



**RESEARCH PAPER**

**Innovation in Coin Jewellery fashioned with Enameling and Semi-Precious Stones**

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**ABSTRACT**

The study's main objective was to collect coins which are currently unpopular or unfashionable and convert them into beautiful ornamented pieces of jewellery. Coins are one of the main material sources for Historians and are a good source to know about administrative history. Coins at first appear to be purely decorative elements in Indian jewellery and on costumes and have emotional significance. This exploratory study required exploring the different techniques of enamelling. It was found that champlevé was the best suitable technique as it can be done without disturbing the motifs on the coins. The study is very experimental because of the amalgamation of Meenakari and coin jewellery, and to find its acceptance among the people. Product development included six stages: structure formation, polishing, stone setting, electroplating & meenakari. It was found that enamelling is possible on silver, gold & copper coins, but in some cases, the characteristics of coin metal have to be carefully studied. It is recommended that more designs should be made to preserve the old coins and increase their aesthetic value and historical significance.

**Keywords** Champléve, Coins Jewellery, Enamelling, Kasu Mala, Meenakari, Numismatics Techniques

**Introduction**

Over the centuries, many ancient, rare and ultimately valuable gold, and silver coins have been melted and made into jewellery. It is no surprise that India has produced many different denominations of gold coins, which include Dinars, Staters, Kahavanus, Pagodas, Tankas, Ashrafis, Mohurs, Gadyanas, Bhairava Gadyanas, Varahas, Fanams, Koris, Xerafims, and Tolas. Perhaps because of a mistrust of banks, the government or the tax system, many Indians store their wealth in the form of gold bars or gold coins. These coins are treasured; some of the antique collection of coins is kept treasured. Indian brides traditionally have a



Figure 1: Medallion-Disc with Hariti Gold repousse and carnelian From Punjab; Kushana period, 1st-2nd century AD, D-4.8 cm Formerly collection Col. D. H. Gordon

dowry of gold. This is usually in the form of 22-carat or 24-carat gold formed into jewellery, often incorporating gold coins or silver coins. Wedding guests also give gold and silver coins as lucky wedding gifts. Even during festivals like Diwali and Akshaya Tritiya, gold and silver coins are gifted or purchased and kept in a safe and are used in emergencies by melting them down or by selling them. This does not increase their longevity and usability; merely by keeping them, these coins get crude, unpolished, etc.

The study aims at increasing the longevity and usability of old rare coins by beautifully crafting enamel on them, thus preserving them and increasing their aesthetic value. Increasing the beauty and historical significance of coins by converting them into jewellery would be a way of appreciating the value of coins. To create invention in the field of coin jewellery by introducing enamel fashioned with semi-precious stones. Designing a range thereby converting them into a beautiful ornamented piece of jewellery. It also aims to study various techniques of enamelling and find the best suitable technique of enamelling/ meenakari on coins. To study the physical characteristics of coins, and the availability of old coins. To explore the technique's feasibility by enamelling all shapes and sizes of coins based on experimentation. The significance of the study is to use coins as jewellery, thereby increasing the demand for coins in today's generation. The study also aims at creating awareness among consumers and meenakari artisans about the possibility of enamelling over the coin surface.

### **Literature Review**

Of all the different forms of jewellery that are crafted in India, enamelling is perhaps one of the most outstanding styles in brilliance and expertise. However, as there is no accurate, verifiable history, of enamelling in India or the surrounding regions, the exact date and its origin in the subcontinents become difficult to pinpoint. When did this fascinating craft start in India; this question is worth debating because it is generally accepted that the technique of enamelling is not an indigenous Indian craft but had its origins abroad. Sir George Birdwood also comments on the quality and the brilliance of Indian enamellings: 'It is the mingled brilliance of its greens, blues and reds which laid on pure gold and make the superlative excellence and beauty of Jaipur enamelling. Even Paris cannot paint gold with the ruby, coral red, emerald green and turquoise and sapphire blues of the enamels of Jaipur, Lahore, Benares and Lucknow.' He goes on to say: '.... the art is practiced in India, at Lucknow, Benares, Multan and Lahore, Kangra and Cashmere but nowhere in such perfection as at Jaipur. There is no mention of enamelling in early Indian texts before the fifteenth century.

