Changing Industrial Design Scenario in India and its Impact on its Curriculum

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Abstract:

Industrial Design scenario in India saw a tremendous transformation in the last three decades. The large spike in technology development and vibrant entrepreneurial business climate has seen disrupters driving the need for Industrial Design. Industries are now ready to invest in design. Clients now understand the importance of research, usability, and innovation. Every step of the design process is being followed to a large extend. Design is now accepted here as a thought than merely a skill. The size of a typical design project has grown multifold. Product development cycles have reduced and project deadlines have halved. And the projects are more and more systemic. Industrial Designers are today sought to deliver solutions to platforms, critical red ocean challenges, and future scenarios.

There is a growing sense of dissatisfaction among the industries concerning the skills and capabilities of the upcoming graduates of the design schools. Lack of practical knowledge among these fresh graduates is the main concern of the industries. The transition for these young design graduates, from their academics to professional life is still 4-5 years. The small and medium scale industries, the main source of employment for the industrial design graduates in India, prefer performers from the word go. The design here is a high-speed creative thought process, and it can be learned only through hard work.

Design institutes need to revise and update its curriculum to meet with these increasing and changing expectations of the new-age digital and innovation economy. Designers are now expected to bring in some innovation or technological change in their projects. Sharper understanding of new materials, technology, shop floor based processes as well as business concepts are now critical to Industrial Design. And with the large portion of the product development process being digital, intense knowledge of the digital development phase is essential to project execution.

UI, UX, Service Design, Experience Design, are the areas of demand and popular career options for industrial design students. With the emphasis now on elements and process of design, a deeper understanding of design research is crucial for these budding industrial designers.

Introduction:

Design education in India has witnessed exponential growth over the last few decades. For the country's young population, design now offers a new career opportunity. Many new design institutes have come up in the country in the last one and half decades. And this trend is expected to continue in the near future. However, the rapid changes in the socio-economic paradigms have increased pressure on design education in the country. There is a growing sense of dissatisfaction among the industries concerning the skills and capabilities of the upcoming graduates of these design schools. Design institutes need to revise and update its curriculum to meet with these increasing and changing expectations of the new-age digital and innovation economy.

A study was undertaken to understand the changing role of Industrial design and its impact on the industrial design curriculum. A questionnaire was developed as part of this study and was sent to the practicing designers and design educators to collate and understand their views. As a pilot study, the questionnaire was sent to the established industrial designers of the country having over twenty years of experience/practice. A questionnaire was also sent to the Dean/HoD of the Industrial Design department of various design institutes in India. The focus was to get their critical views and concerns on the challenges faced by the Industrial Design profession in India; the skills and capabilities gaps in today's young design graduates; current placement trends of the ID graduates; and the main challenges faced by the faculty members of the ID discipline and the design institutes. The responses/ views received are collated as under.

Changing role of Industrial Design in India:

Liberalization and opening up of the Indian economy in 1991 have seen a splurge of MNCs entering into the Indian markets. They brought with them the global products and their best offerings. Indian market leaders had to now compete with these MNCs. Surviving in these fiercely competitive and fast-paced markets necessitated a customer-led approach - understanding and satisfying customer needs and aspirations. With the economic upturn in the first decade of 2000, the spending power and aspiration of Indian consumers also shot up exponentially. All these created a demand for better design and features in the consumer products market. It was soon realized that India is a unique market with several consumer segments. And these called for an India specific design strategy.

Industrial Design scenario in India thus saw a tremendous transformation in the last three decades. Earlier the Design scenario revolved around crafts and lifestyle products and was limited mostly to the low capital products. With the advent of the aspirational audience and business growth-oriented consumerism, the design has now percolated to the mass-manufactured products. E-com has created impulse buying and modern retail is a place for quick comparison. For the consumer durables and FMCG, the mainstream industry, aesthetics is now a prime factor in making sales. Companies have to frequently launch new products to stay afloat. With the variety of technologies like WiFi, IoT, etc. and availability of new materials & finishes, there is now a tremendous scope in differentiating through articulate integration of technologies. The pallet has spread wider, and so have the expectations soared. Design is now in demand.

Twenty years back, designers had to evangelize to sell their services. The industry expected the designer to take responsibility till the production. Now almost everyone in the industry knows about design. The industries have the infrastructure to take the designer's creative output and own the responsibility to take it forward.

