

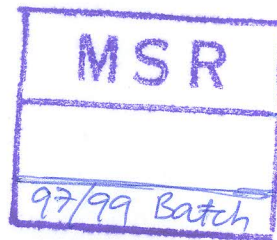
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DESIGN POLICY IN INDIAN INDUSTRY

Special Project

By
Sri Hari Tulasi

Guide: Prof. K. Munshi



Industrial Design Centre
Indian Institute of Technology Bombay
Mumbai -400076

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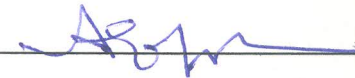
Approval Sheet

The Special Project entitled “**Design Policy in Indian Industry**” by Sri Hari Tulasi is approved for the partial fulfilment of the requirements for the post graduate degree in Industrial Design.

Guide



Internal Examiner



External Examiner

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1. Aim of the Project :

The study "Design Policy in Indian Industry" is to know what the industry is looking forward from Product Designers. It would help the students & Design schools what the industry wants. The project gives an over view of the state of Design & R&D in Indian Industry. This study also looks into Design matters and Design policies which are being implemented and discussed in the international forums.

2. Design, Product Design :

Product Design has traditionally held to be the concern of manufacturing industry. Manufacturing industry may be the centre of this process; but the design of its products is influenced by many other considerations and activities. What all these influences have in common is extent to which they add value to the product and so contribute to its gross margin performance. In fact product design might be described as "designing for gross margin by extractive manufacturing, distribution and retailing".

3. Product Design in an industry :

Products are added to the product portfolios of firms in a variety of ways. Many types of strategies – innovative and imitative, offensive and defensive, entrepreneurial and bureaucratic, internal development and external acquisition are used to add new products and adjust existing products. These strategic decisions have to be made in turbulent and risky environment. Offsetting the

uncertainty and risks are rewards of good strategy: products, market dominance, customer loyalty, and invulnerability to outside forces. This in turn increases the revenue and returns; it preempts sources of risk such as competitive actions and regulatory constraints.

Strategies adopted by the organizations can be grouped under reactive and proactive.

Reactive Strategies

Reactive strategies are of various types

Defensive

Imitative

Second but better

Responsive

A defensive strategy guards against competitive new products after they have been successful by Making changes in existing products.

An imitative strategy is based on quickly copying a new product before its maker is assured of being successful. This imitator, or “me too,” strategy is common practice in the fashion and design industries of clothes, furniture and small appliances.

A more sophisticated strategy for reacting to competition is the second but better strategy. In this case the firm waits until the competitor’s product is revealed and then not only copy it but also improve on it.

The final reactive strategy is termed responsive, which means purposively reacting to customer’s requests.

Proactive strategies

Another class of strategies is proactive. In this organizations In this case the organizations initiates the change. A proactive strategy may be based on future-oriented research and development effort to develop technically superior products. Some companies have been successfully in this regard in the field of technological products.

Another proactive approach is based on the notion that success can be found by considering the consumer first. The marketing strategy is based on finding a consumer need and then building a product to fill it.

One of the proactive forms of product development is entrepreneurial. In this mode, a special –an entrepreneur –has an idea and makes it “ happen “ by building venture enthusiasm and generating resources.

A Final proactive strategy is acquisition. In this case, other firms are purchased with products new to the acquiring firm and perhaps the market.

A new product can originate from four basic “triggers”:

- **Market pull:** In this type the identification of the customer need from strong external pressures such as fashion, competition, legislation, seasonal factors etc. This is the most successful source of new products. The majority of the successful innovations arise in response to the recognition of a need of one sort or another, as opposed to the recognition of a new technical potential. Where a new technical potential does become available first successful innovators determine that the need exists before they proceed with the project.
- **Technology push:** In this type the technological advances drive the products. It is necessary to identify a market need for a technology –push product before proceeding with the design. The technology pull is opposite of market pulling. Many dynamic designs are achieved through

technology push, and therefore it is associated with, and is an indication of, dynamic design. Conversely, too much reliance on market pull can result in low risk products and imitation at the expense of innovation. The technology pull has high risk, cost, return, time and effect on the company

The situation has been described as 'push' or 'pull' design. Push design is a design that is driven by technology and is often associated with high risk, high cost, high return, high time and high effect on the company. Pull design is a design that is driven by market demand and is often associated with low risk, low cost, low return, low time and low effect on the company. The technology pull has high risk, cost, return, time and effect on the company. The market pull has low risk, cost, return, time and effect on the company. The technology push has high risk, cost, return, time and effect on the company. The market pull has low risk, cost, return, time and effect on the company.

Part of the reason for this is that the technology push is often associated with high risk, high cost, high return, high time and high effect on the company. The market pull is often associated with low risk, low cost, low return, low time and low effect on the company. The technology push is often associated with high risk, high cost, high return, high time and high effect on the company. The market pull is often associated with low risk, low cost, low return, low time and low effect on the company.

4. Design Management:

Only 25 years ago there were shortages of many products and waiting lists for consumer durables such as cars and hi-fi equipment. There were too many customers chasing too few products. The situation has now changed: world wide there is overproduction in cars, ships, steel and many electrical goods. The consumer now has plenty of choice for almost every product within a price range. With this increased choice, customers have become more aware of good and bad features of a product through consumer magazines and advertising, or just by word of mouth. As a result, they select the product that most closely fulfills their opinion of being the best value for money. This is not just price but a wide range of non-price factors such as quality, reliability, aesthetics, delivery, after sales service, ease of operation, performance, safety and status. Nearly all these price and non-price factors can be related to product design. Therefore good design matters and good design needs effective managing.