Coins are a symbol of wealth. Presumably, a person who uses coins as an ornament possesses a surplus. Because coins in jewellery are seen by others, they contribute to the wearer's prestige, a calculated objective. Further, by using government-minted coins in jewellery, the wearer is tacitly admitting his or her support for that prevailing government. Coins in jewellery thus came to symbolize state protection, which evoked the idea of the mystic, amuletic power superstitious people often attribute to coins. In Punjab, necklaces of rupee coins are known as Henkel or animal; in Rajasthan, rupaiya har, in Tamil Nadu the tern is Kasumalai, a necklace with thirty to forty gold coins the size of a quarter rupee joined to a gold chain. The latter name also applies to any necklace in which coins (kasadi) dominate.



Figure 2: NISKA (Necklace of coins-Front & Reverse) North India: 19th-century Private collection as a statement of wealth, necklaces of coins Trace their antiquity to the Mahabharata. While gold Coins are set into one side of this necklace, the reverse comprises Kundan set units of rubies and Emeralds encircled with pearls

**Research Design and Methodology**

**Research Design**

The research is designed in such a way that it can answer to find answers to questions about the attitudes of artisans and consumers towards the meenakari-coined jewellery and also to find out the behavior of materials and technologies in the development of the product. As ‘Traditional Meenakari on coins’ is an amalgamation of Meenakari on coins, this research in itself becomes an innovation and makes this research very exploratory and experimental research. Research is conducted into the potential and the scope of jewellery as a medium, with the goal of innovation and furthering development.

The following chart explains the research design:

