
RESEARCH ARTICLE

Communication Catalysts: How Personal Ties Enhance Supply Chain Efficiency

Sara TALBI¹ ✉ Sofia Achour² and Badra ABKARY³

^{1,2,3}*Interdisciplinary Laboratory of Business Engineering, Soft Skills, Management, and Law, Faculty of Legal, Economic, and Social Sciences, Ain Sbaa, Hassan II University, Casablanca, Morocco*

Corresponding Author: Sara TALBI, **E-mail:** sara.talbi7@gmail.com

ABSTRACT

The role of communication is crucial for the longevity of businesses and contributes to the integration of the supply chain. While the significance of inter-organizational communication within this chain is widely acknowledged in the literature, there are still gaps in understanding the impact of personal ties among employees on these communications. This study specifically addresses a gap concerning the insufficient exploration of the role of personal ties outside the professional environment, with a particular focus on friendships among employees of partner companies within the supply chain and their influence on company-related communication processes. Through semi-structured interviews and employing the grounded theory method, this research identifies four emerging aspects of the processes, highlighting the facilitating role of personal ties in professional exchanges. The findings allow for the development of a preliminary theory on the interaction between personal social networks and inter-organizational communication within the supply chain, thereby paving the way for significant implications for future research.

KEYWORDS

Inter-organizational communication, Supply chain, Personal ties, Grounded theory.

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1. Introduction

Inter-organizational communication holds a central position in facilitating the simplification of inter-organizational processes, as demonstrated by several studies (Saad et al., 2015)[53]. This proves to be imperative for ensuring supply chain compliance and serving as a solution to associated challenges (Peng, 2011). The pioneering contributions of Forrester (1958) have established a conceptual framework for comprehending industrial dynamics, emphasizing the repercussions of information distortion within the supply chain and highlighting the critical importance of inter-organizational communication.

Efficient communication among organizations is indispensable for building robust relationships and achieving a sustainable competitive advantage. This perspective is reinforced by previous research, which characterizes inter-organizational communication as the "glue" ensuring cohesion in a distribution channel (Mohr et Nevin, 1990) and as an "opportunity" to enhance the competitiveness and performance of the supply chain (Gambetti et al., 2018). It facilitates the transmission of persuasive information, the promotion of collaborative decisions, the coordination of joint programs, the improvement of understanding between customers and suppliers, the reduction of uncertainty, the enhancement of planning and decision-making processes, and the overall reduction of costs (Christiansen et al., 2003; Gambetti & Giovanardi, 2013).

The exchange of information among collaborators in the management of the supply chain is widely recognized as a crucial dimension, playing a vital role in the success of an efficient Supply Chain Management (SCM) approach (Carr & Kaynak, 2007; Baah et al., 2022; Cao & Zhang, 2013; Li et al., 2023). The regular updating of information among supply chain actors is often highlighted as an essential element to ensure effective outcomes in SCM (Qatawneh, 2018; Holden & O'Toole, 2004; Grawe et al., 2019). From

this perspective, inter-organizational communication is now conceptualized as a “key relational skill” capable of providing a sustainable strategic advantage to supply chain collaborators (Paulraj et al., 2008). Moreover, studies indicate that heightened and varied communication among collaborators throughout the supply chain improves responsiveness and fosters coordination among supply chain actors but necessitates effective management to avoid information overload and ensure adaptation to specific needs (Gambetti & Giovanardi, 2013; Li et al., 2023; Ambrose et al., 2008). Despite the widespread acknowledgment of the necessity of inter-actor communication within the supply chain, existing research exhibits gaps regarding its effectiveness in diverse contexts. This study aims to bridge this gap by focusing on the impact of personal ties formed outside the professional setting on inter-organizational communication. With a focus on the pivotal role of employees in interactions within the supply chain, our objective is to comprehend how these personal ties influence inter-organizational communication.

The term “inter-organizational communication” specifically refers to communication between employees of different companies (Lee et al., 2021)[35], delving into how personal connections outside the professional sphere can mold information exchanges and interactions within the supply chain. This research adopts a multilevel perspective on personal ties and inter-organizational communication, investigating how these personal ties shape work-centric communications among collaborators operating in their formal roles as supply chain partners. Rood et al. (2018) identified a research need to better understand the emerging behavioral complexities resulting from the interaction between buyers and suppliers, particularly in managing the risks of supply chain disruptions.

The following sections of this article will delve into an extensive review of the existing literature on inter-organizational communication and personal ties, with a specific emphasis on their application within the context of the supply chain. Additionally, we will explore relevant theories and adopt a methodology based on grounded theory construction to conduct an in-depth qualitative study. Following this, we will present the results derived from our content analysis, delve into a discussion of the findings, highlight the implications, and offer recommendations for potential avenues of future research.

2. Literature Review

2.1 Inter-organizational communication

Within the literature addressing inter-organizational exchange of personal ties, inter-organizational communication is characterized as the sharing of significant and timely information, whether formal or informal, between organizations in interaction (Omar et al., 2016; Holden & O’Toole, 2004). Companies that implement communication tools with their collaborators in the supply chain reap a range of benefits. Studies have emphasized the significance of creating such communication links among partnering entities to foster enriching personal ties (Nakano, 2019; Yanes-Estévez et al., 2019), fostering knowledge development (Grawe & Ralston, 2019; Gambetti et Giovanardi, 2013), enhancing the understanding of complex inter-organizational issues (Saad et al. 2015; Lee & Kim, 2021) and establishing trust, cooperation, and conflict reduction (Agarwal & Narayana, 2020; Cutting-Decelle et al. 2006; Prahinski, & Benton, 2004).

Furthermore, companies that maintain frequent communication can reduce transaction costs by increasing behavioral transparency (Prahinski & Benton, 2004; Peng, 2011; Omar et al., 2016), decrease uncertainty within the supply chain (Ren et al., 2016; Hung et al., 2014), encourage interorganizational learning (Grawe & Ralston, 2019), facilitate faster adaptation to change (Gambetti & Giovanardi, 2013; Cutting-Decelle et al. 2006), expand the potential for increased joint action (Baah et al. 2022), and ultimately enhance performance (Li et al. 20203; Paulraj et al., 2008; Talbi et al., 2023) and satisfaction (Cutting-Decelle, 2007; Li et al. 2023) of the stakeholders involved in the personal ties. Effective and efficient communication, leading to an effective exchange of knowledge, is considered the “cornerstone” of successful SCM (Nazam et al. 2020).