The ability to understand 3D drawings and data and the required tools have increased significantly in the industry.

With global exposure and rising competition at home, the clients have become more receptive of design, now more as a thought than merely a skill. Their expectations are also rising by the day. Clients now understand the importance of research, usability, and innovation. They understand the difference between market research and design research. And they have realized the importance of making and investing in physical prototypes. Earlier, showing a concept through renders was good enough. The clients are now ready to invest in tooling and market launches. Every step of the design process is now being followed to a large extend. The designers are evolving their industry-specific design approaches through the introduction of a co-creation approach, design validation with the consumers, etc. Designers now focus on helping industries and the clients appreciate the elements and nuances of design. However, on the flip side, this maturing acceptance of design in the industry has also created a funneled vision, thereby limiting the scope of design as predominantly subservient to the corporate sector.

The Industrial Design projects are today more and more systemic in nature. The size of a typical design project has grown multifold in the last decade. Project deadlines have now halved, the product development cycle has reduced and short-run production is the norm of the day. Technology has played a big role in reducing speed to market for products from design, analysis, prototype & production. Between the thought, the idea sketch and the tangible outcome lie a large portion of the product development process that is more so digital. Intense knowledge of the digital development phase is today critical to project execution.

There is a strong interface of the physical & the digital product with most products now looking for platform solutions. The large spike in technology development and vibrant entrepreneurial business climate has seen disrupters driving the need for Industrial Design. Businesses are looking for innovation drivers as an outcome of Industrial Design intervention. The designer is expected to bring in some innovation

or some technology to have a valid 'Product Design' project. Sharper understanding of new domains, new technology as well as a business concept is now critical to Industrial Design.

Industrial Design, in essence, remains the same as an inquiry into the form & function of things in relation to the user. However, the value proposition of Industrial Design inputs has seen a radical change. Traditional product upgrade is no longer the norm. The usual design considerations of form, function and human factors are today part of rudimentary technical knowledge and sooner or later AI will be able to generate solutions with these considerations. Industrial Designers are today sought to deliver solutions to platforms, critical red ocean challenges, and future scenarios. Healthcare, education, food & nutrition, entertainment are the new frontiers.

Today's Young ID Graduates and Their Skills and Capability Gaps Viz-a-vie the Expectations:

Being the first generation digital natives, today's young designers are tech-savvy and accept the speed of work & output readily. These millennial and Gen-X designers are completely different in terms of their behavior, expectations, and mindset. Their thought process is fresh and innovative. They also have wide exposure through travel and the Internet. They are much more confident about themselves and not too much bothered about employment. These young design graduates are driven by a larger good cause and do not want to practice traditional Industrial design. Industrial Design for them is just a means to an end that may lie in a new business, new hobby, or a new initiative.

However, it is felt that while the expectations from these fresh graduates have gone up, the quality of their work has gone down. Today they are either good tool users or good thinkers. Rarely both. Most do not express a sense of overview or strategic approach to the project. The loyalty is low and there is apparent disinterest in repeat work. They lack patience and the eye to do something meticulously. Many of them

do not possess the skill and the confidence to learn new things. They are seen to lack sufficient hand representation skills, which may be due to additional inputs of digital design. Most of them lack a deeper understanding of materials, technology and shop floor based processes. Articulating insights that lead to a differentiated approach to problem-solving is another consistent weak area.

The main source of employment for the industrial design graduates in India, the small and medium scale industries tend to be impatient and would prefer performers from the word go. Though in the process they end up settling for poor outputs. They seldom push designers on the creative front. The focus here is on making. These industries are reluctant to invest in significant orientation/induction. Initiative, responsibility, and commitment are priorities here along with competency and performance. Keenness to engage, participate, learn and be involved with seemingly petty tasks are valued here. These industries expect longevity in employment and recognize positive and collective spirit and contribution. The design here is a high-speed creative thought process, and it can be learned only through hard work.

