

The Relationship Between Relational Ties, Absorptive Capacity, And Social Integration Mechanisms In Small Retail Businesses Associated With Direct And Indirect Horizontal Networks.

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Abstract:

Background: The objective of this research is to investigate the relationship between relational ties, absorptive capacity, and social integration mechanisms in small retail businesses associated with direct and indirect horizontal networks.

Materials and Methods: To achieve the objective, an empirical research study with a quantitative approach was conducted involving 409 retail businesses associated with direct and indirect horizontal networks. The proposed relationships were tested using the structural equation modeling technique.

Results: The results indicate that a company's participation in direct horizontal networks has a greater positive impact on relational ties and absorptive capacity than participation in indirect horizontal networks. They also suggest that the use of different types of social integration mechanisms affects the relationship between relational ties and the company's absorptive capacity in different ways.

Conclusion The research proves that relationships foster a company's absorptive capacity. It particularly, indicates that it is not just maintaining relationships with other network members that impacts absorptive capacity, but the type of relationship established between network members (direct or indirect) should be considered, as direct relationships have proven to be more favorable. There is sufficient evidence to assert that by investing in interorganizational relationships, the company can enhance its absorptive capacity and thus access various other competitive advantages.

Key Word: Absorptive Capacity; Relational Ties; Social Integration Mechanisms; Direct and Indirect Horizontal Networks; Retail Trade.

Date of Submission: 04-12-2024

Date of Acceptance: 14-12-2024

I. Introduction

There's no doubt that knowledge generates value (Stewart, 1998), positioning itself as one of the most important strategic resources in the current global economy (Brunner-Kirchmair & Wiener, 2019). As a result, the study of variables that may be related to the development of absorptive capacity has been a frequent subject of investigation in organizational studies (Apriliyanti & Alon, 2017). Absorptive capacity (AC) is a mechanism by which externally acquired knowledge is recognized as valuable, assimilated, and exploited by the firm (Cohen & Levinthal, 1990). Since its inception, it has been considered a precursor of performance, and in the past three decades, it has been recognized as a strategic resource that strengthens the company's competitive advantage (Apriliyanti & Alon, 2017).

The concept presented by Cohen and Levinthal (1990) was expanded by the contributions of Zahra and George (2002), who introduced social integration mechanisms as a contingent factor that facilitates knowledge absorption by enabling the company to effectively transform and utilize the knowledge after acquiring and assimilating it. Cuervo-Cazurra and Rui (2017) highlight that the absence or weakness of these mechanisms can create a barrier to the success of AC.

Given that knowledge transfer involves the organizational and relational context (Szulanski, 2000), relational ties, as a source of AC creation, have been discussed in recent literature (Cai & Yang, 2014; Li et al., 2017; Lo et al., 2016). The relational view postulates that companies can develop key relationships based on interaction and association (Breier, 1974), conditions that directly contribute to gaining a competitive advantage (Ritala & Tidström, 2014).

The importance of RT lies in the fact that closer and more frequent interactions tend to promote the exchange of experiences (Van Wijk et al., 2008), which is considered a catalyst for knowledge transfer (García-Villaverde et al., 2017). Based on the assumption that interactions act as levers for knowledge transfer, the participation of

the company in direct and indirect horizontal networks can be a determining factor in competitive advantage (Kulhánek & Sulich, 2018; Jaekel, 2019).

This study aims to analyze the relationship between Relational Ties, Absorptive Capacity, and Social Integration Mechanisms in small retail businesses associated with direct and indirect horizontal networks. The research is justified by addressing the call from various researchers, such as: I) limited exploration of AC in emerging economies (Laviniki et al., 2021); II) low concentration of studies on AC in low and medium-tech sectors such as retail (Oliveira et al., 2017); III) the relational view is rarely applied in empirical work, even less so regarding knowledge absorption (Weber et al., 2016); IV) no studies were found that differentiate direct horizontal relationships from indirect horizontal relationships (Zema & Sulich, 2019); and finally, V) a more refined understanding of the role of Social Integration Mechanisms would be highly beneficial to research exploring AC as a competitive advantage (Von Briel et al., 2019).

Finally, by investigating the relationship between the constructs, this study offers new theoretical contributions to the literature on horizontal networks, absorptive capacity, and relational ties. Empirically, it provides retail managers with insights into a relatively unexplored area, thus providing valuable information on how these businesses can improve their absorptive capacity and become more competitive.

II. Literature Review

This chapter outlines the theoretical foundations that support the investigation.

Absorptive Capacity

AC is a multidimensional construct widely explored in the field of strategic management (Apriliyanti & Alon, 2017). The concept introduced by Cohen and Levinthal (1990) suggests that AC is the ability of a firm to recognize the value of new external information, assimilate it, and apply it for commercial purposes. A broader view of AC is proposed by Dyer and Singh (1998), who emphasize the importance of studying this construct beyond organizational boundaries through relationships. For the authors, absorptive capacity is an interactive process that results in profits generated by interaction and collaboration among firms.

