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INVESTMENT OPPORTUNITIES AND GROWTH PATHWAYS IN SRI LANKA'S LAPIDARY SECTOR: FINANCING, POLICY AND FUTURE COMPETITIVENESS

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ABSTRACT

Sri Lanka, the "Island of Gems," has a rich heritage in gem mining, producing renowned sapphires and rubies. The lapidary sector is a sector where the value addition is done by cutting and polishing which is becoming a challenge to modernization and competitiveness. Where other nations such as Thailand and Hong Kong have improved by investing on technology, infrastructure and regulation changes, Sri Lanka gem sector is still behind with its exports being far below that of the international competitors. This loss of income shows the fact that the lapidary potential of the country is not used fully and requires more powerful policies and investments. This paper examines major aspects that determine investments in lapidary industry. Using a qualitative, interpretive approach guided by stakeholder theory, in-depth interviews were conducted with 32 stakeholders in Ratnapura, including lapidary business owners, investors, financial institutions, craftsmen, and government officials. The semi-structured questionnaire was used to gather data, which is grounded on the existing literature and the themes of the research are consistent with the current studies in wind and energy industry and include capital requirements, access to finance, government policies, market trends, skilled labor, and competitiveness. Two academics, two non-sector people and two people in the sector validated the questionnaire and themes. Interviews were conducted between 20th July and 25th August 2025 and analyzed thematically via NVivo. The results suggest essential investment aspects, such as technology implementation, development of skilled labor, the main gem trading center, combining it with the tourism sector in gems in the form of GEM Trails, and investing in sustainable gem treatments and innovation. Specialized financial assistance, including special loan schemes, gem pledging resources, and incentives supported by the government are also necessary. These lessons can assist policymakers *and investors to discover the lapidary potential of Sri Lanka and reinforce its role in the international arena.*

Keywords: Gemstone Industry, Investment Factors, Lapidary Sector, Sri Lanka, Technology Adaption

1. Introduction

The purpose of this paper is to discuss how the lapidary industry in Sri Lanka has not been well developed and propose areas where investment can be done to increase its competitiveness in the world arena. Although Sri Lanka is considered an ancient and well-known country in gem mining and processing, its export revenues on gemstones is considerably lower than both the major countries such as Thailand and Hong Kong. In 2023, the export revenue of Sri Lanka in the gemstone industry was just USD 151.9 million compared to USD 2 billion and USD 1.17 billion of Thailand and Hong Kong. This discrepancy might be caused by the absence of investment and development of the lapidary sector. Thailand and other countries have taken a step in technology, infrastructure, and government benefits in the state of development of their gemstone industries, and Sri Lanka has not taken any steps, and this has caused stagnation in the development of its lapidary industry as a low number of new lapidary licenses are being registered. The literature presents the value of lapidary sector that adds value to raw gemstones and can further lead to economic growth. Nevertheless, the absence of information about the activities of the sector in Sri Lanka and more particularly outside of lapidary licenses has negatively affected its growth. Lack of all-encompassing information fails to provide major issues and bring in investment, and the potential investors are reluctant since the sector is not well developed. The study is written in qualitative research as it seeks to determine the nature of investment in the lapidary industry with the view of coming up with a strategic investment strategy which can facilitate modernization and global competitiveness. A pilot survey of the Director of Exports of the National Gem and Jewellery Authority (NGJA) showed the serious data gaps that have led to underdevelopment of the sector. The findings indicate that by completing these gaps and encouraging investment in technology and infrastructure as well as employee capacity building, Sri Lanka may have a full potential to exploit its gem resources and emerge as a world leader in the trade.

