# EXECUTIVE SUMMARY OF THE STUDY

## 1 OBJECTIVES OF THE STUDY

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| (1) To provide an overview of Indian design sector in terms of its structure, stakeholders, outputs, policy initiatives and institutional support currently being provided. |
| (2) Taking the past seven year reference period of 2008-09 to 2014-15 for registration of designs, to examine the Indian industrial design capabilities in terms of:<br>(a) Size of the sector: number of design applications and registered design count; comparison of resident and non-resident registered counts<br>(b) Dispersal of designs among micro-small-and-medium-enterprises, individual designers, design firms and institutions, educational institutions, big corporates, public sector undertakings and government sector<br>(c) Size of designer human resource; designer productivity and designer diversity. |
| (3) Using the above database, to examine the current Indian design capabilities in the various societal sectors such as handicrafts and handloom, alternate sources of energy, water, health and sanitation and environment. |
| (4) Reaching out to a representative sample of designers, to study the design creating process in terms of:<br>(a) Needs that arouse a designer to venture into designing<br>(b) Components of knowledge investments made in designing<br>(c) Extent of commercialisation of designs and their market outreach<br>(d) Role of India-Mark/other measures in enhancing capabilities of designers<br>(e) Perceptions of designers about the enabling factors that could make the country's design capabilities globally competitive. |
| (5) To study a representative set of case studies [design institutions, design organisations, industrial enterprises and individual designers] so as to identify the enabling factors that can raise the country's design capabilities. |
| (6) To study China's design sector and identify its elements which could be relevant for Indian design sector. |
| (7) Using the standard Delphi method, to seek inputs from design experts, design houses and industry, and **integrating these inputs with those obtained from the designers, the case studies and the China study**, to work out a strategic action plan which could help in expanding the country's design capability and making it globally competitive. |

## 2 SOURCES OF INFORMATION

The sources of information for the study were:
(i) primary data available with the Patents, Design and Trademark Office for seven-year period 2008-09 to 2014-15, providing information on 48,170 registered designs. This inventory of designs was used for the analysis presented in this study;

(ii) reaching out to a large representative set of designers [sample size 507] selected from different design disciplines appearing in the seven-year inventory;

(iii) 32 case studies [representing design institutions, design firms, industry and freelance designers] to identify the enabling factors that tend to promote design capabilities in industrial and other sectors; and

(iv) gathering views of 30 experts from design institutions, design firms, industry and individual designers on the current status of the country's design sector and the prospects of its future expansion.

## 3 THE DESIGNERS' WORLD: INDIAN DESIGN SECTOR

**Industry's Structure:** The Indian design sector consists of the following entities: Micro, small and medium enterprises; individual freelance designers; design institutions producing design manpower and offering consultancies in an institutional set up; public sector undertakings and the central and state governent agencies and departments; and corporate design sector consisting of: (i) about 500 design consultancies/studios:, (ii) large design firms with multiple specialties: (iii) in-house design units set up by companies; (iv) multi-national corporations engaged in building a niche position in Indian markets; and (v) design startups. Most of the corporate design activities are focused in four cities: Mumbai, Delhi, Bangaluru and Pune.

**Design Education Sector:** There has seen a spurt of growth of the design education sector in the last five years with several private institutions have been set up.

**Design Human Resource:** According to this study's estimates, the number of active designers registered with the Patents and Design Office is about 5,000. The National Institute of Design, Ahmedabad, estimates that overall there are about 10,000 designers in the country.

## 4 THE GOVERNMENT'S DESIGN ECO SYSTEM

**National Design Policy: 'Designed in India, Made for the World':** This Policy announced in 2007 envisaged global positioning and branding of Indian designs and making "Designed in India," a by-word for quality and utility in conjunction.

**India Design Council:** This organisation is the national strategic body for promoting multi-disciplinary design so as to make Indian industry a design-enabled industry.

**India Design Mark:** India Design Mark [I-Mark] symbolises excellence in form, function, quality, safety, sustainability and innovation. It communicates that the product is usable, durable, aesthetically appealing and socially responsible.

**National Initiative for Design Innovation:** This initiative is aimed at promoting design sector by setting up a National Design Innovation Network, 20 Design Innovation Centres and several Open Design Schools to ensure maximum reach of design education and practice in the country.