For these young design graduates, the transition from their academics to professional life is still 4-5 years. This needs to be reduced to one year. Lack of practical knowledge among these fresh graduates is the main concern of the industries. Industries seem to be happy with their creative skills, their ability, and their hands-on skills. However, the convergence of creative and practical skills is the area of concern. Many of these young graduates may not have completed a single project up to a prototype stage during their study. Handling the complete life cycle of a product including vendor management, client management, etc. is the area that needs to be further strengthened. To develop their versatile and varied profile, these young graduates tend to change jobs a lot, however resulting in a shallow understanding of the process.

Too much specialization and too many micro design professions have created a breed of designers that can do only one thing and not something new. With the false

façade of UX, 'laid-out' processes are followed and 'cookie-cutter' designs are being churned out. And there seems a general erosion of values. Students are regularly faulting at Non Disclosure of Industrial Work by exhibiting sponsored projects & internship work. Most of them do not understand the concepts of Intellectual Property Rights and Design Rights.

Present Placement Trends of the ID Graduates:

Most young ID graduates today prefer placement with the industry. The majority of them, over 70%, get into a software-based UI/ UX industry. UI/UX profile fetch almost double the salary compared to the ID profile of the graduate industrial designer. This tempts most students nowadays to pick UI/UX fields, even if they are better fit for ID. Only around 20-30% of the ID graduates stay in tangible product design jobs. Very few of them prefer to work as a freelancer or explore to become an entrepreneur. Few of them opt for further study abroad. 'Design Thinking' is now in trend with the industry and many of these young graduates explore getting in on this bandwagon to become trainers.

Few of the new design schools/ institutes have broad-based their industrial design programs. The School of Design at Ambedkar University, Delhi offers its M.Des in Social Design. The practice and the placement here is thus not focused on the established industry but in areas of larger social problems. Graduates join development agencies, NGOs, research organizations, public health organizations, education initiatives and alike.

Key Concerns of the Industrial Design Education in India:

The present syllabus, packed with many courses, offers limited time to its students to take their projects up to a finished prototype. The syllabus is oriented towards product design, while majority students move towards UI and UX after completion of their program due to the availability of jobs and better pay in these domains. And most students today aspire to join the large organized sector. The pedagogy needs

to recognize these as a new ecology of education/learning. The need is thus being felt to bifurcate the syllabus.

Industrial Design offers a range of options to its students, from industrial product design, accessories, lifestyle products, and crafts to UI and UX design. And today's students also have varied interests. Their focus and attention span, however, is limited. There is also this over-dependency on the Internet as a solution for everything. Information now takes precedence over conceptual clarity. There seems to be a shift from the focus on process and tools to excessive hurry to concentrate on outcome/final design. They constantly seek a rationale for assignments given to them – clearly looking at "What's in it for me".

'Industrial Design' as the title suggests, has evolved more as a practice-based profession and has largely remained so. There is hardly any significant work that demonstrates scholarly rigor and/or creation of new knowledge. Opportunities for research, publication, and writing are limited at UG and PG level education. Emphasizing and encouraging students for research is an emerging brief for the education and the discipline of design.

With increasing environmental concerns, as society moves towards shared services and responsible consumption, there will be fewer new products to be designed. Service design and Experience Design are gradually becoming more popular career options for students. Products-Services-Systems are emerging as holistic and integrative responses to issues of public health, leisure, medical equipment, education, early childhood, energy, water, agriculture, food, waste management, pollution, global warming to address the emerging complexities which up till now have been dealt with in silos. Sustainability and environment, coupled with equality, dignity, affordability, and access are to be seen as values integral with Design. A lot is being talked about the digital in design and is a given as far as its future implications for education. AI, VR, and IoT need to form an integral part of the new curricular imagination.

The faculty members need to be flexible and continuously update themselves with the new developments in materials, processes, and technology. Keeping up with the fast-changing requirements of the industry and the evolving design trends is the critical challenge they are facing today. Aligning academic schedules, expectations from industry and core curricular objectives is another significant challenge. The so-called 'reminiscence syndrome,' is a major problem among the faculty members who believe that what and how they learned is the most appropriate way to teach. And the usual complaint "students now are not as good as they used to be" fails to recognize the limitation to evolve with time. Such a position subconsciously starts differentiating between their experience/engagement as students and the new generation of students. The faculty then tend to work around the top layer of the students only. Coupled with these, the lack of structured commitments and limited formal inputs results in students losing interests, leading to absenteeism in the class. The majority of the students in the PG program come from maker background (engineering graduates) and the majority of them come back to school after a few years of job, and marriage, etc. They constantly look for intellectual stimulation, theory combined with practicals.

