

*Innovation in Gems and  
Jewellery industry in India  
A pilot study*

A study supported by NSTMIS, DST

Study conducted by  
Centre For Knowledge, Ideas, and Development  
Studies (KnIDS), Kolkata, Delhi



# Preface

Centre for Knowledge, Ideas and Development Studies (KnIDS) is an initiative of the scholars and researchers in the field of social and economic development. The Centre believes that much of the problem of underdevelopment emanates from lack of new ideas, generation of new knowledge, and confidence of trying new ideas and knowledge for social and economic development. The Centre aims at creating awareness in this regard through studies and actions.

Innovation is all about trying new ideas and knowledge in production system. The National Innovation Survey is a commendable initiative by NSTMIS, DST, Govt. of India to assess the status of innovation in Indian industries. While welcoming the initiative KnIDS extends its full cooperation for this important national initiative. The present study on Gems and Jewellery industry of India is a pilot study that would help understand certain nuance of the innovation dynamics of a largely unorganised sector.

I hope that the study would be able to provide useful input for preparation of the nation wide survey on status of innovation in India.

Dr. Tapan Banerjee,  
President,  
Centre for Knowledge Ideas and  
Development Studies (KnIDS), Kolkata.

# **Innovation in Gems and Jewellery industry in India**

## **A pilot study**

### **Introduction**

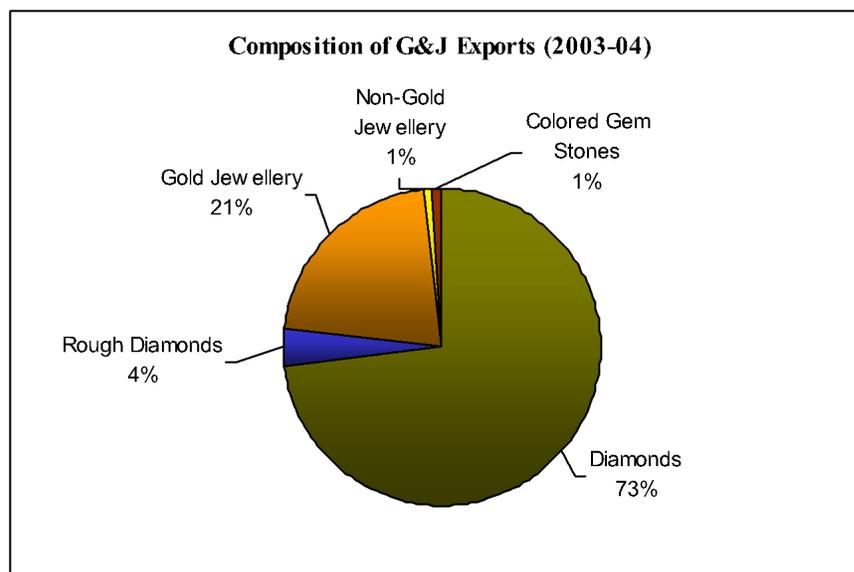
The Indian gems and jewellery industry has an important position in the Indian economy due to its large-scale export potential. Breaking the shackles of being an ethnic and conventional industry, it has set growth standards of 15-20% in the past couple of years. The boom of this industry is essentially driven by the impressive export performance. Today, this sector is country's second highest foreign exchange earner (after textile industry) and it contributes about one fifth of country's export. The Indian Gems and Jewellery Export Promotion Council<sup>1</sup> (GJEPC) has reported that Indian gems and jewelry sector has surpassed its export target of \$16 billion in 2007, two years in advance. Export in 2005-06 rose to \$16.67 billion, a growth of more than 6%. According to GJEPC, the sector is likely to grow at 20-25% in 2006-07. The growth was primarily driven by the cut and polished diamond segment, which registered growth of more than 6% in 2005-06. The export sales of cut and polished diamond grew from \$10.3 billion in 2004 to \$12.3 billion during 2005, while total volume of cut and polished diamond grew from 44.3 million carats in 2004 to 48.7 million carats during 2005. According to a study by McKinsey, the branded jewellery market in India would grow by 40% per annum to \$ 2.28 billion (Rs 10,000 crore) by 2010.

The gems and jewellery industry is broadly divided into three main categories, which includes cut and polished diamond, gold jewellery, precious and semi-precious stones. The two major segment of the Gems & Jewellery business in India are gold jewellery and diamond jewellery (discussed in detail in the subsequent chapters). While a predominant portion of gold jewellery manufactured in India is for domestic

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<sup>1</sup> The Gem and Jewellery Export Promotion Council (GJEPC) is the only national level association for the gems and jewellery sector in India. Sponsored and commissioned by the Ministry of Commerce in 1966, the GJEPC has a membership of around 7,000 gems and jewellery companies from all over India.

consumption; a major portion of rough, uncut diamonds processed in India in the form of either polished diamonds or finished diamond jewellery is exported. Gold jewellery accounts for around 80% of the Indian jewellery market; with the balance comprising of fabricated studded jewellery-diamonds and gemstones. Diamond holds the most important position in terms of foreign exchange earning. Processed diamonds contribute about 80% of the total export of the industry, which makes the Indian gems and jewellery industry diamond centric. India accounts for nearly 55% of world net exports of cut and polished diamonds in value terms. There is hardly any other export segment of the country that has such a significant share in the world market.