Also considering the significance of the interorganizational context, Lane and Lubatkin (1998) introduced the concept of relative absorptive capacity, emphasizing the importance of interorganizational relationships by pointing out that a firm's ability to learn from other firms depends on the similarity of knowledge bases and organizational structures. Significant contributions come from Zahra and George (2002), the most referenced authors in AC literature (Apriliyanti & Alon, 2017), who revisited and expanded the concept, adopting a more processual perspective. The progress in construct research is notable, with studies emerging focused on the proposition and validation of scales to measure the construct. Originally, the construct posited by Cohen and Levinthal (1990) established it as a three-dimensional construct based on the identification, assimilation, and exploitation of external knowledge. However, from Zahra and George's (2002) conception, many researchers have commonly adopted the four-dimensional model, as seen in Carvalho et al. (2021).

Flatten et al. (2011) developed a scale to measure AC from a multidimensional perspective. The scale, recently used in empirical studies (Costa, 2018; Dávila et al., 2018), is based on the model by Zahra and George (2002), structured in 14 items organized to measure the four dimensions of AC. Another significant point is that AC has been studied at different levels of analysis. Beyond the traditional individual-level analysis proposed by Cohen and Levinthal (1990), other levels have gained prominence, such as organizational, intraorganizational, and interorganizational levels. This study adopts the interorganizational level, considering that AC transcends organizational boundaries (Dyer & Singh, 1998; Lane & Lubatkin, 1998). At this level, interorganizational relationships are considered, suggesting that companies can achieve better performance by sharing knowledge with their partners (Belso-Martínez et al., 2016).

Social Integration Mechanisms

Conceptual approaches to Social Integration Mechanisms (SIMs) within the context of CA emphasize techniques that promote interaction among company members. This interaction is crucial for sharing and transferring knowledge (Armstrong & Lengnick-Hall, 2013). For the operationalization of this research, it is assumed that SIMs affect CA as proposed by Todorova and Durisin (2007). This stance has been adopted in recent studies such as Cuervo-Cazurra and Rui (2017), Enkel et al. (2018), and Von Briel et al. (2019).

Studies demonstrate that CA is directly influenced using SIMs (Enkel et al., 2018), although the results vary depending on the context and type of mechanism employed (Armstrong & Lengnick-Hall, 2013). Enkel et al. (2018) pointed out that individually, SIMs impact the CA of companies, but the combined use of multiple SIMs provides breadth and depth to the knowledge base and thus greater CA. Therefore, research that combines the use of multiple SIMs in different organizational contexts has become common (Pihlajamaa, 2018). For operationalization purposes, this study explores three categories of SIMs: Coordination Mechanisms, Systems Mechanisms, and Socialization Mechanisms (Pihlajamaa, 2018).

Coordination mechanisms are those directly linked to managerial structures and refer to coordination activities (Verona, 1999; Jansen et al., 2005). This type of mechanism ensures that individuals with different backgrounds and experiences connect, thereby facilitating knowledge absorption (Pihlajamaa, 2018). Systems mechanisms are formal initiatives, rules, and procedures that guide behavior (Jansen et al., 2005). While standardization may lead to better knowledge flow (Roberts, 2015), the lack of flexibility resulting from strict formalization can become prohibitive to new knowledge, which would limit knowledge absorption (Pihlajamaa, 2018). Socialization mechanisms refer to the company's ability to produce a shared ideology that fosters collective interpretations of reality (Van den Bosch et al., 1999). They are based on two aspects of social relations: the structural aspect or density of ties, and the cognitive aspect or shared social experiences (Jansen et al., 2005). In practice, socialization mechanisms are employed through connectivity and socialization tactics (Pihlajamaa, 2018).

Interorganizational Networks

The study of interorganizational networks stems from the relationship approach (Amato Neto, 2000) characterized by transactions, flows, and connections of resources among companies that interact with each other (Castells, 1999). Although it is based on cooperative actions, the nature of these relationships involves power dynamics, competition, and sometimes conflicts, which are traditional interactions in the organizational environment (Giddens, 2003).

Horizontal networks are established based on cooperation and consist of independent companies that choose to perform certain activities together. In this type of network, efforts are concentrated on achieving collective gains, which does not preclude the freedom of individual strategic action of each member company. Zema and Sulich (2019) indicate four basic relationships established in networks: reverse verticals (with suppliers), frontal verticals (with buyers), direct horizontals (with competitors in the same segment), and indirect horizontals (with competitors from other segments). This research only considers horizontal relationships. Horizontal networks consist of companies established at the same level of the supply chain, operating in the same segment or area of expertise (Muller, 2018).

From the outset, horizontal networks have been based on the premise of cooperative ties (Bengtsson & Kock, 1999), a foundational condition for companies to strengthen their competitive position relative to their competitors and in relation to earlier or later links in the chain. The concept has been refined, with new names and characteristics emerging, but the essence of the concept remains, grounded in the potential of collective work, involving cooperation among competitors with the common goal of increasing competitiveness (Amato Neto, 2013).

Horizontal cooperation presents itself as a viable option for small and medium-sized companies to compete in an increasingly globalized, dynamic, and complex environment (Kulhánek & Sulich, 2018). There are two sources of advantages in a horizontal network: they are associated with the mere participation of the company in the network and the relationships or ties established between them (Bengtsson & Kock, 1999). Participation itself implies homogeneous advantages (Lewis et al., 2015), while advantages derived from relationships are heterogeneous since companies vary in terms of interests.

