



Risk Management in the Retail Segment of the Gold Supply Chain

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<p>The artisan segment of the gold retail industry operates in a highly unpredictable environment, where operational and regulatory risks frequently threaten business stability. Although small-scale retailers contribute significantly to the global gold market, they often lack the formal structures and resources required to manage risks effectively. As a result, they are particularly vulnerable to theft, inventory losses, supply chain disruptions, and compliance issues. This thesis investigates these challenges by examining the operational and regulatory risks faced by artisans in Querétaro, Mexico, using a mixed methods approach that combines qualitative interviews and quantitative surveys.</p> <p>The research applies concepts from ISO 31000 Risk Management, supply chain risk management, and regulatory compliance theories to propose practical and affordable solutions tailored to the needs of small gold retailers. Findings reveal that while artisans show considerable resilience through informal strategies, the absence of structured risk management and compliance processes increases their exposure to operational setbacks and legal risks.</p> <p>In response, this study develops a dynamic, accessible framework designed to support artisans in strengthening inventory management, improving supply chain resilience, and meeting basic compliance requirements without generating significant financial burden. The research contributes to the academic literature on supply chain risk management in high-value sectors and provides actionable recommendations to enhance the stability, and credibility of small gold retail businesses. By focusing on real-world challenges and offering practical tools, this thesis aims to bridge the gap between theoretical risk management models and the everyday realities faced by artisan retailers. Furthermore, it calls on policymakers, industry institutions, and other stakeholders to recognize and support the critical role of artisans in building a more ethical, resilient, and inclusive gold supply chain.</p>
Key words Gold retail sector, operational risks, regulatory compliance, risk management, inventory management, supply chain disruptions, and artisanal retailers.

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1 Introduction

The gold retail industry holds a crucial position within the global economy, driven by the high value of gold and intense competition across markets. It is essential in meeting global demand, which reached 4,741 tons in 2022, with around 60% attributed to retail sales (World Gold Council, 2023). Due to its value and portability, gold is especially prone to theft, fraud, and inventory mismanagement. Research indicates that approximately 15% of small retail businesses operating in high-value sectors report inventory theft each year, posing serious challenges for businesses with limited resources and high operating costs (National Retail Federation, 2023). For small retailers and artisans, even minor financial losses caused by operational risks can threaten overall business stability.

Beyond operational issues, regulatory risks present an increasing concern for gold retailers. The sector faces strict legal obligations to prevent money laundering and ensure responsible sourcing practices. Failure to comply with these regulations can result in heavy financial penalties, loss of reputation, or even closure. In 2022, businesses worldwide spent over USD 214 billion on anti-money laundering (AML) compliance efforts, reflecting the rising regulatory demands on high-value industries such as gold retail (LexisNexis Risk Solutions, 2023). However, small retailers and artisans often lack the financial means and technical expertise to implement comprehensive compliance systems, leaving them more exposed to legal and reputational risks.

This thesis explores the dual challenge of operational and regulatory risks within the gold retail sector, with a particular focus on small-scale artisans and retailers. By identifying major risks and evaluating current management practices, the study seeks to create a practical risk management framework that aligns with the realities and limitations faced by small businesses. The qualitative research method includes in-depth interviews with artisans, retailers, and supply chain experts to gain detailed insights into operational hurdles, supplier relationships, inventory security, and regulatory compliance. The goal is to offer actionable recommendations to help small retailers mitigate risks and improve business resilience.

This research contributes to a broader understanding of risk management within high-value sectors, specifically addressing the needs of small-scale operations often overlooked in existing literature. By focusing on the unique risks faced by artisan retailers, the study fills an important gap and provides practical strategies that support the sustainability and growth of small businesses while ensuring compliance with regulatory and ethical standards. Additionally, it emphasizes the importance of accessible risk management practices in safeguarding the stability and integrity of the gold retail industry.

1.1 Background

The gold retail sector plays a significant role in the global economy by meeting demand for both jewelry and investment products. In 2022, worldwide gold demand totaled 4,741 tons, with approximately 60% attributed to retail sales (World Gold Council, 2023). Small retailers and artisans are essential contributors to this market but face considerable risks, including theft, which was reported by 36% of small retailers (National Retail Federation, 2023), and supply chain disruptions, which impacted nearly half of retailers during the COVID-19 pandemic (Statista, 2022).

Regulatory risks, particularly those related to anti-money laundering compliance, further increase the complexity of operating in this sector. In 2021, global penalties for non-compliance exceeded \$3 billion (LexisNexis Risk Solutions, 2023). Despite the importance of small retailers to the gold industry, limited research focuses specifically on the risks they face. This thesis seeks to address that gap by identifying the key operational and regulatory risks confronting small gold retailers and proposing tailored risk management strategies. Through interviews with industry experts and artisans, the study aims to develop practical recommendations that will help small retailers strengthen their operations and better navigate the challenges of the industry.

1.2 Research Question

The main objective of this thesis is to examine how retail companies in the gold industry can effectively identify, assess, and mitigate operational and regulatory risks within the distribution segment of the supply chain. To guide this research, the following research question (RQ) has been formulated:

RQ: How can retail companies in the gold industry effectively identify, assess, and mitigate operational and regulatory risks within the distribution part of the supply chain?

Several investigative questions (IQs) have been developed to support the main research question. These focus on the key risks faced by the gold retail segment and will help structure the study and analysis throughout the thesis:

- **IQ1:** What are retailers' critical operational risks in the gold industry, and how can they be mitigated?
- **IQ2:** Which operational risks are prevalent in the gold retail supply chain?
- **IQ3:** What strategies can be employed to minimize these risks?
- **IQ4:** What are the primary regulatory risks in the gold retail segment, and how can compliance be effectively ensured?

Table 1. Overlay Matrix (Author 2024)

Investigative Questions (IQs)	Theoretical Framework	Methods	Interview/Survey Questions	Data Analysis/ Results
<p>IQ1: What are the key operational risks in the retail segment of the gold supply chain?</p>	<p>Risk Management Theory: Focuses on identifying, analyzing, and mitigating risks to ensure stability and continuity in operations.</p>	<ul style="list-style-type: none"> - Qualitative interviews with risk managers in gold retail companies. - Survey of retailers (distribution channels). 	<p>What operational risks do you encounter most often in your retail business? How do you currently manage inventory and theft risks?</p>	<p>Analysis to categorize operational risks (theft, fraud, inventory losses); statistical frequency analysis of risk types.</p>
<p>IQ2: Which operational risks specifically affect the distribution of gold to retail outlets?</p>	<p>Supply Chain Risk Management Framework: Emphasizes assessing risks along the supply chain, with particular attention to logistics and distribution.</p>	<ul style="list-style-type: none"> - Case studies of logistics companies handling gold - Interviews with logistics and transportation managers 	<p>What challenges arise during the transportation and distribution of gold products to retail stores?</p>	<p>Identification of distribution-related risks (transport delays, security breaches) through cross-case analysis.</p>

<p>IQ3: What strategies can be employed to minimize operational risks in the gold retail supply chain?</p>	<p>Supply Chain Resilience Framework: Focuses on designing systems that anticipate, prepare for, and adapt to disruptions.</p> <p>Enterprise Risk Management (ERM) Framework: Guides organizations in implementing strategic risk mitigation practices</p>	<ul style="list-style-type: none"> - Expert interviews with risk analysts, gold retailers - Literature review of risk mitigation best practices 	<p>What risk mitigation strategies have been most effective in your experience? Which practices have failed or need improvement?</p>	<p>Thematic coding of successful and unsuccessful risk mitigation strategies; comparison with best practices from literature.</p>
<p>IQ4: What are the primary regulatory risks in the gold retail segment, and how can compliance be effectively ensured?</p>	<p>Regulatory compliance theory, AML frameworks, and ethical sourcing guidelines</p>	<p>Interviews with artisans and compliance officers; desktop research on AML and ethical sourcing</p>	<p>How do you ensure compliance with legal requirements (e.g., AML laws) and responsible sourcing standards in your retail operations?</p>	<p>Analysis of compliance practices; frequency analysis of regulatory challenges; comparison with regulatory frameworks.</p>

1.3 Demarcation

This thesis focuses on the retail segment of the gold supply chain and specifically examines risk management strategies. It analyzes reputational and regulatory risks, supported by empirical

research involving surveys conducted within the gold retail industry. The investigation is limited to the final distribution stage of the supply chain, excluding other stages such as mining and wholesale. Risks related to mining, wholesale activities, or technological factors unrelated to risk management fall outside the scope of this study. The geographic focus is restricted to specific regions within the defined scope, and financial or reputational risks not directly linked to regulatory or operational concerns are not addressed.