Cut and polished diamonds continue to be the largest component of the exports under the Gems & Jewellery segment comprising of about 73% of the total exports from India in this sector, however gold and studded jewellery is increasing its share very fast. The jewellery segment has increased its share from 17% of the export basket in 2002-03 to 21% in 2003-04 as seen in the diagram above.

The gems and jewellery industry in India is earmarked as a thrust area for generating huge employment because of its labor intensiveness. Today, it employs over two million people, out of which one million are exclusively engaged in export

production, indicating its massive socio-economic impact on Indian economy. The workforce is most economic and therefore most competitive when compared with any other cutting center in the world. Abundance of cheap and skilled labor is both strength and weakness of the industry. While their skill creates appealing products, the abundance of labor keeps wages low and prices competitive. The industry is mainly fostered in Gujrat, Maharashtra, Uttar Pradesh, Rajasthan, Tamil Nadu, West Bengal and Kerela.

The Indian gems & jewellery industry heavily depends on import of all basic raw materials for the manufacturing. It can be expected that the rising exports will be coupled by a rise in imports as well. The chart below confirms the fact that imports have risen steadily with the rise in exports over the years and more or less followed a similar pattern of increase or decrease.



The industry, particularly the jewellery and precious stone segments are highly unorganized. Moreover it is labor intensive and the small firms lack technological expertise. Labor productivity is much lower compared to upcoming competitors like China, Thailand and Sri Lanka. On the other hand, though India is a large exporter of gems and jewellery, it is also the largest importer of rough diamonds. The Government of

India has already given a major boost to the gems and jewellery sector by reducing the customs duty on import of rough diamonds to zero from five percent and abolished the licensing regime for rough diamonds. External threat along with dependence on import of raw material compels the industry to be innovative to survive, in the international market as well as in the domestic market.

An assessment of nature and source of innovation that could keep the industry afloat in the whirlpool of global competition would provide great insight on the understanding of innovation dynamics in this sector. The present report is based on a pilot study on Gems and Jewellery industry in India, derived from secondary sources, to understand technological and non-technological initiatives taken-up by the entrepreneurs to cope up with the changing demand patterns.

### **The Study**

The purpose of the study is to examine the nature and source of innovation in the Indian gems and jewellery industry. The industry comprises of basically unorganized setup of family jewellers with very few organized players. It is traditional in its structure, however catering to the most elite markets. Innovation dynamics of modern industrial sector is well discussed in many studies. A traditional industry like gems and jewellery, needs to be understood in the context of the changing demand pattern of the new and emerging markets. . Literature available on this sector focuses on the important role that is played by industry associations, from the perspective of economic development and co-ordination of export promotion in the country. Given the unique structure of the industry and market of its products, and also given the fact that it occupies a prime position in Indian economy in terms of its contribution to export, a study on the innovative characteristics of the industry would help in facilitating policy formulation for strengthening its competitiveness.

The gems and jewellery industry is changing very fast, ensuring growth in the last couple of years. What are the critical ingredients of these changes? What are the indicators of the changes? How much of these changes could be attributed to innovations? The process of incremental changes reflects that the players in this sector

are taking certain initiatives to bring in change at various levels. These changes in the Indian gems and jewellery industry needs to be captured, to understand the process of innovation.

### **Methodology**

In this pilot study, efforts have been made to assess the initiatives taken by entrepreneurs to galvanize the growth process in this sector. The source of data used in the study is mainly secondary. Information in this regard is not plenty. More so when it comes to public sources. Highly fragmented structure of the industry is one reason behind lack of comprehensive database on the industry. As a result the study depends mainly on grey (unpublished) literature. Information has been gathered mostly from internet, newspaper and research papers on this industry. Various reports and studies, both published and unpublished have been used to identify the changes incorporated in the industry. The data used in the study is mainly from the publication of the World Gold Council and Gems and Jewellery Export Promotion Council.

This study gives an overview of the gems and jewellery industry and explores the dimensions of various types of innovation indicators, such as, product design, market, quality standards, organizational and financial innovation, which are carried out by firms to have competitive advantage to survive in the market. The study focuses on the initiatives taken by the firm to make changes in the production process, strategies adopted both prior and after the production to create new market. It also covers the government policies favoring the industry. An attempt is made to understand the definitions of innovation indicators as follow:

**a) Product design innovation** comprises of initiatives in developing newer designs, new products and also new methods for developing new designs and product development. It may be raw material procurement, variety of jewellery design and product related research and development. It also covers the new techniques employed in product design.

**b) Market innovation** relates to initiatives to create new markets for the product, expansion of the existing market. It could be through collaboration, by creating a brand, by ensuring quality standards of the customers, by having a dealer network or through partnership and new marketing strategies like targeting changing demand patterns of customers with new designs. It also includes various techniques employed in order to attract the potential customer.