The connection between competing companies has stimulated the generation and diffusion of knowledge (Castro et al., 2011). The exchange of experiences and collective learning have been cited as success factors of horizontal networks by Hermes et al. (2013). Cooperative ties and mutual commitment lead these companies to share a certain relational compatibility (Hakansson & Ford, 2002), allowing the relationship to transcend the economic sphere (Castro et al., 2011). The more relationally compatible the companies are, the fewer negative aspects are associated with competitive relations (Hakansson & Ford, 2002), and the stronger the relational.

Relational Ties

Relational ties (RT) result from connections among social actors (Duarte, 2017) and express trust, reciprocity, and interaction through a history of interactions (Granovetter, 1983; Kale et al., 2000), indicating the strength of relationships built over time. In an organizational context, the theme has been investigated from different perspectives (Cárdenas, 2017; Dessbesell, 2019), predominantly focusing on inter-firm relationships (Turner, 1970), Business-to-Business (Easton & Araujo, 1986), Business-to-Consumer (Liljander & Strandvik, 1995), and individual or group relationships (Arantola, 2002).

The approach to RT in the organizational context posits that, through relationships, these companies obtain assets resulting from the relationship (Cárdenas, 2017; Palmatier et al., 2013), accessing advantages they would not have in isolation (Uzzi & Lancaster, 2003). From this perspective, the presence of RT in business environments has come to be considered a competitive advantage, facilitated by access to resources, opportunities, information, and knowledge (Cai & Yang, 2014; Cárdenas, 2017).

The highly uncertain nature of emerging economies reinforces the use of RT (Zhou et al., 2014), as they have been considered favorable antecedents to business agreements (Lo et al., 2016; Zhou et al., 2014), and

therefore, a vital force in the commercial conduct of many economies. There are records that in some economies, RT supersedes the legitimacy of institutional rules (Peng, 2003) and even contractual issues (Zhou et al., 2014). An example of this is China, where RT constitute a form of governance in which trust between parties is more significant than formal contractual agreements (Zhou et al., 2003), as they reinforce perceptions of stability among actors, thereby minimizing risks of opportunistic behavior (Teimoury et al., 2010).

Reciprocal benefits of RT were also noted by Lo et al. (2016), who indicated that leveraging partners' knowledge resources results in specific relationship assets. According to Rindfleisch and Moorman (2003), the benefits of the relationship extend beyond the involved companies, generating additional gains for the entire supply chain. Cai and Yang (2014) also highlight the multiplier effect of relational ties; for the authors, although these ties originate from individual actions, they go beyond the sum of these individual ties, as the emotional attachment becomes institutionalized, establishing proximity with other companies. Interorganizational relationships tend to expand companies' resource bases, leading to effective results in organizational learning (Lo et al., 2016). This finding aligns with the discoveries of Castro et al. (2013), who assert that RT are precursors to knowledge transfer processes. Li et al. (2017) indicated in their study that the success of strategic alliances is positively related to the existence of these ties.

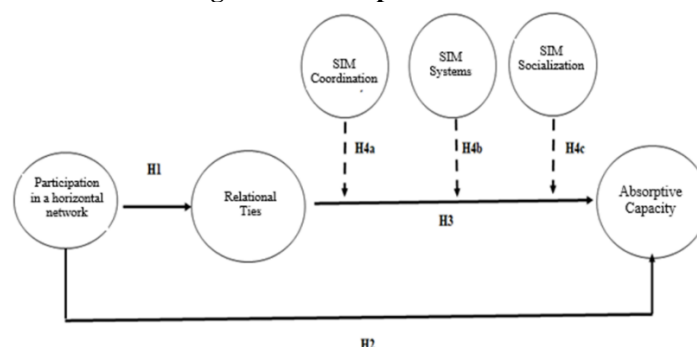
A similar result was also highlighted by Cai and Yang (2014), who concluded that RT contribute to knowledge sharing at the individual, organizational, and interorganizational levels. According to the authors, the expansion of the knowledge base is established through three avenues: socialization and exchange of ideas (Cousins & Menguc, 2006), fostering personal connections (Gligor & Autry, 2012), and the sense of belonging facilitated by association (Enkel et al., 2018), since when formally grouped, companies find an environment more conducive to knowledge diffusion due to trust and cooperation (Dessbesell, 2019). Even if these companies do not establish commercial relationships with each other, they are motivated by a strong perspective of exchange and sharing of mutually beneficial information (Cai & Yang, 2014).

Research Hypotheses

The theoretical model of analysis for this research is illustrated in Figure 1. The tested hypotheses provide a broad view of the arguments put forth, indicating the relationship between Relational Ties, Absorptive Capacity, and Social Integration Mechanisms in small retail companies associated with direct and indirect horizontal networks. The company's participation in direct horizontal networks is more favorable to relational ties and the company's absorptive capacity than participation in indirect horizontal networks. To test these relationships, six hypotheses were formulated that test: I) the effect of the company's participation in direct and indirect horizontal networks on relational ties; II) the effect of the company's participation in direct and indirect horizontal networks on absorptive capacity; III) the effect of relational ties on absorptive capacity; and IV) the moderating effect that social integration mechanisms have on the relationship between relational ties and absorptive capacity.