Part of the solution is to improve product design to regain competitiveness. Better product design need not cost more, and if total design is well managed, lost markets may be regained.

In most areas technology is changing faster than ever, and it is generally accepted that a company must continually seek to improve its products if the organization is not to decline and fail. Designing products, through, is expensive at any time, but poorly managed product design can be an expensive disaster than can cause a company to fail even faster than no design at all. Management must work towards a company -wide approach, integrating marketing, design and production. Good and efficient design can make the difference between a company surviving or failing, and this can affect the health and economic performance of a nation.

5. Need for Design Policy:

Design Policy is an overall direction –giving framework for the design department & as well as the organization the design policy will give a unique advantage in the competitive world. This would help the management, marketing and the design team to prepare the groundwork for the products to be manufactured and launched into the market. The design policy reflects the vision and strategy of the company.

6. Design Policy:

The Design Policy deals with the inputs that are to be pooled into design a product and the out come of the product. This includes the personal management, the facilities, training, financial out lay etc. The Design policy

Defines the target to be achieved by the department. It gives the parameters under which the product should be developed. The policy represents the company or an organization vision, regarding its products. It gives a direction for the research, human resource development, analysis of market potential, product innovation etc. The Policy includes:

- Appointing designers
- Using Design Consultants
- Managing design teams
- Relating design work to the rest of the organization
- Design audit.
- Library facilities
- Software faculties
- Prototype making & test

8.Literature Survey:

The literature survey was carried out to find the view of the developed countries and the developing countries. For this purpose international journals and Indian Journals were studied.

The Business of Innovation:

An Interview with Paul Cook

“To be an innovative company, you have to ask for innovation .You assemble a group of people who are eager to do new things and put them in an environment where innovation is expected .We get innovational Raychem because our corporate strategy is premised on it. With out innovation we die. You won’t get innovation without pressure. Most companies put pressure on manufacturing to cut costs, increase yields, and improve quality. But they forget the importance of pressure when it comes to new products and process. The only way to get the required growth is to get more and better products out the door faster. We were under enormous pressure to find successful products – we did. We came up with lots of good ideas because we had to. People need fair amount of pressure to have creative ideas.

What separates the winners and the losers in innovation is who masters with brilliant idea. Next your determination.

This is where the Japanese are eating us alive remaking us looks like amateurs in product development. American technologies are still without in terms of imagination they bring to problems. Innovation is an emotional experience. You can train people technically, but you cannot teach them curiosity.

What we were really talking about is economic innovation. Sure, You have to use your core technologies better than anyone does. But you also have to know your market place better than anyone else does. You have to understand your customer needs. You have to understand whether or your product is reproducibly manufacturable, which isn't easy when you're pioneering new technologies. You have to understand the competition's ability to respond to your innovation .You have to understand whether the product can generate a gross margin big enough to fund the new investment s you need to keep pioneering and allow for some mistakes along the way. There is a whole range of questions that we have to answer before launching a new product. Will it save customers a little money?

The best way is to avoid competition .The best way to avoid competition is to sell products that rivals cannot touch. Innovation is a global game .You have to fight foreign competition before it starts.

Every company is innovative or else it isn't successful. It's just a question of degree. The essence of innovation is discovering what your organization uniquely good at – what special capabilities you possess – and taking advantage of those capabilities to build products or deliver services that are better than anyone else's. Every company has a unique strength s. Success comes from leveraging those strengths n the market”.

Source: William Taylor, Harvard Business Review, Mar- Apr 1990, and page97

Summary: With out innovation we die you won't get innovation without pressure. Most companies put pressure on manufacturing to cut costs, increase yields, and improve quality. We were under enormous pressure to find successful products – we did. Innovation is an emotional experience.

Corporate Learning as a Corporate Strategy

The policy changes in the recent past have drastically altered the texture of the Indian Business environment. The opportunities opened up by these changes have also stimulated Indian Companies towards internationally their activities. One finds them experimenting with a variety of choices to move the business beyond the national boundaries.

The basic thesis proposed here is that knowledge is the essential competitive weapon in the contemporary business reality .It aims to establish that, to become globally competitive, the most variable strategy for Indian companies would be to foster corporate learning (i.e. creation, acquisition, and codification of knowledge). This paper addresses the following issues:

How can learning, knowledge and innovation be used as a competitive weapon?

What are the sources and sources and strategies for enhancing corporate learning?

What implication does concept of concept of corporate learning hold for building globally competitive Indian MNCs?

Strategies for corporate learning

If knowledge is a competitive asset. Organizations must seriously attempt to develop learning strategies.

1. Investing in Research & Development

One of the most conventional methods used by firms for generating knowledge is through in-house R&D activities. Invariably, the market leaders spend considerable portion of their revenues on research activities. E.g.: Motorola's R&D expenditure is \$1.8 billion, or 19 percent of its revenue.

