

# Designerly Research

## Design Clinics - An Approach in Design Research

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### ABSTRACT

In the context of India, design itself is research. Designerly way of knowing, through curiosity, observation and analysis as it's tools, leading to actions is the profound approach of design research. With an objective to identify opportunities for improvements, design research provides holistic and systemic understanding of the situation / business.

Design Clinics is one such unique design research approach developed for the country's large micro, small and medium enterprises, MSMEs. Majority - over 94% of Indian industries, being MSMEs, and most issues here being intertwined, this approach of design research provides the much needed platform for different experts and stakeholders to interact, clearly identify the opportunities and develop remedial solutions. And in this process help develop holistic roadmap for the industry as well as the cluster to move up the value chain. Launched countrywide as Design Clinic Scheme for MSMEs by the government of India in the year 2010, this ambitious scheme is implemented by the National Institute of Design.

This research paper is an attempt to share the experiences of implementing this unique design research approach throughout the country and scale it up for its wider applications, systemisation, quality benchmarks and effective outcomes.

KEY WORDS: Design for MSMEs; Design Clinics; Design Research Approach

### DESIGN RESEARCH; THE INDIAN CONTEXT

Design fundamentally is a systematic problem solving process. And design in the context of India, as recommend by Charles and Ray Eames in their now famous *'The India Report'*, is about improving the quality of life of the people. They recommended *"without delay there be a sober investigation into those values and those qualities that Indians hold important to a good life, that there be a close scrutiny of those elements that go to make up a "Standard of Living". 'The India Report' paved the way for setting up of the National Institute of Design, NID, the first design institute in the country. As recommended for the institute 'the functions will be research and training and service - these functions will continually overlap each other, support and correct each other.'* [1]

With dominant *low* and medium income group segment of the society, and majority micro, small and medium scale enterprises, design in India calls for holistic understanding, systems approach and handholding for any problems at hand. Indian society and economy as a whole demands remedial, quick, contextual and implementable solutions to the problems / projects. Designer here is expected to be the catalyst, the coordinator and the collaborator for any projects undertaken. Cultural, social, technical, management, financial, ethical, environmental etc. all issues get intertwined in every projects. Design process thus calls for detailed research at its every stage to move further. Design thus itself is research here. Designerly way of knowing,

through curiosity, observation and analysis as it's tools, leading to actions is the profound approach of design research.

With an objective to identify opportunities for improvements, design research provides holistic and systemic understanding of the situation / business leading to implementable solutions for improvements /refinements of the existing situation/ problems. Before embarking upon any design intervention, it becomes important to gain a holistic understanding of the context, the need, strengths and weaknesses in terms of resources and levels of skills, training and experience available, socio-cultural issues involved and market demands. A detailed Design Need Assessment Survey or Feasibility Study becomes imperative for every project to develop a comprehensive road map and future direction for interventions.

NID's now over six decades of active involvement with the country's variegated industrial and social sectors, and government and non-government organisations, has helped institute gain valuable experience in solving typical problems that arise in India's labor-intensive society at the grassroots levels, and also in the country's large MSMEs and crafts sectors. These experiences have led to unique design intervention methodologies that are most appropriate to these sectors. The Design Clinic is one such unique design research approach developed to suit the country's MSMEs.

## DESIGN CLINICS - A DESIGN RESEARCH APPROACH

Design Clinic is a tested strategic model of design intervention, where a solution to an existing design problem is diagnosed and remedial steps suggested by a multi-disciplinary team of design experts; a perfect ingredient for a successful research, analysis and synthesis process. [2] In this model, the value additions to an idea or a concept are imparted through interaction and at a lesser cost to a specific industry/sector. It applies to sectors such as Micro and Small Scale Manufacturing, where a conventional model of design consultancy and training is not often affordable. This model brings design exposure to the doorstep of industry clusters and helps in design improvement, evaluation and analysis and adopting long term consultancy/design related interventions.

Thus, a design clinic can be defined as a mechanism where design solutions are made available to the design problems of products/services, and for concepts and ideas that are brought in for design analysis and scrutiny. Here, flexible and strategic solutions are made available to provide value addition through synergies and matured options as solution to design problems. [2]

The main objective of the design clinic is to bring the MSME sector and design expertise on a common platform and to provide expert advice and solutions on real time design problems, resulting in continuous improvement and value addition for existing products.[2] The mode of research here is intuitive, in-depth, scientific, logical, strategic and illustrious to help identify opportunity areas wherein strategic decisions/solutions could be developed. Design Clinics is a real time Design Research approach to problem solving process.