- H1. The company's participation in direct horizontal networks has a greater positive impact on relational ties than the company's participation in indirect horizontal networks.*
- H2. The company's participation in direct horizontal networks has a greater positive impact on Absorptive Capacity than the company's participation in indirect horizontal networks.*
- H3. Relational Ties positively impact the company's Absorptive Capacity.*
- H4a. Coordination mechanisms positively moderate the relationship between Relational Ties and the company's Absorptive Capacity.*
- H4b. Systems mechanisms negatively moderate the relationship between Relational Ties and the company's Absorptive Capacity.*
- H4c. Socialization mechanisms positively moderate the relationship between Relational Ties and the company's Absorptive Capacity.*

Figure 1 - Conceptual Model



III. Material And Methods

This research is anchored in a hypothetico-deductive logic, in which from prior knowledge, gaps are identified giving rise to the hypotheses to be tested (Saccol, 2009). It is an empirical investigation, structured in a quantitative approach. Due to its argumentative nature regarding the studied phenomena and the causal relationships between them, it adopts an explanatory approach based on hypothesis testing to explain the relationship between the constructs.

Population and Sample

The population of this study consists of 409 small businesses operating in retail trade in Santa Catarina-SC, which are simultaneously associated with horizontal networks. The selected sample is characterized as non-probabilistic by adhesion since the rule of randomness was not observed in the selection of respondents (Malhotra, 2012), as it was up to the companies to accept or not to participate in the research. Scientifically indicated parameters such as a statistical power of 80% (0.80) and a medium effect size (f^2) of approximately 0.15 (Hair et al., 2009) were followed. Additionally, the use of the G* Power software, specialized in highly reliable sample calculations (Faul et al., 2009), was employed. To obtain a more consistent model, the study followed the recommendations of Hair et al. (2014), who indicate that generally, there should be 5 times more observations than the number of observed variables. Since the model has 40 observed variables, the number of valid responses increases to 200 cases. Hair et al. (2014) also indicates that to run Structural Equation Modeling (SEM), the sample should consist of at least 100 respondents, an idea corroborated by Malhotra and Dash (2016). Thus, considering the 409 valid cases, all the requirements highlighted by the different authors are met.

Data collect

The data were collected through a survey (Cooper & Schindler, 2016). The research instrument consists of four parts. An initial block, containing questions related to characterization and control variables. In this case, a simple categorical scale and a nominal multiple-choice scale were employed, in addition to descriptive responses (Cooper & Schindler, 2016). In addition to this initial block, the instrument includes three more blocks, each measuring one of the analyzed constructs. For these cases, 7-point Likert scales were used, ranging from 1 (Total disagreement) to 7 (Total agreement) (Cooper & Schindler, 2016). The instrument followed scientific criteria for construction and validation. After validation, the instrument was uploaded to Google Forms and sent to approximately 8,000 emails between November 2020 and June 2021. The instrument was also distributed via WhatsApp groups and contacts on LinkedIn of CEOs and/or managers of retail companies in Santa Catarina. Finally, support was also provided by commercial associations and horizontal networks, which forwarded the form to their members. After eight months of data collection, 409 valid questionnaires were obtained.

Data analysis

The data will initially be analyzed using descriptive statistics, performed with the support of the Statistical Package for Social Science for Windows (SPSS), version 22. Calculations of the standard deviation and the coefficient of variation will be conducted. The evaluation of the constructs, the analysis of the relationships between them, as well as the hypothesis tests, will be carried out through structural equation modeling, which, according to Hair et al. (2014), is a set of multivariate analysis techniques that combines aspects of factor analysis and regression, allowing for the simultaneous examination of the relationships between observable variables and latent variables.

IV. Presentation, Analysis And Discussion Of Results

In this chapter, the results and analysis of the research are presented. Initially, the sample characterization is provided, followed by the presentation of the descriptive statistics of the analyzed constructs. Finally, the tests and results of the structural equation modeling are presented, which allowed for the analysis of the relationships, confirming, or refuting the study hypotheses. The collected data were tabulated in Microsoft Excel spreadsheets and subsequently processed using SPSS and PLS software.

Sample Characterization

The sample consists of 409 small Brazilian companies operating in the retail sector, all of which are properly affiliated with horizontal networks. Of these, 37.2% are affiliated with direct networks, and the remaining 62.8% are affiliated with indirect networks. Regarding the duration of their affiliation with the network, most companies have been affiliated for between 11 and 20 years (38.6%), followed by those affiliated for 6 to 10 years (26.7%), those affiliated for up to 5 years (22.5%), and the smallest proportion (12.2%) are companies affiliated with the network for more than 20 years. In terms of the age of these companies, 22.5% have been operating for up to 10 years, 34.5% have been operating between 11 and 20 years, 23.5% have been operating between 21 and 30 years, and 19.6% have been operating for more than 30 years.

