

## Framing Design Management - Conceptual Note\*

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### Abstract

This conceptual note was created in order to function as an initial approach to design management. It aims to be an overview of the discipline presenting possible definitions of design and design management, the relationship of design and management, and some design management's key issues such as design leadership, organization's structures and the relationship between design management and innovation, quality and branding. The idea is to offer some insights relating to design management and its relationship with business success.

**Key Words:** design management, design capabilities, design and innovation, design strategies.

### Introduction

All products are designed, from engineering components to magazines, from office gadgets to clothes, from room interiors to advertisement. They may not be designed by a professional designer but *"someone makes a series of decisions that result in a product of a particular function, cost and appearance, any of which may contribute to its commercial success."* (Walsh 2000).<sup>1</sup>

In fact, behind every object created by a designer lie several design decisions concerning not only the appearance, but also ergonomics, efficient use of materials, ease of manufacture, user friendliness and often the incorporation of innovative technologies, materials, components etc.

*"Design is therefore an important activity for manufacturing firms and an important topic for economic and sociological analysis while the management of design is a vital aspect of corporate strategy."* (Walsh 2000).

Two decades ago, Philip Kotler and G.A. Rath<sup>2</sup> (1984) noticed that *"Design is a powerful but neglected strategic tool"*. Although sometimes design investments can pay back, as both R. Roy and S. Potter demonstrate<sup>3</sup>, vast evidence suggests that the *"potential of design is most often wasted by business"* (Walsh, et al. 1992).<sup>4</sup>

<sup>1</sup> Vivien Walsh (Manchester School of Management, University of Manchester Institute of Science and Technology) in *Design, Innovation and the Boundaries of the Firm*, Design Management Journal, Academic Review, Vol. 1, 2000, pp. 74-92.

<sup>2</sup> Philip Kotler & G.A. Rath in *Design: A Powerful but Neglected Strategic Tool*, Journal of Business Strategy 5 (2), 1984, pp. 16-21.

<sup>3</sup> Roy, R. and Potter, S. in *The Commercial Impact of Investment in Design*, Design Studies 14 (2), April, 1993, pp. 171-193.

<sup>4</sup> Walsh, V. R. Roy, M. Bruce & S. Potter in *Winning by Design, Technology, product Design and International Competitiveness*, Oxford: Blackwell Business, 1992.

This is our small contribution to the change of the status quo: the creation of a document that seeks to help the "infusion" of design management into the management world.

### Design and Design Management Framing

As expressed in the introduction of this paper it is our aim to deepen the knowledge of Design Management in business activities as well as its relationship with marketing, with special emphasis on branding.

To do so it is necessary to define in the first place the meaning and purposes of Design and in the second place to establish the extent and depth of the design management discipline and its role in the life of the organizations.

### What is Design and what is Design for?

#### What is Design?

"Design is a course of action for the development of an artifact or a system of artifacts" (Gorb 1990).



The term design covers a wide range of activities: architecture, graphic design, industrial design, engineering design etc., (see figure 1).<sup>5</sup> In principle, the same word design in English conveys the notion of the multiple facets of one process. Designers usually specialize in one of the disciplines. Vivien Walsh<sup>6</sup> discovered that the most striking difference was the one between the contribution of the industrial designer and the engineer/engineering designer. There are firms that see design as primarily about appearance and might only employ industrial

designers, while there are others that see design as mainly about performance and might only employ design engineers.

Moody (1984)<sup>7</sup> explains what can be considered the definition of "industrial design" and at the same time analyzes its emergence as an activity distinguishable from "engineering design": "Industrial design seeks to rectify the omissions of

5 R. Shirley and D. Henn in Support for Design: Final Evaluation Report, Department of Trade and Industry, Assessment Unit, Research and Technology Policy Division, London, 1988.

6 Vivien Walsh (Manchester School of Management, University of Manchester Institute of Science and Technology) in Design, Innovation and the Boundaries of the Firm, Design Management Journal, Academic Review, Vol. 1, 2000, pp. 74-92.

7 S. Moody in The Role of Industrial Design in the Development of New Science based Products, in R. Langdon (ed.) Design and Industry, The Design Council, London, 1984, p. 62.

engineering; it is a conscious attempt to bring form and visual order to engineering hardware where the technology does not of itself provide these features."

What Moody argues is that "when form does not automatically follow function, industrial design tries to relate the hardware to the dimensions, instinctive responses and emotional needs of the user. Through the conscious control of form, configuration, overall appearance and detailing, industrial design is capable of conveying to the user the abstract characteristics of a product - for example, robustness, precision ... It can arrange for controls to be comfortable, pleasant and easy to operate. It is capable of imbuing a product with a distinctive ambience, style and feeling of good quality that equates with the personal taste of the user. In these various ways, therefore, industrial design makes a contribution to innovation that produces a more rounded-out effect, meeting the needs (explicit, unconscious, or possibly only assumed) of the user."

The definition of the scope of design can be best highlighted with Peter Gorb's (1990) three way classification of design (Product Design, Environmental Design and Information Design) that emphasizes the contribution of design to some key corporate issues:

- > A - Product Design - traditionally held to be the concern of manufacturing industry being the design of its products influenced by other activities. Product design is operational in style and directly relevant to performance. It is usually under the supervision of line managers. Product design can be described as "designing for gross margin by the extractive manufacturing, distribution and retailing industries. (...) Design affects gross margin performance through its contribution to a range of critical management issues which determine the nature and so the profitability of the product." (Gorb 1990). The critical issues are endless and vary from business to business and product to product. Nevertheless there are three where the design's contribution is enormous: a) product innovation - design is determinant in the amount and rate of flow of innovation into the business; b) quality - that is best controlled by designing it in rather than inspecting it out and c) product range development - where design has a key role in coordinating, simplifying and so promoting a product range.
- > B - Environmental Design - can be best described in terms by which it can be quantified. All organizations value, as a measure of their performance, an important ratio which is the return on capital employed. This ratio can be improved in two ways: to raise the return or profitability for a given employment of capital; to reduce that employment of capital for a given level of profitability. It is in this second area that design can act in the way it can help to determine how and in what the business invests its fixed assets (buildings, machinery, furnishings, communication equipment, transport and any artifact the

corporation invests to help it perform its task) and manages them thereafter. So we can say that environmental design is the "design of the investment in fixed assets" and has a high value in the eyes of management. It is characterized by abrupt shifts from continuity and discontinuity. The design of major investments is usually done by outside consultants, but the maintenance of such investments is often in the hands of facilities managers.

- > C - Information Design - The design of the information systems has long been appreciated. Through it the corporation conveys its purposes to the different audiences with which it is concerned. This is the case of advertisement, sales promotion and public relations materials aimed at external audiences as well as the effective design for internal audiences, for managers, employees and owners. It is intensely operational, especially when is closely linked to product. The cost of this kind of design lies between the gross profit and net profit figures being usually evaluated as a percentage of sales.
- > D - Corporate identity design springs from the work of information designers and shapes all the aspects of design described above. It is intimately linked with corporate strategy and must be looked as a central resource in order to influence and modulate the various design activities of the business.