## DESIGN CLINIC SCHEME FOR MSMES (DCS-MSMEs)

The office of the Development Commissioner (MSME), Ministry of Micro, Small and Medium Enterprises, Government of India launched this unique and ambitious design intervention scheme for the country's large MSME sector on 17th February 2010. The National Institute of Design (NID), Ahmedabad appointed as its nodal agency responsible for delivering the scheme, is coordinating the implementation, planning, monitoring and validation of the Design Clinic Scheme across the country as per the approved guidelines of the DC (MSME).[3]

The Design Clinic Scheme scheduled to enhance design awareness to the doorstep of industry clusters by exposing beneficiaries to the critical nuances of process, operation, manufacturing and business aspects of Design. The scheme helps MSMEs to avail independent advice on all aspects of design. Practical support is provided to MSMEs via one-to-one advice, seminars, and workshops. This specialist advice is provided by experienced designers for new product development as well as by enhancing existing product portfolio. The scheme is thus expected to help enhance industry understanding and application of design and innovation, and integrate design into the mainstream business and industrial processes of MSMEs. Through the process of constant and continuous design intervention, design learning will be established in MSMEs. The scheme will help increase competitiveness of MSME products and their services. The goal is to help MSMEs move up the value chain by switching the production mode from original equipment manufacturing to original design manufacturing, ultimately leading to original brand manufacturing.

DCS-MSMEs being implemented through its three following components viz - a) Design Awareness Seminar, DAS, is a one-day activity to create design awareness among the MSMEs and MSME Cluster Associations to introduce design and creative problem solving methods. (b) Design Awareness Programme (DAP) is a focused activity whereby a team of skilled designer/s undertakes detailed feasibility study to understand the design issues at the micro and macro level of the selected MSME cluster. This helps in identifying appropriate design intervention methods. Through clinical approach, designers provide solutions to the problems with one to one discussion with the client/participants and enable them to innovatively come up with ideas and discuss its implications. (c) Professional Design Project & Student Design Project, PDP & SDP, are consultative design inputs for the participating MSME unit and/or the cluster to better its/their products, services and operations etc. [3]

The scheme offers enriching opportunities to the large Indian design fraternity including design, engineering and technology education Institutions to engage themselves in detailed design research for the benefits of the country's large MSME sector. The Scheme has, till date (November 2014), completed 345 Design Awareness Seminars, DAS and 200 Design Awareness Programmes, DAPs. Over 260 Professional Design Projects, PDPs and over 90 Student Design projects, SDPs, are at various stages of their completion.[3]

## MSMES IN INDIA

The Micro, Small and Medium Enterprises (MSMEs) play a pivotal role in the economic and social development of the country, often acting as a nursery of entrepreneurship. They also play a key role in the development of the economy with their effective, efficient, flexible and innovative entrepreneurial spirit. MSMEs have been globally considered as an engine of economic growth and as key instruments for promoting equitable development. The major advantage of the sector is its employment potential at low capital cost. The labor intensity of the MSME sector is much higher than that of large enterprises. MSMEs constitute more than 90% of total enterprises in most of the advanced / advancing economies and are credited with generating the highest rates of employment growth and account for a major share of industrial production and exports.[4]

In India too, MSMEs play an essential role in the overall industrial economy of the country. With its agility and dynamism, the sector has shown admirable innovativeness and adaptability to survive the recent economic downturn and recession. The MSME sector in India is highly heterogeneous in terms of the size of the enterprises, variety of products and services and levels of technology. MSMEs complement large industries as ancillary units and contribute enormously to the socioeconomic development of the country.

The MSME sector contributes significantly to the country's manufacturing output, employment and exports and is credited with generating the highest employment growth as well as accounting for a major share of industrial production and exports.

## DESIGN AWARENESS PROGRAMME, DAP

Design Awareness Programme, DAP, the second of the three components of the Design Clinic Scheme for MSMEs, provides the crucial link to connect MSME unit/s to design through quick remedial solutions and thereby help convince the unit owners to the benefits of design. Most MSMEs' immediate focus / priorities today would be towards tackling their day-to-day issues and challenges. These units may not be in a position to invest in design, both in terms of their resources as well as time. The programme brings designer to the doorsteps of the needy MSME units to interact and identify various design opportunities that may exist. Clinic based approach helps each participating MSME unit/s take back positive and implementable outcome/s in return of their participation in the programme. DAP thus helps transit the initial interactions during the Design Awareness Seminar, the first component of the scheme, to the continuous and focused interaction and long term relations with designer for project based intervention, the third component of the scheme.