**National Design Business Incubator:** It is an independent entity located within the premises of National Institute of Design, Ahmedabad. It has been set up with the support of the Department of Science and Technology. It supports designers to help them turn their ideas and concepts into successful competitive designs in various fields.

**Patents, Design and Trademark Office:** Its initiatives include: electronic application filing system; sharing design application status; and offering public search facility for registered designs on its website.

## 5 INDUSTRY'S INITIATIVES

**Initiatives by Confedration of Indian Industry[CII]:** These include: CII's National Committee on Design to encourage design as a tool for business competitiveness and innovation; Design Summits in collaboration with National Institute of Design, Ahmedabad; DCODE - the CII design brand; and India Design Book.

**Initiatives by Federation of Indian Chambers of Commerce an Industry [FICCI]:** The Design Innovation Conclave was held as per the recommendation of FICCI's National Committee on Science, Technology and Innovation to promote excellence in design-based product innovation practices in Indian industry. FICCI's another initiative, Karigari Design offers designers to explore the country's cultural heritage and generate products in an aboriginal design style.

**Godrej Designlab:** It offers an opportunity to designers to explore ideas in an unfettered environment, backed by state-of-the-art facilities at their disposal.

**Celebrating and Awarding Design:** The major events are: CII Design Excellence Awards, Design Summits, Pune Design Festival, Kyoorius Design Yatra, Design Forum, Pecha Kucha, Best Design Studio Awards and Designomics Design Competition.

## 6 REGISTERED DESIGNS SECTOR

**Size:** The total number of designs registered in the country during the seven-year period 2008-09 to 2014-15 was 48,170. The proportion of resident designs was 61% [30,786 designs] and that of non-resident designs was 39% [17,384 designs].

**Non-Resident Designs:** During the seven-year period, as many as 69 countries registered designs in our country. Among the non-resident designs, Europe+Austrialia accounted for as many as 69% of the designs, followed by the USA+Canada 22% and Asia 09%. The USA, Japan and Germany accounted for 50% of the non-resident designs.

## 7 REGION, STATE AND CITY-WISE DISTRIBUTION OF INDIAN DESIGNS

**Region-wise Distribution of Design:** The highest number of Indian designs were registered from the western region (53%), followed by the northern region (32%). The southern and eastern regions were found to be low performers. The registered design activity in the north-east region was nearly non-existent.

**State-wise Distribution of Designs:** The design count among the Indian states was found to be highly skewed with two states [Maharashtra and Gujarat] dominated the registered design domain as they accounted for 50% of designs registered.

**City-wise Distribution of Design:** During the seven-year period 2008-09 to 2014-15, there were 273 cities/towns from where the designers registered their design work. Mumbai, Delhi and Rajkot accounted for 50% of total 30,786 designs.

**State-wise distribution of designs**

| State | Number of designs |
|---|---|
| 1. Maharashtra | 9809 |
| 2. Gujarat | 5234 |
| 3. Delhi | 4400 |
| 4. Uttar Pradesh | 2160 |
| 5. Tamil Nadu | 1802 |
| 6. Punjab | 1389 |
| 7. Haryana | 1385 |
| 8. West Bengal | 1059 |
| 9. Karnataka | 958 |
| 10. Rajasthan | 680 |
| 11. Kerala | 385 |
| 12. Daman & Diu | 349 |
| 13. Telangana | 291 |
| 14. Madhya Pradesh | 103 |
| 15. Dadra Nagar & Haveli | 99 |
| 16. Himachal Pradesh | 80 |
| 17. Uttarakhand | 66 |
| 18. Chandigarh | 57 |
| 19. Odisha | 53 |
| 20. Andhra Pradesh | 49 |
| 21. Jammu & Kashmir | 44 |
| 22. Chhattisgarh | 38 |
| 23. Goa | 34 |
| 24. Jharkhand | 27 |
| 25. Bihar | 24 |
| 26. Assam | 17 |
| 27. Puducherry | 13 |
| 28. Nagaland | 06 |
| 29. Arunachal Pradesh | 05 |
| Total | 30786 |

**Designs pertaining to Societal Sector:** During the seven-year period 2008-09 to 2014-15, 22% of 30,786 Indian designs pertained directly to the country's societal sector belonging to Handicrafts and Handloom, followed at a far distance by Healthcare, Environment and Pollution Control, Alternate Energy Sources/Systems, Digital India Devices and Systems and Sanitation and Toilets.