2. Literature Review

The global gemstone market, valued at USD 32.6 billion in 2023, is projected to grow to USD 57.0 billion by 2033, driven by increasing demand for high-quality gemstones and their role as investment assets (Soltani, 2025). However, the growth of this market is closely tied to advancements in the lapidary sector, which is vital for adding value to gemstones. Countries like Thailand and India have strengthened their market presence by investing in advanced technologies and supporting their gem-processing industries with government incentives (Kaewen, 2021). In contrast, Sri Lanka's lapidary sector struggles with outdated technology and limited financial support, which hampers its competitiveness in the global market (Kachinga, 2024). Sri Lanka, renowned for its gemstone diversity, faces challenges in modernizing its cutting and polishing methods. Traditional tools such as the "Hanaporuwa" and the introduction of the Imahashi machine in 1976 highlight limited technological progress (Prim, 2019). Despite the increase in lapidary licenses from 203 in 2019 to 229 in 2024 (NGJA, 2025), the sector remains informal and technologically stagnant, preventing access to high-value global markets. Countries like Thailand and Hong Kong have outpaced Sri Lanka by investing in technologies like laser cutting, AI grading, and blockchain for gem trading, contributing to their global dominance (HKTDC, 2023). Stakeholder theory underscores the importance of collaboration between various actors in the lapidary sector, including entrepreneurs, craftsmen, investors, and policymakers (Somanathan, 2024). Ethical concerns such as working conditions, environmental sustainability, and income distribution are central to the sector's legitimacy (Sirimanna, 2024). A more inclusive approach to policy and investment could help enhance Sri Lanka's position in the gemstone market. Despite the significance of the lapidary sector in Sri Lanka's economy, there is a gap in the literature regarding investment challenges and sector-specific issues. Most research has focused on gemstone cutting techniques, heat treatments, and socio-economic aspects, but little attention has been given to investment decisions, financing, and government policies affecting the industry. This research aims to bridge these gaps by examining the investment dynamics and the factors influencing the competitiveness of Sri Lanka's lapidary sector in comparison to global leaders like Thailand and India. The comparison of Sri Lanka's lapidary sector with Thailand and Hong Kong highlights significant gaps. In 2023, Sri Lanka's gemstone exports were valued at USD 151.9 million, while Thailand and Hong Kong generated USD 2.7 billion and USD 1.17 billion in gemstone exports, respectively (NGJA, 2025; GIT, 2025; HKTDC, 2023). While Sri Lanka relies on traditional methods, Thailand and Hong Kong have incorporated advanced technologies like AI grading, laser cutting, blockchain, and 3D printing, adding substantial value to their gemstones (GIT, 2025; HKTDC, 2023). Moreover, Thailand and Hong Kong benefit from strong industry clusters, government-supported training programs, and better infrastructure, enabling them to attract foreign investment and foster innovation, whereas Sri Lanka's fragmented industry structure and lack of skilled labor development hinder its growth potential (Kaewen, 2021).

3. Methodology

This study used an interpretivist research philosophy to explore the subjective experiences of stakeholders in Sri Lanka's lapidary sector, focusing on the complex factors influencing investment, which are difficult to capture through quantitative methods (Bryman & Bell, 2011; Saunders, 2019). A qualitative approach was employed to gather detailed insights into participants' experiences and perceptions, particularly suited to the lapidary industry, where social, financial, and technological factors are significant. The study involved key stakeholders, including Lapidary business owners, craftsmen, financial institutions (government and public banks), and government officials (NJGA, Gem research Centre). Snowball sampling was used for business owners and craftsmen, while purposive sampling selected investors and policymakers. Sample size was 40, and the Ratnapura district, known for its concentration of lapidary workers, was chosen for data collection (Silva, 2019; Perera, 2021).

3.1. Data Sources

A semi-structured questionnaire, based on previous studies, was developed and organized into themes such as capital requirements, access to finance, government policy and regulations, Market trends and demand, Skilled labor and technology (Bryman & Bell, 2011). A pilot study with two academics, two sector stakeholders, and one non-sector participant led to feedback that simplified the questions and reduced financial jargon. The questionnaire was then translated into Sinhala for clarity. Data collection took place through face-to-face interviews from 20th July to 25th August 2025 in the Rathnapura District, known for its gem industry. Although 40 interviews were planned, data saturation was achieved after 32 interviews.Interviews were conducted in Sinhala, and the data was transcribed and translated into English for analysis. Researchers also attended the "Gem City Sri Lanka 2025 International Gem and Jewellery Exhibition" to observe trends and engage with stakeholders. Peer review ensured reliability and reduced bias in the research process.

