FROM STAGE TO STAGE: HARNESSING THE ENTREPRENEURIAL POTENTIAL OF CONCRETE FLOWER POT PRODUCTION

Contributed by

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Introduction

Sculpture, as an area of art specialisation, is one of the few that lends itself to the potential to bring solutions to challenges of both aesthetics and functionality. Often categorised under Fine Arts, sculpture, just like graphics, ceramics and textile design can be regarded as well, as applied art. Very often in art, aesthetic concerns form the main part of what is paid attention to. Therefore, less attention is given to what art products are used for, other than their being purely decorative. However, the areas of art that make products that could be put to use to meet the daily needs of man and his environment are regarded often as the applied arts. Allenchey (2013) observes that occupying that tenuous space between fine art and every day, functional art refers to aesthetic objects that serve utilitarian purposes. Consequently, the areas of art that lend themselves to the needs of industry and mass production, such as graphic design (print making, book design, advertising, digital illustrations, animations and movie industry) ceramics (toilet wares, China wares, electrical insulators, building materials), textile designing (fabric designs, fashion design, weaving and textile production), sculpture (metal fabrication, prosthetic industry, auto-industry, 3-D signage fabrication, furniture) all fall under the applied arts or otherwise called functional art. Writing on the dual nature of sculpture as both fine and applied art are scholars such as Gombrich (1950), Krauss (1978), and Herbert (1993).

Applied arts, also known as functional arts, provide opportunities for entrepreneurship. Aside from giving students the knowledge necessary for industry, it also exposes them to skills that they could leverage to build careers, and employ others. Piece-mould casting technique is a method employed in sculpture for reproducing works and objects into multiple pieces. It facilitates faithful reproduction of already existing works and objects into several replicas. This is a form of mass production in a cottage manner. This technique enables an entrepreneurial sculptor to thrive as a small enterprise, producing products like flower pots, balustrades, building ornamentations such as cornices and friezes, furniture parts, various forms of reproduction of artefacts, and so on. This paper tries to emphasize the usefulness of this method of production in art vis-à-vis its entrepreneurial potential. It also gives a studio-experimental account of how the method is utilized in the making of flower pots.

Sculpture could be categorized within the realm of applied arts due to its direct application of artistic techniques and skills to construct three-dimensional artworks that have utilitarian potential. Applied arts stand apart from fine arts by serving functional or utilitarian roles beyond mere aesthetic expression. Below are the primary reasons that firmly position sculpture within the domain of applied art:

Utilitarian Purpose: Differing from fine arts such as poetry or painting, which predominantly seek aesthetic appreciation and emotional communication, sculptures commonly fulfill pragmatic roles or specific intents. They can function as adornments for public spaces, structural components in architecture, commemorative memorials, or even practical objects like furniture and utensils.

Tangible Three-Dimensional Structure: Applied arts, including sculpture, are distinguished by their palpable and concrete presence. Sculptors employ materials such as stone, metal, clay, wood, or various media to translate their imaginative concepts into physical, three-dimensional entities that occupy real space.

Artistry and Technical Expertise: Sculpture mandates a profound level of artistry and technical proficiency. Sculptors must command various techniques such as carving, modeling, casting, welding, or assembling materials, to mould their creative visions into palpable forms.

Synergy with Other Disciplines: Frequently, sculptors collaborate with architects, designers, or engineers to seamlessly integrate their sculptures into broader projects or public spaces. This collaboration accentuates the applied facet of sculpture, as it becomes an integral constituent of functional environments.

Engagement with the Audience: Diverging from certain fine art forms that are observed from afar or through passive involvement, sculptures frequently beckon interaction and engagement from spectators. Individuals can physically interact with sculptures, circumnavigate them, and encounter them from diverse perspectives, fostering a more immersive engagement with the artwork.

Public Space Art: Sculptures boast an extensive history of being commissioned for communal areas like parks, plazas, and urban centres. These public installations often serve pragmatic goals, such as commemorating historical occurrences, paying tribute to noteworthy figures, or enhancing the visual appeal of urban locales.