## 8 DISTRIBUTION OF INDIAN DESIGNS AMONG DESIGNER-CATEGORIES

**Number of designers:** During the seven-year period, 5,418 designers together registered 30,786 designs. The micro, small and medium enterprises (MSMEs) together with the individual designers dominated the registerd design scene as they accounted for as many as 74% of these designs. The corporate sector's [large corporates+design firms] share was 24%. The contribution of central/state government agencies/institutions, public sector undertakings, educational institutions and trusts/NGOs together was hardly 2%.

**Designer Productivity:** The value of this parameter was found to be very low, which tends to indicate that most designers did not register large number designs even over a period of seven years.

## 9 DESIGNERS WITH SMALL CITY/TOWN BACKGROUND

During the seven-year period, 2008-09 to 2014-15, 15% of the designers belonged to 205 small cities/towns of the country. Their contribution to the total design count was 9%.

## 10 TECHNOLGICAL SOPHSTICATION OF DESIGNS

The designs focussing on high-end technologies [including digital] constituted 19%, medium-conventional (technical) fields 57% and 23% of the designs focussed on traditional fields [like metal work, handicrafts, handlooms and other hand-driven works]. As expected, while the high-end technology designs were dominated by the corporates, the traditional designs were mostly within the domain of individual designers.

**Cities registering more than 500 designs each**

| | City | Number of designs |
|---|---|---|
| 1. | Mumbai | 7391 |
| 2. | Delhi | 4377 |
| 3. | Rajkot | 2732 |
| 4. | Noida | 1149 |
| 5. | Chennai | 1014 |
| 6. | Kolkata | 979 |
| 7. | Bangalore | 817 |
| 8. | Surat | 814 |
| 9. | Ludhiana | 781 |
| 10. | Ahmedabad | 780 |
| 11. | Gurugram | 632 |
| 12. | Jaipur | 588 |
| 13. | Pune | 587 |

## 11 WIPO CLASSIFICATION-BASED ANALYSIS

Out of 32 main classes in the Locarno Classification, the top six main classes which accounted for about 50% of the designs registered in the country were: packages and containers for the transport or handling of goods; means of transport or hoisting; tools and hardware; fluid distribution equipment; equipment for production, distribution or transformation of electricity; and household goods.

## 12 THE DESIGNER AND DESIGN DEVELOPMENT PROCESS

**Designers' Profile:** The average age of the designers in the sample was found to be 37 years. 41% of the respondents were high school drop-outs, undergraduates or graduates in arts/commerce. 44% of them had a degree either in science, engineering, medicine or management. Only 11% of the respondents were formerly qualified in a design discipline. Over 80% of the respondents were self-employed and the rest were working either in an industry or a design firm.

**Sources of Inspiration for Designing:** Table 1 gives the ranking of factors that inspire designers to take up design work. Apart from highly reliable functioning/durability, other two concerns that inspired the designers were: good looks/appeal and low cost of final product.

**Table 1: Ranking of factors that inspire designers to take up design work**

| | Main factors | Ranking score |
|---|---|---|
|  | **Creative urge to do something new** | **2.0** |
|  | **Better design asked by consumers** | **2.1** |
|   | **Design driven by business/profits** | **2.2** |
|  | **Industry's technical needs for better performance** | **2.2** |
| **Less important factors** | | |
|  | ~~Offering consumers new options for products~~ | ~~2.7~~ |
|  | ~~Designer's concern for absence of good design~~ | ~~2.8~~ |

**Design Experience and Output:** 42% of the respondents had design work experience of less than 10 years, while 30% of them had worked in this field for 10 to 20 years. A comparsion with the age pattern of the respondents tends to show that a large number of them started designing work quite late in their careers. 74% of the respondents in the sample reported producing less than 50 designs during the past five year period.

**Knowledge Investment:** This study found that among the components of the knowledge investments in designing, the time spent on the task of readying blue print for design was high in the case of technical designs than the traditional designs. In technical designs, a designer spends 13% of design-making time on R&D (realisation of technical features) and another 13% on R&D (realisation of looks/appeal). In the case of traditional designs, maximum time was spent on doing research on new materials to be used in the design, followed by attractive and safe packaging and R&D for realisation of looks and appeal. Not much time was spent on testing, working out marketing startegies/advertising in case of traditional designs.