Still, in what concerns Design "meaning", as Vivien Walsh observed in her studies<sup>8</sup>, it helps to mention that there are enormous variations in what firms, managers and people in general mean by "design". It can be defined for only one element of design such as fitness to use or performance or visual appearance or in some cases all three. In the words of Vivien Walsh: "Designers also have different perspective on design: some see their work in terms of creativity, other in terms of problem solving or even in terms of art. The marketing managers may see the work of designers as differentiating their products from those of competitors (...). To consumers the function of design may be the creation of new styles and images (...) or the improvement of products so that they are easier to use, long-lasting (...). Strategic management may see the function of design as adding value, increasing production efficiency in use of materials and energy, and generating increased profits."

In spite of all the different visions about the designer's role in firms, what we know for sure is that designers stand between the user and the producer. They serve as a bridge between the firm's strategies and the consumers' desires and needs.

### Who uses Design and to what extent?

"The effective design combines analysis and imagination, practicality and sensibility, all the arts you need to make new things work. And that includes selling in sufficient numbers to employ and generate wealth" (Gorb 1990).

<sup>8</sup> Vivien Walsh (Manchester School of Management, University of Manchester Institute of Science and Technology) in *Design, Innovation and the Boundaries of the Firm*, Design Management Journal, Academic Review, Vol. 1, 2000, pp. 74-92.



It is worthwhile to point out that the existence of design is far less dependent on size and sector than, for instance, the existence of R&D, (Walsh 2000). Nevertheless, and according to Peter Gorb (1990), we can track some stable pattern in the use of design in terms of company's types. Service companies usually use design consultants, have design policy documentation and the design function is dominated by marketing. On the other hand, manufacturing companies usually employ internal design teams, have a general absence of design policy documentation and the design function is dominated by engineering.

Peter Gorb has created a table that presents us four major types of companies that represent four distinctive attitudes and practices towards design. This Typology is based on the comparison of manufacturing firms with or without design manager vs. service firms with or without designer manager and can help to clarify the design's role in firms.

#### Typology of Attitudes and Practices Towards Design

<b>A - Manufacturing/Design Manager</b>	<b>B - Service/Design Manager</b>
Engineering largely accountable for design	Marketing largely accountable for design
Designer has high accountability	Designer has high accountability
Use of internal designers	Use of external designers
Belief that Design should not be centrally controlled	Belief that Design should not be centrally controlled
Belief that Design manager should have power	Belief that Design manager should have power
General absence of design policy documentation	Existence of design policy documentation
Design projects are structured like others	Design projects are structured like others
<b>C - Manufacturing/No Design Manager</b>	<b>D - Service/ No Design Manager</b>
No clear accountability for design	Marketing largely accountable for design
Designer has low accountability	Designer has low accountability
Use of internal designers	Use of external design consultants
Belief that Design should be centrally controlled	Belief that Design should be centrally controlled
Belief that Design manager should not have power	Belief Design manager should not have power
General absence of design policy documentation	Existence of design policy documentation
Recognition that Design projects are not structured like others	Design projects are not structured like others

Source: Peter Gorb 1990

### **Design's Location in Firms**

There is a wide variation in the location of design in firms (Walsh 2000) - sometimes firms have a specialist design and development department, others have it as a part of R&D, where it is captured by the term research, design and development; It may be defined as part of the production department; It can be the responsibility of marketing department or, in some cases, design is split up between departments.

The particular features of the *institutionalization of design and its location with respect to the boundaries of the firm* is partly explained by the combination of similarities and differences between design and R&D and design and Innovation. *"Design is an activity more widespread than R&D in any particular firm; since it makes a contribution to marketing and production as well as to new product development."* (Walsh 2000).

The design's occupancy of a variety of locations in the structure of firms - in R&D, production, marketing, specialist design and development departments and design consultancy firms - varies additionally with different national culture and traditions.

### **Firm's Strategic Options Towards Design**

Despite the strategic importance of design to the firms, the diffuseness of design makes it difficult to use strategically. This diffuseness of design, argue Dumas and Whitefield (1989)<sup>9</sup>, is both *conceptual and organizational*. It is *conceptual* in relating to issues such as: what design disciplines does a firm need? Or even: what does the firm means by design? It is *organizational* in that design is an activity without well-defined organizational boundaries.

In addition It was found that a variable mixture of in-house and *consultant* designers was employed by firms (Walsh 2000). This happens mainly for two reasons: there is a general lack of in-house skill or lack of a particular skill and also some firms, as a matter of principle or company strategy, employ consultants in order to have a flow of fresh ideas.

Vivien Walsh also found a wide variety of attitudes and strategies towards design. *"Firms (including firms in the same sector and of similar size) vary enormously in the extent of time, effort, money and professional expertise they believe should be accorded to design and the extent to which design is carried out by professional staff, (employed in-house or retained as consultants). Sometimes firms take design very seriously and allocate resources accordingly."* (Walsh 2000).

<sup>9</sup> A. Dumas and A. Whitefield in *Why design is difficult to manage*, European Journal of Management, 7 (1), 1989, p. 50.

## What is Design Management?

*"Design management is not the process of managing design consultancy or practice, either within or outside a corporation; It is not the education of designers about the importance of the management world or the reverse: educating managers about design. (...) Nor is design management synonymous with product development, or facilities management, or identity management. All of these are important aspects of the wider activity, but only aspects of it.*

*(...) Design Management is the effective deployment by line managers of the design resources available to an organization in the pursuance of its corporate objectives. It is therefore directly concerned with the organizational place of design, with the identification of specific design disciplines which are relevant to the resolution of key management issues, and with the training of managers to use design effectively."* (Gorb 1990).<sup>10</sup>

Thomas Walton also defined design management, in 2000<sup>11</sup>, as: *"a facet of organizational management. It is a dimension of such fundamental business activities as research, product development, marketing, communications, and production."*

The problem is that the discipline lacks of neat boundaries of other arenas of corporate expertise and, most often, overlaps disciplines such as marketing and product engineering. Moreover, Design Management needs and interests vary from business to business, organization to organization. *"It can be a stand-alone entity that provides services to executives and managers throughout a company; it can be dealt with on a consulting basis; it can be an integral aspect of a product development and communications and, sometimes resides in the wisdom of non-design managers or it is simply ignored. (Walton 2000)."*<sup>12</sup>

<sup>10</sup> Peter Gorb (Senior Fellow in Design Management at the London Business School) in Design Management, Papers from the London Business School, Architecture Design and Technology Press, London, 1990.

<sup>11</sup> Thomas Walton, Ph.D.(Professor, School of Architecture and Planning, The Catholic University) in Design Management as a Business and Academic Discipline, Design Management Journal, Academic Review, Vol. 1, 2000, pp. 5-8.

<sup>12</sup> Thomas Walton, Ph.D.(Professor, School of Architecture and Planning, The Catholic University) in Design Management as a Business and Academic Discipline, Design Management Journal, Academic Review, Vol. 1, 2000, pp. 5-8.

<sup>13</sup> Peter Gorb and Angela Dumas in Silent Design, Design Studies 8, 1987, p. 150.