Purposeful Artistic Expression: Although sculpture maintains its capacity to convey artistic inventiveness and sentiment, applied art spotlights the fusion of aesthetics with practical objectives. Sculptors must strike a harmonious equilibrium between their artistic vision and the functional requisites of the intended purpose or environment.

From the foregoing, it can be argued that sculpture is an applied art form that combines artistic creativity and technical skill to create three-dimensional artworks that serve practical functions or have specific purposes beyond pure aesthetic expression. It allows artists to merge artistic expression with utilitarian applications, making it a dynamic and versatile discipline within the broader spectrum of visual arts.

Brief conceptual Framework

The above position notwithstanding, there have been several definitions of fine art and applied art which failed to accord recognition to sculpture as both fine and applied art. This often shows a lack of deep knowledge of sculpture and its potential, as well as an outdated knowledge base, especially among scholars specializing in art. For instance; Gwa R. (2017) to define fine and applied arts, listed several areas of specialization such as painting, sculpture and printmaking as fine art, but failed to include sculpture in her list of applied arts which included ceramics, textile design, architecture, and so on. The writer, however, failed to recognize that the term ‘architectural sculpture’ for instance, forms an integral aspect of architectural practice. This may be taken as an omission by error considering that she went ahead to admit that “applied art creates utilitarian

items such as a plate, pot, cap, cloth, sofa, clock, chair or table using aesthetic principles in their design" (p.2) the question now becomes, does sculpture produce functional objects, if yes, why doesn't it qualify as an applied art? Gwa is not alone, she backed up her definition by quoting Uzoagba (2000), suggesting that "Fine Art has to do with that branch of art which has no other function than the appeal it makes to man's sense of beauty, and this includes painting, sculpture, drawing, art appreciation or art history. Applied art on the other hand is where works of art are applied as craftwork for personal use of the artists or individuals and also for commercial purposes or the industry and this includes areas of discipline such as ceramics, graphics, textile, glass technology, metal works among others" this definition although broad, does not seem quite extensive and modern. On the other hand, the term 'functional art' sometimes is used to refer to artworks for utilitarian purposes. Functional art is something which is both beautiful and useful. Functional art lets us bring incredible works of creativity and beauty into our everyday lives. Functional art, such as sculptural furniture grants us the opportunity to experience works of art on multiple levels, allowing the recipient to touch and interact with them, by the definition of a functional object. (Anyaegbu, 2019).

The opportunity created by the functional nature of some aspects and types of sculpture as well as the myriads of materials and techniques available to the sculptor gives room for entrepreneurship. This opportunity could be utilized by the sculptor to engage in the mass production of functional objects using the help of extra hired labour and specialized equipment.

Entrepreneurship

Entrepreneurship embodies the sequence of recognizing, formulating, and actively pursuing business prospects through the cultivation of inventive concepts, products, or services, aligned with market needs and practical predicaments. Entrepreneurs, in this context, emerge as individuals who embrace the roles of pioneers and risk-takers, harnessing their foresight, ingenuity, and adeptness to initiate and nurture novel enterprises.

Several authoritative sources have given diverse explanations of entrepreneurship: Drucker, (1985) a renowned management guru, defines entrepreneurship as: "The systematic innovation, which consists in the purposeful and organized search for changes, and in the systematic analysis of the opportunities such changes might offer for economic or social innovation." (11) These definitions highlight key aspects of entrepreneurship, such as innovation, risk-taking, value creation, and the pursuit of opportunities in a dynamic and competitive market. Entrepreneurs play a crucial role in driving economic growth, job creation, and societal progress. Also, Singye J. (2021) while quoting Leadbeater (2001:11) gave the following as things that typify an entrepreneur; (1) excellence in spotting the unmet needs and mobilizing under-utilized resources to meet the needs, (2) driven and determined, (3) ambitious and charismatic.

In the field of Fine arts, entrepreneurship is pursued vigorously by artists working in various media and styles. Art historians in Nigeria also believe that artists can engage in entrepreneurship by developing their careers as business models to generate profit and create opportunities. One of such scholars, Oloidi (2013), wrote extensively on 'art, culture and entrepreneurship in Nigeria' he highlighted strategies for artists to monetize their work, such as licensing, commissions, and public art installations. This present paper demonstrates, therefore, in concrete terms the many ways by which artists especially sculptors could engage in entrepreneurship and earn steady income.