1.4 International Aspects

This paper will study the international supply of gold, focusing on how global sourcing and distribution affect the retail segment of the gold supply chain. The study will investigate the specific challenges these factors create and analyze how they impact risk management practices among retail companies in Querétaro.

1.5 Benefits

This research aims to deliver meaningful benefits to the gold retail by equipping small-scale retailers and artisans with practical and accessible strategies to identify, assess, and manage operational and regulatory risks. By addressing real-world challenges such as theft prevention, inventory management, supply chain disruptions, and compliance with anti-money laundering (AML) regulations, the study seeks to enhance the operational efficiency of these businesses. Adopting the proposed strategies will help artisans reduce financial losses, protect their inventory, and build more resilient supplier relationships, ultimately strengthening the overall stability of their operations.

Furthermore, addressing regulatory risks through simplified compliance measures will help shield small retailers from potential legal penalties and reputational damage, fostering a more trustworthy and sustainable business environment. Improved operational practices, alongside greater compliance, are expected to boost customer confidence and loyalty, both essential for maintaining competitiveness in a high-value market such as gold retail.

Beyond its immediate practical applications, this research also makes an important academic contribution by expanding the existing knowledge on supply chain risk management. Most prior studies in this field have focused mainly on large corporations with extensive resources, often overlooking small, artisan led businesses' specific challenges. By focusing on resource-constrained retailers, this thesis fills a significant gap in the literature and offers valuable insights into how risk management frameworks can be adapted for smaller organizations.

The insights gained through this research are not limited to the gold retail industry alone. They are also transferable to other high-value, risk-sensitive sectors such as jewelry, luxury goods, and

precious metals trading, where small businesses encounter similar challenges. The study provides a foundation for strengthening risk management practices and promoting broader economic resilience among micro and small enterprises integrated into global value chains.

Ultimately, this thesis bridges the divide between academic theory and practical application. It offers actionable, low-cost solutions that small businesses can implement immediately while contributing to the academic discourse on inclusive risk management strategies. By doing so, the study aims to support the development of a more resilient, ethical, and sustainable gold retail sector on a global scale.

1.6 Risk and Risk Management

This paper may face several potential risks, each varying in likelihood and potential impact. The following section outlines the identified risks along with the corresponding strategies developed to manage them effectively:

Table 2. Overlay Matrix (Author 2024)

Potential Risks	Likelihood and Impact	Management Strategies
Access to Data	Likelihood: Moderate. Impact: High if data access is restricted.	Secure access agreements with case companies early in the process.
Scope Creep	Likelihood: Moderate. Impact: High if the scope extends beyond the retail segment.	Regularly review the scope to ensure the focus remains on the retail segment.
Regulatory Changes	Likelihood: Moderate. Impact: High if regulations change unexpectedly.	Stay updated on regulatory changes and adjust the thesis focus if necessary.

While manageable, these risks should be carefully monitored throughout the research process to minimize their impact on the study.

1.7 Key Concepts

Retail: Selling goods or services directly to consumers for personal use, typically through physical stores, online platforms, or other distribution channels. It is the final step in the supply chain (Kotler & Keller, 2016).

Supply Chain: A network of organizations, resources, activities, and technologies involved in producing and delivering a product or service from suppliers to consumers. It includes procurement, manufacturing, transportation, distribution, and retail operations (Christopher, 2016).

Gold Industry: The sector encompassing the extraction, refining, manufacturing, and trading of gold. It includes mining, processing, jewelry manufacturing, investment products (coins and bars), and retail sales, all governed by market trends and regulatory frameworks (World et al., 2023).

Risk Management: Identifies, assesses, and mitigates potential risks that could negatively impact an organization's operations, assets, or objectives. In the gold retail supply chain context, operational, financial, regulatory, and market-related risks are minimized to ensure business continuity and compliance (ISO, 2018).

2 Theoretical Framework

Understanding the dynamics of artisan gold retailers in regions such as Querétaro requires a sharp focus on their focus in local economic and cultural systems, particularly as it relates to theoretical risk and supply chain management models, which are deeply set in local social and economic dynamics that are often absent from mainstream academic literature. These businesses are not just sites of commerce; they are cultural institutions, intergenerational workplaces, and lifelines for entire families. Their practices, risks, and strategies must be understood in economic terms and sociocultural dimensions. This chapter aims to offer a comprehensive theoretical structure that captures the complexity of these realities while drawing from global standards in risk management, supply chain management (SCM), and regulatory compliance.

Theories such as ISO 31000, OECD Due Diligence Guidance, and frameworks on supply chain resilience provide powerful insights, but they were designed with large corporations in mind. Small-scale gold retailers often lack access to advanced systems, yet their adaptive strategies demonstrate high operational intelligence. This intelligence is not formalized in spreadsheets or databases but expressed through relationships, habits, improvisation, and repetition. Whether it's a husband-and-wife team managing transactions from their home workshop or an artisan sharing supplier tips at a local market, these interactions form the foundation of a different kind of business model, one that is no less sophisticated, just less documented. This chapter seeks to bridge that gap.

The next sections break down the application of these global frameworks into principles that can be directly adapted to the needs of gold artisans. The focus is not on enforcing rigid compliance but on creating a space where artisan businesses can thrive while gradually adopting scalable best practices that ensure sustainability, legality, and growth.

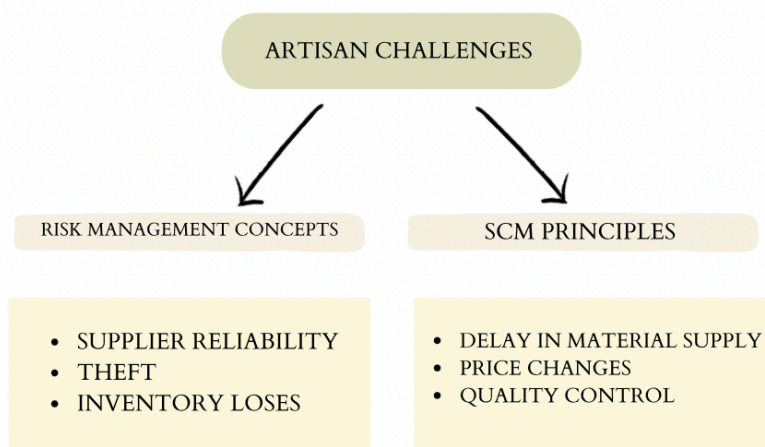


Figure 1. Theoretical Framework Diagram (Author 2024)

In this context, Querétaro becomes more than a case study; it becomes a lens through which global practices are refracted into grounded, context-sensitive strategies. Drawing on internationally recognized theories like ISO 31000 and OECD's Due Diligence Guidance while attaching them to the patterns and histories shared by artisan communities, this framework respects both the educational area and the lived expertise of those it aims to be useful. In doing so, it lays a foundation for an inclusive theory of gold retail risk and compliance, acknowledging that even the most modest storefront carries a sophisticated decision-making ecosystem.