Structural Model Analysis and Hypothesis Testing

To evaluate the structural model, I used the criteria of Hair et al. (2014) and Ringle et al. (2014), analyzing the coefficients of determination (R²), predictive relevance (Q²), effect sizes (F²) and the strength and significance of the path models. Structural coefficients were calculated in SmartPLS. The results show that the model explains 20.3% of Absorptive Capacity and 34.6% of Relational Ties.

Table 01– Pearson Coefficient (R²), Predictive Relevance (Q²), and Effect Size (F²)

Constructs	R ²	Adjusted R ²	F ²	Q ²
Relational Ties	0,346	0,345	0,530	0,171
Absorptive Capacity	0,203	0,200	0,231	0,132

Source: Research Results

Two other indicators of model fit quality were evaluated: predictive relevance (Q²) and effect size (F²). The results show that Absorptive Capacity has a medium effect (F² = 0.231), while Relational Ties have a large effect (F² = 0.530). These results indicate that the model is adequate and precise. Finally, I tested the causal relationship between the constructs using the student’s t-test. To analyze the significance of the relationships, I adopted the parameter of p-value < 0.05, representing significant relationships in a normal distribution with a 5% significance level.

The relationship results (Table 01) confirm a positive and significant relationship between the constructs Network Participation (by network type), Relational Ties, and Absorptive Capacity. These findings support the confirmation of H1. Moreover, this relationship presents the most representative structural coefficient (β) of the model (0.589), indicating that the type of network in which the company participates (direct/indirect) positively impacts its relational ties. In other words, when a company shifts from participating in an indirect network to a direct network, its relational ties are strengthened.

Table 02 - Analysis of Direct Relationships

Hypothesis	Relationship	Coefficient (β)	Standard Deviation	t-Value (T-Test)	p-Value	Status
H1	Network Participation (direct/indirect) -> Relational Ties	0,589	0,030	19,239	0,000	Supported
H2	Network Participation (direct/indirect) -> Absorptive Capacity	0,171	0,050	3,405	0,001	Supported
H3	Relational Ties -> Absorptive Capacity	0,530	0,050	10,646	0,000	Supported

Source: Research Results

The second hypothesis of this study was also supported, indicating that the absorptive capacity of companies is more significant when they participate in direct horizontal networks. Finally, H3 is also confirmed, and this influence is strong (Table 01), with a structural coefficient (β) of 0.530 and a T-test result of 10.631. From this perspective, it can be stated that Relational Ties exert a strong influence on the Absorptive Capacity of retail companies participating in horizontal networks, whether direct and/or indirect.

After testing the proposed direct relationships, I proceeded to evaluate the moderating effect of Social Integration Mechanisms on the relationship between Relational Ties and Absorptive Capacity. To this end, I included three moderations in the structural model, as indicated in H4a, H4b, and H4c.

The results of the moderation relationships (Table 03) reveal that although coordination mechanisms exert a positive effect on the Relational Ties–Absorptive Capacity relationship, this effect is not significant. Thus, H4a was not supported. Hypothesis H4b was supported, indicating that as the company employs system mechanisms, it weakens the relationship between Relational Ties and Absorptive Capacity. Finally, with the highest significance result among the moderations, H4c was supported, suggesting that by introducing different socialization mechanisms, the company strengthens the relationship between Relational Ties and Absorptive Capacity. The results of the moderation tests are presented in Table 03.

Table 03 -Results of Moderation Relationships

Hypothesis	Relationship	Coefficient (β)	Standard Deviation	t-Value (T-Test)	p-Value	Status
H4a	Coordination mechanisms positively moderate the relationship between Relational Ties and the company's Absorptive Capacity.	0,030	0,076	0,395	0,001	Not Supported
H4b	Systems mechanisms negatively moderate the relationship between Relational Ties and the company's Absorptive Capacity.	-0,161	0,053	3,131	0,001	Supported

H4c	Socialization mechanisms positively moderate the relationship between Relational Ties and the company's Absorptive Capacity.	0,244	0,060	4,075	0,000	Supported
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Source: Research Results

In summary, based on the evidence presented, it is possible to confirm the positive and significant relationship between relational ties and absorptive capacity, where increases in relational ties lead to increases in the company's absorptive capacity. The results also highlight that relational ties and absorptive capacity are more significant in companies participating in direct horizontal networks. Finally, the findings indicate that social integration mechanisms exert distinct effects (depending on the type) on the relationship between relational ties and absorptive capacity in small retail companies.

V. Discussion Of Results

The first hypothesis of this research focuses on the relationship between the company's participation in the network according to the type of network (direct/indirect) and the impact of this participation on relational ties: "H1. The company's participation in direct horizontal networks has a greater positive impact on relational ties than its participation in indirect horizontal networks." The results show that this is indeed the case, thus supporting H1. This means that a company's relational ties are directly affected by the type of network in which it participates. The results suggest that when a company participates in a direct horizontal network, its relational ties are more significant.

This result aligns with the idea that by participating in a horizontal network, companies create relational engagement, which is more meaningful when these companies share ties with direct competitors (Gilsing & Duysters, 2008). Lewis (2015) had already indicated that by sharing expertise with direct competitors, companies strengthen their relationships, as aspects such as mutual trust and reciprocal commitment between direct partners (Zonatto, 2018) are more easily maintained.