3.2. Data Analysis

Thematic analysis, supported by NVivo software, was used to analyze data from semi-structured interviews, identifying key patterns and themes related to investment and risks in Sri Lanka's lapidary sector (Bryman & Bell, 2011; Sharma, 2021). Thematic coding, as described by Boyatzis (1998), structured the data into significant themes, preserving the richness of the qualitative content. Themes were identified in two stages: first, by drawing from existing literature and the theoretical framework, and second, by comparing cases to uncover new insights (Eisenhardt, 1989). This process revealed unexpected findings specific to Sri Lanka's lapidary industry, including financial challenges, government policy limitations, technological constraints, and regulatory uncertainties. These themes were then aligned with the research objectives, forming an investment framework that provides empirical evidence of both challenges and opportunities in the sector.

4. Results and Discussion

The demographic analysis of the respondents, presented in Figure 1, outlines the participants' composition based on their designation, years of experience, age range, and gender. The response distribution shows 56% male and 44% female participants. Most interviews were conducted in the Rathnapura district, with additional interviews held in Colombo, representing government officials from the NGJA and the Gem research center. The respondents varied from experienced entrepreneurs to new entrants in the industry, reflecting a diverse range of perspectives focused on both local and international markets.

Designation	No. of Respondents	Years of Experience	Age Range	Gender
Lapidary Business Owners	5	30 - 35 years	40 - 60 years	Male – 5
Skilled Lapidary Labors	12	2–15 years	30–40 years	Male – 7, Female – 5
Government Representatives	9	More than 7 years	30–55 years	Male – 7, Female – 5
Investors	2	5–10 years	30–45 years	Male – 2
Banks (2 Government, 2 Private)	4	More than 5 years	30–50 years	Male – 1, Female – 3

Figure 1: Demographic Analysis of Participants

Theme 01 - Capital and Financial Requirements

Starting a cutting and polishing business in Sri Lanka's lapidary sector is capital-intensive. A representative of a competent craftsman mentioned, *"To start a cutting and polishing business, an investment of around Rs. 500,000 is needed for one machine."* The startup capital is primarily allocated to purchasing equipment and materials, with a single functional machine costing approximately Rs. 300,000. As one of the lapidary specialists pointed out, *"It takes a lot of capital to start a lapidary business, and it may take six months for a small-scale business to acquire all the required materials and equipment".*

As businesses grow, the financial demands increase. One Lapidary business owner described the challenges of expanding, stating, *"For larger-scale operations, more machines and advanced technology are needed, requiring larger investments".* The need for specialized machinery becomes critical, especially when dealing with larger stones. Advanced machinery is essential for reducing wastage and increasing efficiency but comes at a high price. This investment becomes an even greater burden as businesses scale.

A further challenge highlighted by a lapidary business owner was the gap in capacity between Sri Lanka and countries like Thailand, which have a far larger scale of operations. He noted, *"There are only 2 or 3 large-scale factories in Sri Lanka, but when I went to Thailand, they had around 65 large-scale lapidary factories".* This stark difference underscores the need for massive investments in infrastructure, as Sri Lanka lags in both capacity and technology. Another entrepreneur added, *"We don't have entrepreneurs,"* citing a lack of entrepreneurial culture that limits growth and expansion in the Sri Lankan gemstone industry.

Advanced technology is vital to stay competitive, especially in global markets. However, multiple stakeholders, about 12 in total, emphasized that the high cost of technology and machinery is a significant barrier. *"Investment in technology and international marketing promotion of Sri Lanka's own centuries-old expertise in gem-cutting will enable the country to differentiate itself in an international market,"* stated a lapidary business owner. Gulzar (2024) emphasized that large-scale stone processing necessitates significant investments in cutting centers equipped with high-tech machinery. Similarly, Lawson and Chowdhury (2022) noted that countries like Thailand dominate the world's gem lapidary industry due to their advanced human resources, technology, and infrastructure.

Theme 02 - Access to Finance and Support

Access to financing has long been a challenge for small-scale lapidary businesses. One skilled craftsman observed, *"For small-scale traders, applying for loans involves providing at least three years of financial statements and six months of bank statements".* This high documentation requirement often makes securing loans difficult for small businesses, limiting their ability to grow.