With the advent of many design schools all over the country and increasing faculty vs student ratio, many students are unable to get the right attention during their formative years. Design institutes should help these young designers explore and identify their natural path early in the program, thereby channelizing their efforts towards developing their areas of interests and specializations.

Reducing the industry-academia gap calls for design institutes taking proactive efforts to connect with the industries. These call for collaborative approach and involvement of members of the industry as advisors in the institute's academic programs. Similarly, the faculty members should be trained in the industry to help bring in real-life context into the classroom. It is felt that design internship, more as residentship, of the duration of six months to one year and monitored closely by the institute is essential in the final year of the program, to make these young design graduates employable.

As the institutes move towards a structured education system like AICTE, maintaining the much-required flexibility and freedom for teaching and learning will be a critical challenge for the design institutes. Coupled with this, as more and more design institutes come up in the country, quality of the education and its graduates and its resulting degradation in social perception of design are the other issues requiring careful considerations.

Industrial Design as a profession today requires to adapt quickly to the technology & business process changes. And it needs to quickly scale up, both as a profession and as a business. Creation for mass scale is included in its definition itself, however, Industrial design's inability to be mass-produced (as a profession) and/or scale-up, is a major area of concern.

Conclusion:

Design is now in demand in India. In the last three decades, the industrial design scenario in India has seen a tremendous transformation. Almost everyone in the industry knows about design. Industries now have the infrastructure and tools required to take the designer's creative output forward. They are ready to invest in design. Design is now accepted here as a thought than merely a skill. Every step of the design process is being followed to a large extend. Product development cycles have reduced and project deadlines have halved. The product development process is now mostly digital. The size of a typical design project has grown multifold. And the projects are more and more systemic in nature. The designer is expected to bring in some innovation or some technology to have a valid product design project. She is now sought to deliver solutions to platforms, critical red ocean challenges, and future scenarios.

Today's young designers are tech-savvy and accept the speed of work & output readily. However, it is felt that while the expectations from these fresh graduates have gone up, the quality of their work has gone down. Today they are either good tool users or good thinkers. Rarely both. Too much specialization and too many

micro design professions have created a breed of designers that can do only one thing and not something new. The focus and attention span of this young breed is limited. They are in an excessive hurry. Their focus has now shifted from the process and tools to the outcome/final design. Information now takes precedence over conceptual clarity. There is hardly any significant work that demonstrates scholarly rigor and/or creation of new knowledge. Many of these young graduates may not have completed a single project up to a prototype stage during their study. Their lack of practical knowledge is the critical concern of the industries. The focus for the small and medium scale industries, the main source of employment for the industrial design graduates in India, is on making. They prefer performers from the word go. The transition for these young design graduates, from their academics to professional life is still 4-5 years. This needs to be reduced to one year.

The present syllabus is packed with many courses and thus offers limited time to its students to take their projects up to a finished prototype. The syllabus is oriented towards product design, while majority students move towards UI and UX after completion of their program. Most young ID graduates today aspire to join the large organized sector. Service design and Experience Design are gradually becoming more popular career options for these students. Products-Services-Systems are emerging as holistic and integrative responses to the emerging complexities which up till now have been dealt with in silos. And with the increased interface of physical and digital product AI, VR and IoT need to form an integral part of new curricular imagination. As the focus has shifted now to the elements and nuances of design, emphasizing and encouraging students for research is an emerging brief for the education and the discipline of design.

Reducing the present industry-academia gap calls for proactive efforts from these design institutes to connect with the industries. Its faculty members need to be flexible and continuously update themselves with the new developments in materials, processes, and technology. These Gen-X designers with their completely different mindset call for continuous interactions, constant handholding, and different pedagogical approaches. The curriculum should challenge the students to

explore beyond the corporate and established industry sector and connect with the wider Indian industry and society. Developing and maintaining the quality of education and its graduates is critical to scale up design in the country. While moving towards a structured design education system, the institutes need to maintain the much-required flexibility and freedom for teaching and learning.

Acknowledgment:

The Designers and Design Educators, who positively responded to the questionnaire and shared their views.