

## Resilience Strategies in Moroccan Artisanal Supply Chain Networks

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### Abstract

This study examines the resilience strategies employed by Moroccan artisans within cooperative and traditional business supply chain networks, analyzing how these networks navigate disruptions while ensuring livelihoods and preserving cultural heritage. Adopting an inductive approach, the research utilizes the Gioia methodology to analyze qualitative data from semi-structured interviews, applying a structured coding process through Qualcoder to identify key resilience mechanisms, progressing from first-order codes to second-order themes and aggregate dimensions. The findings reveal that while both cooperative and traditional business supply chain networks share similarities in resilience mechanisms, their network structures fundamentally shape how these mechanisms operate, particularly through differences in governance, decision-making, and resource coordination. However, in both types of networks, resilience emerges as an ongoing, adaptive process shaped by crises, internal tensions, and strategic responses. Despite the study's contributions, its small sample size and cross-sectional design limit generalizability and the ability to capture long-term resilience dynamics. Nevertheless, the findings provide valuable insights for policymakers and organizations supporting artisans to design targeted resilience-enhancing interventions. By shifting the focus

from corporate supply chains to small-scale, informal artisanal networks, this study contributes to the literature on supply chain resilience, highlighting the unique adaptive capacities embedded in traditional craftsmanship.

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**Keywords:** Gioia Methodology, Moroccan Artisanal Networks, Supply Chain Networks, Supply Chain Resilience

## Introduction

In Morocco's lively medinas, two key economic models shape the craft industry: individual artisans and artisanal cooperatives. Both play vital roles in preserving traditional skills while adapting to modern challenges. Individual artisans focus on mastering their craft, often relying on techniques handed down through generations (Rondi et al., 2024). In contrast, cooperatives emphasize teamwork, pooling resources and knowledge to create collective products. (Ghobadi & D'Ambra, 2012) Understanding the resilience of these networks is essential to learning how small artisans overcome challenges, maintain their livelihoods, and protect their cultural heritage in a changing world. While extensive research has focused on large-scale corporate networks, studies on informal, artisanal networks, which are critical for cultural preservation and economic sustainability, remain limited (Birchall, 2011; Wieland & Wallenburg, 2013).

This study fills this gap by investigating Moroccan artisanal networks, highlighting how both cooperative and traditional business models adapt to crises. By employing the Gioia methodology (Gioia et al., 2013), the research develops a grounded framework for resilience that integrates cultural, social, and economic dynamics specific to artisanal supply chains. For Moroccan artisans, renowned globally for their rich cultural heritage and craftsmanship (Shafer, 2019), resilience is not an abstract theoretical construct, it is a daily necessity. These artisans are facing fluctuating markets, limited access to resources, and intensifying competition from industrialized producers. Despite their vital contributions to Morocco's cultural and economic fabric, the mechanisms by which they build and sustain resilience remain poorly explored.

Existing research on supply chain resilience has predominantly concentrated on large-scale corporate networks, which often benefit from formalized systems, advanced technologies, and institutional support (Christopher & Peck, 2004; Wieland & Wallenburg, 2013). While these studies provide valuable insights into resilience frameworks, they tend to overlook the unique dynamics of small-scale and informal networks, especially in developing economies (Pettit et al., 2010).

The originality of our study lies in addressing this gap with an inductive approach to explore how Moroccan artisans build resilience within two distinct network structures: cooperative networks and traditional business networks.

Using the Gioia methodology (Gioia et al., 2013), this study seeks to uncover the nuanced strategies and interactions that underpin resilience within these networks. By iteratively analyzing qualitative data, we identify the mechanisms through which artisans navigate unexpected disruptions. The findings of this study reveal that cooperative networks foster resilience through shared governance, collective bargaining, and resource pooling, while traditional networks leverage entrepreneurial ingenuity, relational trust, and individualized supply chain management. These contrasting pathways highlight the interplay between structural context and strategic adaptation, offering critical insights into how small-scale, informal networks respond to adversity.

This research contributes to the growing body of literature on supply chain resilience by shifting the focus from formal corporate structures to the often-overlooked informal networks that characterize small-scale enterprises. By integrating contextual factors, network dynamics, and resilience strategies, this study provides a grounded framework for understanding resilience in artisanal supply chains.

## **Theoretical Background**

This study adopts an inductive approach grounded in empirical data, guided by the Gioia methodology (D. Gioia, 2021), to develop a theoretical framework rooted in the lived experiences and perspectives of Moroccan artisans. This approach enables a nuanced understanding of resilience within artisanal supply chains by allowing constructs to emerge directly from the data, thereby providing a grounded theory that reflects the complexities of local practices and contexts (Charmaz, 2014; Suddaby, 2006).

