguém elogia a [NOME DA EMPRESA], sinto como se fosse um elogio pessoal.

O sucesso da [NOME DA EMPRESA] é também o meu sucesso.

Quando alguém critica a minha EQUIPE VENDAS, sinto como se fosse um insulto pessoal.

Quando falo sobre a minha EQUIPE DE VENDAS, costumo dizer "nós" em vez de "eles".

**Quanto ao grau de colaboração com a [NOME DA EMPRESA] eu ...**

Assinale com um X o número que melhor define a sua percepção para cada alternativa.

<table>
<thead>
<tr>
<th>Com a [NOME DA EMPRESA]</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colaboro pouco com a [NOME DA EMPRESA]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Quanto ao grau de retribuição de sua colaboração, a [NOME DA EMPRESA] ...**

Assinale com um X o número que melhor define a sua percepção para cada alternativa.

<table>
<thead>
<tr>
<th>Retribuo pouco por minha colaboração</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>
Indique o nome de até 10 pessoas de qualquer departamento/setor da empresa que você mantem contato frequente.
Depois indique qual a finalidade do contato.
Em seguida, informe se o contato que você indicou é motivado por um aspecto formal (contato é obrigatório) ou informal (contato é espontâneo)

<table>
<thead>
<tr>
<th>Nome da pessoa</th>
<th>Departamento/Setor</th>
<th>Qual a finalidade do contato? [Você pode marcar as duas opções se for o caso]</th>
<th>O contato é... [Você deve marcar a opção que é mais predominante]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Compartilhar informações sobre clientes, produtos, concorrentes e vendas.</td>
<td>Informal [contato espontâneo]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Buscar informações sobre clientes, produtos, concorrentes e vendas.</td>
<td>Formal [contato obrigatório]</td>
</tr>
</tbody>
</table>

1) 
2) 
3) 
4) 
5) 
6) 
7) 
8) 
9) 
10) 

A seguir, indique o nome do colega de trabalho que você considera que possui maior conhecimento de vendas, isto é, aquele que mais conhece os produtos, os clientes, os concorrentes e o mercado em geral.
Nome: _______________________ Departamento/Cargo: _______________________

A seguir, indique o nome do colega de trabalho que você considera que seja a pessoa que mais soluciona problemas na empresa, isto é, aquele que mais resolve os problemas dos clientes.
Nome: _______________________ Departamento/Cargo: _______________________

Gênero: ( ) Masc. ( ) Fem. Idade: ______ Escolaridade: ______________________
Experiência em vendas: __________
Tempo de empresa: __________
Olá! Meu nome é Juliano Domingues da Silva e esta pesquisa é parte do meu projeto de doutorado pela Universidade Estadual de Maringá/Paraná (UEM). Esta pesquisa busca conhecer um pouco mais sobre a rede dos vendedores com colegas da concessionária de veículos e a sua participação é muito importante. As respostas são confidenciais e apenas para uso acadêmico. Qualquer dúvida, entrar em contato por meio do e-mail ou telefone: jdsilva2@uem.br ou (44) 99709-1835.

Atribua uma nota no intervalo de 1 a 10 para cada vendedor subordinado a você, sendo 1=Pior e 10=Melhor.

A codificação de cada vendedor segue na lista anexa.

<table>
<thead>
<tr>
<th>Vendedor</th>
<th>Vendedor</th>
<th>Vendedor</th>
<th>Vendedor</th>
<th>Vendedor</th>
<th>Vendedor</th>
<th>Vendedor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

... alcançar a satisfação do cliente
... manter os clientes atuais
... responder às solicitações dos clientes
... resolver os problemas dos clientes

Qual a frequência de reuniões formais é realizada com toda a empresa por ano?_________ 

Qual a frequência de reuniões formais é realizada com a equipe de vendas por ano?_________ -
Faturamento por vendedor, por loja e estrutura de remuneração:

<table>
<thead>
<tr>
<th>Vendedor</th>
<th>Faturamento em R$ 2016</th>
<th>Faturamento em R$ 2017</th>
<th>% salário fixo</th>
<th>% comissão</th>
<th>% bônus (exceto comissões)</th>
<th>% benefícios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vendedor x1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vendedor x2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vendedor x3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vendedor x4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vendedor x5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vendedor x6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vendedor x7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APENDIX IV – RIVAL MODELS

As argued in this thesis, these organizational practices consist at perceived organizational reciprocity. According to Baker and Dutton (2007), organizational practices can be used by companies to motivate and provide opportunities for employees to engage in reciprocity. In this logic, we also assumed that salespeople could seek to strengthen their ties of sales' cross-functional collaboration in organizations with high perceived reciprocity. In this way, we tested a model to analyze the contextual effect (i.e., moderator) of the perceived organizational reciprocity on the relationships between sales' cross-functional collaboration, sales performance, and relational performance.

The figure below showed that the moderating effect of perceived organizational reciprocity is not significant for the relationships between sales' cross-functional collaboration and sales performance ($\beta = -.15; \text{ns}$), and sales' cross-functional collaboration and relational performance ($\beta = -.14; \text{ns}$). With these results, we concluded that perceived organizational reciprocity acts as a mechanism that motivates and encourages the creation of sales' cross-functional networks, but does not act as a moderator to improve the outcome of sales' cross-functional networks.
We also tested whether multiple social identifications can modify the salespeople’s organizational reciprocity perceptions. Our research examined organizational reciprocity and levels of social identification in a real organization. In our sample, salespeople already share values and beliefs with their peers over time. Therefore, we can also assume that a certain level of social identification influences perceived organizational reciprocity.

The figure below showed that the effect of workgroup identification on perceived organizational reciprocity is significant and negative ($\beta = -0.33; p < .05$), but the effect of organizational identification on perceived organizational reciprocity is non-significant ($\beta = 0.13; ns$). With these results, we concluded that the beneficial effects of organizational identification are not enough to make the employee perceived that the organization is reciprocal. However, the deleterious effects of high workgroup identification also extend to how salespeople perceive the practices provided by the organization. This negative finding of workgroup identification is consistent with the argument of Wieseke et al. (2012), in which the strong connection with the group increase organization’s stereotypes of the salespeople.