To build a theoretical foundation around the realities of small-scale and artisan gold retailers, particularly those operating in regions like Querétaro, Mexico, we must explore the interaction between informal work environments, cultural dynamics, and the broader frameworks of risk, compliance, and supply chain management. Unlike large enterprises, artisan retailers often operate without access to advanced risk modeling tools, formal legal counsel, or digitalized inventory systems. However, they are not without structure or logic. Their decisions are often based on experience, intuition, local customs, and trust networks, which provide a different but equally valid foundation for managing business operations. This chapter investigates how internationally recognized theories in risk management, supply chain logistics, and compliance can be reinterpreted and applied to support these microenterprises in a grounded and accessible way.

In Mexico, over 57% of the labor force is employed informally, with many artisan workers falling into this category (INEGI, 2023). Their business strategies are often undocumented but deeply understood, passed down through generations, and rooted in familiar and community relationships. For example, gold artisans in Querétaro typically rely on close-knit networks for material sourcing and customer referrals. These systems operate without formal contracts, yet they hold a powerful form of social enforcement that helps mitigate risk in ways often overlooked by conventional literature.

Theories such as ISO 31000 (ISO, 2018), supply chain resilience (Christopher, 2016), and the OECD Due Diligence Guidance (OECD, 2016) offer structured approaches to identifying, evaluating, and responding to risks. However, these frameworks were designed for more structured businesses with access to training, capital, and institutional support. This chapter reexamines those frameworks through the lens of artisan needs, proposing adaptations that make them applicable in low-resource settings.

Beyond theory, it's important to contextualize these frameworks within Mexico's regulatory and cultural environment. Compliance, for example, is frequently perceived not as an opportunity for market legitimacy but as an imposition from institutions that feel disconnected from daily business

practice (UIF, 2021). Therefore, any theoretical foundation aimed at artisan support must be realistic, flexible, and aligned with the values and capacities of those who will apply it.

This chapter is organized into four key sections: an exploration of risk management principles, an examination of practical supply chain management practices suited to artisans, a discussion of regulatory compliance theories tailored to the artisan context, and a final synthesis presenting a conceptual framework that ties these insights together.

2.1 Risk Management Principles

Risk in the context of artisan gold retailers must be seen as a daily reality, not a theoretical construct. Unlike structured enterprises, these artisans face unique vulnerabilities that arise from informal systems and localized dependencies, which require alternative ways of thinking about risk identification and management.

Risk management for artisan retailers encompasses far more than theft prevention. It is a comprehensive process that requires identifying potential vulnerabilities, analyzing their possible impacts, and developing practical solutions that align with available resources and everyday routines. For gold artisans, this process is complicated by the high value of their product, informal business structures, and their reliance on trust-based relationships instead of formal contracts.

The ISO 31000 standard defines risk management as an integrated and structured approach to managing uncertainty related to business objectives (ISO, 2018). While this framework is primarily used in corporate environments, its core principles, such as continuous improvement, proactive decision-making, and stakeholder involvement, are equally relevant to the microenterprise sector (Aven, 2016). In Querétaro, for example, many artisans intuitively assess and respond to risk without formally labeling their actions as such. They make trade-offs based on intuition, social reputation, and past experiences, which are informal equivalents of formal risk assessment tools (Klinke & Renn, 2012).

The first layer of artisan risk management often begins with assessing supply reliability. Unlike large-scale manufacturers with diversified supplier bases, most artisans source their gold from a few trusted vendors. This makes them especially vulnerable to supply chain disruptions caused by transportation delays, price volatility, or material inconsistencies. To counter this, artisans often create informal 'plan B' strategies, such as pre-purchasing materials before high-demand seasons or sourcing small quantities from acquaintances in neighboring towns. While not foolproof, these actions demonstrate a form of risk mitigation grounded in practicality.

Theft is another serious concern, both from external sources and internal oversights. Because many artisans operate from home workshops or local stalls, security infrastructure like surveillance or safes is often absent. Some artisans hide their materials in unconventional places, behind false walls or within furniture, to reduce the chance of theft. Others involve family members in guarding the workspace or restricting access during sensitive hours. While these strategies may appear rudimentary, they reflect high situational awareness and highlight the community-oriented nature of risk responses in these environments.

Inventory mismanagement, especially due to reliance on memory or unstructured record-keeping, is a more subtle but equally damaging form of risk. This reliance on personal recall works until it doesn't, especially during busy periods or when dealing with multiple customers at once. Low-tech solutions, such as daily handwritten logs or mobile photo records, show potential as scalable tools that respect artisanal workflows while reducing operational risks. These emerging practices show the potential for lightweight interventions that respect artisanal workflows while reducing operational risks (Caniato et al., 2014).

Another dimension often overlooked is reputational risk. A single delayed order or mistaken design can tarnish years of trust in tightly knit communities. Therefore, artisans engage in informal quality assurance practices, such as previewing pieces before final sale or calling clients personally to confirm orders. These steps are not required by law but serve as protective mechanisms against reputational harm, one of the sector's most significant but intangible risks.

The decision-making process for these artisans also demonstrates how risk awareness is embedded in seemingly everyday choices. One artisan described how he never accepts orders for pieces he hasn't made before, citing fear of customer dissatisfaction and material waste. Another said she avoids working with suppliers who refuse to provide weight measurements upfront. These are examples of risk-informed behavior that, while informal, align closely with the structured risk evaluation and treatment cycles outlined by ISO.

Another ISO principle involving stakeholders is organically practiced in artisan households, where family members often collaborate on purchasing, production, and client communication. By sharing responsibilities, artisans can distribute risk, whether it's handling money, securing materials, or managing customer expectations. This informal team-based approach enhances adaptability and provides built-in checks and balances that support business continuity.

Finally, monitoring and review, the last phase in the cycle, takes on a storytelling form among artisans. Narratives pass down lessons: what worked, what failed, and who to avoid. These insights are often shared within families and artisan circles at markets or community gatherings. Although

not systematic in the corporate sense, these peer exchanges function as knowledge-sharing platforms that improve collective resilience (Hillson, 2003; Kaplan & Mikes, 2012).

Taken together, these practices illustrate that while artisans may not frame their actions as "risk management," they are actively managing risk through lived experience and adaptive behaviors. What they lack in formal documentation, they make up for in creativity, intuition, and social cohesion. The challenge and opportunity for institutions is to translate the essence of frameworks like ISO 31000 into practical tools that support rather than disrupt these grassroots methods. Through simplified training, community workshops, and peer mentoring, it is possible to strengthen artisan resilience without requiring them to abandon the very systems that have sustained their businesses for generations.

2.2 Practical Supply Chain Management for Artisans

Artisan supply chains differ significantly from those of larger firms. They tend to be short, informal, and community-centered, often built on personal relationships rather than contractual agreements. This simplicity allows for a high degree of flexibility and fast decision-making, but it also introduces distinct vulnerabilities. Limited supplier diversification, a lack of written agreements, and dependence on trust-based transactions can amplify the risks of delay, material inconsistencies, and opportunistic behaviors.

One of the most critical issues artisan retailers face is the delay in material supply, especially when sourcing gold from cities like Mexico City or Guadalajara. Transport disruptions, vendor unreliability, or miscommunication can jeopardize production timelines. Many artisans in Querétaro reported coping strategies such as relying on close relatives to retrieve materials, coordinating multiple supplier options through informal contacts, or reducing production expectations during periods of high uncertainty. While these strategies provide short-term relief, they rarely address the root causes of supply vulnerability.

Due to their small order sizes, artisans often lack negotiating power in the supply chain. This means they cannot easily lock in prices or influence delivery timelines. Price changes, particularly sharp increases in gold value, create considerable strain, forcing artisans to either absorb losses or reduce product quality. Some artisans cope by mixing recycled and new gold to lower costs, but this introduces risks in product consistency and customer satisfaction. Customers are often not informed of these adjustments, which may erode trust over time.