**c) Organizational innovation** is basically entrepreneurial innovation. It comprises of innovation related to the organizational structure, which consists of recruiting and training people in order to make them fit in the structure of the organization, in other words human resource development. It also covers how the organization is processing the product, what type of innovative techniques are used in the production. Thus in short it comprises of the following:

- Skill development
- Human resource development
- Technological innovation
- Process innovation

**d) Financial innovation** is related largely to the arrangement of financial resources from outside. This section also deals with innovation related to the management of the financial resource.

The report comprises of five sections. The first section we deals with the broad structure and economic performance of the industry. It delineates the focus of the report and the methodology adopted for the purpose. In the second section the focus is on the diamond segment. Here it details out various initiatives taken-up by this segment for its sustenance and growth. The subsequent section covers the gold segment in a similar way. In the fourth section discusses the government policies and their implications and the last section presents the broad conclusions drawn based on this pilot study.

## **Diamond Segment**

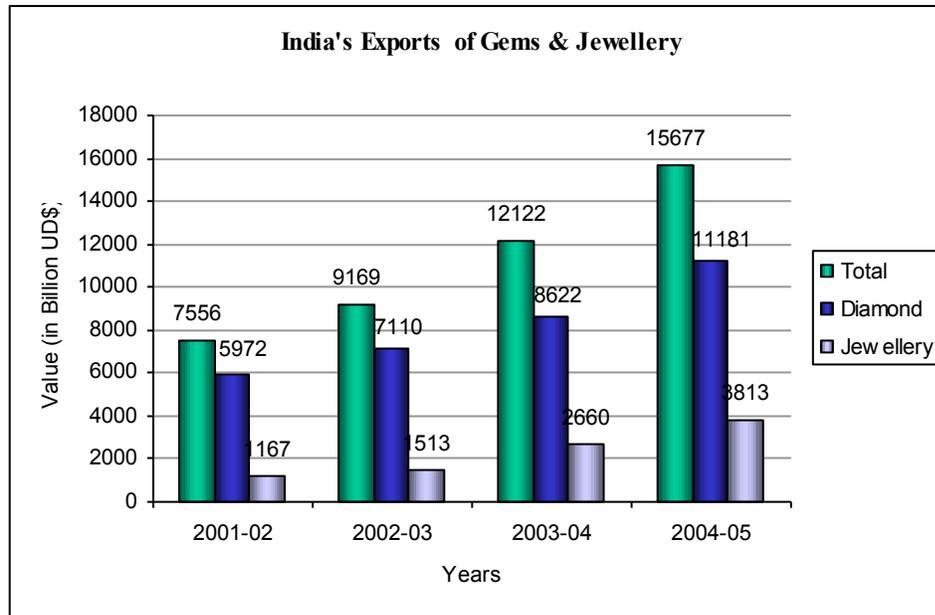
Diamond production in India can be traced back to the 8<sup>th</sup> century B.C. when the first ever diamond in the world was mined in India. Some of the most famous diamonds of the world like the Great Moghul, Kohinoor, Pigot were born in India. It is believed that besides a small supply of diamonds from Kalamantian in Borneo, India was the only source of diamonds till 17<sup>th</sup> century prior to their discovery in Brazil, South Africa, Russia and Australia.

Indian craftsmen were the first to unlock the secrets of diamond cutting, although the cutting did not include faceting and polishing as is common today. Most Indian diamonds were flat-cuts. They were mostly very large stones because the mines at Golconda in Andhra Pradesh were hand-dug. The Golconda mines were exhausted in the 19<sup>th</sup> Century. This marked an end to the great Indian Diamond Era and gave rise to Indian diamond processing industry in 1960s.

The Indian diamond processing industry was largely created, when the world demand and prices of industrial diamonds had declined during the 1960s, because of the advances of synthetic industrial materials. It was then discovered that some industrial diamonds could be processed using cheap labor, and the resultant polished diamonds be applied to jewellery. India rose to the occasion and with its low labor cost, it opened up new possibilities for the world diamond industry. Now diamond could be made affordable for new less affluent buyers. Thus India captured an increased proportion of this market.

Now India is considered to be one of the world's largest centers for cut and polished diamonds. India's share of the world's polished diamond market is 60% in terms of value, 85% in terms of volume and 92% in terms of pieces. India exported cut and polished diamonds worth \$11.2 billion in 2004-05 up from \$8.6 billion in 2003-04. Out of every batch of 10 diamonds made in the world, 7.5 are made in India. Exports of colored gemstones witnessed a growth of 8.1% in 2004-05 – to \$192.9 million. The diamond processing units are mainly located in Gujarat, particularly in Surat, Navsari and some parts of Surashtra and north Gujarat region. About 80% of India's diamond processing work is done in Gujarat out of which about 50% is conducted at Surat. While

Surat is the production center for diamond, Mumbai is the trading center, thus these are two main centers for diamond trade.



As per as export destination of gems and jewellery products are concerned, for cut and polished diamonds, USA and Hong Kong top the list with 28% share each followed by Belgium with 13% share. The following table presents the pattern of cut and polished exports in the last three years.

