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The Skill Of Metal Hand Engraving Of Names On Utensils And Its Transition From Traditional Practice To Surface Design And Product Ideation.

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Abstract:

The skill of metal hand engraving of names on utensils is one of the oldest, sustainable and most enduring forms of artistic expression. The legacy of writing names and dates on new utensils has been one of the significant and lifelong traditions while gifting, which reflects memories and remembrance of emotional context in the relationships. Such skill to maintain the legacy of relationships and emotional connection is endangered due to the challenges in maintaining skilled artisans, lack of diversification, upgradation and more over unexplored out of its utensil segment in terms of design application.

To address this challenge, utilizing the same skill of engraving out of its typical usage is the need of the hour. Hence, transforming this functional skill into creating aesthetically pleasing products is the focus of the research. The objective of the paper is to revitalize the unexplored application of hand engraving skill onto an aesthetic & commercial product. The research not only uplifts the skill of the artisans but also converts the same into a promising handcrafted product segment with an amplified value to cherish. Keeping in mind the original essence of hand engraving on utensils, a well thought product range of jewellery is created by converting miniature utensils with extraordinarily hand engraved surfaces.

The exploratory research incorporates primary and secondary data collection through interviews and questionnaires with diminishing artisans from the local markets in Pune city and craft lovers, followed by an apt design process to develop products. This study delves into the intricacies of the skill, into a

craft that explores a modern re-emergence in the form of unique jewellery pieces for women that are innovative and sustainable. The research has not only contributed to reviving the uniqueness of the unexplored skill but has also contributed towards promotion, sustenance and economic empowerment of the diminishing artisan's community.

Keywords: Metal Hand Engraving, Sustainable Craft Practices, Miniature Utensils, Artisan Empowerment.

I. INTRODUCTION

Crafts have long been an important element of human civilization, representing cultural identity, regional customs, and the transmission of skills through generations. These represent a strong relationship between material, creator, and purpose, frequently combining usefulness with aesthetic and emotional value. Among these, engraving as a craft stands out, requiring the precise incising of designs, patterns, or text onto surfaces. Engraving, which has traditionally been done on wood, stone, and metal, is a technical and artistic procedure that involves precision, patience, and a high level of manual skill.

Engraving names on metal utensils through hand techniques is among the oldest decorative and functional crafts, blending artistic talent with practical use. This technique entails the precise engraving of names, dates, or brief messages onto metal surfaces, turning everyday utensils into unique and significant items. It shows a long-standing tradition that employs craftsmanship to elevate the visual and sentimental worth of home goods.

The inscription of names on tools carries considerable cultural and social significance, especially regarding gift-giving customs. Engraved items frequently represent memory, identity, and personal ties, rendering them meaningful mementos linked to significant events and connections. The enduring nature of engraving amplifies its function as a means of preserving emotions through the years.

Metal hand engraving, as a craft, demands precision, control, and a significant degree of manual skill, showcasing the talents of the artisans who engage in this practice. It creates a solid link among the material, the creator, and the consumer, where the end result holds both practical use and emotional value. This research, consequently, emphasizes the significance of metal hand engraving as a valuable craft activity within cultural and daily settings

Figure 1: Images of Hand engraved utensils

Metal hand engraving is done using simple tools like fine chisels and an aluminium strip acting as a hammer to impart controlled force. Engraving is generally done on new metal kitchenware, with artists inscribing names and dates linked with major events. Throughout the operation, the utensil is securely gripped using a grip method, which is frequently supplemented by foot pressure to stabilise the surface. The chisel is carefully moved across the metal surface utilising rhythmic hammering techniques. The intensity and depth of the engraved line are governed by the hammering pressure used resulting in precise and durable lettering.

Figure 2: Tools of Metal Hand Engraving

Figure 3: Process Images of Metal Hand Engraving

II. LITERATURE REVIEW

An aesthetic appeal of metal surfaces. The research titled "The Metal Surface Treatment Method of CNC Engraving on Metal Surfaces According to Design Data" discusses techniques such as CNC engraving, followed by hand painting and glazing, and high-temperature baking. The study emphasizes the integration of advanced technological processes with artistic interventions to meet the increasing market demand for high-quality metal products.