Inventory control is another challenge. Few artisans keep formal stock records. Inventory is tracked mentally, through daily visual assessments, or with paper notes, often unstructured and vulnerable to human error. During busy periods, this can lead to stockouts or overproduction, increasing

financial and reputational risk. More organized artisans have begun using mobile applications or voice notes to record incoming and outgoing goods. While not systematic, these practices represent an opportunity for scalable innovation. Local cooperatives or municipal programs could introduce shared inventory management templates or training workshops to help formalize these efforts.

Quality control in artisanal operations is equally informal. Artisans rely heavily on physical inspections, melting tests, and personal judgment to verify the quality of materials. While these methods are rooted in deep experience, they lack standardization. Access to basic testing kits or training on metal purity could significantly enhance product reliability.

Storage and security are other factors to consider. Artisans often store valuable gold at home due to the absence of secure workshops or commercial insurance. This exposes them to theft or loss, a risk magnified by the high value and low volume nature of gold. In some neighborhoods, informal community watch systems offer limited protection. Introducing affordable insurance products or safe storage facilities through local associations could mitigate these risks.

Logistical coordination also lacks formal infrastructure. Most order tracking is verbal or through informal texts, and delivery is often hand-carried. This slows down operations and leaves room for miscommunication. Artisans could benefit from simple tracking sheets, digital receipts, or partnerships with local delivery platforms. Mobile-based order management tools, even WhatsApp-based templates, could bring coherence to this aspect of the supply chain.

Technology access remains inconsistent. While many artisans use smartphones, few have access to tailored business tools. Collaborations between tech startups and artisan groups could provide lightweight solutions for inventory, pricing, and logistics. These should be co-designed with the artisans to ensure ease of use and relevance.

Gender roles within supply chains are another overlooked aspect. In many artisan businesses, women are in charge of retail and customer relations, while men handle sourcing and production. This division of labor can limit women's ability to influence supplier relationships or material quality. Including women in supplier negotiations and training programs would empower them and enhance overall business resilience.

In summary, practical supply chain management for artisans must embrace the unique rhythms and constraints of the artisan ecosystem. It must balance respect for tradition with the need for scalable improvements. The goal is not to formalize artisans out of their business models but to equip them with accessible tools that allow for gradual improvement. Flexibility, cultural sensitivity,

and co-designed innovations are essential to building supply chain systems that are not only efficient but also empowering.

2.3 Regulatory Compliance Theories

Regulatory compliance refers to the adherence to laws, regulations, and ethical standards that govern business practices. In the context of artisan gold retailers, particularly in developing regions like Querétaro, compliance becomes a complex and often inaccessible component of entrepreneurship. Traditional compliance models are grounded in formal documentation, digital traceability, and structured reporting. Yet many microenterprises operate in informal economies, where such mechanisms are out of reach. The challenge lies in adapting these compliance models to function in environments with limited infrastructure while maintaining the spirit of regulatory integrity.

The OECD Due Diligence Guidance (2016) provides a foundation for responsible sourcing and supply chain transparency, particularly in sectors at high risk for human rights violations, money laundering, and environmental harm. However, implementing this framework typically requires significant administrative and technical resources, something small gold retailers do not have. Applying this framework in low-resource settings means breaking down complex procedures into accessible components that artisans can realistically engage with.

In Mexico, the Unidad de Inteligencia Financiera (UIF) oversees anti-money laundering (AML) efforts and provides a legal structure that even small-scale retailers are technically obligated to follow. Yet the regulatory language, the volume of paperwork, and the lack of accessible training means that compliance is often minimal. According to OECD reports and national case studies, compliance uptake among small businesses remains low, not due to unwillingness but because systems are not designed with their context in mind (OECD, 2019; UIF, 2021).

From a theoretical perspective, regulatory compliance can be studied through the lens of institutional theory, which explains how business behavior is influenced by formal rules, cultural expectations, and coercive forces from governments or industry bodies (Scott, 2008). In artisan sectors, compliance behaviors are more likely to emerge when aligned with community values or economic incentives. Therefore, behavioral economic models such as the “nudge theory” (Thaler & Sunstein, 2008) are relevant, suggesting that small adjustments to a business's environment or decision-making context can increase the likelihood of voluntary compliance without imposing sanctions.

Practically, this means rethinking how rules are communicated, enforced, and supported. For instance, compliance processes can be translated into visual guides, mobile applications, or peer-to-peer mentorship models. By fixing these strategies into artisans' daily routines, the threshold for compliance becomes lower and more manageable. Government support is also critical. Municipal

programs that reward artisans for registering their businesses or provide tax relief for maintaining basic transaction records would improve compliance rates and build long-term institutional trust.

Ethical sourcing also plays a key role in compliance, especially in the jewelry sector. Though often associated with large brands, ethical sourcing principles can be adapted to smaller settings. Artisan retailers may already follow many ethical practices without formal recognition, such as sourcing recycled gold, working with known community suppliers, and maintaining customer trust through honesty and craftsmanship. By codifying these practices into simplified compliance checklists or voluntary certification schemes, artisans can meet broader ethical standards without sacrificing their autonomy.

It is important to note that compliance is a legal requirement and a potential business advantage. Artisans who can demonstrate basic documentation, supplier traceability, or ethical sourcing may gain access to new markets, financing opportunities, or partnerships with formal retailers. Over time, this can contribute to both business growth and sector-wide legitimacy.

Ultimately, compliance frameworks must not be applied as rigid top-down mandates but co-developed with the communities they aim to regulate. Participatory governance and adaptive regulation theories stress the importance of flexibility, local voice, and iterative improvement. When regulations are shaped with artisan realities in mind, factoring in language, literacy, technology access, and informal norms, they are more likely to be followed, respected, and even championed by the very businesses they seek to regulate.

2.4 Conceptual Framework

Bringing together risk management, SCM, and compliance insights requires a model that honors the artisanal context. Unlike traditional frameworks that assume formal operations, this model must prioritize flexibility, accessibility, and cultural fit to be truly useful in real-world artisan settings.

The proposed conceptual framework integrates ISO 31000 principles (ISO, 2018) to enable intuitive risk identification, adapted SCM strategies that focus on resilience, such as building relationships with trustworthy suppliers and maintaining minimal buffer stock (Christopher, 2016), and simplified compliance practices inspired by the OECD Due Diligence Guidance (OECD, 2016). These adaptations allow small-scale businesses to align more easily with legal and industry standards without extensive institutional support.

At the core of this framework lies an understanding of how artisans perceive risk, not as isolated events but as intertwined challenges linked to material scarcity, price fluctuations, and client

expectations. For instance, artisans often associate supplier delays with immediate financial loss, particularly when accepting upfront payments for custom pieces. Thus, this model's "perception" layer recognizes experiential and culturally rooted forms of risk identification.

The "practice" layer focuses on the tools artisans use. Many rely on informal communication methods, such as WhatsApp or word-of-mouth, to coordinate deliveries and client orders. Instead of replacing these practices, the model emphasizes gradually formalizing them, by encouraging photographic documentation of stock or using pre-designed notebooks for order tracking.

The third layer, "structure," refers to configuring the supply chain. Most artisan gold retailers work within regional networks, and this structure limits but also strengthens their adaptability. The framework suggests reinforcing these regional ties through cooperative sourcing, shared transportation resources, and collective negotiation with suppliers, particularly for price stability.

The final layer, "alignment," seeks to harmonize operational actions with regulatory requirements. Artisans can be encouraged to build habits that support compliance, such as documenting transactions exceeding a specific value, storing supplier details in ledgers, and verifying gold purity before purchase. Importantly, these actions should not feel harsh but serve as business-enhancing routines.

Furthermore, the model includes a "feedback loop" component for continuous learning and adaptation. Artisans are encouraged to review which practices help avoid stockouts, improve client satisfaction, or reduce waste. To promote horizontal learning, these insights can be shared within peer networks. Local trade associations or municipal bodies can facilitate these exchanges through regular workshops or community discussions.

By consolidating all of these elements, perception, practice, structure, alignment, and institutional support, into one adaptable framework, the model serves as both a diagnostic tool and a roadmap for sustainable growth. It respects the rhythms and realities of artisan life while equipping them with a clear, incremental path toward operational excellence and regulatory compliance.