#### India's Exports of Cut & Polished Diamonds to Major Markets (Value in US\$ mm)

	2003-04	% of Total Exports	2002-03	% of Total Export
U.S.A.	2420.47	28.06	2258.80	31.77
Hong Kong	2431.59	28.19	1915.73	26.94
Belgium	1036.70	12.02	930.82	13.09
Japan	400.96	4.65	353.50	4.97
Israel	575.28	6.67	438.45	6.17
Thailand	200.19	2.32	207.48	2.92
Switzerland	236.52	2.74	132.65	1.87
U.A.E.	793.09	9.19	424.69	5.97
Singapore	171.69	1.99	135.08	1.9
Germany	34.34	0.4	28.55	0.4

France	13.93	0.16	17.09	0.24
Australia	49.29	0.57	34.44	0.48
Others	262.22	3.04	233.29	3.28
Total	8626.27	100.00	7110.57	100.00

Note: Above figures include data of Cut & Polished Diamonds Bonded (WH) & SEEPZ

### **Key characteristics of diamond processing industry:**

The industry is extremely complex, consisting of several activities at different stages. In general, processing and manufacturing tends to be fragmented, although there are many small companies bound together in intricate trading relationship. It is labor intensive creating more employment opportunity. The industry uses inherited skills of domestic workers, which are passed on from one generation to other. The business model is family owned, traditional in nature, reinforcing the fact that the sector is unorganized. The technology and skill required for cutting and polishing of diamonds have been largely developed within the country and at industry's own cost. Most of the diamond dealers are inter-connected with each other and have developed a collective interest in achieving higher export target. One of the unique characteristics of the diamond processing industry is that it is fully dependent on imported raw material for processing and it is basically export oriented. The cost effectiveness not only depends on cheap labor, but also of its large volume and wide variety of product mix. Government has also helped in promoting the industry by cutting down on export duties on capital equipments, removing imported goods free from the purview of sales tax, providing exemption to export profits from income tax and cutting down on procedural delays.

The study of the dimensions of various types of innovation indicators, such as, product design, market, organizational and financial innovation will assist to assess the innovativeness of the diamond sector. An attempt is made to understand the innovation indicators as follow:

#### **2a. Product Innovation**

Production innovation includes basically changes in the product, process, and raw material use. The jewellery industry, be it gold, diamond or precious stones is fashion driven and therefore it is very dynamic in terms of customer tastes and preferences. In order to cater to the ever-changing demand of the consumer, the diamond processing industry maintained a non-standardized processing of diamonds, so that a diverse product mix may be produced.

There has been some innovativeness in product through improvements in its cut, color and clarity. A variety of new cuts like Marquise, Pear shape, Heart shape, step cut etc has been produced by the industry, which have great demand in the US market.

Initially India focused on diamond cutting, where raw materials were imported and by using cheap skilled labor they were cut and polished thereby exporting them. The Indo-Argyle Diamond Council (IADC) was first to draw the industry's attention towards diamond jewellery as a value added industry; it helped India tailor its designs to international tastes. IADC encourages Indian jewellery designers by conducting designer fairs, meetings with jewellery store merchandisers, design innovation programs and individual design sessions.

## **2b. Organizational Innovation**

In an organization, there are various types of innovation indicators. This comprises innovations related to organizational structure, recruitment & developing people and making them fit in the structure, continuously bringing innovativeness in the work culture. Thus following are broadly key indicators of organizational innovation:

- (i) Process innovation
- (ii) Technological innovation
- (iii) Skill development

### **2b(i) Process Innovation**

Diamond manufacturing is broadly divided into three stages, mining, cutting & polishing of raw or rough diamonds and trading & retailing, out of these the first two comes under diamond processing. These processes can be undertaken within a country or as the case is mostly mined in one country and cut & polished in another. The “big four” diamond cutting centers are Antwerp (Belgium), New York (US) Ramat Gan (Israele) and Mumbai (India). These centers are also the main diamond trading stations.

The diamond processing industry in India is mostly labor intensive, where the skill is passed on from one generation to other. The identification of roughs, cutting and polishing skills are inherited by people from their senior family members. Learning by doing is given preference over education.

Nowadays, some of the diamond-processing units in India have started using computerized machinery in diamond cutting process. Computer software is gradually being used in creating innovative designs. Modern machinery is also used in the diamond processing industry in order to expedite the process. While incredibly precise computerized machinery is now used in some parts of the cutting process, most of the work is still performed by hand using exacting and meticulous techniques.

This can be observed through outsourcing opportunities available in the diamond processing industry. Surat (India’s main center of diamond processing) with a diamond business of Rs.50000-crore gets a fifth of its diamonds polished in small villages in Gujrat. The reason being low-value cutting and polishing does not require high-precision technology. As a result, these smaller units are capable of handling the job. The processing job only requires skill, which is available in plenty in these places. Big diamond traders in Surat, Bhavnagar and Rajkot outsource the work to these small villages and towns. Places like Utelia, Loliya, Sagarwala have hundreds of people employed in the diamond trade. Almost all leading Surat-based players such as Sanghvi Brothers, Shri Ram Krishna Exports and JB Diamonds outsource substantial part of their businesses to smaller diamond cutting & polishing units mostly based in villages of Saurashtra, North Gujrat areas surrounding Surat.