One investor shared that in times of financial distress, businesses often resort to *"speed drafts, as gems are not easy to liquidate or use as collateral".* This highlights the core issue with financing in the lapidary sector: the illiquidity of gemstones. Since gemstones cannot easily be sold for cash or serve as collateral, businesses are forced to find alternative and often expensive methods of financing. Further complication arises due to the lack of financial products specifically tailored to the lapidary sector, which restricts the ability of these businesses to expand and improve.

In contrast, countries like Thailand offer better financial infrastructure. The Business Collateral Act B.E. 2558 (2015) allows gemstones to be used as collateral, enabling lapidary businesses to secure loans without losing ownership of their assets (Tilleke & Gibbins, 2015). However, Sri Lanka lacks such provisions, with three bank officials confirming, *"We can't accept gems as collateral,"* pointing to the absence of a legal mechanism to value gemstones.

This issue is further compounded by the absence of specialized financial products for the lapidary sector in Sri Lanka. As one lapidary business owner pointed out, *"There's no financial product specifically designed for lapidary businesses, which makes it difficult for us to access capital for growth".* In contrast, Thailand has introduced soft loans for SMEs, providing a 200-billion-baht credit facility at a low interest rate (Bank of Thailand Soft Loans, 2025). Similarly, financial institutions in Hong Kong, like Fusion Bank and OCBC, offer collateral-free loans and industry-specific financial products to support SMEs like lapidary businesses (Fusion Bank Collateral-Free Loans, 2024; OCBC Hong Kong Serial Entrepreneur Financing, 2025).

Theme 03 - Government Policy and Regulations

Sri Lankan lapidary businesses have faced unprecedented financial challenges due to government policies and regulations. According to 90% of lapidary business owners, *"The 18% VAT on materials has increased costs, making it harder for lapidaries to access the materials they need".* The high VAT rate has raised production costs, making it difficult for businesses to import gemstones, further contributing to rising unemployment in the sector (IJ News Service, 2024). The government has provided loans through schemes like the Bank of Ceylon's Rs. 10 million concessionary loans for gem and jewellery craftsmen (Parliament of Sri Lanka, 2023). However, this scheme is limited and cannot meet the diverse needs of the sector. About 11 industry members, including the National Gem and Jewellery Authority, have stressed the need for the government to *"liberalize import and export regulations and offer tax holidays to gem traders,"* to address the regulatory constraints. Several lapidaries have also faced difficulties acquiring machinery through government programs, demonstrating a lack of effective support for technology acquisition. One lapiadry business owner stated,*"More support from the government is needed to better the acquisition of technology and to have low-cost facilities,"* citing the high cost of adopting advanced technology as a significant barrier for small businesses.

In contrast, other countries have successfully implemented government policies that have spurred growth in the lapidary sector. In China, government policies facilitated the expansion of the industry, with industrialization and the development of a skilled workforce in provinces like Guangzhou driving the success of its lapidary sector (TDI Sustainability, 2025). Zambia has also invested in skill development, especially for women and youth, through the Gemstone Processing and Lapidary Training Center (Jewel of Africa, 2025). Sri Lanka, however, has struggled due to a lack of strategic interventions such as national policies or special zones to attract international investors, limiting its global competitiveness (The Island, 2025). Thailand, in contrast, has invested in infrastructure, including world-class ports and the Jewelry Trade Center in Bangkok, which has helped the country 'sector grow and solidify its global position (Jewelry Trade Center, 2025).

Theme 04 - Market Trends and Global Demand

Sri Lankan gemstones, especially Ceylon sapphires, are in high demand globally due to their quality and unique appearance. As one lapidary business owner mentioned, *"Sri Lanka's gems, Ceylon sapphires inclusive, have high international demand, but we have no assistance to supply against such demand."* Despite their desirability, Sri Lanka struggles to meet global demand due to insufficient infrastructure, technology, and government support. The need to adhere to international gem processing standards was emphasized by nearly 10 business owners and government officials, with one stating, *"We have to follow international standards of gem processing to compete in the international market."* Consistent quality and transparency are essential to meet the growing demand for high-quality gemstones worldwide.