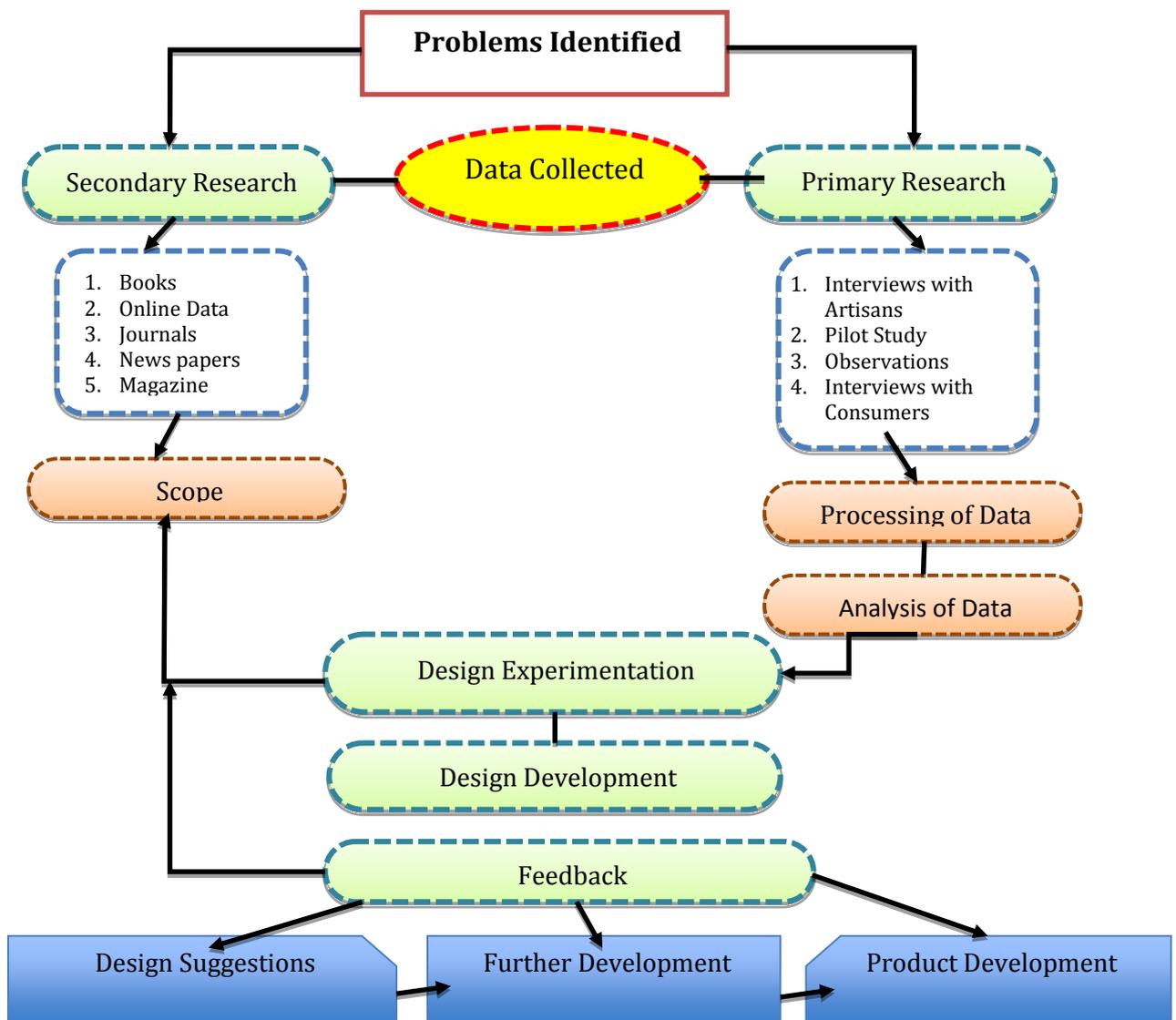


Figure 3: Research Design

**Material and Methods**

Research in the domain of jewellery needed an approach demanding delicacy and subtlety. Information and resources are not easily available and are rather protected for the fear of competition by other jewellers. This research was conducted by adopting a proven research methodology, as suggested by researchers (Hair et al. 2005, Kothari 2002) from time to time for different cases. As 'Traditional Meenakari on coins' is an amalgamation of Meenakari on coins, this research in itself becomes an innovation and makes this research very exploratory and experimental research. Research is conducted into the potential and the scope of jewellery as a medium, with the goal of innovation and furthering development. The experimental and exploratory approach to the discipline allows for an autonomous method for the creation of jewellery. It is also possible to place greater emphasis on the design aspects of working with jewellery and to approach it as a product, or to work with objects that have a personal nature similar to that of jewellery.