Nevertheless, a common conceptualization in research has treated inter-organizational communication as if entire companies were interacting, overlooking the fact that it is the employees within these companies who engage in communication rather than the companies themselves as standalone entities. Gambetti et al. (2018) and Grawe & Ralston (2019) emphasize that this perspective tends to overlook the relational and social aspects of inter-organizational communication, which are crucial for understanding how supply chain actors interact and collaborate. Unfortunately, this literature has largely ignored the influence of personal ties outside the professional context on inter-company communications (Quian et al., 2021). For example, inter-organizational communication holds significant importance, particularly in the domains of sales and procurement (Wang et al., 2016; Butt, 2019). Various studies have explored specific aspects, such as the analysis of buyer-supplier personal ties (Christiansen et al., 2003; Saad et al., 2015; Agarwal & Narayana, 2020), as well as communication activities between buyers and suppliers (Li et al., 2023; Yanes-Estévez et al., 2019). While these research endeavors have sought to detail the communication patterns among employees of different companies, they have, however, overlooked the influence of personal ties outside the professional context in this specific context.

2.2 Personal ties in the professional context

Grasping the diverse forms that interpersonal ties can assume is crucial for analyzing this dynamic. The ties between individuals emerge from interdependence, a result of the mutual impact of their actions (Wang et al. 2016; Huang et al. 2008). Nevertheless, it is imperative to differentiate between professional ties and personal and friendly ties, as each distinctly shapes specific outcomes within the relationship.

As per the comprehensive study conducted by Gligor & Holcomb (2013), it is clearly demonstrated that the distinction between professional and personal ties holds paramount importance in the fabric of human interactions. The researchers emphasize that these two types of relationship ties exhibit distinct characteristics that significantly influence specific outcomes within each relational context. Based on the conclusions of Gligor et Holcomb (2013), it is evident that personal ties are often characterized by their expressive and emotional nature, whereas professional ties adopt a more instrumental approach focused on task accomplishment. Moreover, the study highlights the voluntary nature of personal ties, marking a distinction from the involuntary nature often associated with professional ties, thus creating a fundamental divergence in the very nature of these connections.

Table 1: Difference between personal and professional ties: adapted from Gligor & Holcomb (2013)

Characteristics	Personal ties	Professional ties
Nature	Expressive and emotional	More instrumental approach focused on task accomplishment
Voluntarism	Voluntary	Often involuntary
Context	Informal, personal	Formal, work-related
Objective	Personal satisfaction, well-being	Achievement of professional goals
Duration	Can be long-term	May vary based on projects and roles

Considering this framework, various scholarly inquiries have explored the consequences of amalgamating personal and professional ties, typically suggesting positive impacts on interorganizational communication (Butt, 2019; Quian et al., 2021). Notably, research has emphasized the crucial importance of both types of relationships in reinforcing the solidity of connections between organizations (Peng, 2011). However, despite these favorable perspectives, other researchers have noted that tension between personal interests, such as friendships, and professional objectives may arise for employees, placing them in a dilemma between the expectations of their friends and the demands of their employers (Butt et al., 2019; Wang et al., 2018).

Although personal ties can have positive business implications, the risk of conflict between individual expectations tied to friendship and professional expectations can exert an adverse influence on interorganizational exchanges. This situation undermines the benefits arising from collaboration between companies (Butt, 2021). To enhance our understanding of this issue in the context of the supply chain, we briefly examine recent contributions from the emerging literature on social network analysis. We particularly highlight the concept of social capital as an explanatory tool for dynamics in interorganizational communication.

2.3 Social capital theory

Social capital theory provides a nuanced understanding of the involvement of actors in cultivating both professional and personal ties within partner companies in the supply chain (Li et al., 2014), marked by an evolutionary dynamic. This contemporary interpretation of social capital builds upon theoretical dividends stemming from the establishment of social connections (Handoko et al., 2018), positing that supply chain actors can accrue both economic and psychological benefits from their relational investments. The strategic leveraging of these personal ties facilitates access to critical information, resources, and opportunities, as well as shared norms and values, thereby fostering cooperation and trust among individuals (Baker & Dutton, 2017; Handoko et al., 2018; Claridge, 2018). Consequently, social capital is conceptually framed as the advantageous outcomes arising from social ties (Swanson et al., 2020; Ghahtarani et al., 2020).

At the core of social capital theory lies the pivotal concept of embeddedness (Häuberer, 2011)[30]. A comprehensive understanding of how social capital operates in contemporary companies necessitates a fundamental consideration of how social ties are deeply rooted and integrated across diverse contexts. Supply chain actors deeply ingrained in a conducive social network stand to acquire specific advantages (Alghababsheh & Gallear, 2020). The literature identifies two forms of embeddedness concerning interorganizational information exchange: structural embeddedness, tied to an actor's profound position in a network, facilitating the acquisition of information and control advantages through personal ties exploitation, and relational embeddedness, demonstrated by the frequency of contacts, emotional proximity, and the influence of personal ties on information flow, decisions, and recognition within the network (Häuberer, 2011; Song et al., 2020).

For the purposes of this study, we posit that cultivating personal ties with actors from different firms within the supply chain will result in the generation of social capital, evident in the form of relational interconnectedness. Haut du formulaire Might potentially impact the performance of communication-oriented personal ties (Song et al., 2020; Alghababsheh & Gallea, 2020). Personal ties are perceived as key elements fostering active information exchange and trust-building among supply chain actors (Ekanayake et al. 2017)[20], often maintained by individuals transcending the boundaries of an interorganizational network (Butt, 2021).