It is, however, not only “hi-tech” industries, which benefit from high R&D investments. Irrespective of their industry, smart companies develop and exploit technological innovations to their advantage. Much of Italian Design -wear giant Benetton’s success emerged from its strong research and technology base (Bruce, 1987). Innovating and adapting latest technology has given Benetton efficiencies unknown to its competitors: net working of its stores world wide gives it a quick access to sales and demand - related information; it can create and move a design to production in a matter of hours; it has perfected a technology to dye the finished items instead of yarn, allowing it to move items fast to the market as soon as season’s preferences have been established.

Another strategy for obtaining high returns from research efforts is to bring it nearer to the mainstream line functions. This may be done structurally, e.g.; ABB decentralized the research function, and pushed it down near to the operating units. Devising new systems to encourage technological innovations may also do it. For instance, 3M stipulate that 25 percent of a division ‘s sales must come from a product introduced within the last five years.

2. Listening to the Customers: The design department exploits the feed back from the consumers, to design, innovate and consumer solution (blending of different financial techniques). Which fit the client ‘s specific requirements.

3. Learning From Competitors: Just like the customers the competitors are another source of useful knowledge for the organization In its simplest form, one learns from one’s competitors by picking up one of their successful ideas. For instance, in offering Pan Pizza (which accounts for a \$500 million business), PepsiCo ‘s Pizza Hut merely exploited an idea which it had borrowed from the local competing pizzerias in Chicago. However, competitors learning’s are not always available off the shelf; many of their competencies are deeply embedded in their ways of working, and are to be acquired and developed in house. One of the methods practiced by many organizations is

competitive bench marking; that is comparing oneself with, and learning from, others that have achieved high standards of excellence. Benchmarking not only provides realistic goals to which the organization can aspire; it also provides knowledge about how these goals can be realized. In the early 1980s, for instance, when Xerox was losing its photocopier market to its Japanese competitor, it sent out teams to study the competitors' practices. The results-which showed that Xerox took twice as long to bring out a new product, used five times as many engineers, had four times the design charges, three times the design costs, and had 30,000 defective parts per million pieces, as compared to 1,00 defective parts per million in competitors' products - forced Xerox to re-evaluate its processes and methods, and subsequently, recapture its market share (Walker, 1992).

4. Tapping an organization's tacit knowledge: Any organization has large resources of learning and knowledge, which lies hidden in its people and culture. People learn new things while working. But mostly these learning remains confined to them and their intermediate group. The flow of knowledge and information within organizations is often inhibited and distorted by departmental, hierarchical and group boundaries. As Brown (1991) noted, innovation knowledge-based activity, ". Goes on at all levels of a company - whenever employees confront problems.

Source : Dr. Madhukar Shukla ,Indian Management ,Jan 1995, page 11

Summary: If knowledge is a competitive asset. Organizations must seriously attempt to develop learning strategies. Investing in Research & Development invariably, the market leaders spend considerable portion of the revenue activities. Tapping an organization 's tacit knowledge: any organization has large resources of learning and knowledge, which lies hidden in its people and culture. People learn new things while working .As Brown (1991) noted.

Creating Project Plans to Focus Product Development:

With an "aggregate project plan", companies map out and manage a set of strategic development projects.

The long-term competitiveness of any manufacturing company depends ultimately on the success of its product development capabilities. New product development holds hope for improving market position and financial performance, creating new industry standards and new niche markets, and even renewing the organization.

Consider the case of a large scientific instruments company we will call PreQuip. In the mid - 1989, senior management became alarmed about a rash of late product development projects. For some months, the development budget had been raising even as the number of completed projects declined. The number of projects is large and no there was no sight of finishing as a result there is inevitable delays. The changes led to some impressive gains: between 1989-1991, PreQuip's commercial development productivity improved by a factor of three. Fewer projects meant more actual work done, and more work meant more products. To avoid over committing resources and to improve productivity further, the company built s "capacity cushion" into its plan.

Focus on the Platform: PreQuip's development map served as a basis for reallocating resources and for rethinking the mix of projects. Just as important, however, PreQuip no longer thought about projects in isolation; break-through projects shaped the new platforms, which defined the derivatives. In all the four product lines, platforms paved a particularly important role in the development strategy. For many industries, the more mature the industry, and the more important it is to focus on platform projects.

For companies that must react to constant changes in fashion and consumer tastes, a different relationship between platform and derivative projects makes sense. For example, Sony has pioneered its "hyper-variety" strategy in developing the Walkman: it directs the bulk of its

Walkman development efforts at creating derivatives, enhancements, hybrids, and line extensions that offer something tailored to every niche, distribution channel, and competitors product. As a result in 1990, Sony dominated the personal audio system market with over 200 models based on just three platforms.

Eight Steps of an Aggregate project Plan:

- Define project types as breakthrough, platform, derivative, R&D, or partnered projects.
- Identify existing projects and classify by project type.
- Estimate the average time and resources needed for each project type based on the past experience.
- Identify existing resources capacity
- Determine the desired mix of projects.
- Estimate the number of projects that existing resources can support
- Decide which specific projects to pursue.
- Work to improve development capabilities.

Source: Steven C. Wheelwright and Kim B. Clark, Harvard Business Review, Mar-Apr 1992

Summary: The long-term competitiveness of any manufacturing company depends ultimately on the success of its product development capabilities. New product development holds for improving market position and financial performance, creating new industry standards and new niche markets, and even renewing the organization. Consider the case of a large scientific instruments company we will call PreQuip. In all the four product lines, platforms paved a particularly important role in the development strategy. For many industries, the more mature the industry, and the more important it

is to focus on the platform projects. Define project types as break through, platform, derivative, R&D, or partnered projects. Identify existing projects and classify by project type. Identify existing resources capacity.