## **2b(ii) Technological Innovation**

Indian diamond processing industry uses non-perfect diamonds like polycrystalline macles, distorted crystals etc, where processing is not possible by automation. The industry has developed machinery to suit these applications. At the same time it takes advantage of cheap skilled labor. Like for example the diamond processing industry in Gujrat has developed laser kerfing and sawing machines.

According to GJEPC, the industry has yet to introduce and implement application of new technologies that will help simultaneously in marketing the product along with providing efficient service. An effort has been made by the industry in this regard by devising specialized mechanism to serve tailor-made requirements of the customer. An online selling mechanism is being implemented which will not only increase service capability but will also help in increasing revenue for the industry.

## **2b(iii) Skill Development**

According to industry observers, in order to compete in the growing world jewellery market, Indian jewellery industry has been trying to get acquainted with the type of design and style popular in the foreign market, with the help from foreign designers. Nowadays entrepreneurs have been investing in educating the workers by organizing workshops to enhance their skills.

Under a project sponsored by the Ministry of Commerce the Indian designers were introduced to the design preferences of the world market, with the help of designers from Germany. The German team of designers assisted the Indian designers in understanding foreign demand, so that they can create a demand for Indian jewellery in the foreign market. The Germans provided high-level systematic education in jewellery design and manufacturing. The Indian designers earlier attempted to copy foreign designs

from leaflets, which was a failure, as there were other aspects to the design apart from the look and the style, like the Europeans prefer nine carat gold rather than 22 carat gold.

Several institutions have been established for training the young generation with the required skills to be able to find employment in the growing jewellery industry. Recognizing the Indian Diamond Industry as a major source of employment and as a priority sector with scope for substantial value-addition, the Indian Diamond Institute was established. The main objective of the institute is to create professionalism within the diamond and gems and jewellery trade and to help the artisans in developing their skills. The institute runs a large number of training programs, which cover subjects like diamond processing, assortment and grading, jewellery designing and manufacturing, computer application and management programs.

## **2c. Market Innovation**

The growth in the diamond industry has been observed remarkable in the last few years. The branded segment has fueled a large portion of this growth. This is due to a shift in the buying pattern in India. Traditionally Indians bought jewellery only from a family jeweler based on a relationship cultivated over generations. Now branded jewellery makers are gradually replacing the family jeweler. This shift has been possible as a result of innovative ways of advertisement initiated by the companies. Jewellery buyers are now aware of the various types of jewellery available in the market and also the standard quality, which they should look for. Various types of hallmarks assuring quality product gives the buyer the confidence to shift from the family jeweler to branded product.

Nowadays, world beauties can be found appearing in television advertisement of gold and diamond jewellery (Miss Universe Sushmita Sen modeling for Ora diamond jewellery and Miss World Aishwariya Rai modeling for Dee Beers diamond jewellery). To attract customer towards their branded product, the branded jewellery seller has adopted this type of innovative way. Women specially belonging to affluent classes are

lured by such advertisement and possessing these jewellery means maintaining their status, thus increasing the sale of such branded jewellery.

Television advertisement has a great impact on the buyer and it covers a large section of the society. Another technique used for attracting buyers is tele-shopping, where not only various styles of jewellery is displayed their prices are also given and one can easily obtain the desired jewellery set by simply dialing a number flashed on the screen.

According to gems and jewellery industry experts, the industry plans to introduce new technologies that will help simultaneously in marketing the product along with providing efficient service. With existing resources and expertise in the field of diamond and jewellery manufacturing, the industry is now focusing its efforts in devising specialized mechanism to serve tailor-made requirements of the customer by introducing an online selling mechanism of gem, jewellery and diamonds that will not only increase service capability but will also help in increasing revenue for the industry.

Another marketing strategy used is fairs and exhibitions, where a variety of jewellery is showcased. Such local and international fairs and exhibitions play an important role in product promotion, as the jewellery can be displayed to potential buyer and at the same time feedback about the quality and design of the displayed product may be obtained. Also sufficient knowledge may be gained regarding buyer preferences in terms of style, quality, and size of the jewellery. These shows are very interactive and give the seller an idea about local as well as international market trend or demand.

## **2d. Financial Innovation**

The SBI has extended project financing for the diamond industry. The bank is aiming at meeting the entire range of industry's needs through various products specially designed for requirements of the diamond industry in its integration towards jewellery exports.

The GJEPC is expected to attract foreign direct investment worth \$2 billion (in terms of working capital) in this fiscal year 2006. One such example of foreign direct investment is the decision of a Belgium based diamond company, Orora diamond, which plans to set up new diamond production facility in Mumbai with an investment of \$7.9 million. The facility would be used for both small stones as well as large stones of one carat or more. The set up as a completely integrated unit would take care of all processes of sourcing, cutting, polishing, and selling and distribution. The facility would serve the domestic as well as exports. On the retail front, the company plans to increase the number of its exclusive stores to 50 from the present 31 in the next two years. Most of the new stores would follow the franchisee format. It also plans to expand its shop-in-shop presence by tying with more retail jewellery stores.