Another fact that contributes to make frail the affirmation of Design Management is the phenomenon of "silent design" (Gorb and Dumas 1987)<sup>13</sup> that is related to a firm's commitment to design. Silent Design is the process in which marketing, production and other staff contributes to design decisions, or do design and development work part time. They may be highly qualified in, and committed to design, but their managerial responsibilities make it impossible to devote much time to design. It is very common and very often creates difficulties to the correct integration of Design in the firms.

One of the purposes of design, as defended by Vivien Walsh (2000) is *"to make us desire the artifact that is designed, based both on its "image" and its function and performance. And the management of Design has to ensure that a dialogue takes place between all those with a material interest in the use of design, including the final customer."*



In fact, at the end it is all about people and their ability to dialogue, interact and advance in a consistent way the company's objectives.

### The Relations and Impact of Design in Management

It is a commonly accepted assumption that the view of design and management as disciplines operating in opposite fields, being design related with art and imagination (disciplined imagination) and management with science and reason. That can be confirmed by the work of Birgitte Borja de Mozota (1998)<sup>14</sup> that stresses the *"deep-seated cognitive differences between management and design, which makes integration of design unlikely to happen unless the company is going through a crisis or a more-convergent approach can be adopted."*

The reality nowadays is that design has a vast impact on management. It is implicated in resource allocation, it deals with innovation, it participates in integrated cross-disciplinary teams, and it is involved in the development of strategic initiatives.

The scope of design management and its links with the theory of the firm is therefore a subject to be considered. It goes through the exploitation of design definitions and its integration within the corporation.

Vivien Walsh<sup>15</sup> studied the place of Design in the organization and its use to further business strategies. She discovered that *"design most often becomes the focus for integrating disciplines. It also contributes, in significant ways, to research and development and innovation."* Her point is that *"design and business are inexorably linked (...) and that the current challenge is to determine how this relationship can be both creative and effective."*

To do so it is necessary to be conscious of several key issues such as the one observed by Vivien Walsh and others (Walsh, et al. 1992)<sup>16</sup>: *"design expertise and design-related business expertise are embodied in specialists, as well as embedded - or dispersed - in multiple layers of the organization and its networks."*

Moreover, complex industrial design, for instance, needs to be informed by business and market factors, so it can pursue the right direction to creative problem-finding (Kristensen, 1998)<sup>17</sup>, thus avoiding misalignments in management strategies.

That is also the point of Erik Bohemia<sup>18</sup> in respect to designer's accomplishments in Lean Manufacturing industries.

On the next page Lean Manufacturing, when compared to mass production (see table presented), *"allows companies to be more responsive to changing market and to more sophisticated and demanding consumers. This is accomplished by*

<sup>14</sup> Birgitte Borja de Mozota in *Challenge of Design Relationships: the Converging Paradigm*, in Bruce, M. and Jevnaker, B.H. (eds) *Management of Design Alliances: sustaining competitive advantage*, Chichester: Wiley, 1998.

<sup>15</sup> Vivien Walsh (Manchester School of Management, University of Manchester Institute of Science and Technology) in *Design, Innovation and the Boundaries of the Firm*, *Design Management Journal, Academic Review*, Vol. 1, 2000, pp. 74-92.

<sup>16</sup> Walsh, V. R. Roy, M. Bruce & S. Potter in *Winning by Design, Technology, product Design and International Competitiveness*, Oxford: Blackwell Business, 1992.

<sup>17</sup> T. Kristensen in *The Contribution of Design to Business: A Competence-Based Perspective*, in Bruce, M. and Jevnaker, B.H. (eds), *Management of Design Alliances. Sustaining Competitive Advantage*, Chichester: Wiley, 1998, pp. 217-241.

<sup>18</sup> Erik Bohemia (Scholl of Civic Engineering and Environment, The University of Western Sydney) in *Suitability of Industrial Designers to Manage a Product Development Group: Australian Perspective*, *Design Management Journal, Academic Review*, Vol. 1, 2000, pp. 40-54.



using less development and lead time; using fewer inventories; and having less waste and fewer parts. However lean manufacturing also encompasses improved quality; product variety; greater workplace cooperation, both internally (between departments) and externally (between the organization, suppliers and customers); and continual learning and improvement. It incorporates the best aspects of craft production - for example flexibility, and mass production - for example quality and low price."

### Differences between Mass Production and Lean Manufacturing

(Source: Erik Bohemia, based on Klier 1993)

Mass Production	Vs.	Lean Manufacturing
Specialization	Job Definition	Teamwork
Separate function in the process, i.e. function per-formed by "quality controllers"	Quality Control	Built into production, i.e. all workers are responsible for quality control
Making one product for as long as possible	Production Process	Flexible adjustments possible
Large	Inventory	Lean
Hierarchical	Management	Participatory
Serial (functional)	Product development	Concurrent
Autocratic	Leadership of product development	Multi-skilled
Functional	Product development teams	Cross-functional
Serial (one-way)	Communication	Parallel
Lengthy	Product development time	compressed

Many studies have examined the impact of lean manufacturing from the perspective of management, product development and manufacturing (e.g. Womack, et al. 1990; Hogg 1993)<sup>19</sup> but few references have been made to industrial design. The data gathered in the study of Bohemia (that includes 124 organizations) suggests that "as we shift from mass production to lean manufacturing, the role of industrial designers is becoming more critical, consequently increasing designer's status and their power within organizations.(...) Once organizations develop design strategies and start to use design for competitive advantage in the market place, industrial design will then be considered more critical in enabling the organization to achieve its goals."

Another aspect to consider is that design plays a different role at different stages in the life of an industry, product or technology. The successful companies are those that "continuously modify and adapt their designs in response to new technologies, competing products and changing user needs. In fact, as far as design is concerned, a shift in emphasis may be observed in the lifecycle of an industry or technology, from an early period primarily of designing for experimentation and technological innovation to one in which designing for technical improvement, lower cost, and ease to manufacture become more important, and finally a mature phase in which a multiplicity of design variations, fashions, styles and redesigns within product ranges aimed at different market segments predominates."(Walsh 2000).

<sup>19</sup> J.P. Womack, D.T. Jones and D. Ross in *The Machine that Changed the World*, Rawson, New York, 1990;

In fact, Vivien Walsh found that design is vital throughout the industry life cycle and at different stages of economic upturn and downturn, playing a different role at each stage. It has to ensure different issues, such as product differentiation and reliability, price competition through the efficient use of materials, easy to manufacture. It is an important part of the innovation process but it is also an important part of *non-innovation* activities (using innovation in the sense of technological innovation) - it contributes to the *marketing of existing goods* via packaging, advertising and company image, and it contributes to the *production of existing goods using existing processes* via changes in layout, sequencing of tasks and plant design.

Being design engaged in so many key issues of management it is necessary to define in what ways design can contribute so the managers can make good use of it. Peter Gorb<sup>20</sup> proposes three important design contributions to manager's good use: a) a care and concern for things; b) a set of special skills and c) a special methodology.