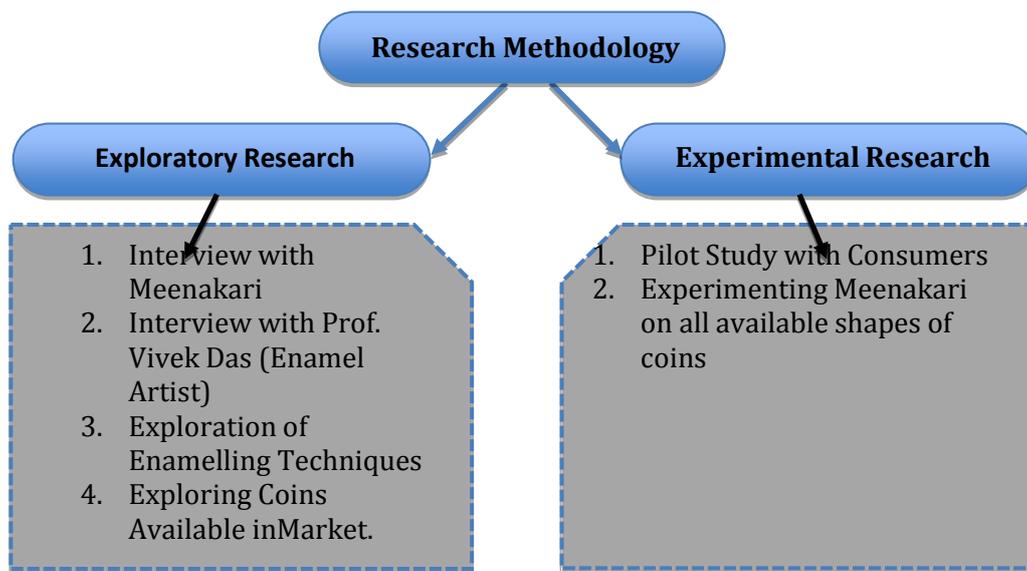


Figure 4: Research Methodology

### Secondary Research Analysis

Analysis of the Review of Literature shows that the designs and delicate craftsmanship of ancient jewellery have greatly influenced the designs used in modern jewellery. The designs of the past show the delicacy of ornaments, but when compared with the new patterns and designs the old designs are very heavy and very traditional in taste. The designs of the past have influenced new patterns which can be compared by looking into the designs of Sunita Shekhawat, but in her designs, she has tried to introduce contemporary designs in her collections. Tanishq has introduced the old designs and patterns and tried to replicate the designs from the old scriptures and paintings of Jodhaa and Akbar. The meenakari collection from Zoya is very fresh in design and has altogether tried to give a vibrant and new look to the traditional meenakari. Meenakari has changed a lot and now by looking at the collections of gold glam from Tanishq and TBZ it can be seen that meenakari is given a very modern and contemporized look altogether. But when looking at the collection of Manish Arora and Amrapali, Meenakari has been given a very fresh and vibrant look and very new designs and new color schemes have given it a very voguish look. Coin jewellery in India is mostly used in the form of Kasumala, coin jewellery worn by other tribes and no design invention has been done in this section. But abroad, Coin jewellery is in fashion and is considered very chic; Invention in coin jewellery can be seen as Cut Coin jewellery Art, which focuses on the stamped figure of the coin. In C&G and etsy.com, various designs in coin jewellery can be seen, these designs are new fresh and very customized in nature. Thus, from the entire review and secondary data, it was found that innovation in coin jewellery is seen only in the form of cut coin jewellery, enamelling on coins is seen nowhere hence it increases the scope of the entire research. Enamelling

can be introduced on the surface of the coin and thus can be converted into a beautiful ornamented piece of jewellery. The secondary research also increases the scope of the research and hence further research on this topic can be done.



Figure 5: Manish Arora Amrapali collection- Queen of heart bangle with tassels



Figure 6: Interview with Enamel Artist Vivek das



Figure 7: Vivek's das Enamel work

### **Primary Research Analysis**

From the detailed interview with meenakari artisans and enamel artist, it was analyzed that Gold is an ideal metal for enamelling. It shows no appreciable solubility for hydrogen, oxygen, or nitrogen. Because of its medium-high melting point, medium coefficient of expansion, and low modulus of elasticity it is easy to formulate enamels which are compatible and still possess the excellent properties the artist desires. It does not form oxides which affect transparent enamels, allowing them to be more brilliant and clearer than any other metal. According to the artisans, enamelling is possible on pure silver and gold coins, but in the case of Old Indian coins, the characteristics of coin metal have to be carefully studied before doing enamelling because coins may have contents of Nickel and Zinc which produces bad results in enamelling was analyzed that Enamelling is possible on all shapes and sizes. According to Artisans, there are 7-8 techniques in enamelling Cloisonné, Champlevé, painted enamel, Grisaille, Basse-taille, Ronde Bosse, Sgraffito, stenciling, Plique-a-jour out of which Champlevé and cloisonné are extensively followed by the artisans. Out of 30, 24 artisans answered that Champlevé is the best technique suitable for enamelling in coins and is also possible with semi-precious stones.

Every Artisan said that they are unaware of the acceptance of this kind of jewellery by consumers as it stands upon the taste of the consumer. While exploring the coins it was analyzed that Old India Indian coins have a mirror-like background to the surface of the coin and a design that is frosted looking, these designs are raised from the field of the coin, creating a certain amount of depth which can be used for enamelling. While the various coins have more depth and can produce perfect and beautiful results. These depths in coins are perfect for the technique *champlevé*; if the additional depth is required the background can be engraved without disturbing the original motifs and characters of the coin. While exploring the two most favorable techniques it was analyzed that *Cloisonné* and *Champlevé*, it was studied that *champlevé* provided better results. While exploring the coins it was made possible to select coins with characteristics like the base metal should be compatible with enamel, and the designs and motifs are more precise and clearer for favorable results. From the findings of the Pilot study, it was very clear that females purchased jewellery for investment and like *Meenakari* to some extent only, the designs of the jewellery should be Casual Daily wear under a range of 5000 – 10,000. While experimenting *Meenakari* with old coins, it was seen that *Meenakari* did not provide results on the metal bronze and small coins, it was difficult to paint with enamel. But on the other hand, enamelling on the silver coin was good and the colours were clear and transparent.

## Results and Discussions

### Design Exploration

For the development of the Designs for the prototype, a total number of 25 sketches were done out of which 5 sketches were finalized for further process. These sketches were helpful in further explaining the designs to the artisans and it was also helpful in finalizing the designs in the design development stage.