Building Your Company's Vision

Companies that enjoy enduring success have core values and core purposes that remain fixed while their business strategies and practices endlessly adapt to changing world. The dynamic of preserving the core while stimulating process the reason that companies such as Hewlett-packed, 3M, Johnson & Johnson, Procter & Gamble, Sony, Motorola, and Nordstrom became elite institutions able to renew themselves and achieve superior long term performance. Hewlett-Packed employees have long known that radical change in operating practices, cultural norms and business strategies does not mean loss.

.Core Purpose of a Company's Reason being

3M: to solve unsolved problems innovatively

Cargill: To improve the standard of living around.

Hewlett-Packed: To make technical contributions for the advancement and welfare of humanity

McKinsey & Company: To help leading corporations and governments be more successful.

Nike: To experience the emotion of competition, winning, and crushing competitors.

Sony: To experience the joy of advancing and applying technology for the benefit of the public.

Walt Disney: To make people happy

Source: James C. Collins & Jerry Porras, Harvard Business |Review, Sept-Oct 1996, page64

Summary: Building Core competence

Organizing Innovation:

When should companies organize for innovation by using decentralized approaches, and when they rely on internal R&D?

Some innovations are autonomous—that is they can be pursued independently from other innovations. A New turbocharger to increase horsepower in an automobile engine, for example, can be developed without a complete redesign of the engine or the rest of the car. In Contrast, some innovations are fundamentally systematic – that is, their benefits can be realized only in conjunction with related, complementary innovations. To profit from instant photography, Polaroid needed to develop both new film technology, lean manufacturing is a systematic innovation because it requires interrelated changes in the product design, supplier management, information technology, and so on. The distinction between autonomous and systematic innovation is fundamental to the choice of organizational design. When innovation is autonomous, the decentralized virtual organization can manage the development and commercialization tasks quite well. When innovation is systematic, members of virtual organizations are dependent on the other members, over whom they have no control. In either case, the wrong organizational choice can cost costly.

The information needed to integrate an autonomous innovation with existing technologies is usually well understood and may even be codified in industry standards. Systematic innovations, on the other hand, pose a unique set of management challenges regarding information exchange. By their very nature, systematic innovations require information sharing and coordinated adjustment throughout the entire product system. Here is where market –based; virtual approach to innovation poses serious, strategic hazards.

Source: Henry W. Chesbrough & David J. Teece, Harvard Business Review, Jan-Feb 1996, page 64

Summary: The distinction between autonomous and systematic innovation is fundamental to the choice of organizational design. When innovation is autonomous, the decentralized virtual organization can manage the development and commercialization tasks quite well.

Control Tomorrow's costs through today's Designs

Over the past 15 years, company after company have learned that quality must be designed into products before they are manufactured- that it is expensive, if not misguided, to attempt to inspect in quality after the product has left the production line.

Target costing drives a product development strategy that focuses the design team on the ultimate consumer and on the real opportunity in the market. The senior managers were able to bring down the expenses by cutting down the operations ex post facto by eliminating the staff, frills, outsourcing, or reengineering down process, they often discovered that as much as 70% to 80% of a product's costs were effectively immutable after it left the designer's hands .As product and process technologies have become more integrated, a product's cost has become even more strongly tied to its design.

The Growing number and increasing number and increasing ubiquity of lean competitors means that copycat versions of most new products will be available within months, not years. So if market leaders can't recover the costs as they used to. They have no choice but to manage costs from the design phase forward and to launch product at prices that will attract broad segment. Therefore the company depends on the designers how quickly they can offer greater functionality without increasing the price.

At companies, it was not uncommon at Olympus for product manager to design "nice-to-have " but not "need -to-have" features into their products. The product development management team's

job was to ask whether the value those features added really outweighed their costs. If target costs could not be met or price could not be changed, the product was returned to R&D for redesign.

Source: Robyn Coopier & W. Bruce Chew, Control tomorrow's costs through today's Design. Harvard Business Review, Jan-Feb 1996, Page 88

Summary: The distinction between autonomous and systematic innovation is fundamental to the choice of organizational design. When innovation is autonomous, the decentralized virtual organization can manage the development and commercialization tasks quite well.

The Process questionnaire

Projects

How many types of projects does your group handle?

How many new projects of each type does your group undertake each year?

What tasks are involved in each project type, and are there a specific order in which they must be carried out?

Resources

To which phases of the product development does your group contribute?

How many people are in a group?

How many hours do they work in a week?

What project related tasks (administrative and support) does your group perform?

How many hours does your group spend task?

Processes

For projects of average complexity within each type of project, how much iteration does each task require?

What is the probability distribution of task processing times and of number of iterations across projects?

What proportion of projects in each type are easy, intermediate, and complex?

How does each person decide which project or task to work on next?

Source: Ideas at work, Harvard Business Review, Mar-Apr1996, page 135

R&D IN INDIA

Bridging the Huge Gap

It is often said that India has got the third largest pool of scientific and technical manpower in the world. But in spite of this large pool of manpower, we seem to be poorly equipped with the requisite research and development (R&D) to make it big in the global wordlist every available indicator today points towards the huge gap between our R&D and that prevalent in other upcoming and developed economics.