Ruilin Lin (2013) conducted research on "Innovative Product Design with Laser Engraving Technology", focusing on the role of laser engraving in innovative product development. The study highlights how knowledge management, combined with laser engraving technology, can enhance creativity and efficiency in product design processes.

Lebedeva, T. V., Galanin, S. I., Troshina, O. A., and Ershov, S. (2022), in their paper titled "Research of Engraving of Various Metals and Alloys Used in Jewellery Production", contributed significantly to the field of jewellery manufacturing. The study investigates engraving possibilities across different metals and alloys, providing insights into material behaviour and its impact on aesthetic outcomes. The research employs a glossy engraving technique using mechanized processing with a pneumatic engraving system, demonstrating the role of modern technology in improving precision, efficiency, and surface finish in jewellery design.

Kadhim A. Hubeatir and Mohanned Mohammed Hussein Al-Khafaji (2018) examined various laser engraving techniques across different materials. Their study focuses on the influence of laser parameters such as wavelength, pulse duration, repetition rate, and mode of operation on engraving outcomes. Additionally, the research analyses the interaction between laser radiation and material properties, including optical and physical characteristics, offering a comprehensive understanding of laser-material behaviour in engraving processes.

RESEARCH GAP

The scholar identifies a deficiency in scholarly sources concerning the diminishing and endangered practice of engraving names on metalware, a tradition that signifies cultural and familial ties. The aim is to rejuvenate the ability by turning it into a visually appealing artisanal item. The research highlights the innovative conversion of this ability into a unique and sustainable product line, aiding in the revitalization and economic upliftment of artisan communities.

II. RESEARCH METHODOLOGY

This research embraces an exploratory and design-led research methodology to innovate the transformation of traditional metal hand engraving craft technique into a contemporary product using surface design application. The study is organized to comprehend the current craft practices, recognize

difficulties encountered by artisans, evaluate market opportunities, and create design strategies that promote craft revitalization and sustainability.

Study Framework

The exploratory research approach was chosen because there is scarce scholarly literature on the expansion of metal hand engraving techniques beyond practical utensils. The researchers combine qualitative and quantitative approaches, facilitating a thorough comprehension of both the craft ecosystem (supply side) and consumer perception (demand side).

Data Collection

Primary Data:

Primary data was collected through:

In-depth qualitative interviews were conducted with working metal hand engravers from Pune's local marketplaces to record traditional methods, equipment, supplies, difficulties, and socioeconomic circumstances.

To analyse awareness, preferences, purchase intent, material choices, and acceptable pricing ranges for hand-engraved products, structured questionnaires were given to craft enthusiasts and prospective customers.

Figure 4: Metal Hand Engraving Artisan (Mukunda Nijampurkar)

Secondary Data:

Secondary data was collected through:

Academic journals, books, research papers, scholarly magazines, and internet resources about surface design, metal engraving, traditional crafts, sustainable design, and the creation of craft-based products.

documentation to create a theoretical framework on artisan livelihoods, design-led craft interventions, and cultural skill protection.

Sampling Technique

Furthermore, almost 65% of participants expressed a liking for geometric engraved patterns, suggesting a trend towards contemporary surface aesthetics rather than solely text-focused or decorative designs. Jewellery topped the product categories at 64.7%, trailed by art items at 23.5% and home décor at 35.3%

Category	Sampling Method	Selection Criteria
Artisans	Purposive sampling	Practicing metal hand engraving
Consumers	Purposive sampling	Craft-aware and design-sensitive individuals

Design Process and Product Ideation

A structured design ideation process was used to reinterpret traditional metal hand engraving within a modern design framework, based on insights obtained via data analysis. The forms, themes, processes, and symbolic meaning of traditional engraved metal utensils were studied. While maintaining their cultural and emotional significance, these components were conceptually translated into tiny design investigations.