In order to boost the domestic market with branded jewellery, jewellery manufacturers have earmarked a huge investment for their retail expansion plan. Most of the projects are funded through an optimum mix of internal accruals and debt from consortium bankers. Companies are not in favor of raising money by issuing fresh equity.

## **Gold Jewellery Segment**

India is the largest fabricator of gold for jewellery with more than 90% of this gold acquired for making jewellery. With estimated gold jewellery consumption of 520 tonnes during 2004 (according to World Gold Council Statistics), India is the largest consumer of gold jewellery in the world, accounting for 20% of global gold jewellery consumption. India is also estimated to hold nearly 14,000 tonnes of gold, accounting for nearly 9% of the world's cumulative mine production. It is estimated that the current annual demand for gold in the country is close to 800 tonnes (including recycled gold). Domestic gold jewellery expenditure, in terms of the value of the gold content purchased, peaked at Rs.302 billion in 1998 before declining to Rs. 279 billion in 2002. However, the rise in gold prices since early 2003 has resulted in gold jewellery demand increasing around Rs. 310 billion in 2004. Export of gold jewellery has increased at a 5 year CAGR of 29.5%, from Rs. 52.20 billion (\$1.15 billion) in 2001 to Rs. 171.13 billion (\$3.81 billion) in 2005. However, India's exports of gold jewellery is negligible, less than 2% of the \$80 billion global market. The main reason why India has not made a dent in jewellery export market is the existence of government restrictions on the domestic jewellery industry in the pre-economic liberalization era.

The price of gold in India in the pre-liberalization was kept artificially higher than the world price to dissuade people from hoarding gold. Thus a gold smuggling industry flourished. If gold jewellery exports were to be encouraged, it would have to be converted to jewellery and then exported. But allowing bulk imports of gold was risky; such gold could find its way into the retail market and sold at the higher prices prevailing in India. The folly of those policies was realized post 1991 when the economic liberalization of India started. Gold prices in India are now at par with world prices, so gold smuggling has been curbed. Bulk imports of gold are now feasible and do not pose the kind of risk that existed before 1991. The prospects for increase in exports of gold jewellery and diamond-studded gold jewellery have increased considerably.

Gold has played a pivotal role in the Indian social fabric. In India, gold has a religious significance. Gold was acquired in India in Roman times as part of the silk and spice trade. In the 17<sup>th</sup> Century the Dutch and English East India companies paid for goods with gold and silver and during the American Civil war Indian received gold from the US in return for the cotton that it supplied to make up for the lost crops in America.

Gold is valued in India for savings and investment purpose. It is the second preferred investment after bank deposits. This makes India the world's largest consumer of gold in jewelry. Gold circulates within the system and roughly 30% of gold jewellery is made from recycled pieces. In India gold jewellery plays a dual role of beautifying as well as an asset. Here gold ornaments are made for every part of the body. The range of jewellery varies from religious to purely aesthetic one.

Jewellery as investment and identity maker is evident from the plethora of ornaments worn by people. The settings of precious gems and stones in rings, pendants, necklaces and bracelets gained prominence due to the belief that these stones are associated with certain powers. This shows the importance of gold jewellery in Indian society.

Future growth in gold jewellery business is likely to be driven by increased exports and domestic consumption. Although domestic jewellery consumption has increased in 2004, consumption per capita (Rs. 285 per annum) is still very low, reflecting the high proportion of the rural population in the country (the rural population accounts for approximately 65-70% of domestic gold demand). Although exports of gold jewellery have increased significantly in recent years, the export business has been constrained by the inability to compete in global markets on basis of price and superior design capabilities. However, recent industry initiatives are likely to enhance the prospects of Indian gold and jewellery exports business. The GJEPC has targeted export of \$20 billion by 2007.

As far as export destination of our gems & jewellery products are concerned, USA is the largest export destination for Indian jewellery with a share of around 47% followed by UAE with a 35% share. The following table presents the pattern of jewellery exports in the last three years.

**India's Exports of Gold Jewellery to Major Markets (Value in US\$ mm)**

	2003-04	% of Total Exports	2002-03	% of Total Export
U.S.A.	1220.03	47.94	913.38	60.37
U.A.E.	902.32	35.46	261.78	17.30
U.K.	134.09	5.27	114.72	7.58
Singapore	74.53	2.93	56.20	3.71
Hong Kong	30.49	1.20	28.67	1.89
Switzerland	24.70	0.97	17.98	1.19
Kuwait	13.29	0.52	9.49	0.63
Germany	8.91	0.35	10.73	0.71
Others	136.53	5.36	100.13	6.62
Total	2544.89	100.00	1513.08	100.00

Note: Above figures include data from SEEPZ, Mumbai

Approximately three million artisans and goldsmiths are currently employed in the gold jewellery sector, adding the sector accounts for around 18 percent of India's total gems and jewellery exports.