Viewed from the angle of our preparedness to face global competition in the marketplace, our R&D appears to be "inadequate". In fact, merely calling it inadequate may be an understatement. There is a huge gap to be filled up before we can match the levels prevailing in the developed, and in many of the upcoming economies.

This is borne out by the following facts:

According to the annual report of the Department of Science and Technology, India spent only 0.81% of its GDP on R&D. Most of the developed countries spend 2-3 % of their GDP on R&D. South Korea plans to increase its R&D spending to over 5% of its R&D spending to over 5% of its GDP by the year 2000.

The number of active researchers in India was 17,000 in 1985, compared to 2,25,000 in the US.

The number of Indian publications has declined 15% since 1981, while the world output has increased by 22%.

In spite of government incentives, Industry's contribution to our total investment in R&D is only about 20 percent while in both Japan and the US it is more than 70 percent.

Filing and obtaining patents is, perhaps, the area with most dismal performance. The 1,250 recognized in house R&D units in the last 4 years filed only 743 patents. As the DSIR survey revealed, in that same period, the 40-laboratory network of the Council for scientific and industrial

Research CSIR filed over 900 patents. That this patenting effort is minuscule by global standards is evident from the fact that IBM received 1,876, US patent in 1996. Thus it is evident that individual companies, in many cases, received more success than the success received by our entire national effort in the area of patents.

In India, the industry spends merely 0.6 percent of the annual turnover on R&D. The large companies like Reliance, Ballarpur Industries, TISCO, L&T Spent around 1%, 1.43%, 0.19% and 0.43% respectively. The Industry spends 6-7% of its sales turnover on advertisement and marketing, and 0.5-2 % on entertainment.

The total number of patents filed by India in the US from 1967-93 is only 3, and those filed internationally, 290.

Professionals in India, working in the functional areas of finance, marketing HRM, information technology and telecommunications etc. Have good job opportunities at senior, middle and junior management levels. Such opportunities for R&D professional are, however, conspicuous by their absence.

In India, the Industry spends merely 0.6 percent of the annual turnover on R&D. Indian industry spends 6-7 percent of its turnover on advertisement and marketing, and 0.5-2 percent on entertainment.

Name of the Company	% of turnover spent R&D
INDIA	
Reliance Industries	1.00
Ballarpur Industries	1.47
TISCO	0.19
L&T	0.43
Other Countries	
Canon	10.0
NEC of Japan	10.0
Siemens	8.0
General Electric	3.0
Westinghouse	4.0

The total number of patents filed by India in the US from 1967-93 is only 3; those filed internationally, 290. Professionals in India, Working in the functional, marketing, human resources management, information technology and telecommunications, etc, have many good job opportunities at senior, middle and junior management levels. Such opportunities for R&D professional are however, conspicuous by their absence.

Source: Shailendra Saxena, Indian Management, Dec1997, and page84

Summary: According to the annual report of the department of Science and Technology, India Spent only 0.81% of its GDP on R&D. The number of Indian publications has declined 15% since 1981, while the world output has increased by 22%.

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Forum for General Discussion of Design Management Issues

Topic: **How does a designer measure “quality”?**

Topic Posted by: *Victoria*

Date Posted: Fri Nov 7 19:41:04 EST 1997

Topic Description: A challenge continuously facing those in the design community is the acceptance of their design solutions. If the product I design is intended for a market that is up to 3 years away, how do I know it will be well received when the time comes? To ask the consumer to “put themselves” in the future is difficult and the results suspect. Therefore, how do I measure the “aesthetic quality” of my design solution?

Topic: **What are key points for Explaining the value of design?**

Topic Posted by: **John Tobin** (jtobin@dmi.org)

Topic Description: How do you try to communicate the value of design to people that just don't “get it?” How do you communicate to people that only pay lip service to the value of design?

Reply1:

The essential thing necessary to convey the value of design to anyone, I think, is to begin by understanding what design itself is and how it is unique. The common understanding of design is a confused perception that leaves design hanging in limbo between art and science. We all need to

understand that design is a unique way of bringing novelty and change to the world and has its own disciplinary processes for doing so with each of the many kinds of design. Designers themselves are confused about this aspect of design and that is reflected in what we do and how well we do it. It is a big job to restore the tradition of design back into this world, which is dominated by the scientific paradigm. Understanding of design as separate from art and science but incorporating both is a way to begin to recognize its value.

Reply2:

A provocation! - For many years, indeed decades, attempts have been made to communicate the value of design to those who do not appreciate what design can offer. Why is this? Either we are all in a metaphysical mind loop of our own or 'design' doesn't exist, or despite believing we are good communicators, the message is garbled. It may be a case of going back to basics. Design is often put forward as the solution to everything - a problem solving miracle cure. But the key 'unique selling feature' is the capability to create a holistic 'form' for a product. Would stress the basic 2D, 3D, and 4D form creation feature of 'design' get the non-believers on the 'designometer'? We can then introduce the complexities of design, and get them registering on a higher richter scale of the design of meter when they appreciate the basic USP of design. For more on this provocation - <http://www.dmu.ac.uk/ln/4dd/guest-ar.html>

Reply3:

Perhaps as a recent graduate, I might have a somewhat naive out look on the subject, but surely there is a balance between the bottom line, i.e. how much money can be saved by good design/made by good design; and, how good design can lift consumer perceptions of an organization/product/service etc. We seem to be living in a customer service led age, so this must be a selling point! (The role of Graphic Information Design never waits!) The role of case studies has a

part to play. Enlightening manager/director to the benefits design has produced for a competitor and so on should start to oil the treadmill towards design appreciation. A 'good' manager should pay attention to the marketplace and thus

Perhaps notice how design influences business. Just as similarly, a 'bad' manager might not notice such things take more time to 'educate' and ultimately may remain stubborn to the idea. So, in conclusion, perhaps it all boils down to having a good relationship with the 'client.' Certainly having a good relationship makes the designers life a good deal easier!