Converging results were found by Sheng-yue and Xu (2005), who demonstrated that direct relationships necessarily lead to more cohesive ties. The greater the alignment of objectives between actors, the stronger the engagement between them (Lewis et al., 2015), as utilitarian behavior gradually gives way to cooperation (Jaekel, 2019). The confirmation of H1 can also be explained by the similarity of resources and shared interests among competitors within the same segment (direct network), compared to competitors in different segments (indirect network) (Petter et al., 2017). The interaction between two supermarket operators is more similar to each other than between a supermarket operator and a retailer in the building materials sector, for example. In the cited example, supermarket operators operate under two modes of interaction—cooperation and competition (Bengtsson & Kock, 1999)—while two retailers from distinct segments may cooperate but do not compete (Zema & Sulich, 2019), meaning their relationship is less intense.

The compatibility of intentions shared by competitors in the same segment is more significant than that shared by companies in different segments. Direct competitors share intentions that range from shared purchases, bargaining power with suppliers, economies of scale, and training routines (Balestrin & Vargas, 2004). These common objectives foster more frequent interactions (Zaglia et al., 2015) and, in turn, strengthen the relationship. More frequent interactions form the foundation of stronger relational ties (Granovetter, 1973), which, in part, explains the confirmation of H1. Interaction demands greater effort in communication flows and information sharing, bringing competitors within the same segment closer to each other (Crick, 2018). This relational proximity diminishes the prevailing logic of rivalry (Moreira et al., 2020), enabling ideas, opinions, and proposals to be collectively thought through (Kulhánek & Sulich, 2018).

Consequently, by participating in direct horizontal networks, these companies can better develop their absorptive capacity, which was also confirmed in this study, supporting the second hypothesis of the research: "H2. The company's participation in direct horizontal networks has a greater positive impact on absorptive capacity than participation in indirect horizontal networks." This is because absorptive capacity is increasingly associated with a company's relationships (Muller, 2018; Zonatto, 2018; Dessbesell, 2019).

The confirmation of H2 reinforces the idea that individuals assimilate information more easily when it falls within the boundaries of their immediate knowledge area (Cohen & Levinthal, 1990). Lane and Lubatkin (1998) also found that a company's ability to absorb knowledge depends on the similarity of knowledge bases. Although all companies in the sample operate in the retail sector, they work in distinct segments, requiring access to different kinds of knowledge. By participating in direct networks, they interact with competitors within the same segment, and thus, the greater absorptive capacity is explained by access to specific knowledge sources (Moreira et al., 2020).

This result aligns with the findings of Khachlouf et al. (2014), who showed a positive relationship between the type of relationship and knowledge absorption, with indirect relationships not being able to influence knowledge absorption. Proximity in shared knowledge (Bengtsson & Kock, 1999), as well as the reciprocity of

direct relationships (Capaldo, 2007; Zonatto, 2018), makes direct networks more effective for knowledge absorption, due to the sharing of specific knowledge (Dessbesell, 2019). This is supported by Peng (2021), who mentioned that interorganizational relationships, in general, contribute to the acquisition and assimilation of knowledge. However, it is direct relationships that allow the acquired knowledge to be applied.

Hypotheses H1 and H2 tested the effect of network type (direct/indirect) on relational ties and absorptive capacity. While both hypotheses were confirmed, the structural coefficient (β) of H1 was more significant (0.589) than that of H2 (0.171). This indicates that the network type is more effective in creating relational ties than in developing absorptive capacity. This finding further supports the importance of testing H3, which suggests that "Relational Ties positively impact the Absorptive Capacity of the company," a hypothesis also confirmed in this research.

The confirmation of H3 supports the understanding of how important it is for companies to develop relationships with their competitors. The statistical results proved that relational ties strongly influence the absorptive capacity of retail companies participating in horizontal networks, both direct and/or indirect. The results of this study align with recent findings by other authors (Cai & Yang, 2014; Cárdenas, 2017; Zonatto, 2018; Dessbesell, 2019; Von Briel et al., 2019; Peng, 2021) indicating that relationships have a strong influence on the creation, sharing, and transfer of knowledge.

The more interactions there are, the greater the trust in the relationship, and the more trust there is, the more interactions occur (Alves, 2013). This virtuous circle between trust and interaction tends to strengthen relational ties (Gausdal et al., 2016) and consequently the absorption of knowledge (Lo et al., 2016; Duarte, 2017; Von Briel et al., 2019). This reinforces Cai and Yang's (2014) argument that opportunities related to knowledge absorption lie within the relational ties between companies.

Absorptive capacity has been indicated as an antecedent of learning (Wang et al., 2018; Yao & Chang, 2017), access to technological resources (Zobel, 2017), innovation (Wang et al., 2018; Albort-Morant et al., 2018), value creation and improvement of economic position (Liu et al., 2015), market growth (Patel et al., 2015; Rakthin et al., 2016), entrepreneurial orientation (Rabeh et al., 2013), business model reformulation (Müller et al., 2021), and many other advantages. Confirming that relational ties positively impact the absorptive capacity of small retail companies is a significant gain for the sector, especially considering that small retailers show low levels of investment in R&D (Oliveira et al., 2017). The low cost for companies to invest in relationships (Cárdenas, 2017) and thus access various other strategic resources (Cai & Lo, 2020), as mentioned, emphasizes how important it is to invest in relationships.

