

COLLABORATIVE DESIGN FOR RANGOLI- INSIGHTS INTO A TRADITIONAL INDIAN PRACTICE

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Abstract: Creative endeavours often need more than one mind in conceptualization and execution. With the shrinking global space and increased network of communication, Collaborative Design is seen as an effective medium to explore this aspect of Creativity towards producing viable Design solutions. However, insight into simple practices which have been followed in the Indian way of life, exhibit the essence of Collaborative Design. These practices have not only been able to generate optimum utility, but have also been able to foster a spirit of community enterprise among the participants- most of whom follow this tenet unconsciously due to generations of practice. This paper seeks to explore the facet of Collaborative Design on the simple art of Rangoli or Kolam making, and aims to raise curiosity on the relevance and existence of Collaboration in other traditional practices.

Keywords: *Collaborative Design, Rangoli, Indian tradition*

1. Introduction

“ It is the long history of humankind (and animalkind too) , those who learned to collaborate and improvise most effectively have prevailed”- (Charles Darwin).

The generation of good design is often a confluence of ideas arising from diverse sources. Consciously or otherwise, Design is an outcome of collective thoughts, which have been left to germinate in the minds of a traditional “Designer” over his course of interactions with people. In today’s scenario, with increasing focus on participatory styles of building solutions, Design embraces the ideology of collective thought through Collaborative Design –An interaction of many participants, working together on different elements of the design. Success stories from Collaborative design span products –from complex aircraft engines to craft such as woven shawls. The activation of the “Millenials” as a key contributor to participatory design mechanisms has also unlocked the power of the internet in opening avenues for “long distance” collaboration. This shift has also led to recreation of workspaces that allow for close as well as remote collaboration – with lowered sectioning of work areas, lesser silos, and better interaction.

But is Collaboration an offshoot of increased network, better technology and the shrinking global space? Has there been a “shift” in design practices, or has it been a revisit to an inherent design

mechanism that has been practiced by designers over many generations? This paper seeks to explore some common practices from an example of a traditional Indian practice, and the essence of Collaborative design that runs through its execution.

2. Understanding Collaborative Design

Research has attempted to define this concept of collective designing by many means. Klein et al define Collaborative Design as being performed by multiple participants (representing individuals, teams or even entire organizations), each potentially capable of proposing values for design issues and/or evaluating these choices from their own particular perspective (e.g. manufacturability). (Mark Klein, 2003). It is interesting to note that the definition here clearly communicates the essence of Collaborative participation- there is an absence of demarcation of activities on the basis of knowledge or skill domain, making all the players *equally adept* at the creation of the required output at individual level. (Kyan, 2000) attempts to differentiate Co-operation from Collaboration by his explanation “ a collaborative project must establish a definition of the team, identify their outcomes, ensure there is a purpose of the collaboration and clarify the interdependencies of the members”. The relevance of this process is captured by Fischer and Shipman (Gerhard Fischer, 2011) as “a necessity rather than a luxury because most important design problems are complex, requiring social creativity in which stakeholders from different disciplines must collaborate”. Interestingly, the premise of successful outcome of a Collaborative design process rests in Olson’s observation that “ Groups of individuals with common interests are expected to act on behalf of their common interest as much as single individuals are often expected to act on behalf of their personal interests.” (Olson, 2002).

Collective thought on the various attempts of defining this term throws us with some parameters that are inherent to make Design as Collaborative. These include –

- a) A group with Common interests
- b) Purposeful Co-operation
- c) Interdependencies
- d) Independent thought

2.1. The components of Collaborative Design

It is a difficult task to demarcate an area as complex as Collaboration, specifically with the context of Design, into components. Collation of thoughts from existing research, however, throw light on some basic elements that are inherently a part of this Design process.

An attempt is made to explain these components, with the perspective of their importance in creating a unified output.

2.1.1. Issues/Parameters–Klein, et.al propose design to be consisting of a set of issues, each with a unique value, in his attempt to create a model of Collaborative design. (Mark Klein, 2003). These issues in themselves may be consisting of requirements, specifications and maybe even the manufacturing process of creating the output. It is imperative to note that these Issues/parameters are measurable elements of the design, indicating that each player in Collaborative design can assign values independently to each of them

2.1.2 Design Subspace- Interdependency amongst these issues are mandatory- the reason why components of design can come together as a unified whole. As outlined by Klein, et.al, these

interdependencies may be constrained through costs, timing, spatial separation requirements etc. Since Collaborative Design involves multiple participants- each working with many design issues along with shared interdependencies. This creates a model for a Design subspace which each participant works on.

2.1.3 Output – The subspaces work together with the goal to create a good design- measurable by the output generated by this collaboration. Needless to say, this output is the optimum at utility value, which may be accepted by the participants at the end of the manufacturing process.