**Key characteristics of gold jewellery industry:**

The Indian jewellery market is large and the production of gold jewellery takes place in all parts of India. It is worth over \$10 billion a year, but it is largely fragmented and is not branded. Branded jewellery accounts for less than 2% by value. The rest of the market is in the hands of about 300,000 unorganized jewellers. The jewellery segment as opposed to the diamond segment is directed more towards the domestic market of India. It has lot of structural differences with the diamond segment. The jewellery retailers are generally present in all cities and they control the industry. The jewellery is manufactured in their units or it is outsourced from a lot of small units attached to them. At the

distribution end, small and unbranded retailers predominate, with only a handful of branded retailers. In the middle, there are thousands of small traders whose trading relations are very private and largely invisible to the public, tending to hide information on procurement and sales destinations from their competitors. The jewellery exports instead, are more organized, have larger units and try to carry out almost all stages of production in-house to ensure better quality control.

In this section we focus on the initiatives taken by the enterprises in the production process, design and technology and marketing strategies to compete and survive in the domestic and global market. The gold industry in India is fragmented and therefore there is hardly any information available on the initiatives for improvements, taken by the enterprises in various domains of operation. However, based on the secondary source of information an attempt is made to make out the changes introduced by gold jewellery enterprises in production process, technologies and the market strategy to have competitive advantage domestic and global markets.

### **3a. Product innovation**

Indian jewellery market operates mostly in tightly protected market, as a result of which there are strong territorial franchises, which security to those in business. But at the same time this has led to little innovation and very little differentiation. Due to this lack of competition among the jewelers, little attention has been given to jewellery design. The trend has been such that the buyer goes to the generation old family jeweler for making jewellery, whom he trusts for quality and design. The buyer has little choice in the type of design he can obtain. This is the general scenario in Indian jewellery market, which operates in small villages or towns.

Different regions of India portray unique jewellery designs, like in Jaipur enameling or meenakari, temple jewellery from Nagercoil, which consists of traditional gold ornaments studded with red and green semi-precious stone. The designs in solid gold jewellery of Tamil Nadu and Kerela are inspired by nature. Thus each state has its own special gold jewellery design.

In spite of the availability of this variety of jewellery designs, the Indian society witnesses a change in the buyer's preference of jewellery. The change is especially observed in the modern affluent society of India. The shift in buyer's preference, which we can observe nowadays, is that the new generation is looking for unique style rather than the old traditional jewellery, which is passed on from generations. Now the outlook has broadened, jewellery not only means investment but also makes a fashion statement. Buyers are shifting their purchase from the local generations old jewellery shops to the new malls and branded products. The domestic market for branded jewellery is the fastest growing segment of the gems and jewellery market<sup>2</sup>. However, standardization of jewellery across the country may still not work so well in India, as every region of India demands not just different designs but different raw materials as well.

Keeping all this in mind the industry is making rapid strides on the design front, which is powered by a new generation of young professionally trained tech-savvy designers. The new generation designers have added a new dimension to Indian jewellery by fusing technology and creativity to conjure up amazing creations. They have also taken the industry to new direction by closely tracking international trends, in order to create foreign demand as well for Indian jewellery. At the same time, many Indian exporters are engaging foreign designers for designing their collections.

As a result of this changing trend in buyer, Jewellery designing has become a new career path for the youth. The recent years have seen a spurt in demand for customized as well as designer jewellery. Hence the need to create one's own personal signature has created this field as a hot career pursuit for the youth.

Several Institutions have been started for teaching jewellery designing; one such institute is Jewellery Design and Technology Institute in Noida, Uttar Pradesh. The institute was started in 1999 followed by two other branches in New Delhi. As part of the curriculum, JDTI organizes internships of six to eight weeks, for its students, in reputed

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<sup>2</sup> Tanishq's growth (largest India branded jewellery manufacturer) of about 40% plus compound annual growth per year for the past four years clearly indicates the recent growth of Indian branded jewellery segment.

jewellery companies of India. It has been successful in its effort to provide placements to its students who are getting absorbed in the leading Jewellery companies. The institute also plans to set up a Design Gallery, with an objective of showcasing the talents and selling the designs of the students.

To help take the jewellery to an even higher level, the industry works closely with national design groups such as National Institute of Fashion Technology and National Institute of Design. The GJEPC also opened an Indian Institute of Gems & Jewellery to offer a comprehensive three years diploma course in jewellery design and manufacture. The Gemological Institute of America offers gemological training to complement design education. It recently opened a school in Mumbai, with two major donations by Indian manufacturers.

### **3b. Technological initiatives**

Traditionally Indian jewellery industry never felt the need for any new technology for jewellery manufacturing as most of the processing was done by hand. But due to the growing demand for new designs and faster production, it has been imperative for the manufacturers to employ new machines and technique for jewellery manufacturing.

Due to this change India's jewellery manufacturing facilities have developed and now is at par with the world's best, equipped with the latest CAD/CAM and other advanced computerized system to ensure products that meet both international quality standards and timely deliveries. The factories are well planned. Thus this technological innovation provides a perfect blend between modern machines and the traditional centuries old skills of the Indian artisan.