In summary, this framework is not a rigid set of rules but a responsive guide based on practical experience and grounded theory. Its value lies in its ability to evolve alongside the businesses it supports. This ensures that small-scale gold retailers are not left behind in policy discussions or industry trends but are instead empowered to grow with confidence, stability, and integrity within their unique operating contexts.

3 Research Methodology

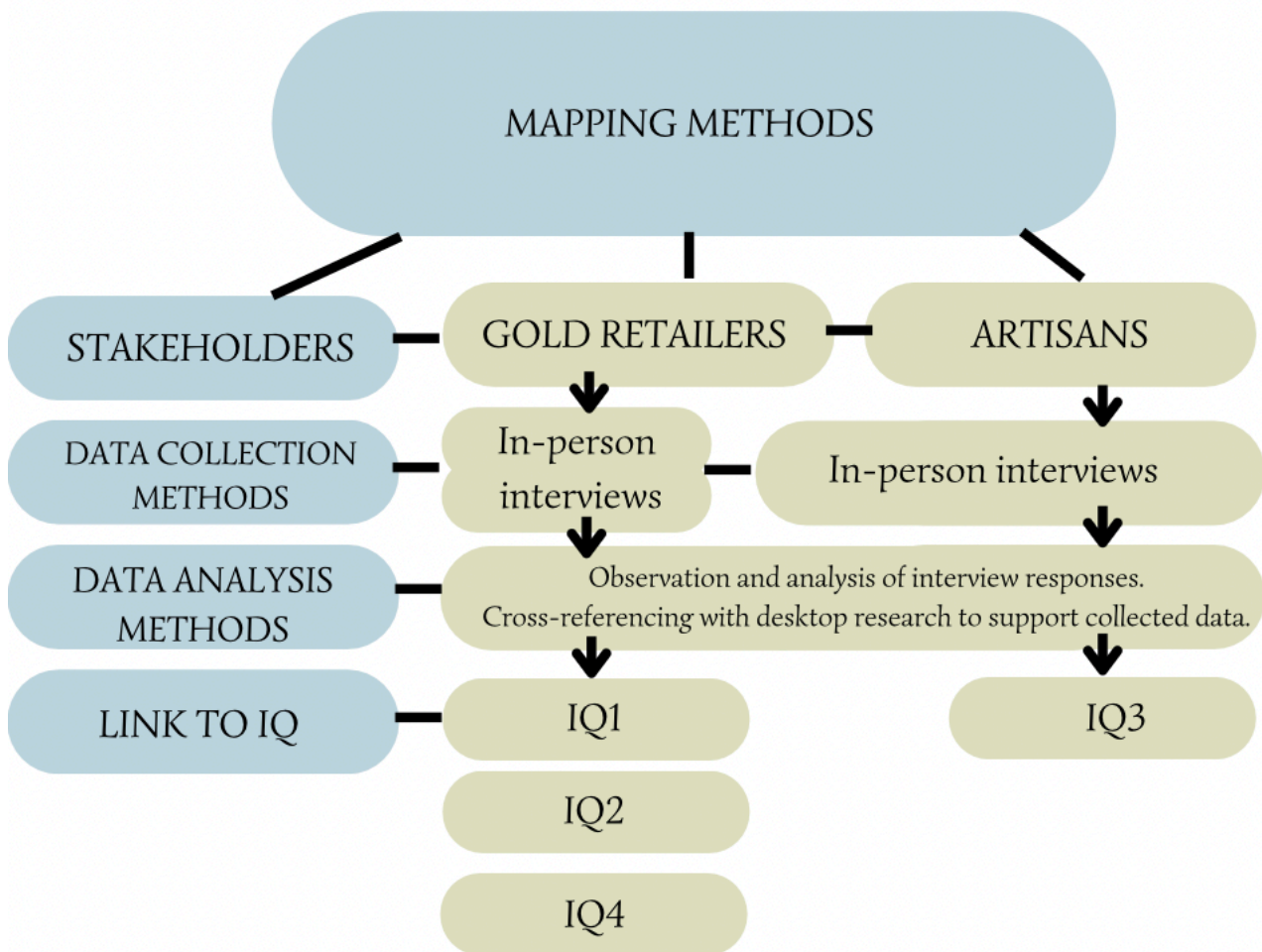
This thesis adopts a mixed-methods approach, combining qualitative and quantitative methodologies to comprehensively explore operational and regulatory risks in the gold retail sector. The qualitative component will provide in-depth insights by gathering perspectives from industry professionals on challenges, solutions, and risk management practices. Key focus areas include operational risks such as theft, supply chain disruptions, inventory management issues, compliance with anti-money laundering (AML) regulations, and other legal requirements. Additionally, strategies and frameworks employed by industry professionals to mitigate these risks will be examined.

Primary data will be collected from retail store managers or owners. These informants offer practical expertise: Retail managers will share insights into daily operational challenges, systematic mitigation strategies, and regulatory compliance. A sample of 20–30 informants will ensure a range of perspectives while maintaining feasibility. Informants will be motivated by highlighting the study's relevance to industry improvement and potential benefits for enhancing risk management practices.

Quantitative methods will complement the qualitative findings by using visual tools, such as graphs and charts, to present data clearly and effectively identify patterns. These visualizations will facilitate precise analysis and help communicate complex findings in a concise and accessible manner, supporting data-driven decision-making.

The research process will involve identifying and contacting key informants, conducting interviews, and supplementing primary data with desktop research. Interviews will focus on operational risks, compliance challenges, and mitigation strategies. The collected data will be analyzed thematically to identify commonalities and inform the development of a risk management framework tailored to gold retailers. Potential risks during the research process include non-participation, response bias, and logistical difficulties in conducting interviews. To address these challenges, contingency plans have been prepared, such as utilizing secondary data sources.

To ensure reliability and validity, the research will maintain transparency by documenting each step, critically reflecting on limitations, and systematically analyzing the data. After data collection, the findings and feedback will be integrated into the research report to refine the methodology and strengthen the final framework. This structured approach aims to provide actionable insights and robust strategies for addressing risks in the gold retail sector.



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Figure 2. Research Mapping Methods (Author 2024)

3.1 Research Design

This thesis adopts a mixed methods design to investigate operational and regulatory risks in the gold retail sector, focusing on small-scale artisans. The qualitative component involves conducting interviews with retail managers and artisans to gather detailed insights into challenges such as theft, supply chain disruptions, and regulatory compliance. The quantitative component complements this by using surveys to measure the prevalence of these risks and evaluate the effectiveness of mitigation strategies. Findings will be presented using visual tools such as graphs and charts to identify patterns and trends clearly.

The research process will begin by identifying and recruiting key informants and administering interviews and surveys. Desktop research will supplement the primary data, integrating industry reports and academic studies findings to provide additional context. Throughout the process, transparency, systematic analysis, and critical reflection will be emphasized to ensure the reliability and

validity of the research. This design offers a comprehensive approach to addressing the risks faced by gold retailers and aims to deliver actionable recommendations tailored to their specific needs.

3.2 Data Collection Methods

The data collection process for this thesis is designed to capture a range of perspectives on operational and regulatory risks within the gold retail sector. Interviews will generate detailed qualitative data, allowing retail managers, risk officers, and compliance experts to share their experiences and insights on specific challenges. This method enables the research to explore nuanced themes, particularly those unique to small-scale operations (Kvale & Brinkmann, 2015).

To complement the interviews, surveys will be distributed to a broader group, adding a quantitative dimension to the study. The surveys aim to measure the frequency and impact of identified risks and to evaluate the effectiveness of commonly applied mitigation strategies. This dual-method approach balances in-depth exploration with measurable validation of key findings (Creswell & Creswell, 2018).