Process based improvements call for participatory process and thus detailed interaction and brainstorming sessions between the designer, unit owner and other unit members / workers. Detailed analysis of the entire business process and thereby identification and documentation of various opportunity areas would help gain holistic understanding, further plan and develop direction for future progress. Opportunities and the scope for design intervention exist in MSMEs at various levels and in different forms. It may be in the form of new design of product, redesign of existing product, product diversification, product graphics and/ or in the form of its package design etc. The opportunity may exist in the form of improvement of quality through redesign of joineries and details, redesign of tools and equipment or it may be in the form of ergonomic improvement, redesign of workstation etc. It may be in the form of need for design sensitization training and/or skill up-gradation of their workers and staff members; appropriate adaptation of new materials, processes and/or machines and equipment etc.

Thereby the Design Awareness Programme developed in the form of design clinic, the design intervention model found to be one of the most appropriate design intervention models for the Indian MSME needs, provides unique character to the scheme and also differentiates it from other similar schemes of design interventions for SME industries across the world. Till date (November 2014) over 230 designers have interacted with over 4000 MSME units as part of DAPs organised across the country.

Design Awareness Programme is divided in two phases. The first phase of the programme involves detailed design need assessment survey, NAS, to identify design opportunities. Designer's interaction at individual unit level would help the owner and the members of the unit better understand the process of design as well as its benefits. Through this interaction, as opportunities are identified and remedial solutions are offered, much necessary confidence gets developed. Similar interactions with other units of the same cluster would help designer gain micro as well as macro perspective and thereby holistic understanding of the design issues involved at the cluster level.

The second phase of the Design Awareness Programme comprises of design awareness workshop, DAW with the participant industry members. During this workshop, the designer shares the overall understandings, insights and opportunities identified through the survey and discuss possible remedial solutions with the participants. The participating members would also be exposed to different elements of design through case study presentations, expert discussions

and hands-on exercises. Thus the workshop will help participating MSME unit members discuss individual level issues as well as some of the common issues concerning the entire cluster.

The following two examples of the Design Awareness Programmes, DAPs organised as part of the scheme, will help better explain the importance of design clinic based design research approach for MSMEs.

#### SHOLAPITH WORK - BENGAL WOMEN WELFARE ASSOCIATION

The Sholapith cluster in the small villages of Mandirbazar block, West Bengal is dominated by thousand small home based businesses. Shola (*Aeschynomene Aspera*) is a plant, which grows in the tropical wetlands all over the world. In India it grows in the states of West Bengal, Orissa, Kerala, Karnataka, Andhra Pradesh, and Tamil Nadu. Sholapith items form an integral part of the major religious rituals in WB thus having a strong local demand. Beautiful finished shola products are used the world over on various occasions like festivities, religious ceremonies, private celebrations as well as brought to daily use as decorative items.

A detailed need assessment study was done in the year 2011 as part of DAP. Twenty registered units of the cluster, spread over seven villages were identified for the detailed study carried out by the designer based on the criteria covering maximum diversity of Sholapith product range, skills sets, knowledge base, product mix, size of business, positioning of their products and their businesses in the market etc.

The methodology of the study included an all-inclusive literature, web, other relevant report review on a diverse range of topics related to Sholapith cluster sustainability & evolution, locally and worldwide; Interviews of cluster stakeholders; Base line data compilation; Studying observational behaviors of the members of the units, in-home environment, in-unit environment, living conditions et al were done.

The study documented the Tools, Chemicals, Machines, the process; the range of products; a value chain assessment for understanding the constraints and design opportunities for the industry and the competitiveness of the local units in the global context. Key trends of the Sholapith products were identified along with other aspects like the success patterns, export & buying behavior and obstacles to direct exporting. Strong emphasis was placed on studying the back-end and the front-end scenario of the Sholapith cluster in depth, right from the process of Shola plant farming to the end-use of the Sholapith products, worldwide.