## **Resilience in Artisanal Supply Chains**

Resilience has increasingly been conceptualized not as a static trait, but as a dynamic, emergent process (Ponomarov & Holcomb, 2009). In the context of artisanal supply chains, resilience is more than the ability to recover from disruptions; it reflects the ongoing process of adapting to changes, absorbing shocks, and continuously evolving in response to challenges (Christopher & Peck, 2004). Artisanal networks - characterized by a combination of traditional knowledge and modern economic pressures - require resilience strategies that balance innovation, resourcefulness, and social cooperation (Bhamra et al., 2011; Ming et al., 2021). These networks must absorb disruptions, reconfigure their resources, and transform

themselves in response to market, social, and environmental pressures (Miller et al., 2014; Brundin, 2016; Seville et al., 2008).

Recent research highlights the importance of adopting a multidimensional approach to resilience, particularly in contexts where formal institutions are weak or non-existent. Such approaches integrate various dimensions, including network structure, social capital, and adaptive capacity, which together provide a comprehensive understanding of resilience (Sheffi & Rice, 2005; Vogus & Sutcliffe, 2007; Walker et al., 2004).

### **Social Capital and Trust**

Social capital has been extensively identified as a critical determinant of resilience in supply chains (Teece et al., 1997a). The ability of artisans to navigate crises is heavily influenced by the strength and diversity of their social networks (Jüttner & Maklan, 2011; Nahapiet & Ghoshal, 2009a). In artisanal contexts, social capital manifests through both bonding and bridging social capital (Saad & Youness, 2024).

Bonding social capital, typified by strong, trust-based relationships among closely-knit members, enables rapid mobilization of internal resources during crises and facilitates internal problem-solving. Conversely, bridging social capital - representing connections with external networks and resources - enables access to diverse knowledge, innovation, and adaptive strategies, essential for managing complex challenges and sustaining long-term viability. The interplay between these forms of social capital is a central mechanism of resilience, as it supports both immediate crisis management and long-term adaptation to external shocks (Möller & Rajala, 2007; Scholten & Schilder, 2015).

### **Continuous Learning**

Continuous learning in artisanal supply chains relies on informal, experiential knowledge. (Bhamra et al., 2011) highlight "learning by doing," where knowledge is passed down through practice rather than formal training. Lengnick-Hall & Beck (2009) stress that this adaptive learning is key to resilience, allowing artisans to quickly respond to challenges.

Eslami et al. (2020) note that artisanal networks thrive through shared knowledge, facilitated by social interactions. Fisher (2010) introduces "adaptive bricolage," where artisans creatively adapt resources, fostering continuous learning without formal systems. Simmie & Martin (2010) further emphasize the role of relational dynamics in this process.

In sum, continuous learning in artisanal supply chains is driven by tacit knowledge and collaborative adaptation, ensuring resilience in times of disruption.

## Research Gaps

This study fills several significant research gaps by shifting attention from corporate supply chains to small-scale, informal artisanal networks. It offers a comparative analysis of cooperative and traditional networks, demonstrating how variations in structure and organization lead to unique ways of operationalizing resilience. Additionally, it highlights the often-overlooked human factor and interpersonal synergy as key elements in sustaining resilience within these networks. Finally, by applying the Gioia methodology to qualitative data, this study provides deeper insights into the preservation of livelihoods and cultural heritage, particularly in the face of disruptions.

## Methodology

The study employs the Gioia methodology (Gioia et al., 2013) to address the core research question: "*How do Moroccan artisans define resilience within their supply chains networks, and what strategies enable them to navigate crises?*". By focusing on the narratives and lived experiences of artisans, this inductive approach ensures that the emergent theoretical framework is firmly grounded in participant perspectives. This direct linkage between the Gioia methodology and the research objectives underscores the study's commitment to emergent theory-building, ensuring relevance to both academic and practical contexts.

## Research Design

The Gioia methodology was chosen for its capacity to capture participant perspectives and translate them into theoretical insights systematically. Data were collected through 20 semi-structured interviews, balanced between cooperative artisans (10) and traditional business artisans (10). The analysis followed a three-step process:

- **First-order coding:** Identifying participant-centric terms.
- **Second-order themes:** Grouping related codes.
- **Aggregate dimensions:** Synthesizing core theoretical constructs.

## Philosophical Stance

Rooted in an interpretivism paradigm, the study views that reality is socially constructed, and we must interpret meanings from participants' perspectives. By emphasizing context and participant perspectives, this paradigm aligns with the Gioia methodology's focus on emergent theory-building.

## **Data Collection**

Data were collected through semi-structured interviews with 20 Moroccan artisans operating within two distinct networks in the Marrakech-Safi region. The interviews were conducted in Moroccan dialectal Arabic and then translated as accurately as possible into English. The sample included ten participants from artisanal cooperatives and ten participants from the business artisanal network. Participants were purposefully selected to ensure diverse perspectives on resilience strategies across these organizational models.

The interview protocol included open-ended questions designed to elicit detailed narratives about the challenges artisans face, the strategies they employ to adapt and thrive in disruptions, and the role of their networks in supporting resilience. Interviews continued until thematic saturation was achieved, ensuring that no new themes or concepts emerged.