Figure 1: Sketches of pendants, brooches and earrings



Figure 9: Sketches of pendants and necklaces

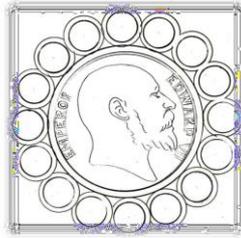


Figure 10: A pendant with round-shaped semi-precious stones

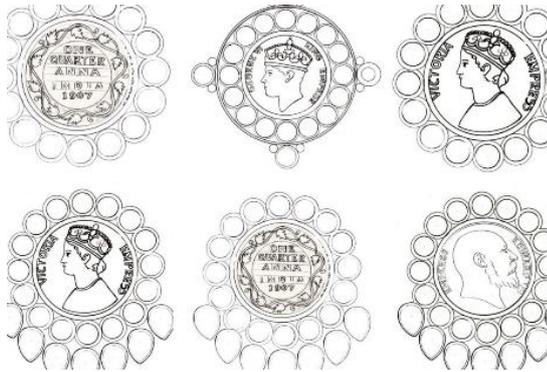


Figure 2: Sketches of pendants and earrings



Figure12: A pendant of 1 anna coin

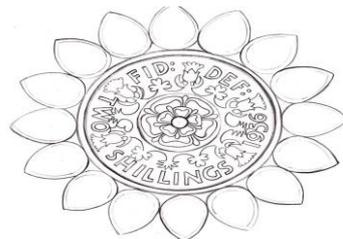


Figure 13: A pendant with teardrop-shaped semi-precious stones

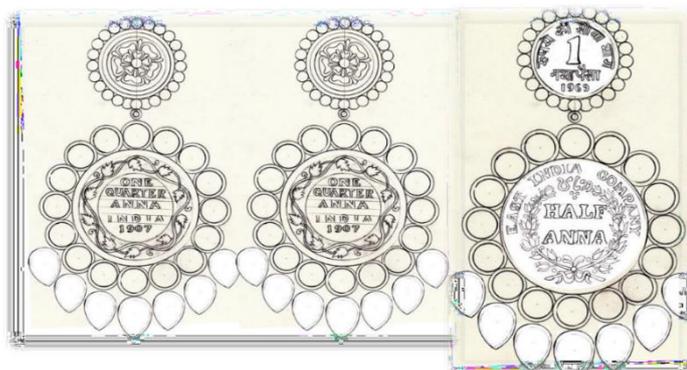


Figure 14: Pair of earrings with pearls and semi-precious stones

### Experimentation of the Technique

The champlevé technique experimented on a silver coin which is usually used on religious occasions. The following steps were followed while experimenting with the technique:

1. At first the coin is cleaned with sulphuric acid so that no traces of oil remain on the surface of the coin
2. Enamel colours are thoroughly cleaned with water so that no impurities remain in the color.
3. This enamel color is mixed with glue and then applied to the surface of the coin. This process is done very carefully so that the color does not come onto the motifs.
4. Once the color is applied, the coin is left to get dried up.
5. The coin is torch-fired for 2 minutes, till the enamel melts.
6. After one firing, color is again applied to the coin and then fired again for getting perfect results.
7. The coin is washed with sulphuric acid; the acid bath gives a natural shine to the coin.