Theoretical Framework

Material Culture Theory: focuses on understanding the relationship between people and their material objects, emphasizing how artifacts influence human behaviour, social practices, and cultural significance. The current writing, which records the stages of production of concrete flower pots using sculpture techniques and its entrepreneurial potentials highlights the ideas espoused in the theory of material culture in several ways. Some of the points which validate the theory are;

Fusion of aesthetics and functionality; This concept aligns with Material Culture Theory, which highlights that artifacts can meet practical needs while also serving as artistic expressions.

Entrepreneurship and Economic Value; the ability to mass-produce functional art items like flower pots speaks to the theory's assertion that material objects can drive economic activities and entrepreneurship.

Education and Skill Development; the emphases on the educational aspect, where students in Fine and Applied Arts can learn practical skills through techniques like piece-mold casting. This connects with Material Culture Theory by revealing how the production of artifacts is intertwined with learning and cultural transmission. Conclusively, some of the tenets of Material Culture Theory are illustrated in the current work which shows how concrete flower pots serve beyond mere decoration. They embody cultural, economic, and educational significance, which goes on to show the interplay of relationship between people and the material world they create and inhabit. Through creating and interacting with art objects, individuals experience an integration of beauty and utility that informs their cultural identity and entrepreneurial endeavors, this experience could go unnoticed until when analyzed through the prism of material culture theory. Therefore, as Kopytoff (2020) puts it; an object's meaning and value are not fixed but evolve through various social contexts and interactions, this evolution of objects could be seen in the present work where a plastic basket is employed by the sculptor (writer) as a medium which is reproduced and transformed into concrete flower pots with potential higher economic value.

Sculpture as Entrepreneurship

Sculpture can be considered a form of entrepreneurship in several ways, especially when it involves artists creating and promoting their artwork as a business venture. The following are ways in which sculpture utilizes entrepreneurial principles:

- **Creativity and Innovation:** Entrepreneurs are renowned for their imaginative prowess and capacity to materialize pioneering concepts. Similarly, sculptors harness their artistic aptitude and inventiveness to conceptualize and forge distinctive and unparalleled sculptures that convey their artistic ideals.

- **Recognition of Opportunities:** Accomplished entrepreneurs discern openings in the market and identify voids within industries. Similarly, sculptors possess the acumen to pinpoint niches in the art market or domains where their distinctive style or subject matter can shine, alluring potential patrons or aficionados of art.

- **Embracing Risk:** Entrepreneurs frequently undertake measured risks to pursue their business notions. In a parallel vein, sculptors invest their time, energy, and resources into crafting sculptures without certitude about discovering a buyer or a suitable market.

- **Resource Investment:** Both entrepreneurs and sculptors necessitate resource allocation to manifest their conceptions. While entrepreneurs might channel investments into technology, infrastructure, or human capital, sculptors allocate resources toward materials, tools, and studio space.

- **Brand Development and Marketing:** Entrepreneurs are tasked with establishing a brand and competently promoting their products or services. Similarly, sculptors must elevate their artwork, construct a distinctive personal brand, and participate in marketing campaigns to connect with potential buyers, art galleries, or exhibitions.

- **Value Generation and Pricing:** Entrepreneurs channel their efforts into generating value for their clientele, a principle mirrored in the sculpting domain. The artistic essence, craftsmanship, and emotional resonance of a sculpture collectively determine its valuation and appeal within the art market.

- **Monetization and Financial Management:** Much like entrepreneurs, sculptors are compelled to adroitly manage their finances. This encompasses judiciously pricing their sculptures, managing sales transactions, and planning budgets for forthcoming projects.

While some sculptors may primarily focus on the artistic aspect without the intent of commercial success, those who embrace the entrepreneurial mindset and actively work to turn their passion into a sustainable business venture can increase their chances of long-term success and recognition within the art industry, a typical example of this is the famous American artist; Jeff Koons.