## **Data Analysis**

The data was coded using QualCoder, an open-source qualitative data analysis (QDA) software designed for coding, analyzing, and managing qualitative research data, such as interviews, focus groups, and textual documents (Brailas et al., 2023). The analysis followed the three-step process outlined in the Gioia methodology. In the first step, first-order codes were generated by analyzing participant responses to identify descriptive, participant-centric terms reflecting their own language and perspectives. In the second step, these first-order codes were grouped into second-order themes by identifying patterns and relationships. Finally, in the third step, aggregate dimensions were synthesized from the second-order themes to represent the study's core theoretical constructs. A data structure diagram was developed to illustrate the coding hierarchy (Figure 1), from first-order codes to aggregate dimensions, ensuring transparency in the analytical process (Gioia et al., 2013).

## **Ethical Considerations**

Ethical considerations were central to the study. All participants provided informed consent, ensuring their voluntary participation and understanding of the study's purpose. Participant identities and sensitive data were anonymized to maintain confidentiality.

## **Analysis of Findings**

Using the Gioia methodology, our analysis began with the identification of 70 first-order codes derived from the qualitative data. These initial codes captured a wide array of patterns and processes linked to resilience within Moroccan artisanal networks. We then categorized these codes into 30 second-order themes, reflecting broader conceptual groupings.

To ensure relevance to our research question, focused on understanding resilience strategies, we filtered the themes to retain only those most pertinent to resilience dynamics. The final analysis focuses on these refined themes, structured into key aggregate dimensions, to highlight the distinct strategies employed by cooperatives and traditional business networks.