A care and concern about things, according to Peter Gorb, does not come easily to managers that base their concerns on a theory of organizations in which manager's task is to achieve the objectives of the company, expressed and measured by profit. While doing this managers also need to provide optimum satisfaction to stakeholders. *"It is a praiseworthy concern, but the objectives behind it are much more easily achieved if managers have a deep interest in what they make and sell. Design training enables us to correct this imbalance - to learn, as the Japanese learned many years ago, that without product leadership most business loses their competitive edge."*

The second attribute of the designer is visual literacy, the ability to draw, to model and to create visual analogues. These are skills that can be learned and turned into a specialization. The lack of these skills can create great difficulties to managers that are faced with massive amounts of engineering drawings, factory layout diagrams and visually-represented planning documents. Besides that *"aesthetic and visual creativity demands high observational skills from people who practice it; and high observational skills are the strongest management tool in identifying organizational behavior and implementing organizational change."*

Finally, the methodology of designers is action-based in the way designer's concern is to find out how before finding out why. It has an inclination to take incremental and practical steps to a solution.

## Design

### Management Key Issues

#### Design Leadership

Relevant work to Design Management understanding is the one by Birgit Jevnaker (2000)<sup>21</sup> based on case-studies observation, literature analysis, research studies and interviews. She sustains that design must be championed, being that role "an

<sup>20</sup> Peter Gorb (Senior Fellow in Design Management at the London Business School) in *Design Management, Papers from the London Business School, Architecture Design and Technology Press, London, 1990.*

<sup>21</sup> Birgit H. Jevnaker (Associate Professor, Norwegian School of Management, Department of Innovation and Economic Organization) in *Championing Design: Perspectives on Design Capabilities, Design Management Journal, Academic Review, Vol. 1, 2000, pp.25-40.*



education process that works best if it comes from a variety of internal and external sources". Jevnaker (2000) <sup>22</sup> gathered evidence that "Design Management is also about leadership and human interaction," being leadership significant when design becomes a more prominent component of management.

In fact, behind the best cases of design management - such as the work of Peter Behrens in AEG or the case of Charles Eames at American's Herman Miller - it happened that individuals "acted as persistent design promoters, providing the design leadership essential to connect and support design expertise to the particular corporate wisdom and core competencies in place (...) Design championing is a dyadic process rather than one excellent person, and it is fueled by more than one entrepreneurial persona" (Jevnaker, 2000).

The design-capable organizations, in the words of Birgit Jevnaker,<sup>23</sup> depend upon many organizing activities that enable them to nurture constructive design developments in firms.

The table presented below is elucidative of the actions underlying design capabilities.

Organizing Design Capability	Leadership Action Involved
Design Resourcing Capability	Starting up design or development initiatives; Assessing best suitable design and business expertise; Resourcing money, time, projects and facilities without detrimental overload of capacity.
Design Combinative Capability	Configuring design resources; Tapping and connecting to firm-specific resources, strategic assets, or otherwise distinctive resources; Creating interaction of design resources and the firm's core competent people.
Design Learning Capability	Communicating design with ethos repeatedly to multiple stakeholders; Exposing and testing design within a reciprocal and acknowledge design relationship; Inaugurating design experiences to key stakeholders; Debriefing design building memory.
Design Innovation Capability	Adopting new knowledge and ideas; Fostering creative design developments; Nurturing open exchange and taking advantage of creative abrasion.
Design Strategic Capability	Providing a strategic focus while allowing out-of-the box discovery; Anchoring design developments in business strategy and strategists; Implementing strategy stretch.
Design Advantage-Protecting Capability	Protecting new designs by patents, licensing, pattern protection; Capturing design-based value and sharing risks through legal agreements, royalties and relational contracting; Sustaining design capabilities through design alliancing, R & D partnering.

Source: Birgit H. Jevnaker (2000)

<sup>22</sup> Birgit H. Jevnaker (Associate Professor, Norwegian School of Management, Department of Innovation and Economic Organization) in *Championing Design: Perspectives on Design Capabilities*, Design Management Journal, Academic Review, Vol. 1, 2000, pp.25-40;  
Birgit H. Jevnaker in "Inaugurative Learning: Adapting a New Design Approach", Design Studies 14 (4), October, Oxford: Butterworth-Heinemann Ltd., 1993, pp. 379-401.  
Birgit H. Jevnaker, *The Hidden Treasure - the main empirical report*, SNF-report 36/95, Bergen: Foundation for Research in Economics and Business Administration (SNF), Norwegian, 1995.  
Birgit H. Jevnaker, and Bruce M., *Design As A Strategic Alliance: Expanding The Creative Capability Of The Firm*, In Hitt, M et al (eds) Dynamic Strategic Resources: Development, Diffusion and Integration, Chichester, Wiley, pp. 267-298.

<sup>23</sup> Birgit H. Jevnaker (Associate Professor, Norwegian School of Management, Department of Innovation and Economic Organization) in *Championing Design: Perspectives on Design Capabilities*, Design Management Journal, Academic Review, Vol. 1, 2000, pp.25-40.

Observing the table it is clear that design intervention is broad and anchored on business strategy, thereby being indispensable the validation of design as a strategic area of the business that must be correctly valued and explored.

In fact Kristensen (1998)<sup>24</sup> noticed that *"design was still an embryonic field since it was not clear under what circumstances a successful and differentiated design approach could be adopted or generated by business firms."*

In addition to that, from research studies such as the one of Dougherty (1992),<sup>25</sup> we can learn *"how design integration can be impeded in manifold ways by divisional structures and routines, as well as by the dominance of a core group of expertise or by interpretive barriers."*

The reality is that, nowadays, business management is confronted with complex and rapidly changing opportunities and threats within a global and digitalized economy. So, in face of the exposed how can leaders foster a design leadership that may help gain and sustain a competitive advantage?

Birgit Jevnaker (2000) suggests that *"in such a competitive context it is important to facilitate not only the introduction of a professional design approach in firms, but also to identify how creative leadership can foster a more dynamic design capability - that is, an ability to sense and respond in a timely way to new opportunities that can create and capture new values."* She also proposes that, in practice, that dynamic capability can be fostered if the leadership assumes four key aspects that are summarized in the following figure.

Dual Entrepreneurial Design/Business Championing - The importance of a design ambassador to lever design within a firm is one of the first lessons learned by the analysis of all the design-related literature. It implies courageous moves by both sides (the managerial and the design one) being difficult to point out which side is most essential in terms of the creation of the new design relationship.

In addition, says Jevnaker (2000), *"we need the dual champion-related terms to appreciate the skillful opportunity finding and the vital advocacy of the best available design directions."*

Fostering creative collaboration in experiments, projects and relationships - dedicate and keep resources in design development tactic. Once initiated the process of reciprocal and collaborative actions the start of a long-term design relationship is established. (For example IDEO invites new clients into brainstorming session of a five-day "deep-dive" workshop in addition to regular presentations and interim meetings).

Triggering person-committing movements - *this third point refers to "the combined element of skillful action and charismatic engagement"*. (One example of that

24 T. Kristensen in *The Contribution of Design to Business: A Competence-Based Perspective*, In Bruce, M. and Jevnaker, B.H. (eds), *Management of Design Alliances. Sustaining Competitive Advantage*, Chichester: Wiley, 1998, pp.217-241.