In social capital research, individuals engaged in social interactions do not strictly adhere to traditional economic reasoning, as their actions are influenced by the social networks they belong to. These networks shape their motivations, social interactions, and choices, introducing a social dimension that extends beyond conventional economic logic (Häuberer, 2011). These networks provide enhanced access to information that would normally be inaccessible (Molina et al., 2020). Social capital, in the form of communication flow, will emanate from these personal ties and distinguish itself from expectations related to traditional business relationships. However, the literature on interorganizational social capital does not fully elucidate how these interpersonal ties within the supply chain will impact communication flows or what specific benefits may ensue. In this regard, qualitative research was conducted to gain insight into how personal ties contribute to the creation of social capital.

3. Methodology

The selection of an appropriate research methodology should align closely with the unique characteristics and substance of the phenomenon under investigation. Our research inquiry is focused on exploring an aspect of human behavior that has received relatively little attention in the current literature. Therefore, it is essential to embark on the initial development of a theoretical framework. Grounded theory construction emerges as a suitable approach in this context, particularly valuable when there is limited available information on the topic (Creswell & Creswell, 2017). This methodology is also endorsed for the formulation of theories related to complex and dynamic social phenomena (Creswell & Clark, 2017).

Our study revolves around supply chain communication and collaboration, specifically investigating the interactions between the entities within the supply chain company as a buyer and a logistics service provider as a supplier. While Rosado & Relvas (2015) conceptualized supply chains as comprising at least three companies, it is crucial to acknowledge that a buyer-supplier dyad represents a significant entity within this broader structure, holding particular relevance for the initial exploration of relational phenomena (Gambetti & Giovanardi, 2013). Thus, our analytical unit in this study remains the dyadic ties. It is pertinent to note that in the domains of operations management and logistics, analyzing personal ties between two parties (dyads) is a common practice to comprehend the broader dynamics of global supply chains. These personal ties are regarded as simplified models of global supply chains, facilitating their understanding (Peng, 2011; Daghar et al., 2021).

3.1 Data collection

The logistics service buyers interviewed in this study emanated from a spectrum of sectors, including an automotive industry company, a manufacturer of agri-food products, an industrial pharmaceutical manufacturer, and a food dye manufacturer. In complement to the buyer-supplier dyads, the logistics service providers interviewed exhibited organizational diversity, including the aforementioned automotive industry entity, two road freight transport companies, two freight forwarders, and a customs broker. Given the dual role of the automotive industry company as both a buyer and logistics service provider, multiple respondents within this organization underwent interviews, thereby enhancing the construction of dyadic personal ties frameworks for comprehensive analysis.

To uphold the academic rigor of our research, we followed the methodological guidelines proposed by Creswell & Creswell (2017) for conducting in-depth interviews. The objective of these interviews was to systematically explore and analyze the underlying phenomenon based on the perspectives of the respondents representing the involved companies. A total of 35 respondents participated in the interviews, with 31 conducted in person at the respondents' offices and 4 conducted online via Google Meet. Each interview, averaging approximately one hour, was carefully structured in an open-ended and discovery-oriented manner. In alignment with the "interview protocol" recommended by Creswell & Creswell (2017), each interview initiation involved an invitation for the respondents to elaborate on a personal tie cultivated with another collaborator from a partner company within the supply chain. To ensure the integrity of our data analysis, all interviews were meticulously recorded and transcribed in their entirety.

3.2 Data coding

The analyses conducted in our study adhered to a rigorous approach following each interview, in accordance with the methodology outlined by Glaser & Strauss (2010) to facilitate theoretical sampling. Grounded theory methodology was employed, necessitating various forms of coding to systematically analyze the qualitative data. The primary coding methods utilized encompassed the following (Glaser & Strauss, 2010; Hair et al., 2019; Creswell & Creswell, 2017):

- Open coding: This involved the initial stage of creating data categories derived from the raw information obtained from participants.
- Axial coding: Subsequently, categories generated during open coding were interconnected to establish subcategories and overarching themes.
- Selective coding: Finally, a central theme was selected to form the core of the theory, with all categories and subcategories linked to this central theme to construct a coherent and data-grounded theory.

During the open coding phase, interview data were dissected and categorized based on their characteristics, then labeled with specific references to facilitate subsequent in-depth analysis. To ensure the reliability of the findings, qualitative research software NVIVO 12.0 was employed. After the identification of categories during open coding, a thorough content analysis was conducted for each category using axial coding techniques. This enabled the reconstruction of fragmented data and the formulation of more precise explanations by examining the intersections and connections between categories. Lastly, selective coding was conducted to integrate and refine the categories, prioritizing the key variables of interest identified in the study.

3.3 Sampling

In the grounded theory framework, the use of theoretical sampling constitutes a crucial step in the data collection process (Thornberg et al. 2014). This methodology entails that the data collection trajectory is steered by the evolving theory itself. In our investigation, theoretical sampling constituted a cornerstone, facilitating the concurrent gathering, coding, and analysis of interview data. Sequential determinations were subsequently made regarding the selection of interviewees to advance the theory as it unfolded (Glaser & Strauss, 2010). In our study, we focused our sampling on individuals who had developed personal ties in the supply chain sector, involving supplier and buyer relationships. These participants are managers and decision-makers directly involved in buying or selling these services. To gain a deeper understanding of these personal ties, we used a modified snowball sampling technique after each interview. This entailed asking the respondent if they would be willing to introduce us to the other party in the relationship, thus helping to foster deeper relational ties (De Leeuw et al. 2012).

The process of participant selection was based on theoretical sampling. Initially, a buyer was identified for interviewing, and subsequently, a supplier involved in the specific personal ties was interviewed based on the buyer's recommendation. Likewise, a seller was identified through theoretical sampling, and the buyer recommended by this supplier was interviewed. Our sample, totaling 35 participants from nine distinct companies, was composed of 16 buyers and 19 logistics service providers (suppliers). These interviews were organized into 14 analyzable dyads, with six individuals participating in multiple dyads during the study. Theoretical saturation was achieved after the 35 interviews, indicating that subsequent interviews did not yield additional information (Saunders et al. 2018). In line with established norms in previous research, this number of interviews (35) was deemed adequate for the aims of our study. It is worth noting that grounded theory studies may require a sample size of 20 to 30 participants (Creswell & Creswell, 2017). The participant details are presented in Table 2.