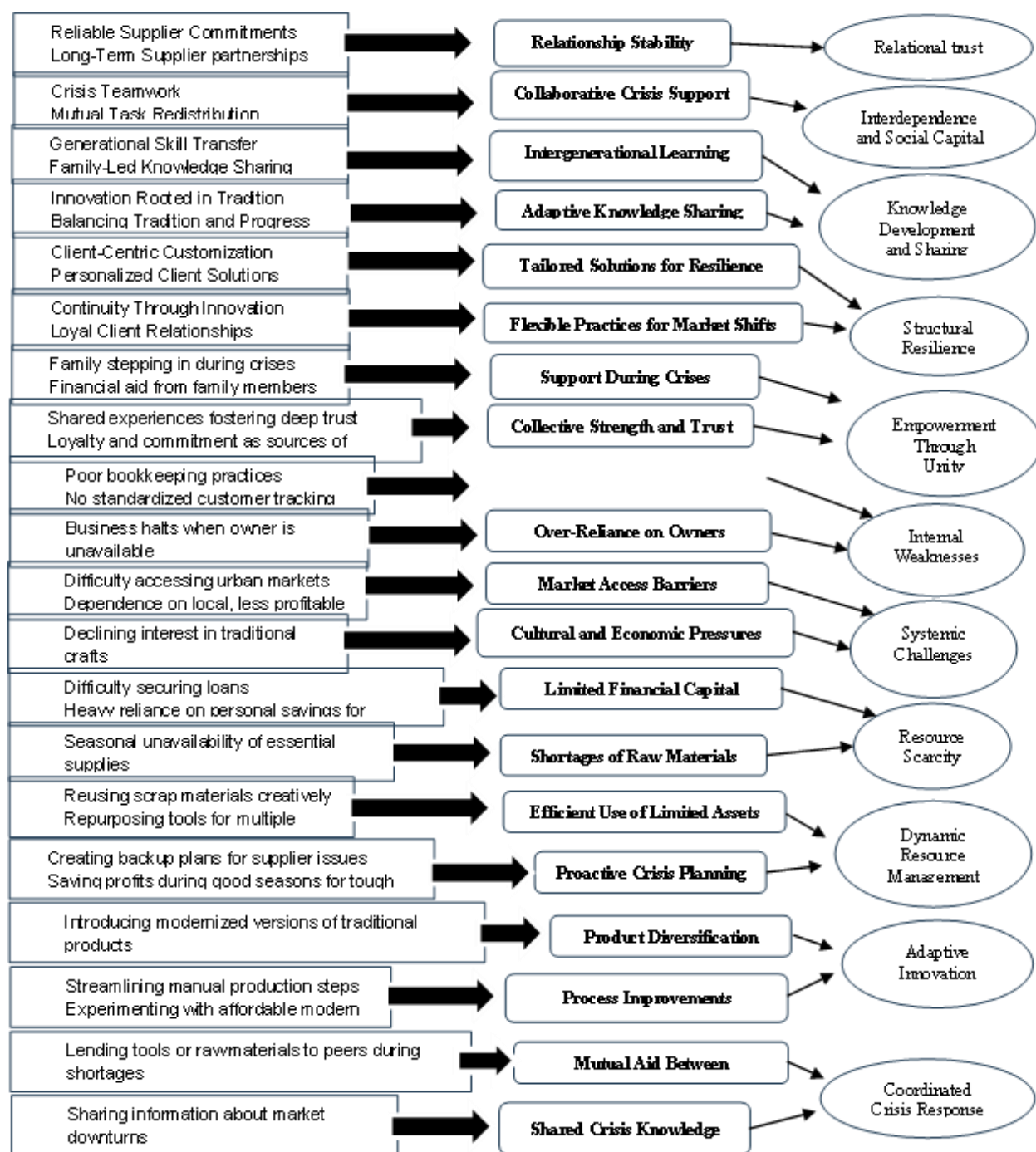
### **Data structure**

As the analysis progressed, similarities and differences among the initial categories were refined through axial coding (Kendall, 1999), reducing them to a manageable set of informant-centered terms. This process bridged raw data and theoretical abstraction, leading to the development of second-order themes and aggregate dimensions (Dufour & Richard, 2019). Constructing the data structure became a pivotal step, visually representing the progression from data to theory and ensuring methodological rigor. Figure 1 illustrates the data structure of the traditional business network, while Figure 2 presents the artisanal cooperative network, highlighting both shared and distinct organizational patterns. However, the data structure is not intended to highlight relationships between second-order themes, as that occurs later in the theorization process. Instead, it fosters a balance between informants' lived experiences and the broader theoretical perspective necessary for academic publication. As a guiding principle, “No data structure; know nothing” underscores its importance (Gioia et al., 2013).



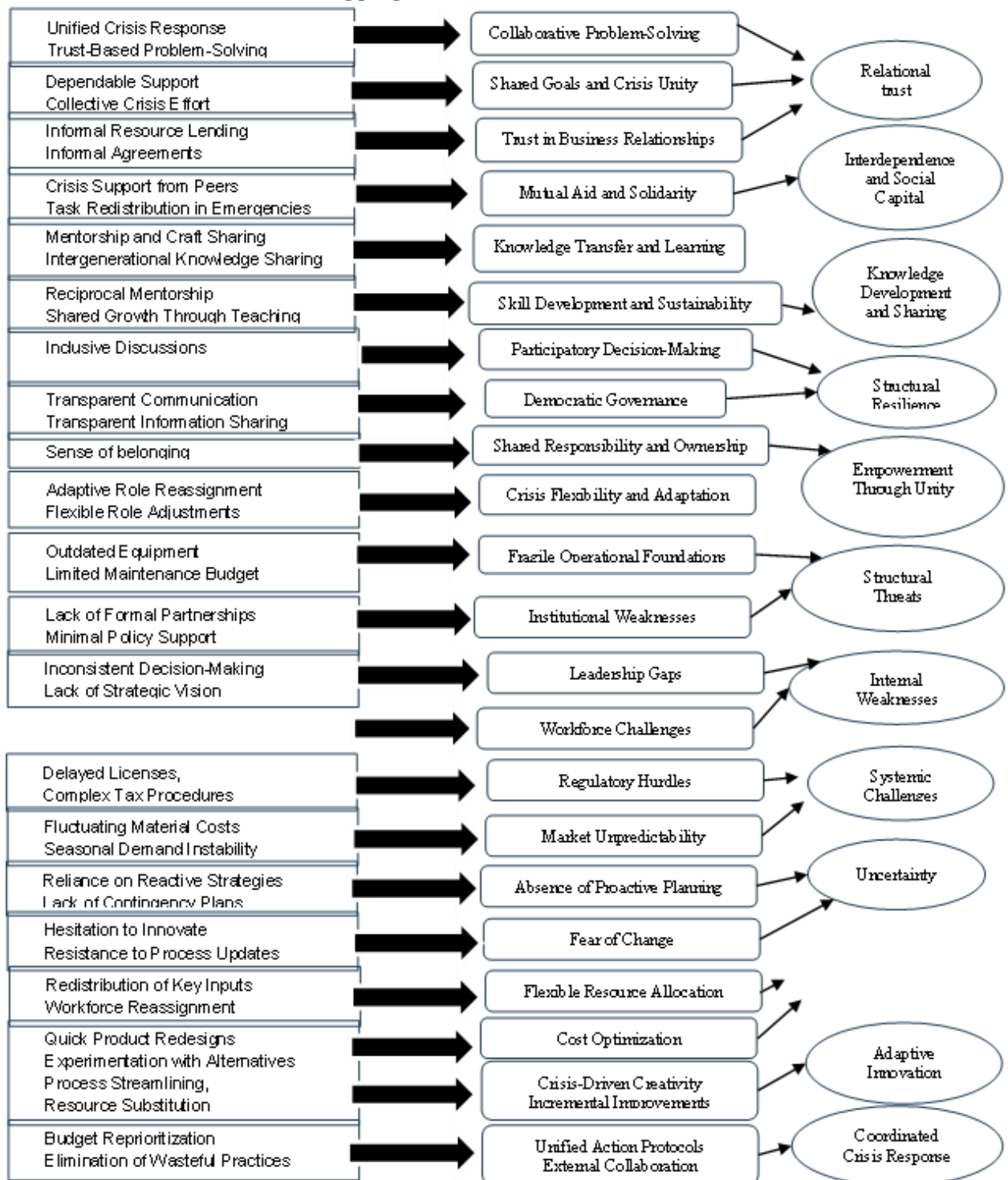
## Data structure of the traditional business network