Hypotheses H4 ("a", "b", and "c") suggested a moderating effect between relational ties and absorptive capacity. Considering that Todorova and Durisin (2007) mentioned that these mechanisms' effects could be positive or negative, two of the hypotheses indicated a positive effect on the relationship, while one indicated a negative effect. Hypothesis H4a: "Coordination mechanisms positively moderate the relationship between relational ties and the company's absorptive capacity" was not supported, indicating that coordination mechanisms are not capable of moderating the relationship between relational ties and absorptive capacity. In part, this result can be explained by the low level of use of such mechanisms, which, on a 7-point scale, showed a mean of 3.8, the lowest among social integration mechanisms.

Cuervo-Cazurra and Rui's (2017) study had already pointed to the low use of coordination mechanisms adopted by small companies, especially those in emerging markets. Although the results show that investments are being directed toward hiring external personnel, efforts are made for employees to transition between different functions, and initiatives prioritize decision-making as a process not exclusive to top management, the functional model adopted by many retail companies (Cai & Lo, 2020) remains a limiting factor. This predominantly conservative model restricts efficiency in using coordination mechanisms as a lever between relational ties and absorptive capacity, as H4a proposed. When employees perceive a restrictive environment in decision-making, for example, they are less likely to engage in expressing their opinions. This retraction in terms of integration limits the establishment of ties (Moorhouse et al., 2018), restricts cooperation (Thakre, 2015), and consequently increases turnover rates, which are already considered high in the retail sector (Pantano, 2016).

Combined, these factors limit potential gains related to the diversity of multifunctional teams and the richness of different actors' participation in the decision-making process (Armstrong & Lengnick-Hall, 2013). This, in turn, limits the establishment of relational ties and the development of absorptive capacity, supporting the finding that H4a is not supported. The research results indicated a negative moderation between system mechanisms and the relationship between relational ties and absorptive capacity in the companies in the sample, supporting H4b.

The research results indicated a negative moderation between system mechanisms and the relationship between relational ties and the absorptive capacity of the companies in the sample, supporting H4b: "System mechanisms negatively moderate the relationship between relational ties and the company's absorptive capacity." These findings reinforce evidence that although patterns of formalization and institutional rules promote information alignment (Lavarda & Lavarda, 2016), contributing to knowledge assimilation (Roberts, 2015), they inhibit interaction (Popadiuk & Bido, 2016), discourage initiative (Acemoglu et al., 2014), and minimize social

interaction (Gaspary et al., 2020), preventing the assimilated knowledge from being effectively applied (Popadiuk & Bido, 2016).

The suggestion that codified rules may prevent plan alterations was mentioned by Jansen et al. (2005). This situation demonstrates that although there are relational ties between agents, which imply more knowledge resources, the imposed patterns prevent the assimilated knowledge from being put into practice. Under these conditions, with knowledge accessed but not applied, there is no contribution to the company's absorptive capacity. The evidence from this study aligns with the findings of Pihlajamaa (2018), who concluded that by adopting system mechanisms like formalization and routinization, a company eliminates the need for additional communication. As a result, it limits team engagement and willingness to discuss new possibilities (Gaspary, 2014), thereby weakening the construction of relational ties (Chen & Huang, 2007).

The hypothesis H4c: "Socialization mechanisms positively moderate the relationship between relational ties and the company's absorptive capacity" was supported. This indicates that as the company invests in dynamic movements such as connectivity and interaction, it strengthens the relationship between relational ties and absorptive capacity. In addition to the highest mean among social integration mechanisms (4.76), the structural coefficient (β) of H4c is the most significant among the tested moderations (0.244). This result reinforces Van den Bosch et al.'s (1999) statement that socialization mechanisms generate much more influential social integration than that enabled by coordination and system mechanisms.

Connecting different agents is about creating an effective communication channel for information sharing (Lévy, 1999). Making these agents socialize knowledge is about establishing a guiding thread for the company's competitive advantage (Roberts, 2015). While technological advances provide the company with access to numerous knowledge resources, nothing is as effective as human interactivity, since fully developing the knowledge of an individual or company is only possible through interaction with other intelligences (Oliveira, 2004).

The confirmation of H4c also contributes to alleviating the concern raised by Zahra and George (2002) and Enkel et al. (2018) that although socialization mechanisms are essential for sharing and exploring knowledge, companies still need to address obstacles related to the lack of relationships between agents. By indicating that the relationship between relational ties and absorptive capacity is strengthened, this study solidifies the importance of small retail businesses increasingly investing in connectivity and socialization beyond their organizational boundaries, as there is an advantage in both interpersonal and interorganizational relationships (Ashford & Nurmohamed, 2012), which directly impacts knowledge absorption (Zonatto, 2018; Dessbesell, 2019; Von Briel et al., 2019; Peng, 2021).

VI. Conclusion

This study aimed to analyze the relationship between Relational Ties, Absorptive Capacity, and Social Integration Mechanisms in small Brazilian companies operating in the retail sector, all of which are properly affiliated with direct and indirect horizontal networks. The structural model was organized to test six hypotheses based on data obtained from a survey conducted with 409 small retail companies, affiliated with direct and indirect horizontal networks.