Table 2: Interviewees details

Buyer company				
Code	Participant	Business activity	Name	of participant
B1	Supply chain director	Automotive industry company	Karim T.	
B2	Procurement director		Mohamed S.	
B3	Purchasing manager		Hassan	
B4	Inventory manager		Mohamed A.	
B5	Supply chain director	Manufacturer of agri-food products	Youssef	
B6	Strategic procurement manager		Hicham	
B7	Sourcing manager (Packaging and Conditioning)		Simohamed	
B8	Purchasing manager		Omar	
B9	Logistic director	Industrial pharmaceutical manufacturer	Mohamed G.	
B10	Procurement director		Hind	
B11	Inventory manager		Ibrahim	
B12	Purchasing manager		Ahmed	
B13	Chief Executive Officer (CEO)	Food dye manufacturer	Noureddine	
B14	Logistic manager		Laila	
B15	Procurement manager		Houssam	
B16	Transport manager		Hakim	

Supplier Company (Logistics service providers)				
Code	Participant	Business activity		Name of participant
S1	Sales director	Automotive industry		Jihane
S2	Account manager	company		Karim B
S3	Estimation manager			Ayoub
S4	Sales director	Road	freight	Amine
S5	Transport coordinator	transport company		Abdellah
S6	Account manager			Anouar
S7	Quotation manager			Hicham
S8	CEO	Road	freight	El Mehdi
S9	Sales development director	transport company		Walid
S10	Quotation manager			Nabil
S11	Transport coordinator			Abdelhaq
S12	CEO			Nabil
S13	Air freight manager	Freight forwarder		Fouzia
S14	Sea freight manager			M'hammed
S15	CEO	Freight forwarder		Farid
S16	Freight manager			Asmaa
S17	Operations manager			Karima
S18	CEO	Customs broker		Mounir
S19	Sales manager			Zakaria

3.4 Reliability analysis

The analysis of reliability in interpretive research holds crucial significance in ensuring the trustworthiness and validity of the derived findings. According to Maher et al. (2018), such evaluation ought to adhere to the criteria delineated by Guba et Lincoln (1989), encompassing credibility, transferability, reliability, and confirmability. These criteria undergo rigorous examination to uphold the integrity and quality of qualitative research.

To bolster the credibility of our study, we undertook several measures. Firstly, (i) we submitted initial interpretations to participants for feedback, thereby refining our comprehension of the subject matter (credibility). (ii) The use of theoretical sampling ensured a pertinent representation of perspectives and experiences pertinent to the studied phenomenon (transferability). (iii) We meticulously adhered to guidelines for data collection and interpretation (reliability). Lastly, (iv) we sought the input of a supply chain consultant to corroborate interpretations prior to submission for review (confirmability). Specific details regarding the evaluation of data and methodological reliability are presented in Table 3.

Table 3: Data reliability and evaluation methods: adapted from Guba et Lincoln (1989); Maher et al. (2018)

Criteria	Methods	Details
Credibility	Interpretations	-Initial interpretations shared with participants for feedback -Gathering participants' opinions
Transferability	Theoretical Sampling	-The use of theoretical sampling to ensure the validity and transferability of the results
Reliability	Rigorous adherence to guidelines	-Rigorous adherence to guidelines for the collection and interpretation of data to ensure result consistency
Confirmability	Opinion from a supply chain consultant	-Hiring an external consultant for corroborating interpretations

Based on a theoretical sampling approach and content analysis, it has been observed that personal ties play a pivotal role in facilitating communication between buyers and logistics service providers. Four distinct themes have emerged from the empirical data: (i) message transmission, (ii) message authenticity, (iii) contextual dynamics, and (iv) communicative efficiency. Each theme is sequentially examined within the context of the role of personal ties in the supply chain.

4. Results

4.1 Message transmission

Personal ties play a pivotal role in the message transmission process, entailing the conveyance of information from a sender to a recipient. Respondents note various specific advantages associated with personal ties in this context, including their positive influence on factors such as fluidity, frequency, choice of communication tools, ease of interaction, hierarchical level, and clarity of comprehension. These results, presented in Table 4 alongside quotations and axial codes, highlight the importance of personal ties in enhancing multiple aspects of communication.

Table 4: Themes and codes identified under "Message Transmission"

Respondent	Axial code	Supporting coded quotes from interviews and open code
B1	Fluidity	<i>Personal closeness fosters an environment conducive to daily exchanges and mutual understanding of respective situations... one feels comfortable, and this translates into naturally smooth communication.</i> Open code: Personal ties is a sense of comfort that facilitates regular interactions.
S16	Frequency	<i>When you cultivate a personal tie with someone, communication naturally becomes more frequent.</i> Open Code: Personal ties foster regular exchanges, which sustain effective communication.
S17	Communication tools	<i>To strengthen this relationship, I shared my personal phone number, making it easier for my friends to contact me directly and thereby enhance our ties.</i> Open Code: Personal ties allow us to tailor our communication approach to individual preferences.
B16	Ease of interaction	<i>I'm more inclined to answer a call from my closest friends because our familiarity and effortless interactions make conversations enjoyable.</i> Open Code: Personal ties facilitate direct contact, thereby reducing communication barriers.
B4	Hierarchical level	<i>When nurturing personal ties, it becomes second nature to dial a number and give someone a call with whom we may not typically exchange words.</i> Open Code: Maintaining personal ties facilitates the spontaneous act of picking up the phone and calling someone with whom interactions are less frequent.
S3	Clarity of comprehension	<i>When you establish personal ties, you become acquainted with their personalities, allowing you to recognize signs of unease.</i> Open Code: Through strong personal ties, understanding becomes clearer, providing the ability to subtly discern emotional nuances.