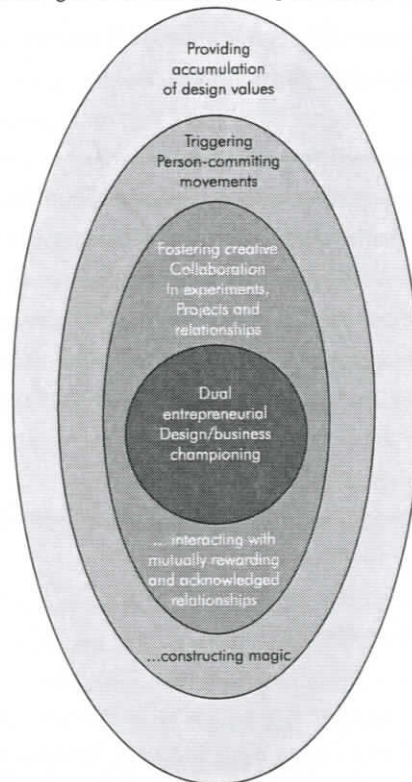
25 D. Dougherty, *Interpretive Barriers to Successful Product Innovation in Large Firms*, *Organization Science* 3 (2), 1992, pp. 179-202.



is what happened with the hired industrial designer Roy Tandberg, from the Tvengsberg consultancy, when he wanted to set up his own design business. At that moment, the technical director of Tomra invited him. This suggestion leads to Tomra's internal but partly independent, design consultant, a hybrid solution that leads to a triggering dynamic between internal and partly external resources).

Providing an accumulation of design values - *"The design capable organizations are not built overnight. In fact design is not only about change: At best it also concerns an attractive continuity"* (Olins, 1989).<sup>26</sup> In fact, Jevnaker (2000) notices that *"as demonstrated by IBM, continued design investments by firms and designers can accumulate visible outcomes, as well as experiential and tacit knowledge. The latter can be distributed on three continents and when combined, can create momentum."*

Aligned with Jevnaker's way of thinking there is the work of Angela Dumas and Henry Mintzberg<sup>27</sup> that claim that *"both design and management imply order, control and guidance. The first one of people, processes and activities and the second one of things, artifacts and images. Neither process is itself one of order, control or guidance. Management is a process rooted largely in intuition and synthesis with the consequence that managerial work has been described as "calculated chaos" and "controlled disorder"*<sup>28</sup> Likewise, design is a creative process that, while seeking to order other things, tends to reject order for itself (...) This means that design cannot be managed like other activities any more than management can be designed like other things."



In sequence the authors present five ways to manage the Design Process - four conventional - with various degrees of order, control and guidance: a) promoted by a Champion; b) institutionalized as a policy; c) institutionalized as a program; d) installed as a function -, and the fifth - infusion - that proposes design to be infused throughout the organization.

These studies and reflections reveal the vital and specific importance of human capital to overall design integration. The true appreciation of design management in an organization depends upon a leadership that believes design to be a *"way of organization's life."*

<sup>26</sup> W. Olins in *Corporate Identity. Making Business Strategy Visible Through Design*, Thames and Hudson, U.K., 1989.

<sup>27</sup> Angela Dumas (Assistant Professor, London Business School) and Henry Mintzberg (Professor, McGill University) in *Managing Design/ Designing Management*, Design Management Journal, Vol. 1, nº1, pp. 37-42.

<sup>28</sup> F. Andrews, "Management: How a boss works in Calculated Chaos", New York Times, 29 October 1976.

## Organization Structures

*"Special attention needs to be given to the organizational structure of the company if the interactive nature of the design process is to be managed effectively" (Gorb 1990).*

Complementary to the line of Jevnaker, Dumas and Mintzberg's, though about championing in design, we find David Owens (2000)<sup>29</sup> that has made a "human resources management" study of the team dynamics and discovered that *"it was not reason - the identification and pursuit of specific design goals - but status<sup>30</sup> that most influenced design - the mix of disciplines and expertise did not matter nearly as much as the perceptions of a person's importance to the organization."* (David Owens, 2000).

From the perspective of design management, argues Owens (2000), *"designed products derive from long chains of decisions, and that different decisions made at critical points in the process result in differences in the designed products. (...) This suggests that a design can be understood in terms of the decision-making process used to arrive at it, not only in terms of the aesthetic, market, or technological factors commonly assumed to drive designs. For products designed in groups, this means the organizing structures used to facilitate coordination during the design process have a substantive effect on the content of design."*

In fact, one of the primary intents of organizing structures is the control of how decisions are made. Being so, we should take into account the implications of different types of organizing structures used to manage design practice.

The general business trend indicates a movement towards flat, low-hierarchical organizational structures that are based upon self managing teams (Dumaine 1990; Katzenbach & Smith 1993)<sup>31</sup> that empower members to assert their own expertise when needed. On the other hand, such structureless models can complicate decision making in groups, especially when it comes to design important decisions - such as the innovative definition of a product - that most likely lay on subjective arguments based on incomplete information, ill-defined judgments and personally-held values.

In face of Owens study, and in the cases the group is flat, we learn that individuals with high social status are likely to have more influence than others.

## Consumer Research Contributions to Design Issues

To the establishment of design management reach it is also crucial to explore the relation of design and consumer research. That relation goes through the debate about aesthetics responses to products, the idea that it might be possible to control the connection between design and consumer choice, the definition of beauty, the

<sup>29</sup> David A. Owens (Associate Professor, Owen Graduate School of Management, Vanderbilt University), *Design Management Journal*, Academic Review, Vol. 1, 2000, pp.55-64.

<sup>30</sup> Definition of Status vs social status: "as a property of individuals, social status represents the informal standing, honor and reputation a person has within a social group, and status is associated with physical rewards and social influence. The status of each member of a group is assessed by other members based on the belief that the member possesses some of the currencies and personal characteristics valued in the group. (...) It became clear that (in this group study) social status was not simply determined through one or two idealized personal characteristics, such as wealth, intelligence and gender. Rather status was determined by a particular set of characteristics and displayed behaviors that were valued in the organization, as well as by circumstances that emerged during group interaction. (...) Status was garnered based on the possession of a number of specific skills and personal qualities - such as acknowledgement in some disciplines and the will to share expertise as well as creativity and persuasive communication skills."

<sup>31</sup> B. Dumaine in *Who needs a Boss?*, Fortune, May 7, 1990, pp.52-55, 58, 60; J.R. Katzenbach and D.K. Smith in *The Wisdom of teams: Creating the High-performance Organization* Harvard Business School Press, Boston, 1993.

<sup>32</sup> Robert W. Veryzer (Associate Professor, Lally School of Management & Technology, Rensselaer Polytechnic Institute) in *Design and Consumer Research*, *Design Management Journal*, Academic Review, Vol. 1, 2000, pp.64-73.

<sup>33</sup> David Finn in *Good Design is Good Business*, *Marketing News*, November 26 (199), 1987, p. 9.