The results from the structural equation model analysis allowed us to verify the relationship of the proposed hypotheses and address the objectives of this research. The results confirm that the company's participation in direct horizontal networks has a greater positive impact on relational ties than its participation in indirect horizontal networks, indicating that H1 is supported. This means that the relational ties of companies are directly affected by the type of network the company participates in. When a company participates in a direct horizontal network, its relational ties are more significant. This relationship is explained by the relational involvement established and experienced by the different network actors. The data show that participation in direct horizontal networks is more effective for building relational ties than participation in indirect horizontal networks.

Direct relationships also proved to be more conducive to the company's absorptive capacity, supporting H2. These findings allow us to conclude that although simple participation in a horizontal network is effective in building relational ties and absorptive capacity, the type of network (direct/indirect) leads to distinct results. Therefore, small retail companies aiming to enhance their relational ties as well as their absorptive capacity should integrate into direct horizontal networks.

Hypothesis H3 confirms the positive influence of relational ties on the company's absorptive capacity. The results show that interorganizational relationships are mechanisms through which a company can strengthen the process of acquiring, assimilating, transforming, and applying knowledge obtained from the external environment. This explains why participation in horizontal networks a strategic resource for the company and is effective. By investing in their relationships, companies open a range of possibilities related to expanding their knowledge base.

When investigating the moderation of social integration mechanisms in the relationship between relational ties and absorptive capacity, I found that different mechanisms of social integration moderate the relationship in different ways. Coordination mechanisms did not significantly influence the relationship between relational ties

and the company's absorptive capacity, thus refuting H4a. This result can be attributed to the low use of these mechanisms in small retail businesses (average 3.8). In small companies, which rarely invest in external consulting, generally lack the structure to set up and/or maintain multifunctional teams, hesitate to encourage employees to update their skills for fear of losing them, and resist allowing employees at different hierarchical levels to participate in decision-making processes.

The results confirm H4b, indicating that by employing system mechanisms, the relationship between relational ties and absorptive capacity is weakened. As a practical implication of this result, I recommend that managers of small retail businesses review their functionalist models and restrict, to some extent, the establishment of rigid standards for task development, as well as the imposition of overly strict institutional rules. An alternative to consider is the updating and renewal of standards, making processes less rigid. This would be an interesting response, as it would not disregard technological and scientific advances but would provide new breath to organizational practices. Given the new demands and needs of the market, it is essential that usual procedures undergo review so that bottlenecks are identified, and improvements are developed. This "relaxation" of standards does not undermine management; on the contrary, it avoids limitations related to the crystallization of practices and the stifling of activities.

The confirmation of H4c reinforces the importance of retail companies increasingly investing in socialization mechanisms. This result aligns with the theoretical assumption that the more the company invests in connectivity and socialization practices, the more it strengthens interaction and consequently its absorptive capacity. Together, these findings allow us to answer the research question raised by this thesis. I conclude that, yes, there is a positive relationship between Relational Ties and Absorptive Capacity in retail companies affiliated with direct and indirect horizontal networks. I assert that this relationship is more significant in companies that participate in direct networks. I declare that different Social Integration Mechanisms lead to different effects on the relationship between Relational Ties and Absorptive Capacity, and therefore the use of such mechanisms needs to be considered differently. Some mechanisms enhance the relationship, while others weaken it, which will prevent misguided interpretations and futile efforts.

These findings contribute to scientific development by refining our understanding of the role of relationships in fostering the company's absorptive capacity. Above all, it adds value by highlighting that it is not only the fact of maintaining relationships with other network members that impacts absorptive capacity, but the type of relationship established between network members (direct or indirect) should be considered, since direct relationships proved to be more favorable.

This research also points to managerial and practical contributions that can be absorbed by retail companies affiliated with networks. There is enough evidence to tell retail managers how promising it is for their absorptive capacity to encourage and promote different forms of communication within their work environments. The possibilities for interaction and informal chats are very promising. Therefore, retail managers should invest in promoting regular events for the socialization of work-related experiences. They should bet on the integration between companies, allowing the experiences lived in their work environments to be shared with their competitors, without fear, without hesitation, and with the certainty that shared knowledge is a sum that adds to and improves overall competitiveness.

Finally, considering the results, I recommend that small retailers strongly invest in their interorganizational relationships to access new experiences, new techniques, and new knowledge. This will help minimize, at least in part, the damage caused by the low levels of investment in research and development seen in this sector. They should understand that relational ties are low-cost mechanisms and, therefore, should be considered a relevant opportunity for companies to expand their absorptive capacity and, consequently, access many other competitive advantages.

The decision to investigate only companies affiliated with horizontal networks can be seen as a limitation of the study, as it prevented a comparative analysis between affiliated and non-affiliated companies, understanding the relationship between the constructs under different perspectives. This limitation presents a relevant opportunity for future research. To deepen understanding and broaden discussions on direct and indirect relationships established in horizontal networks and their effects on the absorptive capacity of small retailers, conducting case studies with a qualitative approach could be promising. The suggestions made here aim to expand knowledge about the analyzed constructs.

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