Topic: What are key points fore Explaining the value of design?

Topic Posted by: **John Tobin** (jtobin@dmi.org)

Date Posted: Thu May 15 11:37:21 EDT 1997

Topic Description: How do you try to communicate the value of Design to people that just don't "get it?" How do you communicate to? People that only pay lip service to the value of design?

Reply:

Design awareness is one of the most crucial items in DM. Not only that the top has a good view of what design can do for you, but also the entire company should have an understanding of design. Design is one (or maybe even the most) of the strategic tools one has. And that is most visible tot both your own employees and the Design concerns making a statement in this world and good DM can bring you to the top just as well as bad DM can ruin a business

Subject: **Design Awareness**

Reply Posted by: **Michele Saward** (mougg@concentric.net)

Date Posted: Fri Feb 5 14:20:48 EST 1999

Reply:

I think understanding Design Awareness and communicating Design Value are two different things. For people who "just don't get it" you should show some examples of where good design helped sales etc. For example: use the omega drives as an example. The designs that the engineers were suggesting were stale, standard and very.... Well computer like. A design company goes hold of the product and made it what it is today. This action increased sales, as we all know. Showing examples of successful design is the best route...seeing believes

The following are the issues regarding Design in Industry:

- Value of design
- Design awareness
- Communicating Design
- Innovative company
- Innovation is a emotional experience
- Preparedness to face the global competition
- Investing & spending in R&D
- Patents & Publications
- Opportunities for R&D professional
- Innovation as a competitive edge
- Decentralized Research
 - autonomous
 - systematic
- Listening to customers
- Learning from competitors (benchmarking)
- Capacity Cushion
- Defining project types
 - breakthrough
 - platform
 - derivative
 - R&D or partnered projects

- Core purpose of the company's reason being
- Cost & time of Design
- Projects being handled by groups
- Tasks involved in a project
- Number of people working in a group or a team
- Time spent on each task
- Iterations in a task
- Complexity of the projects i.e. challenge
- R&D strategy
 - reactive
 - defensive
 - imitative
 - second but better
 - responsive
 - proactive
- Design matters?
- Design Audit
- Design Consultants
- Appointing Designers

Questionnaire

Design Policy in Indian Industry

Name of the Organization

Designation of the person

Products Range

Company structure

Questions

1. **Is design department separate?**

If the answer is “no”

- Is there a need to design or innovate products?
- Do you engage design consultants?

If the answer is “yes”

- What is the core purpose of R&D /Design department?
- How do you rate Engineering design, Industrial Design, & Marketing on a scale of 10?
- How do you rate technical &humanistic aspects in a product on a scale of 10?
- What are the facilities in your R&D (software, studios, prototyping, testing etc)?
- How many types of projects do you handle at a time?
- In a project team how many are present?

- What is the composition of a team in a new product development? i.e. Designers, Marketing personal & manufacturing
- How often does the team meet to discuss the development of the project?
- What proportion of projects in each type are easy, intermediate & complex?
- What tasks are involved in each project type, and are there a specific order they must be carried out?
- Are your innovations fundamentally systematic or redesign?
- How much of your turnover comes from the products designed in the last five years?

Is your design team ready to face the global competition?

If the answer is “yes”

- Is innovation a part of the Global game?
- Without innovation can an industry survive?
- How many Patents did your R&D till Date obtain?
- What the ways in which your designer’s skills are upgraded?
- What is the approximate R&D outlay as a percent of turnover?
- Do R&D professionals have good job opportunities in decision making process of the company?
- How do you estimate the time & resources needed for a project?
- What are the planning methods adopted like CPM & PERT?
- What are the various parameters that are used to collect the feedback from marketing personal, the end user?
- How do you react to your customer feedback?

- How does a designer measure quality?
- Is your Department a centralized or decentralized?
- If projects are few, actual work done is more or less?
- Do you engage Design Consultants?

If the answer is "no"

- What is your strategy to overcome the competition?
- What is your core competency to face global competition?