<sup>34</sup> Morris B. Holbrook in "Some Preliminary Notes on Research in Consumer Esthetics" in J. Olson (ed.) *Advances in Consumer Research* Vol.7 Ann Arbor, Association of Consumer Research, 1980, pp. 104-108. Jerry Olson in "What is an Esthetic Response" in E.C. Hirschman and M.B. Holbrook (eds.) *Symbolic Consumer Behavior*, Ann Arbor MI: Association for Consumer Research, 1981, pp. 71-74. Murphy A. Sewall in *Nonmetric Unidimensional Scaling of Consumer Preferences for Proposed Product Designs* in H. Keith Hunt (ed.), *Advances in Consumer Research* Vol. 20, Ann Arbor, MI: Association for Consumer Research, 1978, pp. 22-25.



35 Stephen Bell, Morris Holbrook and Michael Solomon in *Combining Aesthetic and Social Value to Explain Preferences for Product Styles with the Incorporation of Personality Effects*, *Journal of Social Behavior and Personality* 6 (6), 1991, pp. 243-274; Morris B. Holbrook and Elizabeth C. Hirschman in *The Experiential Aspects of Consumption: Consumer Fantasies, Feelings and Fun*, *Journal of Consumer Research* 9 (2), 1982, pp. 132-140.

C.W. King and L.J. Ring in *The dynamics of Style and Taste Adoption and Diffusion: Contributions from Fashion Theory* in J. J.C. Olson (ed.) *Advances in Consumer Research* Vol. 17, Ann Arbor, MI: Association for Consumer Research, 1980, pp. 13-16.

Grant McCracken in *Culture and Consumption: A Theoretical Account of the Structure and Movement of Cultural Meaning of Consumer Goods*, *Journal of Consumer Research* 13 (June), 1986, pp. 71-84.

Michael R. Solomon in *The Role of Products as Social Stimuli: A Symbolic Interactionist Perspective*, *Journal of Consumer Research* 10 (December), 1983, pp. 319-329.

Michael R. Solomon in *Building up and Breaking down: the Impact of Cultural Sorting on Symbolic Consumption*, in E. Hirschman & J.N. Sheth (eds.) *Research in Consumer Behavior* Vol. 3, Greenwich, CT: JAI Press, 1988, pp. 325-351.

Melanie Wallendorf in *The Formation of Aesthetic Criteria Through Social Structures and Social Institutions* in J. Olson (ed.) *Advances in Consumer Research* Vol. 7, Ann Arbor, MI: Association for Consumer Research, 1980, pp. 3-6.

36 Robert W. Veryzer in *Aesthetic Response and the Influence of Design Principles on Product Preferences*, in L. McAlister & M.L. Rothschild (eds.) *Advances in Consumer Research* Vol. 20, Provo, UT: Association for Consumer Research, 1993, pp. 224-228.

37 Robert W. Veryzer and J. Wesley Hutchinson in *The Influence of Unity and Prototypicality on Aesthetic Responses to New Product Designs*, *Journal of Consumer Research* 24 (March), 1998, pp. 374-394.

38 Marvin Berkowitz in *The influence of Shape on Product Preference*, in Wallendorf, M. and Anderson, P. (eds.) *Advances in Consumer Research* 14, Provo, UT: Association of Consumer Research, 1987, p. 559.

39 Peter H. Bloch in *Seeking the Ideal Form: Product Design and Consumer Response*, *Journal of marketing*, 59 (3), 1995, pp. 16-29.

40 Michael R. Solomon in *The Role of Products as Social Stimuli: A Symbolic Interactionist Perspective*, *Journal of Consumer Research* 10 (December), 1983, pp. 319-329.

influence of social background and culture on taste, the importance of variety and innovation and the impact of branding on consumer preferences.

The research on this field is a reality and presents us authors such as Robert Veryzer<sup>32</sup> that recognizes that the design's role is an important determinant of consumer's preferences and choices.

Despite the increasing awareness of the importance of design, there are not enough studies that help us to understand how people respond to design or even how aesthetic responses are formed. This fact supports the perception that "good design" is a rather arbitrary affair (Finn, 1987).<sup>33</sup>

Being consumer research the "study of processes involved when individuals or groups select, purchase, use or dispose of products and services in order to satisfy needs and desires" it is clear that goes beyond "buyer behavior" encompassing "how experience with a product affects our lives as well as how possessions influence the way we feel about ourselves." (Veryzer 2000).

The consumer research discipline is well suited for the study of some product-design-related issues because it offers a different perspective and combination of research methods along with a tangible research context. These studies allow recasting in a more concrete form design questions.

Within the field of consumer research a stream of work has emerged that deals with design and aesthetics issues - Design and aesthetics are inherently linked because design can be considered the physical form of a product that has always aesthetics aspects to look after.

On a first approach the research was focused on the definition of aesthetics responses (Holbrook 1980; Olson 1981; Sewall 1978).<sup>34</sup> This early work concerned the aesthetic aspect of consumption. Over the past two decades some issues relevant to design research have been examined. Researchers have addressed issues like this: how factors such as age, sex, attitudes and personality can affect people's tastes and reaction to product designs as well as the influence of macro forces such as culture, social influences and fashion trends (Bell, Holbrook and Hirschman 1982; King and Ring 1980; McCracken 1986; Solomon 1983, 1988; Wallendorf 1980).<sup>35</sup>

Other aspects of how product's design affects consumer's responses were examined. For instance, Veryzer (1993)<sup>36</sup> and Veryzer and Hutchinson (1998)<sup>37</sup> have investigated the visual aspects of design and the influence of design principles on consumer's responses; Berkowitz (1988),<sup>38</sup> Bloch (1995)<sup>39</sup> and Solomon (1983)<sup>40</sup> also explored how the form of products affects consumer's beliefs about the product as well as about a brand;

The nature of aesthetic experience and design preferences is one of the topics that has also been explored (Holbrook, 1986; Sewall 1978)<sup>41</sup> and it involves the nature of "good design", the use of product distinctions such as *utilitarian* versus *aesthetic*, that is to say, it revolves around processes by which responses to design are formed.

By gaining insight into the consumer-design interaction, the design-related work done in disciplines such as consumer research can help to enrich the understanding of design and improve design practice. However, Veryzer points out that "customer research and market research practices need to be adjusted according to the types of products that are designed and the degree of discontinuity they involve" (Veryzer, 1998).<sup>42</sup>

Another area that can benefit from further research is the one that establishes the relationship between product design and brand identity and choice. It is important to understand how customers experience, process and value brands (Chernev 1997; Schmitt, Pan, and Tavassoli 1994; Schmitt and Simonson 1997).<sup>43</sup>

In fact, as Veryzer notices (2000), if we have a deep "understanding of the consumer-design interaction, that will lead to a greater use of design as a strategic tool. Ultimately it will lead to a greater respect and appreciation for design as a discipline."

### The Relationship Between Design and Innovation

Being design a "planning process for artifact it becomes the key element in the planning processes of the business - the plans for the things the enterprise makes, sells, uses or communicates with. But design will never be an effective tool if it is confused with innovative process." (Gorb 1990).

Actually, design modulates controls and encourages the innovative inputs into the business making innovation meaningful. It acts as a thermostat for innovation balancing and matching the views and demands of customers, employees, capital investment and all the other factors that constrain, sustain and shape a company's culture, as well as its operations.