### 1st Order Concepts Lack of Formalized Processes





## Data structure of the artisanal cooperative network 2nd Order Themes Aggregate Dimensions



### **From data structure to findings**

In this section, we analyze the aggregate dimensions that emerge from the data, emphasizing the key points of divergence between the two networks. To provide a nuanced understanding, we integrate direct quotes from participants where they offer critical insights, allowing their perspectives to illustrate how resilience is constructed and operationalized differently across the networks. While this analysis is structured around the eleven aggregate dimensions in the data analysis framework, direct quotes are selectively included for specific dimensions rather than all, ensuring clarity and relevance while maintaining alignment with the transparency required in the Gioia methodology.

### **Relational Trust as a Pillar of Resilience**

#### **Traditional Business Networks**

Traditional business networks anchor trust in personal relationships, built over years of consistent reliability. One artisan, who runs a family business, described the foundation of his success:

*"I've been working with the same main supplier for over 20 years. He knows my craft, and I know his honesty. When I ran into trouble sourcing materials, he gave me credit without hesitation because he trusted me to pay him back. It's moments like these that keep my business alive."*

#### **Artisanal Cooperatives**

Relational trust within cooperatives is more than just a strategy; it is a deeply rooted ethos. One cooperative artisan recounted a story about a devastating market downturn:

*"When the pandemic hit, and sales completely stopped, we gathered to talk about what we could do. One of us offered to take a pay cut, the president of the cooperative proposed using the cooperative's limited funds to support members struggling to pay for basic needs and even personally contributed to the shared fund, and others volunteered extra hours to produce new items. It wasn't easy, but knowing we had each other's backs made all the difference."*

This trust is institutionalized through shared goals, regular member interactions, and collective governance, creating a network that can withstand external shocks by pooling resources and reassigning responsibilities as needed.

## **Knowledge Sharing and Craft Preservation**

### **Traditional Business Networks**

In traditional business networks, knowledge sharing is deeply personal and familial. The owner of the business, visibly emotional, spoke about the legacy of his craft:

*"My father taught me everything: the skills of the craft, the secrets to perfecting every detail, and the stories behind what we create. Now, I'm teaching my son. It's not just work; it's our heritage. This is how our family has carried on for generations."*

While this generational transmission preserves the essence of the craft, its insularity limits opportunities for external collaboration and innovation, which could enhance adaptability.

### **Artisanal Cooperatives**

Knowledge sharing in cooperatives is a dynamic and collaborative process. One artisan recounted the transformative impact of this system:

*"When I joined the cooperative, I was struggling to make ends meet and didn't know where to start. One of the experienced members sat with me, teaching me not only how to improve my craft but also how to price my work fairly. Over time, I gained confidence and started sharing my own ideas with others. Now, we all contribute in our unique ways, blending innovation with tradition to grow stronger together."*

By institutionalizing mentorship and collaboration, cooperatives ensure that knowledge is continuously updated and shared, creating a resilient foundation for both innovation and tradition.

## **Structural Resilience and Governance**

### **Traditional Business Networks**

In traditional networks, decision-making is typically centralized. The owner explained his approach:

*"I make all the decisions; it's my responsibility to keep the business running. My workers depend on me, and I can't afford to let them down. However, I sometimes seek the advice of the artisans who have been with us since my father's time, as well as my brothers, who receive a share of the profits. But in the end, the final decision is always mine."*

While this structure enables quick responses, it also concentrates risks. If the central decision-maker is unavailable or overwhelmed, the business may struggle to adapt.

## **Artisanal Cooperatives**

Cooperatives operate with democratic governance, ensuring that all members have a voice. One artisan shared:

*"When we face a challenge, we sit down as a group. Everyone speaks, even the youngest member. The solution we choose is always better because it comes from everyone's ideas. And when it works, we all feel proud because it's our collective decision."*

This inclusivity, paired with flexible task distribution, allows cooperatives to adapt rapidly to crises, reinforcing their resilience.

## **Empowerment Through Unity** **Traditional Business Networks**

In traditional business networks, empowerment stems from personal bonds and a sense of loyalty built over years of shared experiences. The owner may take on the main responsibility, but the strength of the business often lies in the relationships cultivated over time. The owner, with visible emotion, shared:

*"When my father passed away, the business went through many difficulties. I felt the weight of the world on my shoulders. I was responsible for everything our workers, our clients, our reputation. But then my brothers stepped in. They didn't ask for anything; they just said, 'We're here for the business.' Even though each of them had a career far from craftsmanship, one was an engineer and the other a teacher. One of them lent me money to keep things running, and another worked alongside me every evening to finish orders. In that moment, I realized that while I make the final decisions, it's their support that keeps me going. This business isn't just mine - it's ours."*

While decision-making is often centralized, moments of crisis reveal the true strength of traditional networks: the unshakable trust and commitment of those closest to the business. This personal loyalty creates a safety net, even if it lacks the formal structure of a cooperative.