11.Organizations to be visited/ Persons Interview:

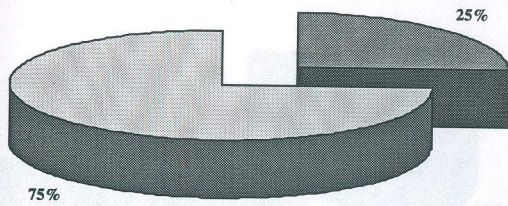
INDUSTRIES

- **Dr.Mitra**
R&D Motor Division ,Crompton Greaves
- **Mr.Barve**
R&D Motor Division ,Crompton Greaves
- **Mr.C.Ramacandran**
Industrial Design, Crompton Greaves
- **Mr.Sameer Damle**
Industrial Design, Godrej
- **Mr.Vinod Hingo Rani**
Industrial Design, Onida
- **Mr.Rajesh Shelke**
Industrial Design, Bajaj Electricals
- **Mr.Sandeep Thombre**
Industrial Design, Bajaj Electricals
- **Mr.Parag Trivedi**
Industrial Design, Bajaj Electricals
- **Mr.Jawad Khan**
Bajaj Auto

CONSULTANTS

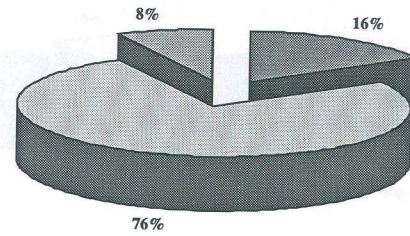
- **Mr.Sunil Patel**
Indesign Design Consultants
- **Mr Vinayak Nabar**
Sigma Design Consultants
- **Mr.Yogish Dandakar**
Industrial Design,Ratan Batolibai

Composition of Survey



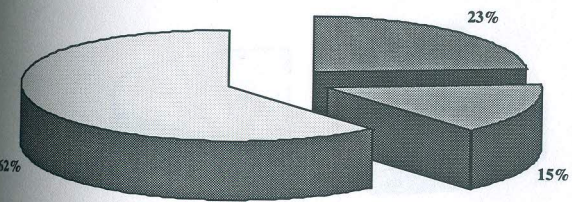
■ Industry □ Consultants

Types of Organisation as %



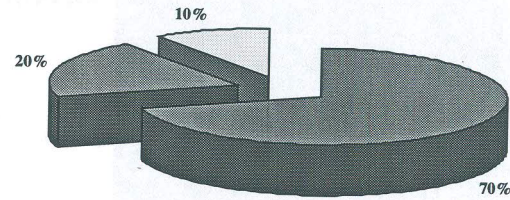
■ Engineering □ Product Design ■ Furniture

Experience wise People Surveyed



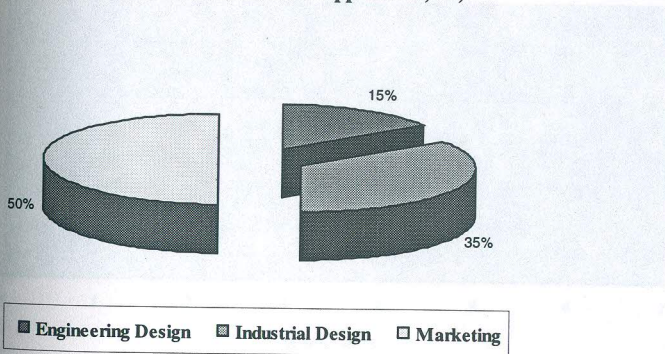
■ >10 yrs ■ 2-10 yrs □ <2 yrs

Percentage weightage given in Engineering Products

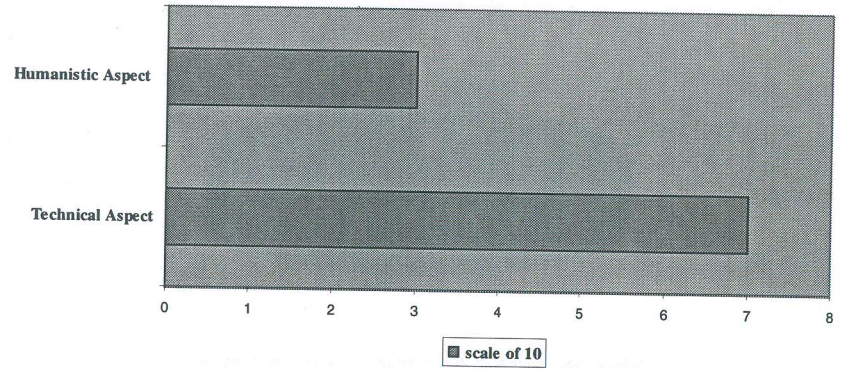


■ Engineering Design ■ Industrial Design □ Marketing

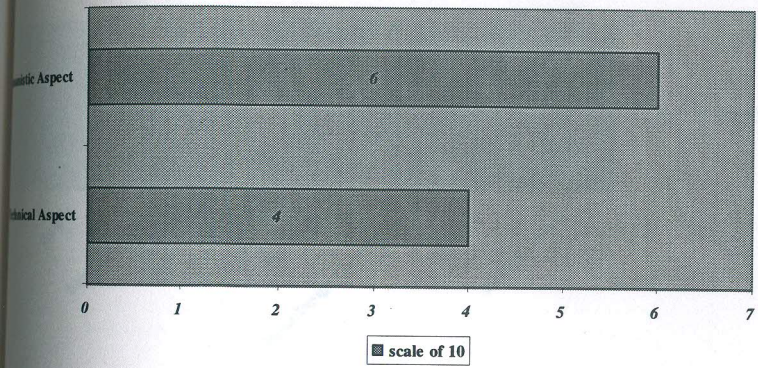
Percentage Weightage given in Non Engineering Products(firniture,domestic appliances,etc)



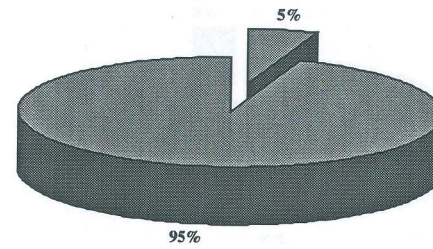
For Engineering Products (motors , etc)