**Top Indian designers:** Table 2 lists the top 25 Indian designers as appearing in the seven-year design inventory.

**Table 2: Top 25 Indian designers**

| Name of designer | Number of designs | Name of designer | Number of designs |
|---|---|---|---|
| 1. Biba Apparels | 1,252 | 14. Mahindra & Mahindra | 143 |
| 2. MA Design India | 1,006 | 15. The Supreme Industries | 139 |
| 3. Crompton Greaves | 862 | 16. Gold Medal Electrical | 139 |
| 4. Siddhi Vinayak Knots & Prints | 566 | 17. NID, Ahmedabad | 132 |
| 5. Tata Motors | 418 | 18. Eicher Good Earth | 129 |
| 6. Godrej & Boyce | 383 | 19. Tube Investments of India | 115 |
| 7. Hindustan Unilever | 289 | 20. Charming Apparels | 114 |
| 8. Bajaj Auto | 236 | 21.Philips Electronics India | 112 |
| 9. Larsen and Toubro | 173 | 22. Minda Industries | 98 |
| 10. Jcb India Limited | 161 | 23. Siddharath Bindra | 97 |
| 11. Jaipur Drugs | 156 | 24. Nilkamal Industries | 97 |
| 12. Nayasa Homeware | 152 | 25. Ravissant | 95 |
| 13. Pearl Polymers | 152 | Total | 7216 |

## 13 PERCEPTIONS OF DESIGNERS AND EXPERTS TOWARDS STRENGTHENING COUNTRY'S DESIGNS SECTOR

### Main Suggestions

**Designers:** The designers in the sample suggested promoting a creative approach among the stakeholders, and this approach should get reflected in the societal development and commercially viablility of designs. They further suggested strengthening the R&D base of design by setting up design development centres in different parts of the country. They also asked for introduction of a system of support for innovative ideas created jointly with industry so that they get translated into profits. According to the designers, emphasis should also be given on design education, awareness on importance of design registration, and incentives in the form of recognition of their work.

**Experts:** Table 3 below lists eleven startegies which scored high values [0.80 or more] of the parameter, *priority indicator*, as per the perceptions of the experts.

**Table 3: Eleven top startegies suggested by experts**

| Strategy | Priority indicator |
|---|---|
| 1. Make registering process simplest possible | 1.00 |
| 2. On-line design registration platform in Hindi and regional languges | 0.96 |
| 3. Modify rules to institute heavy penalities for design offenders | 0.89 |
| 4. Time table for identifying design inputs for various government missions such as Make-in-India, Start-up India, Stand-up India, solar and wind, waste-to-energy, green India and human health mission; and sponsoring this design work to design/engineering institutions/designer consortiums | 0.85 |
| 5. Build a mechanism for free legal support to needy designers seeking redressal of their copy right violations | 0.85 |
| 6. Reduce reddressal time to a maximum of three months | 0.83 |
| 7. Hold design exhibitions at national, state and district levels after a preliminary registration with the industry associations | 0.81 |
| 8. Forecast design demands in industrial/other sectors and create the required number of design institutions/courses in the country | 0.81 |
| 9. Motivate the faculty/students of design, engineering and other colleges to enlist their design projects on a national design web after registeration | 0.81 |
| 10. Launch a design mentor system to establish links of designers with design/technical institutions and offer not-so-well-to designers consultancy on filing design applications | 0.80 |
| 11. Identify new design requirements of rural sectors and also of handicrafts/handloom utility items for households and industry | 0.80 |

**Additional Experts' Viewpoints**

**(1) Promoting design thinking as a way of work:** Design management provides designers and clients a way of thinking and tools to bridge the huge gap of culture and understanding of objectives that exists between them.

**(2) Emphasis on the indigenous:** Need to focus upon the existing handicrafts, handloom and agricultural sectors and start applying design elements into them to boost productivity.

**(3) Recognising design consultancies as R&D organisations:** Need to regularise design consultancies as R&D. The annual R&D budget allocated to a state may be linked with its registered design count for that year.

**(5) Payment for ideation stage:** Almost all corporate and government clients do not pay the designers for design concepts in the ideation stage. Most government tenders also expect complete designs to be done free prior to tender opening. In such a situation, designers tend to place only the minimally acceptable design so as to minimise risk taking. Therefore, it is necessary to ensure that designers are paid for the design concepts generated prior to project starting.

**(6) Holding hand of startups:** The startups-incubator systems need to be well supported with highly subsidised infrastructure and services. The corporate social responsibility scheme can act as a boon for incubators to support startups.