### **3c. Market innovation**

It is imperative that any attempt to enhance production or expansion of trade, is to be accompanied by an effective marketing strategy. It has been observed that proactive marketing strategy has worked wonders for the jewellery industry. In order to reach out

to the potential customer, it is required that they be aware of the type of products available in the market. Keeping this fact about consumer knowledge Indian jewellery traders have increased their participation in trade shows, where people from various parts of the world come in search of new designs and unique jewellery. Also it caters to the need of various sections of the society by giving them an idea about what is available in the market and also its price.

Indian jewelers have also started participating in International exhibitions and trade fairs, thereby attempting to grasp the attention of foreign customers. This type of interactive marketing also helps the jewellery designers to understand the global market demand of various countries and sections of the society.

Another marketing strategy employed is setting up of trade offices. These offices play an important role by feeding the trade in their own country with necessary information like, data regarding customer choice, materials, designs, price levels and modern trend, in order to guide them in the production. It is reported that many Indian exporters operate export offices in major markets and have greatly been benefited in their efforts to expand the trade.

## **Government Policy**

The spectacular growth of 15-20% of Indian gems and jewellery industry in the past couple of years has enforced the policy makers to provide special attention towards the segment. This industry is particularly interesting industry from Indian standpoint, since it involves imported raw materials, domestic value added, and global markets and provides skilled employment. Indian gems firms are tightly integrated into global production chains. The country is identified to have the potential to become the next global trading hub of gems and jewellery. The boom of the present gems and jewellery industry is essentially driven by the impressive export performance as against the domestic performance. Export of gems and jewellery from India in 2005-06 rose to \$16.7 billion and became the second largest contributor to the foreign exchange reserves for the

country. Due to labor cost advantage, availability of skilled manpower and expertise in producing international quality products, India is believed to be a major destination for outsourcing of quality jewellery to the world.

Along with the exports of cut and polished diamond in the global market, India also became the largest processing center for diamond. It is also now getting into retailing of gems and diamonds, as this sector also appears to be very lucrative in terms of margins.

The government, realizing the importance of this sector, has introduced some policies in order to give a boost to exports. It made provisions in the Exim policy in 2004 for duty free re-import of rejected jewellery up to 2% of FOB (free on board) value of exports. Steps have also been taken to reduce the transaction cost to minimum and provide a hassle free environment for trade.

In an effort to promote the exports of the industry, the government took major policy initiatives during 2004-2005 such as:

- Lowering import duty on platinum from Rs 550 per 10 gms to Rs 200
- The customs duty on import of rough diamonds half-cut and broken diamonds has been abolished while that on cut and polished diamonds has been reduced from 15% to 5%
- Rough semi precious stones are already exempt aimed to further increase the exports of studded jewellery and platinum jewellery
- Moreover efforts are made to set up a 20 lakh sq. meter Gems and Jewellery Park in Surat, which proposes to turn India into a diamond value addition hub
- Also the Finance ministry announces that production or processing of goods through job workers in the course of manufacture of cut and polished diamonds and gemstones, plain and studded jewellery of gold would be exempt from service tax

Gems and Jewellery Export Promotion Council and World Gold Council have taken up number of projects in order to increase export of Indian gold jewellery. GJEPC has already set up design centers in Jaipur, Delhi and Surat; lack of jewellery design

innovation is a major roadblock to export of Indian gold jewellery in the world market. In order to promote jewellery designing, WGC has introduced international Jewellery designing competitions among the Indian artisans. Keeping in view that Surat is the main diamond-processing center in India, efforts have been made by the GJEPC to keep the skilled workforce abreast of the latest trends and technology and in order to do so it has set up the Indian Diamond Institute (IDI). The institute has technical collaboration with reputed institute in UK and Belgium such as Gem A & IGI.

The government has realized that the gold jewellery sector had been neglected in the past and needed to move more towards exports, thus accords “extreme focus” to the industry. Utmost efforts have been made to increase exports of gold jewellery. The government has recently evolved a medium-term strategy, like hallmarking of jewellery to develop the Indian brand in the global jewellery market, integration of the supply chain, joint ventures with leading suppliers and developing intelligence on key markets.

The gems and jewellery industry played an important role in the Union Budget 2006-2007 as special emphasis was laid on the sector and announcement was also made about the setting up of expert committee to look into the potential of the gems and jewellery industry and come up with recommendations to enable the country to become a hub for this sector. It would make recommendations for a taxation system based on best international practices to provide impetus to the growth of this sector. The committee is expected to submit its report by September 30<sup>th</sup> 2006. The Finance Minister in-principle agreed to replace income tax for the gems and jewellery industry with a presumptive tax as is already the norm in international centers that will boost exports, increase foreign direct investment.

## **Conclusions**

In the gems and jewellery industry in India, what we have observed is in the form of certain initiatives by the entrepreneurs in various domains of operations to strengthen their competitiveness in domestic as well as the global market. The industry is moving towards customized product development, newer designs through designing techniques, and establishing brands with assurance of quality products. Here, we have tried to

understand the process of innovation through various initiatives of these entrepreneurs. These are both technological and non-technological in nature.