A key issue highlighted by industry members is the inconsistency in gemstone cutting. One lapidary business owner noted, *"Foreigners undervalue our polished gems due to less standard. Because the cut is not consistent and they have to recut it."* This results in wasted material and reduced value. While countries like Thailand have positioned themselves as global leaders in gem processing due to their advanced infrastructure and adoption of international standards (Bangkok Post, 2023), Sri Lanka has yet to fully capitalize on the global market. As a government official observed, *"There is no tradition of wearing gems as jewelry in Sri Lankan culture,"* which limits the domestic market. However, this presents an opportunity for Sri Lanka to specialize in the international market. The integration of the gemstone industry with tourism, as suggested by an official *"We can associate this lapidary* *industry product with the tourism industry and create tourist practices of purchasing Sri Lankan gems"*—could help boost global demand and add value to the tourism experience.

Theme 05 - Skilled Labor and Technology

Sri Lanka's gem industry faces a significant gap in skilled labor and technology. As one lapidary business owner noted, *"Sri Lanka has been famous for gems for over 2,500 years, but the gem industry is now centered in Bangkok. Interestingly, Bangkok does not produce gems — they have the technology, machinery, and skilled workers to process them."* This highlights the lack of competitive advantage in Sri Lanka's lapidary sector, where the country is known for its high-quality gemstones but lags behind in the lapidary process itself. Although skilled labor exists, inefficiencies due to inadequate training led to wastage and financial losses. As one skilled craftsman said, *"The government's training isn't enough."* This gap has been filled by private institutions offering specialized training, yet the absence of a government-sponsored training initiative remains a challenge. In Thailand, for example, vocational schools near the Jewelry Trade Center in Bangkok promote skill development in gemology and jewelry design, which has significantly boosted the sector (Lawson, 2019).

Respondents, including 55% of business owners, also pointed to low wages in Sri Lanka, with one craftsman stating, *"We receive approximately 1500 per day for cutting gems."* This low pay discourages skilled workers from entering industry, hindering growth. In contrast, Thailand's business owners have focused on improving training and wages to attract and retain skilled labor, which has enhanced productivity and global competitiveness (Sangmanee, 2018). Additionally, Sri Lankan businesses are limited by outdated technology, with many still using the Imashi machine, which has been in use for over 50 years. While some businesses have made efforts to innovate, such as collaborating with Jayawardenepura University to improve machinery, government support remains insufficient. As one investor explained, *"When they approach for assistance, government institutions ignore them and occasionally demand bribes."* The industry faces difficulty adopting advanced technologies like laser cutting, which is common in countries like Thailand and Hong Kong. Thailand's use of modern machinery, such as laser soldering and computerized casting, has improved product quality and efficiency (Anila Gem, 2025). Similarly, Hong Kong companies like HK Laser & Systems use high-energy fiber lasers for precision cutting, maintaining a competitive edge in the global market (HKSTP, 2023).

Theme 06 - Competitive Advantage and Differentiation

The quality of Sri Lankan gemstones, particularly sapphires, remains a significant competitive advantage in the global market. Around 13 respondents emphasized that Sri Lanka's reputation for high-quality gemstones, particularly sapphires, has been established for centuries (Batapola, 2020). The island's unique geological conditions and long tradition of gem mining ensure the brilliance and quality of its gemstones. As one business owner stated, *"This sector business not most problem occur loss."* Ceylon sapphires, prized for their clean blue color and excellent translucency, have solidified Sri Lanka's position as a leading global supplier. The competitive edge is not just due to the quality of the stones but also the centuries-old tradition of gemstone cutting that has made Ceylon a trusted source for some of the world's most valuable gemstones.

However, to maintain and enhance this competitive edge, Sri Lanka must invest in modern technology and marketing. While the quality of its stones remains high, the local lapidary industry faces competition from foreign production. Business owners believe that investments in new technology, such as laser cutting machines, will improve precision, reduce labor costs, and help Sri Lanka capture a larger share of the global market. As one owner stated, *"Investment in technology and international marketing promotion of Sri Lanka's own centuries-old expertise in gem cutting will enable the country to differentiate itself in an international market."* Despite the push for modern technology, the industry's deep admiration for Sri Lanka's traditional gem-cutting methods, which have been passed down through generations, remains. This expertise gives Sri Lanka a unique position in the market, blending art and precision. Furthermore, the growing demand for Mili gems—small, difficult-to-cut gemstones used by luxury brands like Rolex and Cartier—highlights the need for specialized training in modern cutting techniques. As one investor remarked, *"We see a growing demand in the market for Mili gems. Therefore, it is important to train our gem cutters on how to use modern technology to cut Mili gems.* This training is critical to meet the challenges of cutting these small gemstones, which require new machinery and specialized skills.