The first aspect addressed is communication fluidity, defined as the ease with which interviewees exchange information. Interviewees expressed increased comfort when communicating with partners with whom they have personal ties, emphasizing openness and candid communication. This ease of communication has been associated with superior business performance, as it promotes the exchange of innovative ideas and concepts. Respondents highlighted the importance of personal ties in the professional context. For example, some noted that friendly ties facilitate open communication, fostering a smoother exchange of ideas (Anouar and Mohamed S.). Respondents also reported improved business performance through more effective communication (Hicham and Omar). Fouzia describes her experience with rather cold professional ties: "There are these business ties where you're stuck on the surface, never really opening up on a personal level. I think of this person in another company I work with. It's all business, no personal side, and it's super uncomfortable. No informal discussion where ideas can flow freely. As a result, there are plenty of ideas that go down the drain... It's so awkward talking to these people that you just want to hang up and get it over with." According to Jihane, this limitation hinders creativity and the discovery of synergistic opportunities, as restricted communication does not allow for spontaneous idea exchange. She emphasizes the importance of personal ties in fostering smoother communication and generating innovative business ideas.

The second aspect revolves around frequency, which refers to how often and for how long parties interact (Mohr & Sohi, 1995). In collaborative relationships within a company, it has been observed that regular communication between buyers and suppliers is

paramount (Yan & Dooley, 2013)[62]. Interviewees reported having more frequent communication with supply chain actors they share personal ties with, and this frequency was associated with positive outcomes in business ties. For example, Hicham shared his perspective by stating: *"I am convinced that strong personal ties foster better mutual understanding..., which naturally translates into more frequent communication."* He confirms that establishing a personal tie would prompt him to communicate more frequently with his client. Other participants, including Mohamed S., Purchasing Manager, share this opinion, stating that a personal tie with suppliers enhances communication and, thus, service. Omar emphasizes that frequent exchanges are beneficial, an idea supported by existing literature. He suggests that *"... regular conversations create an environment conducive to quicker solutions and more effective cooperation."* Indeed, regular communication reinforces trust, promotes cooperation, reduces conflicts, and generates relational benefits.

The third aspect concerns communication tools, representing the medium used (face-to-face, email, telephone, etc.). Personal ties have been associated with the creation of new communication tools, affording interviewees additional means to exchange information, particularly via social networks. Youssef explained during his interview how his personal ties with El Mehdi introduced a fresh avenue of communication within their business dealings, thereby furnishing an extra resource for conducting business. Throughout the discussion, Youssef elucidated his argument by contrasting two disparate scenarios. On one hand, he mentioned the period when El Mehdi was on leave, accentuating the exclusive access he enjoyed owing to their personal ties. He recounted: *"El Mehdi was on vacation when he called me and mentioned that if I encountered any problems I couldn't solve, I could reach out to him anytime on his personal number."* Such immediate accessibility was facilitated by the personal closeness between the duo, thereby engendering a crucial nexus of confidence in the professional domain. Youssef highlighted the underlying reason for this exceptional accessibility. He explained that *"El Mehdi had turned off his work phone during his vacation because he was constantly being contacted by truck drivers."* This anecdote underscores the value of personal ties in business management, offering privileged access even when the usual communication tools are compromised. Furthermore, participants shared how the advent of social networks, especially WhatsApp, has redefined their communication practices. These digital platforms have become indispensable tools, expanding the horizons of communication to dimensions they never would have imagined without these pre-existing personal ties. Hind enthusiastically shares: *"WhatsApp has been a true game-changer in my collaboration with the customs broker Mounir. Previously, coordinating international shipments was complex and often subject to unforeseen delays. However, with WhatsApp, instant communication has transformed our way of working. Mounir and I can exchange documents, discuss logistical details, and adjust plans in real-time."* Hind's experience not only illustrates the various ways in which personal connections enrich the communication landscape but also the significant impact of technological advancement on how supply chain actors, equipped with strong personal ties, exchange information.

Ease of interaction, the fourth aspect of the message transmission process, encompasses the ease and initiation of exchanges. Respondents noted a greater ease in reaching out to colleagues with whom they shared personal ties, highlighting increased accessibility and quicker problem resolution. The invisible threads of communication are woven through contacts, and it becomes evident that these personal ties pave more accessible paths. During our interview, Houssam guides us through a narrative where the simplicity of an exchange with a friend (a business partner outside of Morocco) becomes a captivating experience, breaking conventional communication barriers: *"A simple call, without complications or formalities, transcending the usual obstacles. This simplicity allowed us to understand each other beyond words, beyond physical distance."* Nevertheless, certain participants, such as Walid, prioritized calls from suppliers over those with whom they maintained personal ties. Walid's interview unveils the emotional dimension of professional communication. Personal ties serve as a catalyst, converting accessibility into an unlocked gateway, trust into a seamless avenue, and communication into a harmonious interplay between committed partners. Thus, within the intricate tapestry of communication, the ease of contact emerges as a precious gem, its radiance emanating from the simplicity of authentic human relationships.

The fifth aspect elucidates the hierarchical level, demonstrating how personal ties empower supply chain stakeholders to engage with colleagues at higher levels. This accessibility fosters direct communication and expeditious problem resolution, thereby bolstering the fluidity of decision-making processes. For instance, Hassan and Mounir exemplify how their interpersonal ties with high-ranking officials enable them to sidestep conventional hierarchical protocols and swiftly address challenges. Hassan narrates, *"Several months ago, a critical issue in the logistics chain posed a potential operational disruption. I immediately reached out to Karim T., the supply chain director, leveraging our personal rapport cultivated outside the workplace. This direct interaction expedited the problem's resolution."* Similarly, Mounir recounts a delicate customs situation, noting, *"My personal ties with the authorizing officer made all the difference. By contacting him directly, I was able to explain the complexity of the situation and obtain immediate advice, speeding up the decision-making process."* These experiences highlight the significance of personal ties in their respective domains, endowing a competitive advantage by facilitating direct communication and unlocking opportunities inaccessible to competitors devoid of such affiliations.