2.1.4 Externalization – Existing research on Externalization places its importance on recording mental efforts, representing artifacts that can “talk back to us” , form a basis of critique and negotiation (Erneto Arias, 2000) or be a resource for establishing and enhancing creativity as a collaborative process. (Dhaval Vyas, 2009). Participants create many forms of externalization, and such artifacts created during the process of Collaboration form the basis for Social interaction, empathy and experience.

2.1.5 Use of Archives – This may not be a mandatory process , but periodic endeavours in Collaborative Design may lead to outputs that are recorded and stored for referencing. It is an interesting component that may provide the base point for an upcoming Design project necessitating similar Design process

The above is not an exhaustive list of any Collaborative Design process, but form the basis for the attempt of the researcher to map their prevalence across traditional Indian Design mechanisms

3. Research Design

This paper seeks to explore the occurrence and relevance of the above components of Collaboration in the simple act of Rangoli making- a form of floor art practiced commonly by women in India. The researcher studied a group of four students from a Design institute who worked together in creating this art form for a Design competition. While traditional Rangoli patterns are drawn by women from the common diaspora, this paper picked a group of Design students for observing how their sense of Design development contributes to an “unconscious” assimilation of Collaboration. Observation and recordings were the methodologies used for this analysis.

4. Observations for Collaborative design in Indian tradition- The case of Rangoli

Annie Besant (1847 -1933), founder of the Theosophical society and a leader of the Indian freedom movement, perhaps most aptly describes the essence of Indian Design” Indian art is a blossom of the tree of the Divine wisdom, full of suggestions from worlds invisible, striving to express the ineffable, and it can never be understood merely by the emotional or the intellectual; only in the light of the Spirit can its inner significance be glimpsed” (Londhe, 2008). Design in India has traditionally been a phenomenon that has been practiced over rituals, festivals or even daily practices- strongly intertwined with spirituality and religion.

While Design is necessarily a part of Indian ethos, documenting different facets of Indian Design practices across Craft, Dance, Artforms and practices is a mammoth task. For the purpose of illustration and for ease of analysis, this paper seeks to explore elements of Collaborative behavior across a commonly practiced area of Collaborative Design in the Indian context-. The Rangoli or the Kolam

4.1 The Rangoli / Kolam

Perhaps the most Creative expression for an Indian woman has been the pattern that she diligently draws on her doorstep – The Kolam or the Rangoli that adorns households from the North to the South

of the country. The multitude of variants in this simple rice-flour based Design form is mind boggling- from simple lines to complicated patterns and profusion of colors. During festivals, women, usually representing each household, gather at the centre of the street- the canvas for this product, and engage in Collaborative Design to come up with a unified image of geometric pattern.

How do the components of Collaborative Design fit into the art of Community Rangoli? The group studied for this purpose is an eclectic collection of students who got together for a competition in Rangoli making. The process and dynamics in this activity is the same as that of a traditional Rangoli / Kolam making practiced in Indian households. Each participant in this case is equally adept at creating an individual design, and are most likely sharing the same level of skills and knowledge related to the product.(Fig.1)



Figure 1. Rangoli making with 4 participants

The Issues/Parameters in this case are multiple. Each participant works with their evaluation of Color, Line, Size and Symmetry. (Fig 3).With such multiple parameters, it becomes difficult to maintain the values for each parameter . This conflict is addressed by the use of dots and intersecting lines(which maybe straight or curved) which form the pattern of the Rangoli. Each participant weaves in the predetermined path of these lines through the same array of dots to maintain consistency in their shape, size and pattern.(Fig 4).



Figure 3 : Individual subspaces – values attached to Issues of Color and Shape



Figure 4 : Addressing conflicts in assigning values to Issues- the use of dots and lines

Subspaces -As the pattern progresses, each participant slowly starts owning his/her subspace. The attention to individual subspaces is what will create a holistic and successful” complete” design; hence the participant is immersed in his /her area. However, the radial nature of the pattern in itself makes it necessary for the Interdependency of these subspaces. If the subspace does not coalesce correctly at the centre, the Design output may not meet the standards of quality. (Fig.2)



Figure 2 : Design subspace for each participant. Interdependency exists along the arrows.

The Output is generated with clear communication on the movement of each pattern along the designated subspaces of participants. The completed product is checked for conformance to all Issues/Parameters before finalization.(Fig.5).



Figure 5 : Final outcome.