The paper proposes a number of investment opportunities that can transform the gem and jewelry industry in Sri Lanka, using the economic development and organizational behavior theories. The government can also abolish the 18 percent VAT on imports of rough gems to boost production, and can also create VAT refunds on exporters, which will cut down on the cost and trigger new investment. This strategy is in line with the Stakeholder Theory which aims at generating value to various stakeholders through bettering business conditions to SMEs and increasing financial transparency (Mitchell and Agle, 1997). Moreover, the creation of a Gem Collateral and Valuation Authority by the Central Bank would allow banks to accept gemstones as collateral and, therefore, allow easy access to cheap loans by SMEs and formalize the industry. The strategy is based on the Resource-Based Theory that focuses on the role of financial resources in acquiring a competitive advantage (Barney, 1991). The installation of modern equipment, such as laser cutters and AI-driven grading systems, to replace the outdated equipment, such as the Imashi machine, would increase productivity, minimize waste, and bring the practices in Sri Lanka in line with the international benchmarks. This is a manifestation of the Human Capital Theory that emphasizes the significance of investing in technology and highly skilled labor to propel productivity and economic growth (Becker, 2009). Moreover, employment of institutions such as the Maradana Technical College in developing workforce would boost technical knowledge, whereby the workforce would be able to use the new technologies efficiently (Schultz, 1961). On bigger scale, by establishing centralized Gem Trade and Processing Hub at Katunayake, it would facilitate the organization operations, centralize and minimize the costs. This is in line with the Control Theory that recommends sustained surveillance and re-calibrations of the operations taking place in organizations to realize objectives (Argyris and Schoen, 1978). The establishment of an online platform of trading and certification of gems would help increase the level of transparency, and foreign buyers will have an easier time doing business with the gem industry in Sri Lanka. The Sri Lankan Gem Quality Seal, the Gem Trails tourism project would also enhance the reputation of Sri Lanka in the world market, foreign investments and competitiveness in the global gem industry, where Development Economics would be used to match the global standards and maximize exports (Senge, 1990). These would be strategic investments that would enable Sri Lanka to create a sustainable and competitive gem industry using its historical background and the available deep gemstone reserves.

5. Conclusion and Implications

This paper identifies that there is a lot of investment potential in the lapidary industry in Sri Lanka, and the modernization of equipment, better access to finance, and better government policies are required. The findings indicate that removing the 18 percent VAT on importation of rough gems and provision of VAT refund to the exporting companies would contribute towards decreases in costs and increase in investments. In addition, the formation of Gem Collateral and Valuation Authority would make low-interest loans available to the SMEs, which will solve the capital problems of small businesses. Modernizing equipment, e.g., replacing the old-fashioned Imashi with the new technologies like laser cutters and AI-oriented grading system, would enhance the productivity and make the Sri Lankan practices compliant with the international ones. Alongside, the provision of better training of the workforce together with institutions such as Maradona Technical College would advance the skills required to use modern technologies. These principles are however subject to drawbacks like high cost of technology and non-availability of special financial products in the lapidary industry limiting its growth. Lack of special financial infrastructure in Sri Lanka like failure to use gemstones as security is one of the major problems. Some other countries such as Thailand and Hong Kong have taken more favourable policies towards SMEs which Sri Lanka can emulate in order to ease the barriers in finance. In theory, the paper shows that policies consistent with Resource-Based and Stakeholder Theories could help increase the lapidary industry in terms of competitiveness and sustainable development. In practice, such recommendations would be followed to deal with financial constraints of the industry, promote technological developments and boost foreign investments. Research in the future ought to examine the effects of such strategic investments especially on human capital development and evaluate the efficacy of policy reforms towards enhancing competitiveness of gem industry in Sri Lanka within the global market. The creation of a centralized Gem Trade and Processing Hub and the merging of lapidary industry and the tourism sector by introducing projects such as Gem Trails would also make Sri Lanka a leader in the global processing of gemstones thus benefiting the industry and the economy.

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