Finally, the sixth aspect concerns the clarity of comprehension, illustrating how personal ties enhance message interpretation. This refers to how the recipient understands the sender's message in accordance with their intentions. For instance, Hicham elucidates how colleagues can achieve better mutual understanding through personal connections, thereby mitigating the risk of misinterpretation. He emphasizes, *"When you are familiar with the personality, humor, and even the mindset of the individuals you collaborate with, it becomes markedly easier to evade misunderstandings and negative interpretations. It's akin to speaking the same dialect."* A deep understanding of colleagues' personalities and preferences reduces the risk of misunderstandings, fostering a more precise interpretation of communications. M'hammed exemplifies this by recounting how a misunderstanding with a client was resolved through the establishment of personal ties over time: *"On day, I had an email exchange with a client where I said something that was taken out of context, and he felt offended. It was during a chaotic period, and my words may not have been the best. The client was in a different region, and our differences contributed to the misunderstanding. I apologized, explaining that my words were not meant to offend. With time, we established a personal tie. We call each other from time to time, discussing non-work-related topics, and I even know some members of his family now."*

These findings highlight the critical significance of personal ties in improving various aspects of business communication. From the fluidity of exchanges to the frequency of interactions, choice of communication tools, ease of interaction, hierarchical level, and clarity of comprehension, it is evident that personal ties play a vital role in the efficient of message transmission within businesses. By integrating these dimensions into the management of professional ties, supply chain actors can harness the competitive advantages provided by strong personal ties, building an atmosphere that encourages innovation, collaboration, and effective issue resolution.

4.2 Message authenticity

The theme of message authenticity highlights two fundamental properties related to communication in the context of personal ties, namely transparency and confidentiality. These properties are integral in fostering the comprehensiveness of exchanged messages between involved parties. Respondents underscored the profound influence of personal ties on promoting transparency in communication and maintaining the confidentiality of shared information. Table 5 presents the quotations and axial codes pertaining to message authenticity.

Table 5: Themes and codes identified under "Message Authenticity"

Respondent	Axial code	Supporting coded quotes from interviews and open code
B6	Transparency	<i>We're empowered to be more honest. This enables us to present ourselves as we truly are and openly acknowledge any mistakes.</i> Open code: <i>Personal ties create an environment where truth naturally emerges in these special moments of exchange.</i>
S6	Confidentiality	<i>With a friendship comes trust. I can confide in them about aspects of my professional activities that I wouldn't discuss with my other clients.</i> Open code: <i>Personal ties cultivate trust, establishing an environment where communication flows with openness and discretion.</i>

Transparency emerges as the foremost critical element of message authenticity within personal ties. Respondents have emphasized that personal ties eliminate the fear of backlash, thereby facilitating transparent communication. Abdellah explains how his friendly tie with a client promotes transparent communication regarding service issues within his company: *"He doesn't hold back in informing me about service shortcomings. He mentioned that our drivers sometimes struggle with punctuality in deliveries. It's like they have their own time zone!"* Similarly, Hakim shares how suppliers are more inclined to be transparent with him due to the personal ties, fostering a collaborative approach: *"Thanks to our closeness, they don't hesitate to promptly communicate difficulties to me, whether it's through WhatsApp or a phone call to my personal number. They know that my response to problems is pragmatic, which encourages open and effective communication."*

Confidentiality, as the second aspect of message authenticity, revolves around the discretion of shared information. Respondents have described how, within personal ties, they've been able to exchange confidential business information they wouldn't otherwise disclose. These exchanges were seen as mutually beneficial, deepening trust. Fouzia highlights the importance of discretion in her interactions with a business partner. *"There was an instance where I confided important details about our internal challenges to a partner colleague. While these details were sensitive, our strong personal ties gave me the confidence to share openly... This confidentiality bolstered our collaboration, leading to collaborative solutions and enhancing our operational performance."* Likewise, Nouredine shares an experience emphasizing the exchange of strategic information to foster trust and performance: *"I recently shared confidential data about our upcoming product launch with a key partner. This insider knowledge facilitated better preparation on their end, solidifying our partnership and increasing our effectiveness in successfully launching the product into the market."*

Indeed, message authenticity in personal ties relies on the essential principles of transparency and confidentiality. Transparency enables open communication devoid of fear, while confidentiality facilitates the exchange of sensitive information, ultimately bolstering trust and collaboration.

4.3 Contextual dynamics

According to content analysis, contextual dynamics are characterized by the interaction of actors within their environment, creating a framework in which they exchange information. Respondents indicate that personal ties influence the degree of restriction and the intensity of exchanges in the communication environment. Table 6 presents the quotations and axial codes related to contextual dynamics.

Table 6: Themes and codes identified under "contextual dynamics"

Respondent	Axial code	Supporting coded quotes from interviews and open code
B5	Restriction	<i>I can now speak more freely without worrying as much about my words; at least, I am no longer as constrained in my manner of expression as I used to be.</i> Open code: <i>Personal closeness reduces the usual constraints, allowing me to express myself with increased authenticity.</i>
S8	Exchange intensity	<i>As a transporter, fluctuations in operational costs are a constant challenge. Nonetheless, fostering strong relationships helps alleviate pressure during negotiations, even amidst tariff uncertainty.</i> Open code: <i>Business exchange have become less tense due to the personal ties we have developed.</i>

The degree of restriction is a fundamental aspect of contextual dynamics, defined as the suppression of communication deemed sensitive or uncomfortable for the message recipient (Benjamin, 2011). Consequently, restriction is viewed as a factor inversely related to effective communication processes. Respondents highlighted the role of personal ties in fostering unrestricted communication. For example, Amine shares: *"With Youssef, our collaboration is based on an exceptional relationship, where clarity is the golden rule... Even if we sometimes have to moderate our language for certain clients, our strong personal ties create an environment conducive to unfiltered communication."* Similarly, Hind explains that a close relationship is essential for maintaining balance: *"Personal ties provide a pathway to bypass barriers that may impede communication, thus fostering more authentic and open exchanges, even in potentially restrictive contexts."*