Design is the driving force not only of change, but of the rate of change. It feeds innovation into a system in a way that preserves the plan for the bottom line.

"Design is crucial to innovation in that it is the domain of creativity in which ideas are devised, but also where the "coupling" occurs between technical possibilities and market demands or opportunities." (Freeman 1983).<sup>44</sup> This integrative capacity of design is extensive to production techniques since new products usually require new processes to produce them.

<sup>41</sup> Morris J. Holbrook in *Aims, Concepts and Methods for the Representation of Individual Differences in Aesthetic Responses to Design Features*, *Journal of Consumer research* 13, (December), 1986, pp. 337-347.  
Murphy A. Sewall in *Market Segmentation Based on Consumer Rating of Proposed Product Designs*, *Journal of Marketing research* 15 (November), 1978, pp. 557-564.

<sup>42</sup> Robert W. Veryzer in *Key factors affecting Customer Evaluation of Discontinuous New Products*, *Journal of Product Innovation Management* 15 (2), 1998, pp. 136-150.

<sup>43</sup> Alex Chernov in *The effect of Common Features on Brand Choice: Moderating Role of Attribute Importance*, *Journal of Consumer Research* 23 (March), 1997, pp. 304-311.  
Bernd H. Schmitt, Yigang Pan and Nader T. Tavassoli in *Language and Consumer Memory: The impact of linguistic differences between Chinese and English*, *Journal of Consumer Research* 21 (December), 1994, pp. 419-431.  
Bernd Schmitt and Alex Simonson in *Marketing Aesthetics: The strategic management of Brands, identity and image*, The Free Press, New York, 1997.

<sup>44</sup> C. Freeman in *Design & British Economic Performance*, Lecture given at the Design Centre, 23 March, Sussex University: Science Policy Research Unit (mimeo), London, 1983.



Design clearly plays an important role in "the realization of the radical invention as an innovation; in particular, systemic innovations need a great deal of design coordination in development and commercialization because systematic adjustments to other parts of the system have to be made" (Walsh 2000). But design is equally crucial in the period of "swarming secondary innovation" via competing design, in product differentiation and reliability, and in price competition via the efficient use of materials and design for manufacture ease.

Many firms (especially those in industrial sectors that are now mature or maturing) adopt a strategy of incremental, as opposed to radical innovation. That happens for a variety of reasons to do with size and resources of the firm, nature of the industry, level of research and development needed, and size of risk involved. These firms, where incremental and design innovations are paramount, represent the realization and established operation of past new technological paradigms. That is why design is emphasized by Vivien Walsh (2000) as being "an equally important counterpart to radical new technology."

Design is an important part of the innovation process, but also contributes to the innovation process outside R&D through the marketing of new products (via packaging, manuals, brochure, advertising design and corporate identity) and the design of the process, layout and sequencing of tasks for the production of the new product.

### **The Relationship Between Design and Quality**

*"Quality ( in the manufacturing industry) is the extent to which a product meets the specification drawn up for its manufacture; and where the product is mass-produced, consistently meets that specification"* (Gorb 1990).

Quality is usually measured and controlled in three ways: a) by inspecting at the end of the process; b) by an attitude among the people concerned in manufacture that place quality at the forefront of their thinking during the manufacturing process - quality circles and related organizations systems fall in this category and c) by ensuring that specification itself is developed in such a way that it becomes very difficult not to meet that specification.

All of these ways of dealing with quality have their place and none is mutually exclusive. In spite of that the third one contributes the most effective route - it shifts the problems to a point in the process before manufacture.

The last stage of design activity is the specification. (Gorb 1986)<sup>45</sup> The determination of specification constitutes the heart of all design activities and it demands the resolution of conflicts arising from all the management disciplines - from marketing that may require product characteristics difficult to make to finance, which may limit product options.

<sup>45</sup> Peter Gorb in *The Business of Design Management, Design Studies* Vol. V, N° 2, April, 1986.

The fact is that it is generally recognized that it is better designing quality into a product than inspecting it out.

### The Relation Between Design Management and Marketing

Design and Marketing are two disciplines that interact in all stages of the product. Therefore it is natural that sometimes some overlaps occur from both parts. In fact most of the time design is controlled by marketing managers (especially in services firms) being naturally, but wrongly, pointed out as a marketing powerful tool.

This reality is reinforced by the definition of the scope of marketing, in the words of Philip Kotler:<sup>46</sup> *"Marketing is typically seen as the task of creating, promoting and delivering goods and services to consumers and business. In fact marketing people are involved in marketing 10 types of entities: goods, services, experiences, events, persons, places, properties, organizations, information and ideas."*

Nevertheless it is recognized by marketers that design offers an effective way to differentiate and position company's products and services. Harvard professor Robert Hayes, quoted by Philip Kotler<sup>47</sup> summed it up best when he said: *"Fifteen years ago, companies competed on price. Today is quality. Tomorrow it's design."*

Design's importance often is diminished in the way that managers find very difficult to find ways to measure design management results, that is to say, to assess the quantitative and qualitative impact of design. But that is possible to be done and when we look to the outcomes and benefits of design management's use<sup>48</sup>, it is manifest that design is a powerful strategic resource.

At the end what we can observe in different organizations is that when the interaction between design and marketing works in a consistent way time and money are saved and, more important than that, the aimed long-term relationship between company and the customer is reinforced in a congruent way.

*"(...) People vary and part of their variety is their emotional response. (...) We know that emotional drives are quite as influential as any other drive. (...) Design is a route to the emotions or it is nothing. (...) The key to successful marketing, we would all agree, is segmentation and that includes emotional or psychological segmentation."* (Gorb 1990).<sup>49</sup>

To be effective design must be appropriate to its audience, bearing in mind that people have the freedom and choice to satisfy their whims, in their own way.

In the words of Peter Gorb "according to the Institute of Marketing no more than three out of ten firms in Britain do market research". How then can the designer know what the customer wants? The fact is that many firms impose on the market what they believe to be right. On these cases design can rarely be effective and not for long.

<sup>46</sup> Philip Kotler in *Marketing Management*, The Millenium Edition, International Edition, Prentice Hall, 2000.

<sup>47</sup> Philip Kotler in *Marketing Management*, The Millenium Edition, International Edition, Prentice Hall, 2000.

<sup>48</sup> Example: The "Design Innovation Group" in Great Britain surveyed 221 products, engineering, industrial and graphic design projects supported by government subsidies. The study found that 90% of the projects made a profit with an average payback period of 15 months from product launch. The average design project cost about 100.000 euros and produced an average sales increase of 41%.