Adapting hand engraving techniques into artistic and aesthetic applications appropriate for jewellery products was part of the surface design exploration process. Pattern placement, scale adaptability, and motif abstraction were emphasised. To evaluate engraving behaviour, surface reactivity, and visual results across various materials, material experiments were carried out utilising metals like copper, brass, and steel.

Craft Documentation → Material Experimentation → Surface Exploration → Design Ideation → Data Analysis

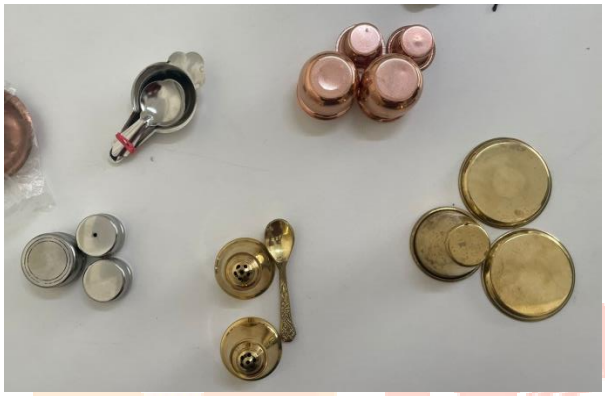

Figure 5: Exploration Material

Data Analysis

Thematic evaluation of qualitative data from artisan interviews revealed common patterns, challenges, and opportunities in craft practice. Quantitative data collected from surveys were analysed using descriptive statistics to assess customer preferences, market potential, and price sensitivity. The integration of these analyses facilitated better-informed design choices

The study methodology permitted the systematic transformation of metal hand engraving from a fading hand engraving craft to a design-driven, sustainable, and economically viable jewellery product category, thereby contributing to craft preservation, innovation, and artisan empowerment.

Design Ideation

The design ideation process was centred on reinterpreting traditional metal hand engraving in a modern design environment. Instead of directly recreating old, engraved utensils, the craft's forms, motifs, and engraving techniques were explored in order to retain its essence while adapting it to current design uses.

Geometric motifs were chosen as the major design element because they are structurally clear and ideal for precision metal hand engraving. This option was also confirmed by a user survey, which found that 70% of respondents chose geometric designs in jewellery, showing high market appeal. The suitability of various metals and miniature utensils for the hand engraving technique was investigated through material exploration. To evaluate engraving behaviour, surface response, and visual results, experiments

were conducted using metals like copper, brass, and steel. Through investigation, materials that support intricate engraving while retaining durability and aesthetic quality for jewellery products.

Figure 6: Metal Hand Engraving on Miniature Utensils

Miniature utensils like glasses and plates were utilised as basis shapes for jewellery prototypes to transfer the designs into physical objects. These forms were used as test platforms for design positioning and the application of etched motifs. Inspired by little utensils, sketches were created to envision jewellery forms like pendants and earrings. This method preserved the age-old trade of metal hand engraving while enabling the creation of intricate engraved patterns.

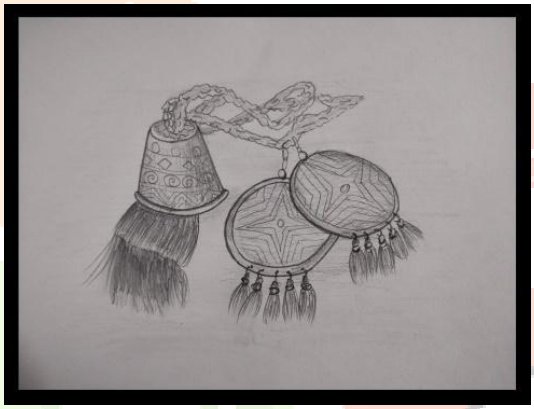

Figure 5: Design Ideation of Jewellery

III. RESULTS AND DISCUSSION

In addition to qualitative insights from artisan interactions and visual documentation of the metal hand engraving process and product design ideation, the results and discussion are based on data gathered from a Google Form questionnaire survey that was circulated to 96 respondents. A comprehensive understanding of consumer demand and craft change is made possible by the merging of survey results with process-based investigation.