Another aspect of personal ties emerges as a sub-theme within contextual dynamics: the attenuation of exchange intensity during business interactions. In alignment with social capital theory, personal ties serve as a conduit for facilitating communication and business operations. Respondents elucidate how these personal ties afford them the ability to disentangle the personal realm from the business sphere, thus preempting potential conflicts during transactions, notably when disseminating sensitive information. Nouredine opines: *"Subtly transitioning to business during discourse helps mitigate the risk of appearing overly forthright and cultivates more organic interactions."* Similarly, Hicham, the supply chain director, shares his insights, emphasizing the importance of personal ties in moderating the intensity of interactions within business communications. He said: *"Maintaining personal rapport with our clientele, wherein open discussions on various subjects are encouraged, fosters an atmosphere of trust. This proves particularly advantageous when I must communicate impending tariff adjustments, such as heightened transportation costs... rendering the dissemination of such information more efficacious and better received."*

In the business world, personal ties are not merely pleasant social aspects; rather, they play a strategic role in constructing a communication environment. These personal ties directly influence the degree of restriction and the intensity of exchanges within this environment, thus shaping the quality and effectiveness of information exchange. By fostering strong and positive ties, business partners can potentially enhance the productivity of their interactions, thereby strengthening their ability to achieve common professional goals.

4.4 Communicative efficiency

The thematic of communicative efficiency delves into how interactions and personal ties between individuals can lead to a significant enhancement in communication. This translates into optimizing outcomes and using resources more judiciously, thus highlighting the importance of both performance (achieving improved results) and productivity (efficient use of resources) in the communicative process. Table 7 presents the quotes and axial codes related to communicative efficiency.

Table 6: Themes and codes identified under "Communicative efficiency "

Respondent	Axial code	Supporting coded quotes from interviews and open code
B2	Performance	<i>It's akin to an efficient filter, cutting out the noise in communication and allowing us to get straight to the point, thus enhancing overall efficiency. Open code: These relationships simplify everything, trimming away unnecessary discussions, especially for daily tasks.</i>
B3	Productivity	<i>By the tone of my voice, he immediately senses that there is something to improve, streamlining our exchanges and accelerating our progress. Open code: With our rapport, it's like we're enhancing our productivity effortlessly.</i>

On the one hand, personal ties have been recognized as a mechanism for enhancing communication performance. Ayoub, tasked with estimation responsibilities, recounts a significant professional experience: "... when I work with Karim T., we have a personal tie that transcends mere professional interactions. This facilitates a nuanced understanding of each other's expectations." Ayoub further explains: "When presenting an estimation to Karim T., I possess an innate understanding of his preferences. It is as if we have established a shared vernacular. ... Consequently, I can tailor my proposal with precision, mitigating the necessity for extensive revisions. This not only expedites the process but also minimizes the occurrence of misinterpretations and redundant exchanges." This viewpoint is subsequently affirmed by Karim T. during his interview, highlighting the importance of their personal tie: "Ayoub understands my preferences, my creative approach, which greatly simplifies our communication. It's as if he can anticipate my reactions. This enhances the fluidity and efficacy of our collaboration." The aspect of dyadic research also emerges in this example, as Ayoub and Karim T.'s experiences reveal essential nuances of their personal ties. This thorough approach has allowed for a deeper understanding of communication dynamics, thereby enhancing our holistic comprehension of the benefits attributed to personal ties within the professional context.

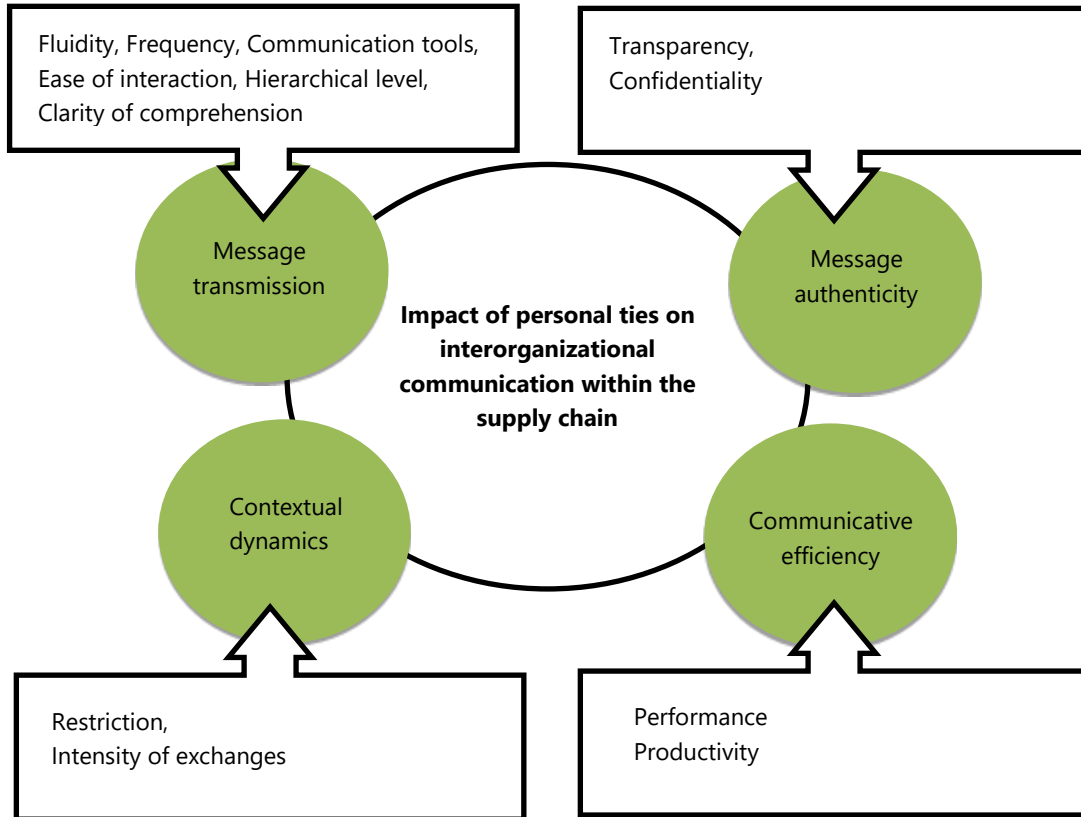
On the other hand, personal ties are also associated with more effective communication in terms of productivity. A tangible example that highlights the benefits of personal ties on communication efficiency is provided by Walid, sales development director, who shares a significant experience: "I closely collaborate with Abdelhaq, who is relatively new to our team. Our good personal tie enables me to discern crucial information essential for his success in her role." Walid further explains: "Abdelhaq is still in the adaptation phase, and it's important for him to understand some specific aspects of our research process. Because of our personal tie, he knows that he can depend on me to provide this information clearly and comprehensively. This eliminates the need for unnecessary trial and error and significantly speeds up his integration into the team." This example illustrates that personal ties not only enhance communication effectiveness but also positively impact work productivity, allowing team members to streamline their efforts and optimize both individual and collective performance.

