

# Entrepreneurship in the Jewelry and Gold Industry from a Regional Science Perspective: An Attrition Entrepreneurship Theory Approach Aligned with the United Nations Sustainable Development Goals

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## Abstract

The jewelry and gold industry is an important cultural phenomenon in the economy, especially in regional development, job creation, and innovation. This paper is a review of the concept of entrepreneurship in the jewelry and gold industry from the regional science point of view, focusing on the attrition entrepreneurship theory and its relationship with the United Nations Sustainable Development Goals (SDGs). This paper is a review of the available literature on artisanal entrepreneurship, sustainable innovation, regional clustering, and transformation of the jewelry and gold industry. The findings of the study show that the jewelry and gold industry is largely influenced by regional cultural identity, technological change, and sustainability. The attrition entrepreneurship theory provides an important framework in understanding the survival and failure of jewelry and gold businesses. The relationship between the jewelry and gold industry and the SDGs improves competitiveness while fostering sustainability.

**Keywords:** Entrepreneurship, Jewelry, Sustainable Development Goals

## I. Introduction

The United Nations Sustainable Development Goals (SDGs) are a holistic set of goals that cover a wide range of areas, such as medical science, arts, construction, and climate action (Kioumarsis, and Liu, 2025; Rosen et al., 2025). The jewelry and gold industry is one of the oldest human endeavors, which combines cultural

significance, artistic expression, and economic value. In recent years, the global jewelry market has expanded rapidly due to rising consumer demand, luxury spending, and technological advancements. Entrepreneurship is at the heart of this industry, which fosters innovation, regional economic growth, and value addition. From a regional science perspective, jewelry entrepreneurship is shaped by geographic concentration, cultural heritage, and resource availability. Craft villages and innovation districts are the most important entrepreneurial ecosystems that support this industry. At the same time, sustainability issues associated with mining, production, and environmental sustainability have become more prominent. The United Nations Sustainable Development Goals provide a global framework that urges industries to pursue environmental sustainability, social responsibility, and economic growth. This review paper analyzes entrepreneurship in the jewelry and gold industry by integrating regional science concepts with attrition entrepreneurship theory and sustainable development frameworks (Cooke, 2008).

## Regional Science

Regional science is a study of how spatial, economic, and social factors impact industrial development and entrepreneurship. In the case of the jewelry industry, regional clusters are often formed where spatial, economic, and social interactions are present. For instance, innovation districts help entrepreneurs collaborate with designers, manufacturers, and technology experts, which is essential for growth and development. Innovation districts attract entrepreneurs and make

regions competitive due to their ability to bring together research, production, and business activities.

Regional clustering is also present in traditional craft villages and design hubs. These regions are able to preserve traditional knowledge while adopting new production technologies. Research has shown that innovation clusters help create an ecosystem that is essential for entrepreneurship, which is important in building resilience in the industry (Atta Jewelry, 2024).

### Attrition Entrepreneurship Theory

The theory of attrition entrepreneurship focuses on the lifecycle of entrepreneurial activities and the factors that contribute to the survival, expansion, or failure of these activities. In craft sectors, such as the jewelry industry, attrition is caused by restricted access to finance, technological changes, and market competition. Small-scale artisanal units are often confronted with problems such as a reduced demand for traditional designs or an inability to keep up with digital marketing and supply chain management. Research on traditional handicraft sectors suggests that more than 30% of production households have abandoned their operations because of poor strategic planning, a lack of policy support, and restricted technological adaptation. These attrition patterns highlight the need for innovation and institutional support to sustain entrepreneurial ventures in culturally rooted industries (Farzpourmachiani and Farzpourmachiani, 2024).

### Entrepreneurship in the Jewelry and Gold Industry

In addition, entrepreneurship in this area participates in artisan traditions and, in many cases, in questions of cultural identity. By nature and through the nature of their work, artisan entrepreneurs are creative, innovative, and strategic in their design approaches to developing distinctive products. Research on artisan entrepreneurship has shown that over time, artisans have pursued dualist approaches in their entrepreneurial practices.

In the studies, it was identified that incremental innovation plays a vital role in survival strategy in artisan businesses. Through the adoption of incremental innovations, such as the use of electricity in polishing jewelry, artisans have improved their technological capabilities without compromising their aesthetic values. This type of innovation is also less risky compared with technological innovations.

Entrepreneurship in the artisan jewelry business is contributing to regional economies in

various important ways, related to cultural heritage, employment generation, etc. Handicraft-based jewelry industries have been supporting regional economies in many ways.

Women entrepreneurs have increasingly become engaged in the jewelry and gems industry. Hence, the industry has helped contribute to economic empowerment and gender equality. Research indicates that women entrepreneurs experience barriers due to less access to capital, market, and technology. However, trade policies and training have helped the participation of women entrepreneurs in the industry. This can be regarded as achieving the 5th goal of the United Nations' development agenda, i.e., gender equality and women's empowerment.