The results of the Google Form survey show that although metal hand engraving is becoming rarer, it is still culturally recognised. This is mostly because machine-based engraving techniques are becoming more widely used. Many respondents were not specifically aware of traditional metal hand engraving as a unique handcrafted talent, even if some were aware of engraved names on metal items. The bulk of responders were from Tier I and Tier II cities, representing an urban and semi-urban consumer base exposed to handmade goods, and they were mostly between the ages of 30 and 40. About 60% of respondents said they had previously engraved names on metal utensils , especially for name engraving related to ceremonial events, weddings, and gifts. Respondents expressed interest in metals including copper, brass, and steel for hand-engraved products when questioned about their preferred materials. The

majority of respondents 76.9% indicated a positive inclination toward purchasing products developed using metal hand engraving techniques, while the remaining respondents indicated potential interest. Additionally, nearly 65% of respondents indicated a preference for geometric engraved designs, indicating a shift toward modern surface aesthetics over purely text-based or ornamental motifs. Jewellery was the most popular product category (64.7%), followed by art items (23.5%) and home décor (35.3%). The study direction of turning a traditionally utilitarian craft into wearable and emotionally significant products is strongly validated by this preference.

The findings also highlight how crucial it is to strike a balance between creative design and fine craftsmanship.

CONCLUSION

This research explored the traditional craft of metal hand engraving, a culturally significant yet diminishing skill, and observed its potential for transformation through surface design innovation on product. The research identified that while the craft continues to preserve cultural recognition, its practice has declined due to the increasing dominance of machine engraving, limited diversification, and reduced artisan visibility in contemporary markets.

Through an experimental research approach integrating consumer surveys, artisan interactions, and design experimentation, the study demonstrated that metal hand engraving can be successfully reinterpreted beyond its traditional utilitarian application. The survey findings revealed strong consumer interest in handmade products, with jewellery emerging as the most preferred product category. This insight guided the intervention of design, wherein traditional engraved utensils were transformed into miniature, wearable jewellery forms while preserving their emotional and cultural essence.

The documentation of the metal hand engraving process further highlighted the skill-intensive, manual nature of the craft and its adaptability for decorative surface applications such as geometric designs. The integration of traditional craftsmanship with design-led ideation enabled the development of innovative, culturally rooted products with contemporary application.

Overall, the research concludes that design intervention plays a critical role in revitalizing metal hand engraving by enhancing its aesthetic value, expanding its application, and improving its market relevance. Such transformation not only contributes to the preservation of cultural significance but also supports economic sustainability and empowerment of artisan communities. The study establishes metal hand engraving as a viable craft practice capable of meaningful re-emergence within the contemporary design and jewellery segment.

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REFERENCES

[1] Hubeatir, K. A. (2018). paper 2018 ProfDrkadhim A Hubeatir. ResearchGate.
[2] Unknown Author. (n.d.). Research of engraving of various metals and alloys used in jewellery production. ResearchGate.
[3] Sprecher, A. (n.d.). Adaptive robotic stone carving: Method, tools, and experiments. Academia.edu.
[4] Maini, A. K. (2013). Lasers and optoelectronics: Fundamentals, devices and applications. John Wiley & Sons.
[5] Rockwell, P. (1994). The art of stoneworking: A reference guide. Cambridge University Press.
[6] Daas, M., & Wit, A. J. (2018). Towards a robotic architecture. ORO Editions.
[7] Gramazio, F., Kohler, M., & Langenberg, S. (2017). Fabricate 2014: Negotiating design & making. UCL Press.
[8] Johnston, L. (2017). Digital handmade: Craftsmanship in the new industrial revolution. Thames & Hudson.
[9] Pye, D. (1968). The nature and art of workmanship. Cambridge University Press.
[10] Kolarevic, B., & Klinger, K. R. (2008). Manufacturing material effects: Rethinking design and making in architecture. Routledge.
[11] Shaked, T., & Dubin, U. (2019). Exercises in style: A transdisciplinary discussion. In C. Ahrens & A. Sprecher (Eds.), Instabilities and potentialities (pp. 194–202). Routledge. https://doi.org/10.4324/9780429506338-20