The shared experiences of participants reveal a noticeable commonality, emphasizing that the personal ties established among supply chain actors are not merely incidental but rather essential cornerstones that shape the quality and impact of professional interactions.

4.5 Proposition development

By compiling varied accounts of experiences spanning different life and career stages of participants, we have constructed a model aimed at elucidating the impact of personal ties on communication (Maher et al. 2018). The analysis of qualitative data gathered in this study illuminates the significant impact of personal ties on the efficacy of exchanges within the supply chain. Four pivotal themes emerge from this investigation: message transmission, message authenticity, contextual dynamics, and communicative efficiency, thus evincing that personal ties fortify these critical dimensions. Participants emphasize a direct correlation between enhanced communication processes and increased business performance. Moreover, the absence of personal ties is associated with adverse repercussions on communication between buyer and supplier, thereby precipitating detrimental effects on business performance. In this regard, we propose a research model, illustrated in Figure 1, which could be further explored.

Figure 1: Personal ties on interorganizational communication within the supply chain



5. Discussion and Implication

5.1 The role of personal ties in interorganizational communication

Our research delves into the fundamental significance of personal ties, specifically friendships, in the context of interorganizational communication within the supply chain. While extant literature predominantly concentrates on communication's functional role in personal ties management, our study endeavors to offer a comprehensive examination of the specific function of personal ties between buyers and logistics service providers. Distinctly, we have identified four overarching themes through which these personal ties operate as catalysts, surpassing mere social constructs: message transmission, message authenticity, contextual dynamics, and communicative efficiency. Feedback from participants validates that the enhancement in communication resulting from the cultivation of personal ties directly correlates with enhanced business performance. These findings, while complementary to existing literature on buyer-supplier relations, provide a nuanced specification regarding the role of personal ties at the interpersonal level within the dynamics of the supply chain (Mohr et Nevin, 1990; Morris, Brunyee et Page, 1998). The primary contribution of our research lies in the precise identification of these four themes, delineating communication aspects influenced by personal ties. These insights offer a detailed understanding of the tangible advantages conferred by these personal ties.

5.2 Strategic implication

We suggest that these findings carry direct implications for supply chain management, prompting supply chain actors to recognize the importance of fostering personal ties with their logistical partners. Personal ties influence communication among supply chain actors and, consequently, overall business performance. Investing in the development of such personal ties within the supply chain is likely to result in improved communication and business performance compared to those who neglect this aspect. Interview data have indicated various effective strategies for fostering personal ties, including sharing mutual interests or arranging social gatherings. It is crucial to emphasize that our research does not contest the potential for success in the absence of personal ties. However, it underscores the necessity for supply chain actors to continually reassess their personal ties to optimize communication.

5.3 Perspectives

Future research perspectives include the empirical validation of the model and the exploration of potential conflicts related to the development of personal ties. These aspects are essential for deepening the understanding of interorganizational communication within the supply chain. A more thorough exploration of divergent perceptions within the supply chain regarding personal ties is necessary. Understanding the perceived pressures by each party will contribute to a holistic view of the influence of these personal

ties. Additionally, investigating the impact of social ties on interactions within the supply chain represents a promising avenue for future research.

6. Conclusion

This article underscores the crucial role that individuals play in communication processes, particularly within the context of the supply chain. By shifting focus away from companies viewed as isolated entities to the examination of individual actors, our study reveals a nuanced and complex interpersonal dynamic at play. We argue for a rigorous examination of micro-individual phenomena, as it provides comprehensive insights into the subtle mechanisms of communication. Understanding these processes at the individual level is imperative for identifying key drivers to enhance managerial practices and formulate tailored policies. By recognizing the intricacies of human interactions within the supply chain, professionals can develop targeted strategies to foster effective communication and optimal management of interorganizational relationships. Thus, this study serves as a foundational step towards comprehensively investigating micro-individual dynamics within the supply chain. The findings of such research endeavors have the potential to enrich the academic understanding of interorganizational communication and offer practical guidance to practitioners, ultimately strengthening the resilience of supply chains in a rapidly evolving environment.

6.1 Study Limitations and Future Research

The research article acknowledges certain limitations that may have influenced the results and interpretation. One limitation is the sample size, as the study focused on a specific set of logistics service buyers and providers from diverse sectors. This limited scope may impact the generalizability of the findings to a broader population within the supply chain industry. Additionally, the reliance on self-reported data from interviews could introduce bias or subjective interpretations, potentially affecting the reliability of the results. Furthermore, the study's cross-sectional design may restrict the ability to capture longitudinal changes or trends in personal ties and communication dynamics within supply chains.

In light of the study's findings and limitations, several avenues for future research are suggested. Firstly, conducting longitudinal studies to track the evolution of personal ties and their impact on supply chain communication over time could provide valuable insights into the sustainability of these relationships. Exploring the role of technology in facilitating and enhancing personal ties within supply chains is another promising area for future research, considering the increasing digitalization of business operations. Additionally, investigating the influence of cultural differences on the formation and maintenance of personal ties in global supply chains could offer a cross-cultural perspective on communication dynamics. Lastly, examining the potential effects of external factors, such as economic fluctuations or regulatory changes, on the strength and resilience of personal ties in supply chains would contribute to a more comprehensive understanding of this phenomenon.

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