## **Artisanal Cooperatives**

In cooperatives, empowerment comes from the shared belief that every member matters and that strength lies in unity. When crises arise, members don't just look out for themselves; they rise together. One artisan reflected passionately on the power of this unity:

*"I remember when one of our members received the devastating news that he had lost his father in the Asni earthquake. He was shattered, unable to focus on anything. We*

*didn't hesitate - we took over his work, completed his orders, and ensured his income didn't stop while he grieved. Later, he told me, 'You didn't just help me keep my livelihood; you reminded me that I wasn't alone.' That's what being in a cooperative is about: standing together, no matter how hard it gets. We're not just colleagues; we're family."*

This ethos of shared responsibility and mutual support goes beyond practical solutions - it creates a deep sense of belonging and trust. The flexibility to reassign roles and tasks ensures that no single person carries the burden alone, making the cooperative not just resilient but transformative for its members.

### **Internal Weaknesses**

#### **Traditional Business Networks**

For traditional businesses, internal weaknesses often arise from dependency on a single decision-maker or lack of succession planning. The owner confessed:

*"My father was the backbone of this business. When he passed away, I realized how much we depended on him for everything - from managing finances to dealing with clients. I had to learn everything on the job, and it almost broke me."*

This centralized structure, while efficient for quick decisions, can leave the business vulnerable during transitions or crises if knowledge and responsibilities are not distributed effectively.

#### **Artisanal Cooperatives:**

Internal weaknesses in cooperatives often stem from their collective decision-making processes and varying levels of member commitment. One artisan shared their frustration:

*"Sometimes, we spend so much time in meetings, debating every little thing. Some members don't show up consistently, yet they expect an equal share of the profits. It's hard to build momentum when not everyone is pulling their weight."*

This democratic structure, while inclusive, can slow decision-making and lead to inefficiencies when all members are equally engaged. Addressing these weaknesses requires stronger enforcement of member responsibilities and clearer systems of accountability.

### **Systemic Challenges**

#### **Traditional Business Networks**

For traditional businesses, systemic challenges frequently relate to market volatility and competition. One artisan lamented:

*"When larger companies started selling cheaper, machine-made versions of our craft, we lost some important customers almost overnight. Competing on price is impossible for a small, family-run business like ours."*

This lack of competitive leverage underscores the need for traditional businesses to adapt and innovate while preserving their unique identity in a rapidly changing market.

### **Artisanal Cooperatives**

Systemic challenges for cooperatives often revolve around navigating bureaucratic hurdles and accessing institutional support. One cooperative leader explained:

*"We applied for government and the Office for Cooperative Development support during the pandemic, but the process was so complicated. Weeks turned into months, and by the time we received the funds, we had already found other ways to survive. It feels like the system isn't designed for groups like ours."*

Despite their collective strength, cooperatives often face delays and inefficiencies when dealing with external systems, highlighting the need for streamlined institutional support tailored to their unique structures.

### **Adaptive Innovation**

#### **Traditional Business Networks**

For traditional businesses, innovation often emerges from necessity. One artisan shared:

*"I started making custom designs based on customer requests. It's more work, but it's what sets me apart from larger competitors. People appreciate the personal touch."*

This focus on customization and individual relationships enables traditional businesses to remain competitive, though it may limit scalability compared to cooperative innovations.

### **Artisanal Cooperatives**

Cooperatives embrace adaptive innovation by blending traditional techniques with modern approaches. One artisan explained:

*"We found new ways to share our expertise and attract customers by diversifying our craft demonstrations and workshops. It was a step into the unknown, but it helped us expand our reach and sustain our work."*

This openness to experimentation allows cooperatives to innovate while staying true to their roots, enhancing both resilience and growth.

## The Role of Network Design in Resilience

The analysis underscores the critical influence of *network design* on resilience mechanisms:

**Traditional Business Networks:** These networks are structured around tight-knit, personalized relationships, where decision-making is centralized and knowledge is passed down within families. This design allows for quick responses to challenges but also creates fragility, as resilience depends on a few key individuals. If these individuals exit the network or face disruptions, the entire structure is at risk due to its reliance on informal, relationship-based support.