**(7) India-Mark branding:** In the front-end Indian market segments, awareness is virtually non-existent among consumers about the value of purchasing an I-Mark product, versus an internationally famous Red Dot or iFawarded product.

**(8) Enhancing scope of design registration:** Need to conduct workshops for on-the-spot registration of designs; and temporary registration of the ideas under development stage.

## 14 INPUTS FROM CASE STUDIES FOR EXPANDING THE WORLD OF INDIAN DESIGN

**I. Expanding design base:** Identify and meet new product/product innovation needs of local manufacturers and consumers; be aware of current global trends, internet information and local cultures together to breed and nurture new design ideas; need to constantly update design methodologies with new technologies and with the latest trends in the world of embedded system.

**II. Support for start-ups:** Support and work as mentors for potential startups on consumer-focused businesses with strong market potential (as currently being offered by the National Design Business Incubator and Tata Elxsi).

**III. Improving design education quality:** Integrating design research with design teaching: appointing industrial experts as teachers; organising industrial training programmes and projects for faculty.

**IV. Expertise networking:** Need for proactive networking among clients and partners including device manufacturers, telecom carriers, technology and content providers, brand developers and financial service providers.

**V. Internet of things: Contribution to digital India:** Need to recognise the importance of web and mobile elements, CMS, mobile OS, and e-commerce to develop new and meaningful ways for people, businesses, products and services.

**VI. Design's environmental impact:** A disciplined, scientific approach is required to assess a product's full environmental impact across its lifecycle - from raw materials, manufacturing, distribution, consumer use and to disposal.

## 15 NINE ENABLING FACTORS CONTRIBUTING TO REMARKABLE GROWTH OF CHINA'S INDUSTRIAL DESIGN SECTOR

### Factor-1: Enabling policies and creation of design infrastructure

In China, the design infrastructure is a key to asserting dominance over the domestic markets and enticing foreign clients to work with Chinese design firms. The country has gone for decentralisation at city/provinical levels by creating eco-friendly innovation hubs.

**Factor-2: Increase in R&D facilities in local businesses; pledge changed from 'Made in China' to 'Invented in China'**

The growth in R&D expenditure in China has been found to be directly linked with the high investments in design R&D. The domestic companies have started investing in design R&D alongwith collaborating with research institutions.

**Factor-3: Collaborations between government, universities and business communities at provincial and city level**

The B2B (business-to-business) innovation model has gained from the policies of limiting market access for foreign companies and promoting domestic-purchasing. Other initiatives are the Innovation Strategy-2020 and creation of 22 Silicon Valley-like innovation hubs.

**Factor-4: Linking innovation with commercialisation: attention to branding, marketing and distribution besides processing and manufacturing**

As a result, new Chinese products either provide slightly new functionality or offer an existing product at a lower price.

**Factor-5: Foreign collaborations to bring in technology/foreign direct investments**

Design was listed for the first time in the 2011-version of the 'Catalogue for the Guidance of Foreign Investment Industries.'

**Factor-6: Strong local markets focusing on needs of domestic consumer**

The 'Built in China' movement has inspired Chinese companies to adopt home-grown innovations, combining them in many innovative ways with culture, style and function.

**Factor-7: Emphasis on speed of delivery**

The commercial success in China is intimately linked with 'tempo", where an innovation is upgraded in quick succession, and launched in the market with unprecedented rapidity.

**Factor-8: Emphasis on quality over quantity**

The work report of 2016 gave emphasis on quality over quantity so as to bring in the idea of "craftsmanship spirit" in manufacturing. The planners are also focusing on integrating product and process design through concurrent quality engineering.

**Factor-9: Introducing training courses/intern positions for college students**

At present, there are 1,275 universities and colleges in China offering design courses. Young talents are being encouraged to exhibit quality designs at platforms like PDC Design Talent Programme, Beijing International Design Triennials and Chinese Red Start Award competition.

**Features of Chinese IPR regime:** The Chinese IPR regime is highly decentralised with the IPR offices set up in various parts of the country. The country boasts of 3,000 IP judges, and it has set up three fast track courts in Beijing, Shanghai and Guangzhou.

## 16 THE STRATEGIC ACTION PLAN

This Action Plan presents a set of strategies that could help in expanding the domain of the country's design sector and making its design capabilities globally competitive.