Entrepreneurial potentials of Piece mould Casting Technique

FAA 471 (Piece Mould in Concrete) is one of the compulsory courses that specialists in sculpture must undertake to be qualified for a degree certificate in Fine and Applied Arts. It is one of the few courses in the University curriculum that has industry relevance. This is so because as a technique, it is employed in industries for the reproduction of auto parts and other mass-production of tools. It is a technique employed by cottage fabricators such as local auto parts specialists at places like Nnewi and Aba in Anambra and Abia States of Nigeria. Piece mould casting, also known as "piece-mould casting" or "coping and dragging," is a casting process used to produce metal parts or objects by pouring molten metal into a mould made of two or more separate pieces. This method is commonly used in foundries and is particularly suited for producing larger and more complex castings.

However, in sculpture, the piece-mould casting technique is used in either reproducing an already made object or reproducing a work into a more solid material, for example, from clay to metal or fiberglass. This method of casting requires that the work to be reproduced is first dissected into smaller units or volumes to be cast separately, to be assembled later as a single piece. For piece mould casting to be successful, three objects must be in existence, they are; (1) the original piece (2) the mould (either rubber or concrete) (3) the positive cast.

Piece mould casting technique is also employed in museums and galleries to reproduce artifacts into several copies, thereby safe-keeping the originals from theft and damage.

The technique presents young sculpture graduates with the opportunity of utilizing it in producing everyday objects that are in high demand, by so doing; they could produce more works in less time. One of such products that could be produced using this method is concrete flower pots. It is a niche that is more in demand than purely aesthetic sculptures. Every sculpture could utilize it in raising money at times when commissions are rare.

Concrete Flowerpot Production Stages

There are two ways of producing flower posts using piece mould casting; it is either through casting of a clay model of the pot or casting of an already existing flowerpot-like object. The later is more efficient, since it saves the sculptor the time and energy expended on making clay models. Therefore, this writing will focus on it.

Stage one

Selection of object for reproduction

For this study, the researcher selected a plastic basket sourced from the plastic market. The basket measures (1.5x1.2 feet). The patterns on the body are random circular holes/perforations. (Any plastic with an interesting pattern could suffice). Note; Colour of the basket is inconsequential.

Stage two

Preparation of the basket

To successfully produce a mould from the plastic basket, the holes or perforations (patterns) on the basket have to be blocked. This will prevent the mould medium from penetrating beyond the outer surface of the basket, which could create problems during separation and reproduction. To do this, a transparent sole tape is used to wrap the whole inner surface of the plastic, this ensures that it is sealed completely from inside. After that, engine oil or shoe polish is applied evenly on the outer surface, this acts as a separator between the mould and the plastic.

Stage three

Mould casting

For mould making, there are options for materials. One could use rubber mould (silicon) or concrete mould. However, what is important is for the mould to be divided into units/volumes for convenience in separation and joining. For the current study, silicone gel is used for the mould.

To do this, the silicone gel is gradually pumped out of the tube using a silicon gun, the gel is now gradually and evenly applied over the surface of the basket turned upside down. There is a need to ensure consistency in thickness as the gel is applied. However, before the commencement of silicone gel application, it is ideal to first seal the inner part of the basket with transparent tape. This ensures that the silicon does not slip through the holes of the basket. After the silicon has been evenly distributed, it is allowed to stay for about 2 hours to ensure the gel has hardened.

Fibreglass reinforcement

The next stage of the mould making process is to strengthen the mould by the use of fibreglass. To do this, the right amount of polyester resin is poured out into a mixing container. Fibre matt is cut into desirable pieces, a small part of polyester resin is mixed with a commensurate amount of catalyst and accelerator (1x1) after thorough stirring, the mixture is applied evenly over the dried

silicon flexible mould using a brittle brush. (the mould which is still bound to the plastic basket is positioned upside down) While still wet, the cut fibre mat is placed over the mould, making sure that each piece slightly overlaps each other. The wet resin helps the matt to stay in place while they are placed all over the mould. After this, more resin is mixed with a catalyst and accelerator and used to dab the fibre matt until a uniform surface is achieved. Care is taken to ensure that this is done all over the mould surface, including the bottom part. This outer coating of fibreglass acts as the mother mould.