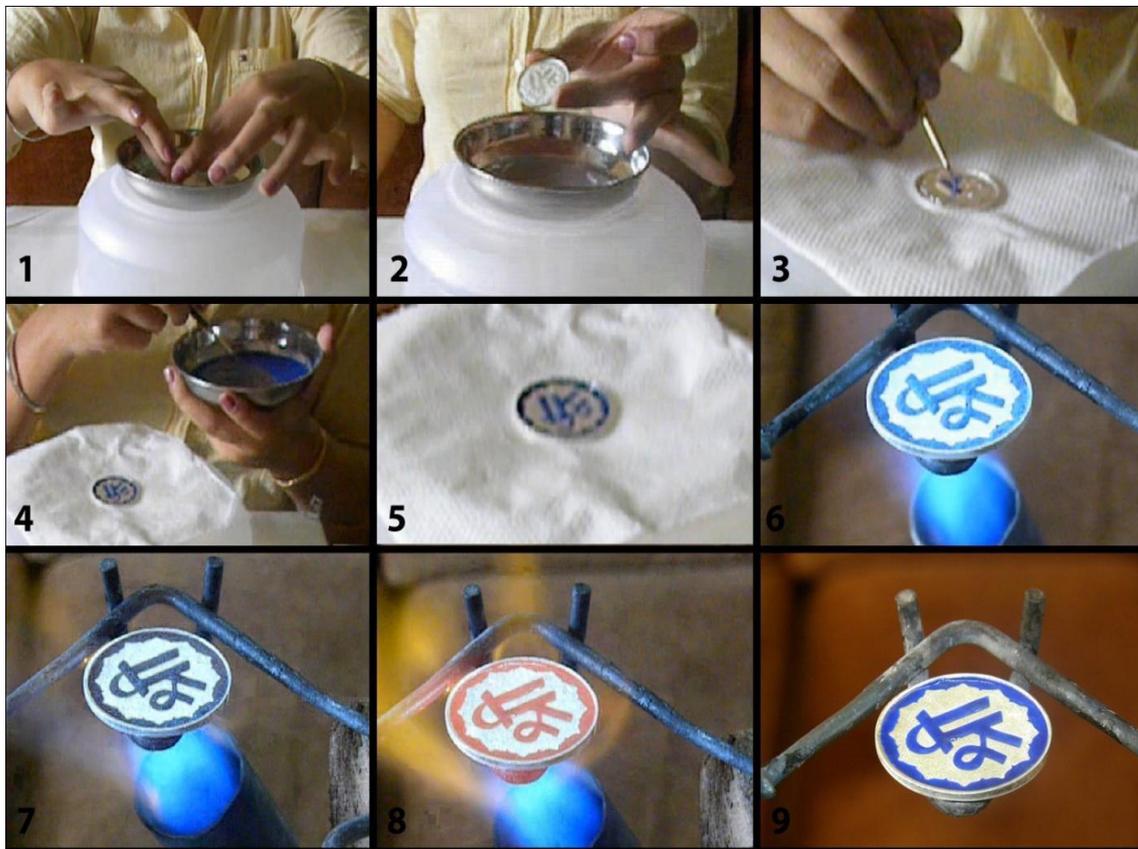


Figure 15: Experimentation of Technique

1. Cleansing the Coin
2. Displaying the coin
3. Application of enamel colours
4. Application of enamel colours
5. Drying of coin
6. Torch firing
7. Torch firing
8. Torch firing
9. Final display of coin

After the Design development stage, the sketches were carried forward to the design development stage where the 5 samples of Meenakari coined jewellery were made. The making of the prototype underwent 6 stages. These 6 stages took a long time of 4 weeks.

**Prototype Development Stage**

<p><b>Stage 1</b></p>	<p>The first stage included the framing of the coins. The coins were given a silver frame so that the inner coin was not available for soldering and hence the coin could be anytime taken out of the frame. Also, the stones were given a silver framing. When the process was completed, it was put on the clay so that it could be made ready for the next stage of soldering. This process took about 4-5 days.</p>	
<p><b>Stage 2</b></p>	<p>Once the frames are created, the plaster of Paris is spread all over the coins. This plaster of Paris is left for 4-5 hours for drying so that it can be made ready for the later process. This stage took 1 day.</p>	
<p><b>Stage 3</b></p>	<p>Once the plaster of Paris is dried, the frames are soldered together, to create one single frame. This process took 4-5 days.</p>	

<p><b>Stage 4</b></p>	<p>The soldered pieces are cleaned properly and prepared for Meenakari and stone setting process. This process took 1 week</p>	
<p><b>Stage 5</b></p>	<p>The coins are given to the stone setter for the setting of stones and given for polishing and plating. The stones are handpicked, bringing life to the coin's delicate designs that are subtly enthralling and decadently exclusive. This stage took about 2 weeks</p>	
<p><b>Stage 6</b></p>	<p>This is the final step of the Design development process, once the stone is set the piece can be enameled and then cleaned properly for no carbon remains. The delicate embellishment and the depth of the detail are maintained during this stage. The whole process took a period of 10-12 days.</p>	

**Feedback**

A feedback survey was conducted with the same consumers who were interviewed in the pilot study, and also with the same Meenakari artisans to understand the attitude of potential consumers and artisans towards Meenakari coined jewellery and subsequent quantitative and qualitative research would be carried out to measure how widespread these attitudes are.

**Feedback from Consumers**

Feedback from 22 Female respondents was conducted, this Focused research was conducted to learn and understand the attitude of potential consumers towards Meenakari jewellery and subsequent quantitative research would be carried out to measure how widespread these attitudes are.