The jewelry industry deals with different market segments like luxury goods, investment products, and fashion accessories. The entrepreneurial opportunities arise out from the needs of consumers related to customized products, sustainability, and innovative technologies used. Small business enterprises can find room for success by focusing on different niches like customized jewelry and heritage-based designs.

Networking and supply chain integration have been cited as critical factors for entrepreneurial success. Research conducted on the regional market for jewelry shows that when there are effective linkages and connections with the source of supplies and the buyers of the products, it significantly contributes to the sustainability of the entrepreneurship business. In addition, vertical integration of the source of supplies and the stores to be used for the sales (Li et al., 2025;Leonardi andPareschi, 2025).

### Sustainability and the United Nations SDGs

The jewelry and gold industry faces significant environmental challenges related to mining, resource depletion, and carbon emissions. Research indicates that extracting precious metals generates substantial waste and environmental degradation. For example, large volumes of rock must be processed to obtain small quantities of gold, producing significant ecological impact.

Sustainable entrepreneurship has emerged as a response to these challenges. The adoption of alternative materials, recycled metals, and lab-grown gemstones reduces environmental damage. Lab-grown diamonds, for instance, provide ethical and lower-energy alternatives to traditional mining processes. Similarly, sustainable jewelry design incorporates natural materials such as seeds and fibers, reducing resource dependence.

Jewelry entrepreneur contributes to social sustainability by creating jobs for the locals, maintaining cultural heritage, and ensuring social development. Handicraft industry helps create an income source for the locals, both in rural and urban areas, thus solving the problem of economic inequality. Incremental innovation helps create social sustainability by maintaining the traditional craft while creating financial viability.

The fair trade movements and the adoption of ethical sourcing approaches have further fortified the social sustainability norms within the industry as well. Today, consumers focus on higher transparency related to the jewelry supply chain. This encourages the adoption of responsible industry practices.

Entrepreneurship in the jewelry industry is beneficial to the economy with regards to the creation of employment, export development, and regional development. Sustainable entrepreneurial practices such as innovations, branding, and marketing culture enhance the level of competitive advantage of the market. Research has shown that incremental innovations are crucial in increasing the profitability and productivity of small-scale crafts enterprises.

The sustainability of the economy can be enhanced through the integration of digital technologies such as blockchain, among others. Some research on artisanal mining suggests that blockchain-based supply chains can be advantageous in improving value distribution transparency, curbing exploitation, and enhancing financial services connectivity (Fashola et al., 2016; Jiang et al., 2025).

### **Regional Innovation and Technological Transformation**

Technological advancement is transforming jewelry entrepreneurship. Digital design tools, 3D printing, and advanced materials science enable entrepreneurs to develop innovative products and production methods. Educational initiatives combining traditional craftsmanship with modern design techniques enhance entrepreneurial capacity and regional competitiveness.

Innovation districts and design incubators provide infrastructure for knowledge transfer, research collaboration, and product development. These ecosystems facilitate the integration of traditional artisans into modern entrepreneurial networks, reducing attrition rates and enhancing industry resilience.

### **Attrition Entrepreneurship**

Attrition entrepreneurship theory highlights the dynamic nature of the jewelry industry. Several factors contribute to business attrition, including market volatility, resource constraints, and technological disruption. Traditional enterprises that fail to adopt sustainable and digital innovations are particularly vulnerable to market decline.

However, attrition also fosters industry transformation by encouraging innovation and new business models. Entrepreneurial ventures that integrate sustainability, cultural heritage, and technological advancement demonstrate higher survival rates. Government policies, financial support programs, and training initiatives play crucial roles in reducing attrition and supporting entrepreneurial growth (Farzpourmachiani and Farzpourmachiani, 2024).

### **Policy**

The government can facilitate jewelry entrepreneurship by supporting regional clusters, offering financial incentives for sustainable innovations, and improving vocational training programs. Integrating tourism, cultural heritage, and digital marketing can also help strengthen regional jewelry industries.

Future research may examine the relationship between sustainability practices and entrepreneurial performance, the impact of digital technologies on artisanal entrepreneurship, and the contribution of global value chains to regional industries.

## **II. Conclusion**

Entrepreneurship in the jewelry and gold industry is an intricate relationship between cultural heritage, regional development, and technological innovations. From the regional science point of view, entrepreneurial clusters have a vital role in supporting the jewelry and gold industry. The attrition entrepreneurship theory is useful in understanding the survival of businesses in the jewelry and gold industry.

The jewelry entrepreneurship in line with the United Nations Sustainable Development Goals will be beneficial in enhancing sustainability in the environment, society, and economy. Sustainable innovations, technological transformations, and policy support are important in reducing attrition in the jewelry and gold industry. With the change in consumer behavior towards ethical products, entrepreneurial initiatives in the jewelry and gold industry will be beneficial in determining the future of the industry.

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