In addition, online research will provide a contextual background by incorporating insights from academic literature, industry reports, and case studies. By triangulating data from interviews, surveys, and secondary sources, the research ensures a comprehensive and reliable analysis of the risks and strategies relevant to gold retailers (Yin, 2014). This combination of methods will produce actionable insights tailored to the sector's needs.

3.2.1 Qualitative Interviews

Qualitative interviews are essential for understanding the operational and regulatory risks specific to the gold retail sector, particularly for small-scale artisans. These interviews with retail managers, risk officers, and compliance experts aim to gather in-depth insights into daily challenges and strategies related to theft, supply chain disruptions, and regulatory compliance.

This approach enables participants to share their unique experiences, uncovering contextual details that would not emerge through other methods. The flexibility of interviews ensures that while key themes are consistently addressed, there is room to explore unexpected insights. The collected data will be analyzed thematically to identify patterns and inform the development of a tailored risk management framework for gold retailers grounded in the real-world experiences of industry professionals.

3.2.2 Quantitative Surveys

Quantitative surveys provide measurable data on the operational and regulatory risks faced by gold retailers and artisans, focusing on mitigation strategies' prevalence, impact, and effectiveness. Using structured questions, such as rating scales and multiple-choice items, these surveys generate consistent and comparable responses, allowing for the identification of trends and patterns across a broader sample of participants (Creswell & Creswell, 2018).

The collected data will be analyzed using statistical methods and presented using graphs and charts to highlight key findings clearly and make them accessible. This approach complements the depth of the qualitative interviews by validating and extending their insights. By capturing statistically significant data, the surveys contribute to a balanced and comprehensive understanding of the risks and strategies relevant to the gold retail sector.

3.2.3 Data Research

Data research will integrate findings from both primary and secondary sources to ensure the validity and depth of this thesis. Primary data will be gathered through interviews and surveys, focusing on industry professionals who manage daily risks in gold retail operations. These methods will provide specific insights and measurable patterns related to operational challenges such as theft and compliance with regulations like anti-money laundering (AML).

Secondary research will complement the primary findings by analyzing industry reports, regulatory frameworks, and case studies. This phase will align the collected data with established standards and broader supply chain risk management trends. The research will identify gaps between current strategies and potential improvements by comparing the local challenges faced by small-scale retailers with global best practices.

This integrated approach will directly inform the development of a tailored risk management framework, ensuring that the final recommendations are evidence-based and practically applicable to the specific needs of the gold retail sector.

3.3 Sampling and Respondents

This thesis will use sampling to ensure that participants are directly involved in managing operational and regulatory risks within the gold retail sector. The study will include 10 artisans operating in Querétaro, selected based on their relevance to the research objectives. These participants will provide first-hand accounts of theft, inventory management, supply chain disruptions, and strategies for addressing regulatory compliance, including AML requirements (Kumar, 2019).

To complement the interviews, 30 surveys will be distributed to a broader group of gold retailers to collect quantitative data. The survey results will help identify trends and validate the qualitative findings, offering a comprehensive perspective on the risk landscape within the sector.

Participants will be approached with clear communication about the study's purpose and the value their insights contribute toward improving risk management practices. Focusing on artisans and small retailers ensures that the research outcomes directly apply to their operational realities and support the development of practical, actionable recommendations.

3.4 Data Analysis Method

The analysis will focus on systematically processing both qualitative and quantitative data to provide meaningful insights into the operational and regulatory risks faced by artisans and small gold retailers. For the qualitative component, interview responses will undergo thematic analysis to extract common patterns, challenges, and strategies employed by participants in managing risks. Thematic analysis is a well-established method for identifying recurring themes and drawing deeper meaning from rich, subjective data (Braun & Clarke, 2006). This approach enables an organized and transparent interpretation of significance and narrative-based information, ensuring that the unique perspectives of artisans are fully captured in the findings.

In parallel, the quantitative survey data will be analyzed using descriptive statistical methods, including frequency distributions, mean comparisons, and trend identification, to quantify the prevalence of operational risks and assess the effectiveness of current mitigation practices. Employing visual tools such as charts and graphs will facilitate a more straightforward interpretation of the results and support clear communication of identified patterns and correlations (Creswell & Creswell, 2018). For example, visualizing the proportion of artisans experiencing inventory theft or supplier delays can help prioritize intervention areas more effectively.

Integrating the qualitative and quantitative findings will enhance the strength and credibility of the research conclusions, ensuring a holistic understanding of the challenges faced by artisan gold retailers. The mixed-methods approach strengthens the study's validity, as qualitative insights provide depth and context, while quantitative data offer breadth and measurable trends (Tashakkori & Teddlie, 2010). This integrated analysis will directly inform the development of a tailored, practical risk management framework that addresses operational vulnerabilities and regulatory compliance gaps. Ultimately, this methodical, analytical process will ensure that the final recommendations are firmly rooted in the lived experiences of artisans, offering them accessible and actionable solutions to strengthen their business resilience and legal compliance.

4 Findings and Analysis

Interviews and survey results consistently reveal that gold acquisition's most common operational risks include inventory mismanagement, theft, supply delays, and price volatility. These risks stem from the structural and economic limitations of small-scale operations. Participants emphasized the difficulties of manually managing inventory, particularly during festive seasons or periods of high demand. Artisans often rely on notebooks or informal logs to track product movements, making losses or miscounts frequent and challenging to trace.

Many interviewees highlighted the lack of digital inventory systems and expressed concern over their inability to monitor losses or conduct regular audits. This vulnerability is intensified in businesses operating with minimal staff, where a single mistake or theft can have a severe financial impact.

Supplier unreliability was another widely reported issue. Delays in gold deliveries disrupt production schedules and lead to customer dissatisfaction. Some suppliers deliver materials of questionable quality, resulting in product returns or reputational harm. Additionally, participants noted the rising costs of raw materials, which erode profit margins and complicate efforts to maintain consistent customer pricing.

For example, one artisan explained: "A veces el oro llega tarde o con menos pureza de la esperada, y eso nos mete en broncas con el cliente porque no podemos entregar a tiempo o con la calidad prometida" (Sometimes the gold arrives late or with less purity than expected, and that gets us in trouble with the customer because we can't deliver on time or with the promised quality). These disruptions create a fragile operational environment, especially for small retailers who lack backup suppliers or financial cushions. Overall, the operational challenges identified reflect systemic issues, such as informal processes, limited access to tools, and dependency on unstable suppliers, that require urgent and accessible solutions.

4.1 Key Operational Risks Identified

Interviews and survey results consistently indicate that gold acquisition's most common operational risks include inventory mismanagement, theft, supply delays, and price volatility. Participants emphasized the significant challenges of manually managing inventory, particularly when business activity increases during festive seasons. Artisans often rely on notebooks or informal logs to track product movements, leading to frequent losses or miscounts.

Another frequently mentioned issue was supplier unreliability. Delays in gold deliveries disrupt production timelines and result in customer dissatisfaction. In some cases, suppliers deliver materials

of questionable quality, causing product returns or reputational harm. Additionally, many participants highlighted the rising costs of raw materials, which decrease profit margins and make it increasingly difficult for customers to maintain consistent pricing.

4.2 Regulatory Risks and Compliance Challenges

While operational risks are extensive, compliance with regulatory standards presents another significant challenge. Many artisans reported having limited knowledge or understanding of AML (Anti-Money Laundering) regulations and other legal obligations, such as transaction transparency and ethical sourcing requirements. Most participants indicated that they allocate less than 10% of their business resources to legal compliance efforts.

Survey data supports this finding, with over 60% of respondents falling into this category. The low level of investment in compliance can be attributed to limited financial resources, lack of formal training, and minimal enforcement efforts at the micro-enterprise level. Several participants noted that their transactions are primarily conducted with familiar customers and suppliers, which reduces their perceived need for formal compliance processes. This observation is consistent with broader literature emphasizing the gap between established compliance frameworks and the realities of informal economies.