Externalization of the process is observed to be a key factor in both creations of subspaces as well as maintaining the interdependencies. The patterns go through a range of rough sketches on the floor or on paper, before finalization of the pattern. It is interesting to note that while this process brings in separate elements that are usually put together to form the final output, it also identifies areas of Creativity, wherein shapes and patterns are merged with an intent to create a complete picture. In the case discussed here, the peacock pattern as developed by one participant during the initial stages of development has been combined with the floral pattern, effectively also removing one of the radially repeating structures



Figure 6 : The intake of Externalization

The Use of Archives is not pronounced in this case, since the generation of design in itself was between a group of students who do not practice this art as a regular event. However, when practiced by the core group of participants, i.e, by Indian women who regularly draw these patterns on their doorsteps, it is a common occurrence to see the use of specific books which illustrate a large combination of possible designs. Some of these are well established patterns, with clear ideologies behind their use. Others are records of generated patterns arising out of the existing plethora of designs. In either case, the participant community takes recourse to these archives before actually arriving at an agreed design. These are used, in such cases, as trigger points from which the cycle of Design generation can be revisited.

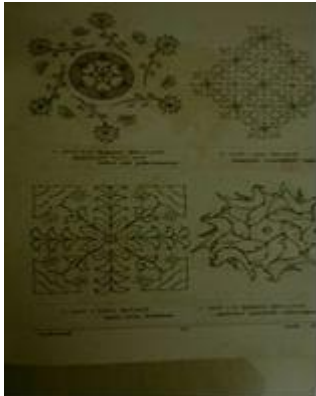


Figure7 : Archives of Kolam- Books &References

The results of the observations are collated, covering the component observed, its occurrence in the final Rangoli pattern, the conflicts among the participants for each component, the methods adopted for resolving these conflicts, and finally the common modes of communication employed by the participants towards this redressal.

The results are tabulated as below-

Component	Occurance in Design output	Conflicts	Addressing the conflicts	Communication method
Issues/Parameters	Design elements- Color, Lines, Size and symmetry	Maintainance of the same value for each specification	Use of Dots/ Intersecting lines	Sharing of predetermined patterns of dots
Subspaces	Repeating shapes and combinations in the pattern	Creating a “whole” pattern	Radial movement from “out” to “in”	Verbal communication and use of grids
Externalisation	Combining suggested designs by each participant to create a final design	Selection of relevant designs	Merging of designs to create a cohesive unit	Brainstorming and discussions amongst participants
Use of archives	None, in this case	Reference of previously done designs	Common criteria agreed by participants for selection(availability of space, ease of drawing etc.)	Brainstorming and discussions amongst participants

4.2 Effect of Collaborative Design on Creative output

This exercise was a clearly defined creative endeavour- the most aesthetically pleasing output amongst all such teams who participated in this competition was considered the highest in terms of “Optimum utility”. However, this could not entail that the outcome generated had higher quotients of creativity, since no matrices to measure creativity were employed. However, FOR a creative endeavour, Collaboration clearly enabled easier transfer of ideas to reality. Likewise, it also led to clearer articulation of individual design “repositories” , nuggets of design ideas that were latent in each participant.

On a larger scale, Collaborative Design led to the development of social bonhomie amongst the participants- all of whom communicated with each other solely with the intent of achieving a common goal.

4.3 Other examples of Collaborative Design

Much of India’s traditional practices base their success on Collaborative Design. The Langars(Community kitchens) at Gurudwaras across the country have individual participants bringing in expertise across multiple areas towards a practice of cooking and serving for a large community. The Lakshadeepams or “decoration with one lakh lamps” for temple facades in the southern states of India have devotees who participate in bringing in a harmonious décor together. The practice of displays prevalent across Indian communities- be it the “ Jhaanki’s “ of Janmashtami in the North, “ Golu” in the South or the Nativity scenes depicted across Christian families are all practices of

Collaborative Design. Most of the “Gopurams” or “Shikharas” which are seen across the length of the countries have been made by a group of architects, who meticulously work on aesthetics, functionally, spiritual dictats and harness of positive energy while putting these structures together.

On a lighter note, mythology abounds in stories which talk about projects which have been done with inputs from multiple participants. The building of the supposed bridge to Srilanka from the Indian shores was not said to be Designed by one person, but is seen as an artefact that has been done with multiple participants(including scores of monkeys) throwing in any available resources to make a strong bridge.

Interestingly, these forms have also been instrumental in bridging gaps arising out of social, economic and regional factions. For an era untouched by the advanced communication and interaction tools enjoyed today, these practices have been instrumental in communication, negotiation, co-operation and interaction- areas which clearly mark the nodes which make Collaborative Design successful.

5. Conclusion

Collaborative Design is clearly a process that has enjoyed popular place in Design mechanisms for Traditional Indian practices. From the case of Rangoli , it can be derived that the indices which define the same are applicable to make the art of community Rangolis a Collaborative exercise. The study threw interesting insights on the existence of subspaces, interdependencies and defined outcomes in such artforms. The effect of Externalisation on building in a creative and mutually agreeable product is also emphasized. This study has been done merely to highlight the element of Collaborative Design in an intuitive and naturally practiced habit such as Rangoli , for the Indian population. Deeper insights into the same, combined with other such practices, can produce interesting combinations, unlocking the full potential of Indian traditions for holistic Design practice.

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