Once this process is completed, the piece is allowed to be set within the next hour. After this, the composite mould is now cut into half in a transverse manner (vertically) ensuring that both the fibreglass and the silicone are cut through. Once the mould is separated from the plastic (template), the mould is ready to be used to reproduce multiple casts of flower pots.

Casting Flower Posts (planters) using the Pieces Moulds

Step One: This involves the coupling of the two halves before casting begins. To do this, a binding wire is used to hold the two in place, the inner flexible mould is adjusted to ensure that the lines of the joining align. (sometimes, this inner part could be kept in place using a quick-set glue applied along the line and in places where it tends to wobble)

Step Two: The first step in casting is to ensure that enough separator, usually engine oil or any other type of oil thick enough to act as a separator is generously applied over the mould. This ensures that the cement cast is easily separated from the mould after casting. Nevertheless, if mistakenly this oil is not applied before cement casting commences, no cause for alarm, the flexible silicone mould separates easily from the positive cast often.

Step Three: This involves the application of a mixture of only cement and water (go) the consistency of this mixture is to be neither water nor too thick. Sometimes, this could be mixed with a little amount of sieved sand, at the rate of 2 parts of cement to one part of sieved sand. It is important to sieve the sand in order to maintain a uniform and smooth surface and to ensure faithful reproduction of the negative mould. The layer should not exceed one cm in thickness. Before this commences, a round 1-inch pipe or PET bottle cap is placed at the centre of the mould. This will be removed later when the cast is set. This hole serves to drain water from the pot. (Plates 2 and 7)

Step Four

Once the first coating of cement sets or becomes leather-hard, a piece of metal mesh is cut out and placed around the inner walls of the mould, ensuring it laps as much as possible on the cement's first layer. (Plates 3-4)

Step Five

In this stage, another layer of cement with sand as aggregate is applied over the mesh. This usually, acts as the final layer which is usually not more than half an inch in thickness. Then cast and now allowed to set and this usually takes about 2 hours, after which the binding wire is released and the mould is uncoupled and the process is repeated. With this method, a single unit of mould can produce two concrete flower pots in a single day and more if the moulds are increased. (Plate 6)

Step Six

At this stage, the planters are ready to be finished. Patination could be done by hand using a brittle brush or with the aid of a spraying machine and brilliant-coloured paints, usually oil-based. In plates 8 and 9 first sanding using sandpaper, then a spraying machine is used to apply paints to finish the planters.

Plate 1. Plastic basket and silicon mold with its fiberglass mother mould. Source; the writer.

Plate 2: applying cement go to the mould. Source; the writer.

Plate 3: cutting of wire mesh for reinforcement. Source; the writer.

Plate 4: applying cement to the reinforcement. Source; the writer.

Plate 5: the flowerpot cast before de-moulding. Source; the writer.

Plate 6: De-moulding. Source; the writer.

Plate 7: Removal of plastic cap. Source; the writer.

Plate 8: sanding of the flower pots using sandpaper. Source; the writer.

Plate 9: spray-painting of the flower pots. Source; the writer.

Conclusion

From the few literature reviewed in this paper and the report on the stages of production of concrete

Plate 10: the finished flower pots. Source; the writer.

flower planters, the writer has proven beyond doubt that sculpture is indeed an applied art that lends itself to the production of objects beyond aesthetics. It has also shown that the principles of piece-mould casting techniques as taught in undergraduate programs in Fine and Applied Arts Departments in Nigerian Universities could be employed by students to explore entrepreneurial ventures which could support them financially upon graduation. In the same vein, the principles of entrepreneurship as espoused in the paper if imbibed by any student of art or an art enthusiast, will surely yield commercial profits and create business opportunities.

The simplicity and descriptive nature of this paper will further help students to put to practice these techniques to reproduce other objects beyond flower planters and also refresh their memory on the course; and even spur them to explore beyond their classroom/studio experiences.

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