The following chart summarizes how respondents allocate resources to compliance-related activities:

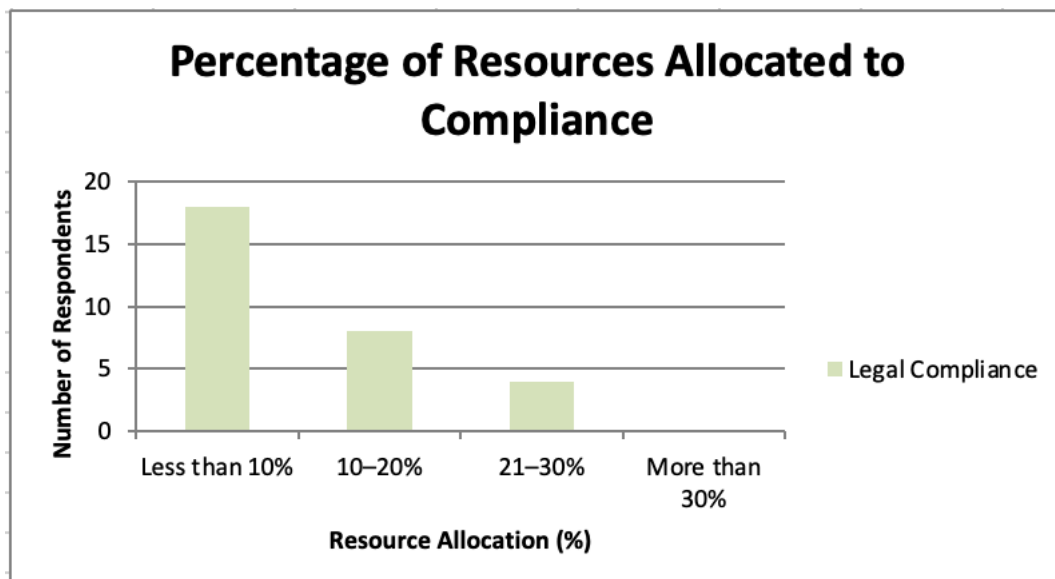


Figure 3. Percentage of Resources Allocated to Compliance (Author 2025)

These findings highlight the need for simplified tools and guidance to help small businesses meet compliance standards without incurring overwhelming costs. Community-based training programs or mobile-friendly documentation tools could help bridge the gap between legal requirements and small-scale retailers' operational capacities.

4.3 Artisans' Risk Mitigation Strategies

Artisans and small retailers have developed intuitive methods to reduce risk despite lacking formal systems. Most participants indicated that long-term relationships with trusted suppliers and clients are their primary defense against fraud or disputes. Inventory is typically kept in secure, concealed locations, and high-value items are displayed only upon customer request.

Some artisans have adopted informal digital methods, such as WhatsApp for order tracking or simple Excel sheets to record sales. At the same time, these essential tools represent only an initial step toward more structured data management. Few participants reported implementing consistent audit practices or loss-tracking systems. Risk management practices largely remain reactive rather than preventive, with recovery strategies often improvised after losses occur.

As one artisan noted: "Nos cuidamos con lo que podemos, pero no tenemos sistemas como las joyerías grandes. Todo es con confianza y cuidado" (We take care of things as best we can, but we don't have systems like the big jewelry stores. Everything is based on trust and personal care). This underscores the importance of tailoring the proposed framework to match these businesses' working realities and mindsets.

In a few instances, artisans expressed interest in forming cooperatives or sharing resources, such as storage or transportation, with other local businesses to reduce risks and operational costs. These informal networks could be a valuable foundation for developing community-centered risk management initiatives.

4.4 Quantitative Analysis of Risk Prevalence

Quantitative data from the surveys supports the qualitative insights. When asked how frequently they experience operational issues such as theft, inventory loss, or delays:

12 out of 30 respondents selected "3 - A veces (sometimes)"

7 selected "4 – Frecuentemente (frequently)"

Only two selected "1 – Nunca (never)."

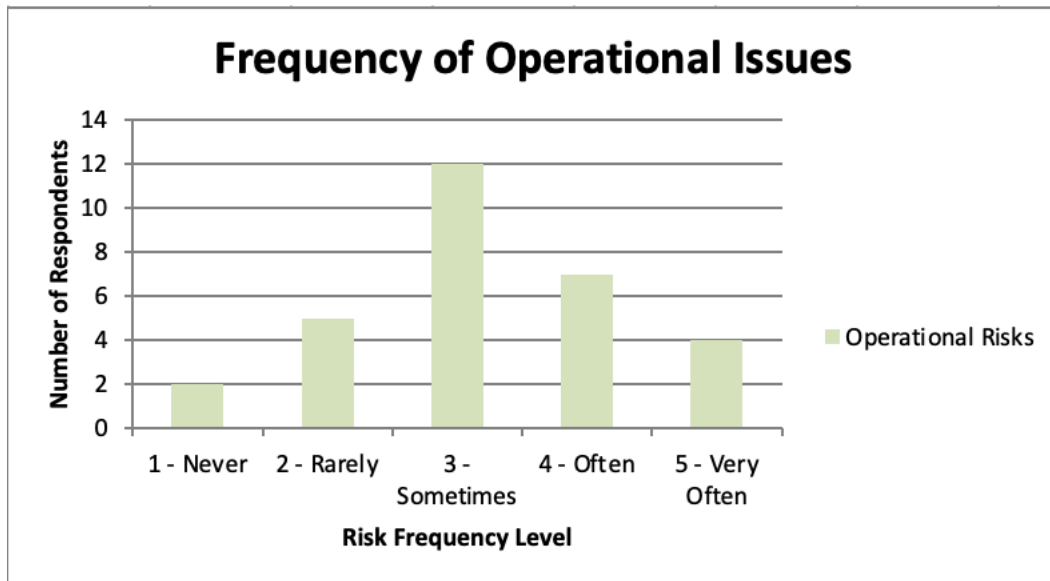


Figure 4. Frequency of Operational Issues (Author 2025)

This indicates that over 60% of respondents experience operational risks regularly. This aligns with anecdotal reports from interviews where several participants admitted they had “lost track of inventory more than once.”

Regarding risk mitigation effectiveness:

The most common response was level 3 - Regular, with 11 respondents

Very few selected the highest level of effectiveness, confirming a gap in structured risk planning



Figure 5. Effectiveness of Risk Management Strategies (Author 2025)

In the compliance category, the distribution of responses reflects an apparent angle toward minimal resource allocation:

18 respondents indicated using less than 10% of resources for compliance

8 selected 10–20%, while only four allocated more than 20%

These statistics highlight the need for practical training and scalable tools to help retailers better understand, measure, and reduce their exposure to operational and regulatory risks.

4.5 Synthesis of Findings

The combined analysis of qualitative interviews and quantitative surveys presents a clear picture: small-scale gold retailers in Querétaro operate in a high-risk environment with limited formal mitigation capacity. Operational threats such as theft, supplier delays, and inventory inconsistencies are common challenges. Due to insufficient resources and awareness, compliance practices are often informal, intuitive, or absent.

However, artisans are not passive. They apply contextual knowledge and relationship-based strategies to navigate risks. They actively manage client trust, select suppliers based on reputation, and closely monitor material usage, although through informal methods. These practices demonstrate resilience, yet even minor incidents can result in significant financial or reputational harm without scalable systems.

The findings underscore the need for a customized, low-resource risk management framework focusing on inventory control, essential documentation, supplier evaluation, and simplified compliance processes. The success of such a framework depends on its accessibility, cultural relevance, and practical fit with artisans' everyday working contexts.

This analysis provides a foundation for developing actionable recommendations and an adaptable risk management model, which will be discussed in the next chapter. The results also offer valuable insights for local policymakers, industry associations, and support institutions seeking to enhance the economic resilience of the gold retail sector in Querétaro.