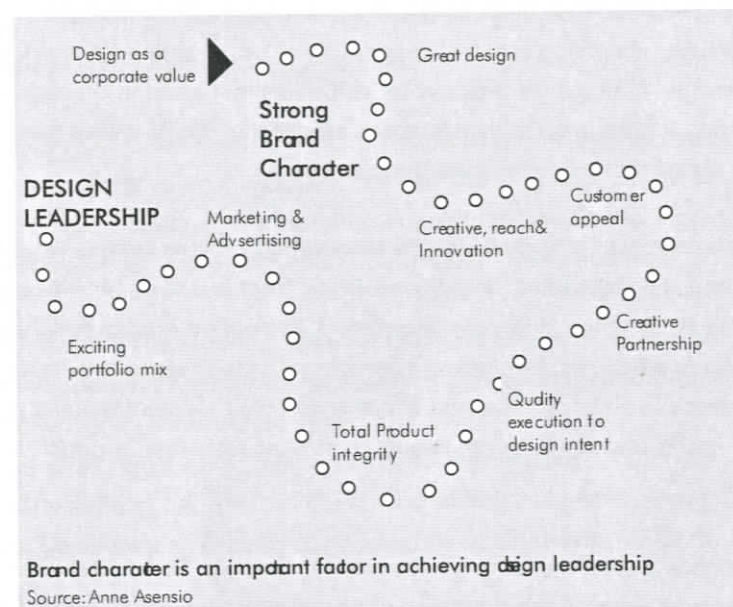
<sup>49</sup> Peter Gorb (Senior Fellow in Design Management at the London Business School) in *Design Management*, Papers from the London Business School, Architecture Design and Technology Press, London, 1990.

In fact, design to be effective must be relevant to the customer's perceived need. Thus design must be "obsessive" about customers and also keenly aware of what competitors do.

### The Relation Between Design Management and Branding

*"A Brand is an idea people live by" (John Grant in The New marketing Manifesto)*

Brand is a living organism it is a growing, changing entity that engage both our rational side and our emotions.



The aim of designers, in the words of Anne Asensio (Design's director for General Motor's brand studios)<sup>50</sup> is "to give brand a soul. (...) Brand character is a sensory experience and (...) customers have relationships with brands based on brand character."

A brand is everyone's business inside the company. Designers can claim a "role as brand integrators and they also influence brand management, brand development and brand character because, by virtue of their work, they are able to do things that speak to people, reach people (Asensio 2003).

Designers make things tangible that are not statistic-driven but people-driven (being people those who buy company's products). This is a very important characteristic of design nature because it reinforces the linkage between the brand and the customer.

<sup>50</sup> Jean-Léon Bouchenoire in *Steering the brand in the auto industry*, *Design Management Journal*, Vol. 14, N° 1 (Winter), 2003, pp.10-18.

The strength of the design is the seduction of the customer. *"Product design interacts with all body parts at all levels and, through this seduction; product design creates objects of desire and pleasure. Contributing to this emotion are elements such as sight, touch, sound, feel, surface, material, weight and ergonomics.(...) Designers (and many creative people of advertising) have a natural intuitive connection*

This bond is truly precious because today brands are a "beacon that helps people to navigate complexity;" brands are a part of the whole "quest for identity;" brands help people recognize and define who they are.

Identity and brand are truly influenced by emotional response by those who use the products; products can elicit emotions and thus affect brand image. Because emotions generated by a product vary, it is important both for designers and brand managers the understanding of how products can contribute toward a desired brand image. One of the ways is to perceive the concerns of customers that can provide insight into their preferences for specific brand values, resulting in a product design that communicates these values.

In fact the proposal is to discover the unique associations between a product or service and the associated brand experience from a consumer viewpoint. That can be done by enhancing consumer brand perception through attention to the design product features; by creating relevant products or services to its use and the style it means to embody. Style and attention to detail will reinforce the experience with the brand and it will create strong connections between product, brand and consumer.

Differentiation nowadays comes from the combination of brands. This is where designers add value to the discipline of brand management because "they shed light on where things are heading" (Asensio 2003).



## Bibliografia

- BOHEMIA, Erik, "Suitability of Industrial Designers to Manage a Product Development Group: Australian Perspective", *Design Management Journal, Academic Review*, Vol. 1, 2000, pp. 40-54.
- BOUCHENOIRE, Jean-Léon, "Steering the brand in the auto industry", *Design Management Journal*, Vol. 14, N° 1 (winter), 2003, pp.10-18.
- DOUGHERTY, D., "Interpretive Barriers to Successful Product Innovation in Large Firms", *Organization Science* 3 (2), 1992, pp. 179-202.
- DUMAS, Angela, MINTZBERG, Henry, "Managing Design/Designing Management", *Design Management Journal*, Vol.1,nº.1, pp. 37-42.
- DUMAS, Angela, WHITEFIELD, A., "Why Design is Difficult to Manage", *European Journal of Management*, 7 (1), 1989, p. 50.
- GORB, Peter, *Design Management, Architecture Design and Technology Press*, London, 1990.
- JEVNAKER, Birgit, "Championing Design: Perspectives on Design Capabilities", *Design Management Journal, Academic Review*, Vol. 1, 2000, pp.25-40.
- JEVNAKER, Birgit, "Inaugurative Learning: Adapting a New Design Approach", *Design Studies* 14 (4), October, Oxford: Butterworth-Heinemann Ltd., 1993, pp. 379-401.
- JEVNAKER, Birgit, "The Hidden Treasure – the main empirical report" SNF-report 36/95, Bergen: Foundation for Research in Economics and Business Administration (SNF), Norwegian, 1995.
- JEVNAKER, Birgit, BRUCE, M. "Design as A Strategic Alliance: Expanding the Creative Capability of the Firm", in HITT, M. et al (eds.) *Dynamic Strategic Resources: Development, Diffusion and Integration*, Chichester, Wiley, pp. 267-298.
- KOTLER, Philip and RATH, G.A., "Design: A Powerful but Neglected Strategic Tool", *Journal of Business Strategy*, 5, 1984, pp.16-21
- KOTLER, Philip, *Marketing Management, The Millenium Edition*, International Edition, Prentice Hall, 2000
- KRISTENSEN, T., "The Contribution of Design to Business: A Competence-Based Perspective", in BRUCE, M. and JEVNAKER, B.H. (eds.), *Management of Design Alliances. Sustaining Competitive Advantage*, Chichester: Wiley, 1998, pp.217-241.
- OLINS, W. *Corporate Identity. Making Business Strategy Visible Through Design*, Thames and Hudson, U.K., 1989.
- ROY, R. and POTTER, S., "The Commercial Impact of Investment in Design", *Design Studies*, 14 (2), April 1993, pp.171-193.
- SHIRLEY, R. HENN, D., *Support for Design: Final Evaluation Report*, Department of Trade and Industry, Assessment Unit, Research and Technology Policy Division, London, 1988.
- VERYZER, Robert, "Design and Consumer Research", *Design Management Journal, Academic Review*, Vol. 1, 2000, pp.64-73.

WALSH, Vivien, "Design, Innovation and the Boundaries of the Firm", *Design Management Journal, Academic Review*, Vol. 1, 2000, pp. 74-92.

WALSH, Vivien; ROY, R. and POTTER, S., *Winning by Design, Technology, Product Design and International Competitiveness*, Blackwell Business, Oxford, 1992.

WALTON, Thomas, "Design Management as a Business and Academic Discipline", *Design Management Journal, Academic Review*, Vol. 1, 2000, pp. 5-8.

WOMACK, J.P., JONES, T. and ROSS, D., *The Machine that Changed the World*, Rawson, New York, 1990.