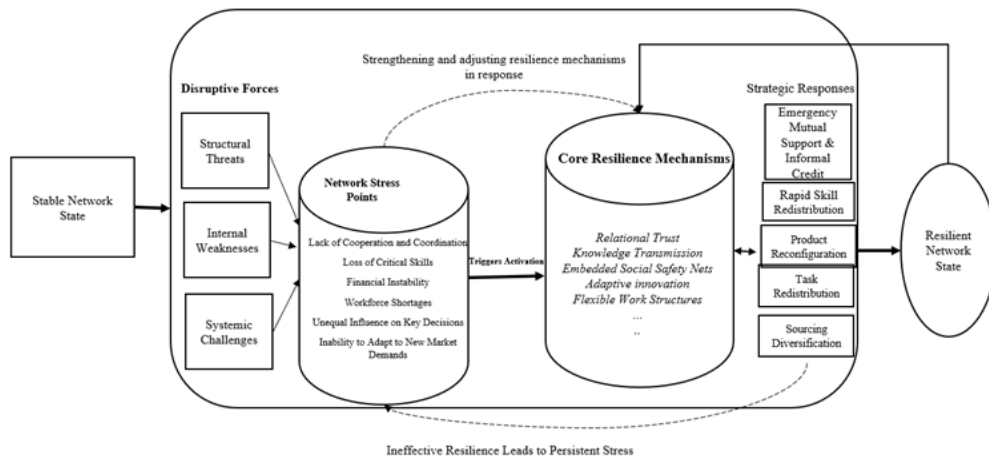
**Cooperative Networks:** Designed around shared governance and collective resource management, cooperative networks embed resilience through distributed decision-making and mutual aid. This structure reduces dependency on any single member, ensuring that disruptions are absorbed collectively. The cooperative model fosters adaptability by institutionalizing collaboration, enabling artisans to respond flexibly to crises and sustain long-term operations.

### *Dynamic conceptual framework*

As part of this study's findings, we developed a **Dynamic Conceptual Framework** (Figure 3) to explain the resilience mechanisms found within **Moroccan artisanal networks**. Resilience in these networks is not a fixed trait but an **ongoing, adaptive process** shaped by crises, internal tensions, and strategic responses. **Grounded in the Gioia methodology**, this framework reveals resilience as a **continuous interaction between disruptive forces, network vulnerabilities, and adaptive mechanisms**, leading to either **network stabilization** or **persistent stress**.

At the core of this framework, Moroccan artisans rely on **relational trust, embedded knowledge transmission, and informal social safety nets** to counteract structural threats, financial instability, and workforce challenges. These mechanisms, in turn, enable **strategic responses** such as **emergency mutual aid, skill redistribution, and sourcing diversification**, ultimately guiding the network toward a **resilient state**.





**Figure 3:** Dynamic conceptual framework

## Discussion

This study makes a significant theoretical contribution to the resilience literature by demonstrating that both cooperative and traditional business networks share common resilience mechanisms, including relational trust, knowledge transfer, and resource adaptability. However, the network design fundamentally shapes how these mechanisms operate, particularly through variations in governance structures, decision-making processes, and resource coordination. By applying an inductive research approach using Gioia's methodology, this study advances theoretical understanding of resilience as a dynamic and network-dependent process.

## Shared Resilience Mechanisms

This study identifies three primary resilience mechanisms that are common to both cooperative and traditional business networks, supporting the idea that resilience emerges from structural and relational attributes rather than network type alone.

### *Relational Trust as a Foundation for Resilience*

Relational trust serves as a central pillar of resilience in both types of networks. Trust facilitates collaborative problem-solving, mitigates uncertainty, and enhances the ability to respond to external disruptions. Uzzi (1997) argues that embedded ties foster mutual assistance and joint risk-taking, which aligns with the role of trust in both cooperative and traditional business networks. Nahapiet & Ghoshal (2009b) emphasize that trust enhances the exchange of intellectual capital, reinforcing how trust-based relationships sustain resilience in turbulent environments.

However, the form and institutionalization of trust differ. In cooperatives, trust is formalized and institutionalized through collective decision-making processes (Adler & Kwon, 2002; Felin & Foss, 2005), whereas in traditional business networks, trust operates through informal, dyadic relationships and long-term reputational effects (Burt, 2000; Granovetter, 1985).

### ***Knowledge Transfer and Adaptive Learning***

Both networks exhibit knowledge sharing as a resilience-enhancing mechanism, aligning with organizational learning and absorptive capacity theories (Cohen & Levinthal, 1990; Zahra & George, 2002). Knowledge diffusion and transfer enables networks to respond to crises dynamically, leverage collective intelligence, and integrate market and operational insights to maintain stability.

Cooperatives rely on formalized knowledge-sharing structures through participatory governance (Hamel, 1991; Levinthal & March, 1993), while traditional business networks engage in informal, experience-based learning through embedded social ties (Lane et al., 2006; Reagans & McEvily, 2003). The ability to absorb and apply external knowledge ensures that both networks remain agile and responsive to external.

### ***Resource Adaptability***

The ability to reconfigure resources to adapt to environmental changes is a hallmark of resilience. This aligns with the dynamic capabilities framework (Eisenhardt & Martin, 2000; Teece et al., 1997b), which emphasizes that firms that can reconfigure assets in response to crises are more likely to survive and thrive.

Both cooperative and traditional business networks demonstrate resource adaptability, although through different mechanisms. Cooperatives utilize collective pooling of resources and mutual aid systems (Ostrom, 1990; Williamson, 1985), while traditional business networks leverage market-driven flexibility and strategic partnerships (Dyer & Singh, 1998; Lavie, 2006).