**Purpose**

The research was carried out to refine the objectives and provide lines of enquiry for Design experimentation. This research was an attempt to find out the answers to the following:

The respondents would like to buy Meenakari coined jewellery. What ratings do they give to the jewellery? What would be the most preferred choice on coins? How much they would like to pay for the jewellery?

### **Procedure**

This research was carried out internally in Mumbai, and it was made possible to connect to the same females who were interviewed in the pilot study.

Brief information was given on the requirements of the research and a sample of all Meenakari coined jewellery was shown to get information on the main question that rose during the research.

### **Analysis of Feedback**

Analysis of the feedback shows that Jewellery set was the most preferred choice among the consumers they rated the jewellery set the highest among the other 4 jewellery pieces; they rated the jewellery highest in terms of beauty followed by Innovation and Material. When asked about whether they would like to purchase the jewellery 20 females answered they would like to purchase the jewellery and majorly thinks that the price of the jewellery is about right, Consumers answered that they would like Meenakari with semi-precious stones on coins and also Coins with Semi-precious stones only.

### **Feedback from Artisans**

When feedback was taken from the artisans who were interviewed in the pilot study, they answered that Meenakari on the coins looked untidy and hence the meenakari is the area which demands a lot of attention and cleanliness. The meenakari should not come from the motifs of the coins.

When asked about the frame of the jewellery pieces they answered that more designs can be introduced into the frames but this would increase the labor cost and silver cost and hence the overall price of the jewellery would increase.

They also said that more variety of semi-precious stones can be used in the jewellery but this also increased the cost of the jewellery.

Thus, from the analysis, it was clear that Meenakari on the coin should be done more precisely and with great attention, more semi-precious stones should be introduced on the coins, and more designs on the frames of the coins can be introduced.

### **Conclusions**

The Research shows that Meenakari-coined Jewellery demands a lot of perfection in terms of the application of (Meena) enamel colours on the coin. If this process is not done properly the effect and the appearance of the coin is dull and not attractive. The handpicked semi-precious adds life to the coins and increases their aesthetic and historic value of the coins. Both meenakari with semi-precious stones on coins and coins with semi-precious stones only are majorly demanded by consumers. The consumers liked the beauty and aesthetic value that has been added to the coin by doing enamelling and adding semi-precious stones on the frame of the coin. Also, one of the major roles is that the coin does not lose its value as the outer frame of semi-precious stones prevents it from getting soldered and hence any time it can be removed and retained.

When asked the artisans about the Meenakari on the coins, they answered that it looked untidy and hence the meenakari is the area which demands a lot of attention and

cleanliness. The meenakari should not come from the motifs of the coins. When asked about the frame of the jewellery pieces they answered that more designs can be introduced into the frames but this would increase the labor cost and silver cost and hence the overall price of the jewellery would increase. They also said that more variety of semi-precious stones can be used in the jewellery but this also increased the cost of the jewellery. Thus, from the analysis, it was clear that Meenakari on the coin should be done more precisely and with great attention, more semi-precious stones should be introduced on the coins, and more designs on the frames of the coins can be introduced.

Overall, the consumers like the idea of the introduction of meenakari on coins but the areas that need improvement are in the application of enamel color on coins, *champlevé* is the technique which is most suitable but any other technique can be introduced, which would provide greater ease of application of enamel colours on the coins without disturbing the motifs of the coin.

Thus, it was concluded that Meenakari which is very traditional has also been converted into a contemporary form thus increasing its aesthetic appeal. The delicate embellishment and the depth of the designs were achieved and the luscious and delicate intricacy of each jewellery piece has tried to flutter for more for the consumers. A range was designed with time-tested artistry, passion, perfection and luxury. The Intricate patterns of the Old Indian-British Raj coin are beautifully enameled with hand-selected stones bringing to life the delicate designs that are subtly enthralling and decadently exclusive.

### **Recommendations**

The *Champlevé* technique should be studied and practiced to the deepest and fullest, and experimentation in the application of enamel colours should be done to get proper and perfect results in the application of colours.

More designs and semi-precious stones should be studied and experimented on coins for more appealing jewellery. Meenakari can be done on various other forms of jewellery like rings, bangles, choker necklaces, anklets, bracelets and so on.

The introduction of enamelling on religious coins should also be introduced and this coin can be used for gifting purposes during weddings and special occasions.

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