5 Conclusion and Recommendations

This chapter brings the research full circle by demonstrating how the findings answer the central Research Question: "How can retail companies in the gold industry effectively identify, assess, and mitigate operational and regulatory risks within the distribution part of the supply chain?" It also revisits each Investigative Question (IQ). It explains how the data collected through fieldwork contributes to a comprehensive understanding of operational and compliance challenges in small-scale gold retail businesses, particularly in the artisanal segment.

By combining theoretical insights from ISO 31000 (ISO, 2018), OECD Due Diligence Guidance (OECD, 2016), and supply chain resilience frameworks (Christopher, 2016) with local realities, this research successfully translates global standards into feasible, actionable solutions for microenterprises. The data gathered through interviews and surveys revealed a pattern of ingenuity and resourcefulness within artisan businesses, albeit constrained by limited institutional access, informal procedures, and a lack of regulatory guidance.

The implications of this work go beyond the individual artisan. The patterns uncovered in Querétaro likely mirror challenges experienced across Latin America and other developing regions where gold is a standard material for economic survival. As such, this study offers a local solution and a scalable framework that could be applied in similar settings.

This chapter concludes the research by directly addressing the central Research Question: "How can retail companies in the gold industry effectively identify, assess, and mitigate operational and regulatory risks within the distribution part of the supply chain?" It further examines how each Investigative Question (IQ) was answered through qualitative interviews and quantitative surveys conducted with artisans and small-scale gold retailers in Querétaro, Mexico.

By blending academic theory with empirical data, the research has generated actionable insights that are both grounded in practice and framed by global risk and compliance models such as ISO 31000 (ISO, 2018), OECD Due Diligence Guidance (OECD, 2016), and supply chain resilience theory (Christopher, 2016). This integration allowed for a focused and relevant analysis of how informal artisan businesses experience and respond to risk.

5.1 Summary of Findings

This thesis revealed operational risks, such as theft, inventory errors, and supply chain disruptions, are prevalent among small artisan retailers. Informal operating practices, including memory-based inventory tracking, inconsistent documentation, and limited negotiation power with suppliers,

exacerbate these risks. These findings address IQ1 and IQ2, which explored key operational risks and their impact on gold distribution.

On the regulatory side, it was found that most artisans are unfamiliar with their obligations regarding anti-money laundering (AML), customer verification, and recordkeeping. This insight answers IQ4, which focuses on regulatory risk awareness and compliance behaviors. Quantitative survey data reinforced that more than 60% of participants allocate less than 10% of resources to compliance, indicating a systemic vulnerability.

IQ3, which examined mitigation strategies, highlighted that artisans rely on personal relationships, informal controls, and learned routines. These include using trusted suppliers, keeping gold in secure household compartments, or limiting customer orders to trusted individuals. While these practices are not formally structured, they demonstrate an underlying logic that can be supported with better tools.

These findings suggest that gold retailers in informal contexts need scalable, simple interventions that respect their operational realities while helping them reduce losses and meet regulatory requirements.

5.2 Practical Recommendations for Artisans

Based on the patterns and challenges identified throughout this study, several practical measures can help artisans begin to strengthen their operations in tangible, realistic ways. These recommendations do not require expensive tools or formal business education but instead focus on enhancing the work many artisans are already doing, giving it structure, reliability, and a longer-term perspective.

For instance, keeping better track of gold inventory can start with small steps. Some artisans may replace memory-based or loose-paper systems with a notebook dedicated only to incoming and outgoing stock labeled by date, customer, or order type. Others with access to a smartphone might try a basic spreadsheet app like Google Sheets. While simple, this form of documentation creates a clearer picture of material flow, reduces misplacement, and can support future budgeting or client planning.

Many artisans already know which suppliers deliver on time or which ones change prices frequently when managing suppliers. Instead of relying solely on memory or informal talk, artisans could keep a short list rating their suppliers monthly. Over time, this would build a small record that helps guide better decisions. A one-page printed form or checklist pinned to the workshop wall

could work. This recommendation draws from quality control practices in formal businesses, adapted to the artisan's setting.

Similarly, client management can improve through small actions. Sending photos of finished products before delivery, noting payment dates, and giving written confirmations through WhatsApp or handwritten notes are low-cost ways to create more clarity and trust. These habits also support basic legal compliance and reduce misunderstandings. While they may seem like small gestures, in the long run, they contribute to more professional, reliable customer service.

Legal compliance does not have to mean hiring lawyers or investing in expensive systems. Artisans can start by keeping photocopies of important sales, asking for simple client ID when working with new customers, and filing basic receipts. These records not only help with potential future audits but also show responsibility and transparency that clients appreciate.

Lastly, participating in learning spaces, such as cooperatives, training sessions, or community-led workshops, can make a significant difference. Sharing experiences with others helps artisans learn new techniques, understand pricing trends, or access resources like group savings, better packaging, or supplier discounts. This type of knowledge-sharing also creates informal networks of support where small businesses help each other adapt to changes in the market.

Together, these small actions form the building blocks of long-term business improvement. They help artisans take greater control of their work, prepare for unexpected events, and slowly build up practices that strengthen their operations and reputation.

This thesis strongly contributes to academic literature and field practice by combining theory with the lived realities of artisan gold retailers. It answers the Research and Investigative Questions through robust qualitative and quantitative analysis, delivering feasible and relevant actionable insights. Promoting specific interventions, such as digital tracking, supplier evaluation, and simple compliance records, equips artisans with tools that improve daily operations while supporting long-term resilience.

Importantly, the study also exposes the systemic disconnect between formal compliance systems and the capabilities of small-scale retailers. Addressing this requires more than tools; it needs policy support, training, and inclusion in the broader economic framework.

Moving forward, government and industry stakeholders should support capacity-building programs, legal literacy workshops, and co-developed mobile applications that simplify compliance and risk reporting. For these to be effective, they must be designed with artisans, not just for them.

In sum, this study doesn't ask artisan businesses to transform overnight. Instead, it offers a pathway of small, structured changes that build trust, reduce risk, and help retailers claim a more secure place in the global gold value chain.

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Appendices

Appendix 1 Interview Questions

Qualitative

What are the most significant operational challenges in managing your gold retail business, such as theft, inventory issues, or supply chain disruptions?

How do you currently address regulatory requirements, such as anti-money laundering (AML) compliance, and what challenges do you encounter?

Can you describe the strategies you use to maintain product quality and manage supplier relationships and how effective these strategies have been?

In your experience, what are the most effective practices for mitigating risks in your operations, and what improvements would you like to implement?

Quantitative

On a scale of 1 to 5, how often does your business encounter operational risks such as theft, inventory loss, or supply chain delays? (1 = Never, 5 = Very Often)

How effective are your current risk management strategies in addressing operational challenges? (1 = Not Effective, 5 = Extremely Effective)

What percentage of your business's resources are allocated to ensuring regulatory compliance (e.g., AML, customer data protection)?

- Less than 10%

- 10–20%

- 21–30%

- More than 30%

Appendix 2 Interview Questions in Spanish

Qualitative

¿Qué problemas tiene en su negocio de venta de oro, como robos, problemas con el inventario o retrasos al recibir materiales?

¿Qué hace para cumplir con las reglas legales, relacionadas con el lavado de dinero (AML)?

¿Cómo se asegura de que sus productos sean de buena calidad y de mantener buenas relaciones con sus proveedores?

Según su experiencia, ¿qué hace para reducir los riesgos en su negocio y qué cosas le gustaría mejorar?

Quantitative

En una escala del 1 al 5, ¿qué tan seguido enfrenta problemas como robos, pérdida de inventario o retrasos en la entrega de materiales?

(1 = Nunca, 5 = Muy seguido)

¿Qué tan efectivas son las estrategias que usa para manejar los riesgos en su negocio?

(1 = Nada efectivas, 5 = Muy efectivas)

¿Qué porcentaje de los recursos de su negocio usa para cumplir con las reglas legales (por ejemplo, AML (Anti Lavado de Dinero) o protección de datos del cliente)?

- Menos del 10%
- Entre el 10% y 20%
- Entre el 21% y 30%
- Más del 30%