### ***Governance Structures and Decision-Making***

The governance structure dictates how resilience mechanisms operate (Jones et al., 1997; Provan & Kenis, 2008).

Cooperative networks exhibit democratic governance and collective decision-making, which enhance resilience through distributed leadership and shared responsibility (Adler & Kwon, 2002; Ostrom, 1990). While traditional business networks have centralized decision-making structures, allowing for faster crisis response but with less participatory problem-solving (Mintzberg, 1979).

## **Theoretical Contributions and Implications**

This study advances resilience theory by demonstrating that resilience is not solely a function of network type but of how resilience mechanisms operate within different network designs. The findings contribute to several theoretical domains:

*Organizational Resilience Theory:* This study extends resilience research by showing how resilience mechanisms function in different governance structures.

*Network Theory and Social Capital:* It integrates insights from network embeddedness and social capital theories (Burt, 2000; Granovetter, 1985) to explain how relational ties shape adaptive capacity.

*Dynamic Capabilities Perspective:* By linking resilience mechanisms to resource reconfiguration and learning capabilities (Eisenhardt & Martin, 2000; Teece et al., 1997), it emphasizes how networks sustain competitive advantage under crisis conditions.

## **Limitations and Future Directions**

While this study provides valuable insights into resilience within Moroccan artisanal supply chain networks, several limitations warrant consideration.

First, the study's sample size of 20 interviews - equally split between cooperative and traditional business artisans - offers rich qualitative depth but limits the broader applicability of findings. While sufficient for an interpretive, theory-building approach, this sample may not fully capture the diversity of resilience strategies across different regions, industries, or supply chain structures. Future research could expand the sample to include artisans operating in hybrid or state-supported networks, enhancing the external validity of the findings.

Second, the cross-sectional design captures resilience at a single point in time, overlooking how resilience mechanisms evolve in response to long-term disruptions and market shifts. Given that resilience is a dynamic and adaptive process, longitudinal research could provide deeper insights into how artisans sustain or modify their strategies over time.

Finally, while the study is grounded in network embeddedness, social capital, and dynamic capabilities perspectives, resilience in artisanal networks may also be shaped by other theoretical dimensions, such as institutional logics, resource dependency, or community-based entrepreneurship. Expanding the theoretical scope could offer a more comprehensive understanding of how governance structures and external institutional forces influence resilience.

Despite these limitations, this study lays a strong empirical and theoretical foundation for understanding resilience in informal supply chain

networks. By highlighting the distinct yet interrelated resilience mechanisms shaping cooperative and traditional business networks, it advances discussions on how small-scale enterprises navigate uncertainty, sustain their livelihoods, and adapt to changing market conditions. Addressing these limitations through comparative, longitudinal, and multi-method research will further refine and expand resilience theory in the context of artisanal supply chains.

## **Conclusion**

This study provides a fresh perspective on resilience strategies within Moroccan artisanal supply chains, emphasizing how cooperative and traditional business networks navigate disruptions. Using the Gioia methodology, we developed a Dynamic Conceptual Framework that redefines resilience as an adaptive, evolving process shaped by crises and strategic responses.

Our findings framework demonstrates how resilience mechanisms, trust, knowledge transfer, and empowerment, etc.. interact dynamically, strengthening or weakening resilience over time. A key contribution of this study is the Dynamic Conceptual Framework, which maps how networks transition between stability and crisis, identifying stress points such as power imbalances and resource constraints. This framework advances resilience theory by showing that artisans do not passively endure crises but actively reshape their networks and strategies to sustain their livelihoods and cultural heritage.

From a practical perspective, fostering hybrid resilience strategies that combine structured cooperation with entrepreneurial flexibility is essential. Policymakers should support both network types through digital integration, financial aid, and improved market access.

By shifting resilience discourse from corporate supply chains to the artisanal sector, this study provides valuable insights for future research. Longitudinal studies should further examine how resilience mechanisms evolve in response to economic, environmental, and technological changes, ensuring that artisanal networks remain both sustainable and transformative.

**Conflict of Interest:** The authors reported no conflict of interest.

**Data Availability:** The data supporting the findings of this study are available from the corresponding author upon reasonable request. Due to the qualitative nature of the research and confidentiality agreements with participants, full transcripts and raw data cannot be publicly shared. However, summarized insights and anonymized excerpts can be provided upon request, subject to ethical considerations.

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**Declaration for Human Participants:** The study was conducted as part of doctoral research at Mohammed V University of Rabat, Faculty of Legal, Economic, and Social Sciences – Souissi, within the Research Laboratory in Management of Organizations, Business Law, and Sustainable Development. Although no formal ethics committee approval was obtained, all interviews were carried out with the informed consent of participants. The research adhered to ethical standards, including respect for participant confidentiality, anonymity, and voluntary participation, in accordance with the principles of the Helsinki Declaration.

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**Note on Theoretical Framework:** While this study draws on previous research to establish its relevance, it is not guided by a predefined theoretical framework. Instead, it adopts an inductive and exploratory approach to uncover context-specific insights.

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