With the holistic understanding thus gained from this cluster centric design information and contextual design diagnosis, a 5 days participatory Design Awareness workshop, DAW was organized for the members of the cluster. The designer and other subject experts, along with the participating MSME unit members explored options/solutions for the opportunities identified. Hands on exercises during the workshop, while helped develop cost effective and contemporary new designs, also helped them better understand the process and benefits of design in their specific context of the cluster. [5]

#### FOUNDRY CLUSTER, SAMALKHA

Samalkha is a small industrial town located near Panipat in Haryana. It is situated on the national highway number one and is 75 K.M away from the national capital Delhi. Samalkha is well known for its cast iron casting for Chaff Cutter and Cane Crusher it produces for domestic use. The chaff cutter is used to cut chaff to feed animals. The cluster was developed in late 40s.

There are 30 foundry units/ manufacturing enterprises operating in the cluster. Employing 1,200 skilled and semi skilled workers, the cluster produces around 2,000 M.T per month (for ten months). Its turnover in the year 2010 – 2011 was approximately Rs 90-95 crores.

The product design and the associated process are almost 120 years old. While the current products are doing good, and the demand is growing with increase in population and cattle, with declining labor force, skills and productivity of machines it is becoming difficult for the unit owners to carry out the business efficiently.

As part of the Design Awareness Programme, DAP detailed **need assessment survey**, NAS was carried out in the year 2012 to study the gap between the product-process-user-market and the environment. The designer visited each of the units and had detailed interaction with the unit members. Qualitative and quantitative studies through observation, questionnaire, photo-documentation, etc. were part of the methodology used.

Survey and field visits were undertaken to capture the uniqueness of each unit in the cluster, dig out their unique strength and assessing the future. The NAS process covered brief study of the present set up and processes, the outcomes and the overall manufacturing dynamics that work in the cluster. Detailed study was undertaken to understand cluster history and evolution, evolution of chaff cutter, evolution of cane crusher, supply chain management, social, political and economical factors affecting the cluster, waste generation, issues of labor etc.

Detailed design audit was carried out to understand the present way of working and shortcomings with the Chaff Cutter and Cane Crusher. Study was also aimed to facilitate understanding where technology stand as on today and what best that can be suggested to the units for them to switch over to new products, technique, machines that bring them cost reduction, improved products and markets.

The designer also interacted with the users of the products as well as studied the markets and the competitors to understand present status and the problems faced by the users.

Equipped with holistic understanding thus gained through micro and macro study of the cluster and its units, the designer then organized five day design awareness workshop, DAW where the findings were presented to the cluster members. The identified opportunities were then taken up with individual unit owners to explore remedial solutions. The outcomes of the workshop included improvements / refinements of the existing components and manufacturing processes, new designs of products to better utilize available resources, wastes etc. as well as some of the cluster level improvements. [6]

## CONCLUSION

Indian society and economy as a whole demand remedial, contextual, implementable and quick solutions to the problems / projects. Over 95 % of the country's industries come under MSME category. Majority of them are component manufacturer and/or original equipment manufacturers. Their immediate focus / priorities today would be towards tackling their day-to-day issues and challenges. Improvements of their existing business, processes, technology used, products etc. would therefore be the immediate priority to provide the much needed relief as well as develop confidence among these MSMEs. And majority of these issues here are intertwined, thereby requiring holistically and systemic understanding of the entire business. The design intervention for MSMEs thus calls for detailed design need assessment study and design opportunity mapping covering all aspects of their business before embarking on design solutions. And this study and/or opportunity mapping should be leading to remedial solutions and design directions.

Clinic based design research approach is thus found to be most appropriate to the MSME's need and expectations. Design clinic as a design research approach was thus developed and tested with few of the MSME units and clusters, before scaling it up as a scheme to be implemented at the national level. While bringing the design experts to the door steps of these needy MSMEs, this approach of design research provides the much needed platform for different experts and stakeholders to have detailed discussions with the unit members to gain holistic design audit of the entire business, clearly identify opportunities and develop remedial solutions.

The Design Clinic Scheme continues to be a shot in the arm for the MSMEs, who with design awareness and sensitization, are now looking for more and more design intervention for their products, processes and services. Detailed guidelines, formats, reference materials have helped the implementation team to effectively scale up this approach countrywide, involving design experts with varied experiences and skill sets, while maintaining the quality of their outcomes. The interactive research based approach of Design Clinic Scheme has created a niche in understanding the core of MSME operations and its existence in the glocal (global+local) market sphere. The Scheme stands out as a major tool for the benefit of Indian MSMEs in the years ahead, and affords greater opportunities to the Young Designers. A strategic input of Design Clinic approach will act as a catalyst to broaden the horizon for design research methodology being used in different platforms of research. A newer zest to incorporate it to the mainstream of everyday usage is the need of the hour.

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