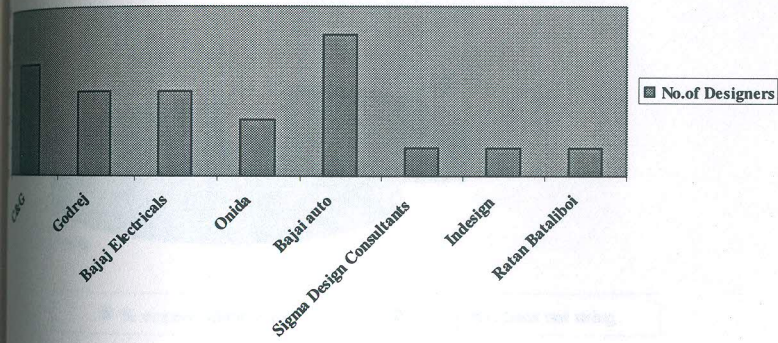
For Domestic Appliances/non industrial products



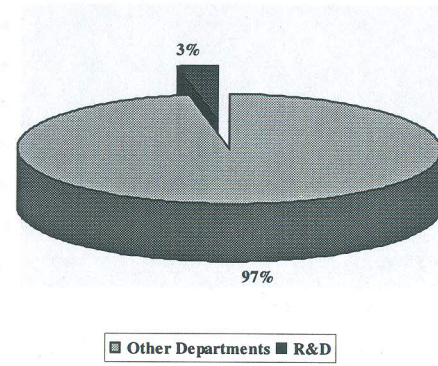
Percentage



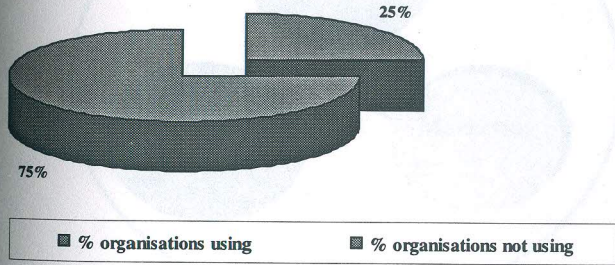
No. of Designers working in each organisation



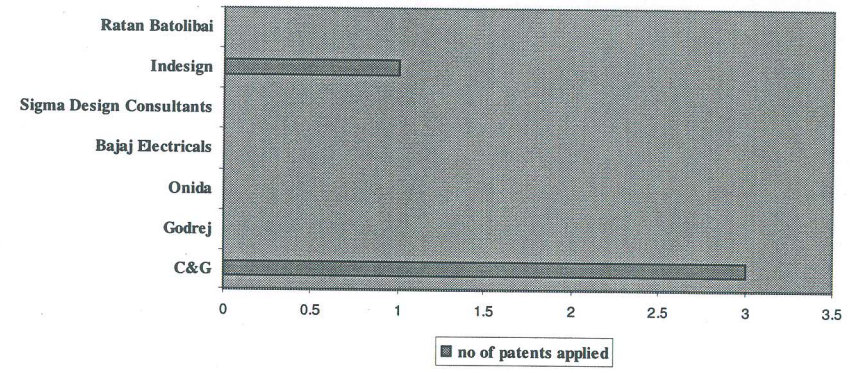
Approximate R&D Outlay (including Industrial Design)



use of softwares like CPM,PERT for Planning



no of patents applied



12. Analysis:

After the survey was carried out, the data was analyzed. A major shift has been noticed in the Design Policy in Indian Industry due to the liberalization of the economy. Importance has moved from manufacturing to R&D. The R&D outlay has been increased and the intake of the designers is also on the rise.

As foreign are entering Indian market directly the Indian Industry has taken a defensive stand by launching products which are developed by Indian designers.

ONIDA is one such example, which launched televisions, which were designed by Indian Designers. New products like Web Cruiser (for email & net surfing) were introduced into the market before the foreign companies introduced.

Even in Engineering/industrial products the performance & reliability are no longer valid. Even the humanistic aspects such as easy maintenance, handling, assembly time etc are taken care. Crompton Greaves is one such example, which came out with a motor totally innovative in assembly and material used.

Industries are becoming proactive and are upgrading their R&D and their personal with state of technology software such as Pro-E, IDEAS, Alias, etc. The product cycle time is reduced by incorporating CPM & PERT.

Design research is one of the most wanted by many industries as they are dependent on the market research and the test marketing which often is a failure. Designers are now involved in the market research and test marketing to know what the customer want.

CONCLUSION:

As foreign companies are entering Indian market directly the Indian Industry has taken a defensive stand by launching products which are developed by Indian designers. New products like Web Cruiser (for email & net surfing) from ONIDA were introduced into the market before the foreign companies introduced. The product cycle time is reduced by incorporating CPM &PERT. Designers are now involved in the market research and test marketing to know what the customer want. Indian Companies are no aiming to compete the foreign brands with indigenous design and in the long run they want to go global.

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SPECIAL PROJECT:
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GUIDE: PROF. M. BHANDAR
C. HIMASUNDER RAO
9 7 6 1 3 8 0 3

INDUSTRIAL DESIGN CENTRE
INDIAN INSTITUTE OF TECHNOLOGY
MUMBAI

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