

MANAGING DESIGN BY RESEARCH: DEVELOPING A RESEARCH BASED DESIGN MANAGEMENT EDUCATION FOR TURKEY AS A NEWLY INDUSTRIALISED COUNTRY

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1. Introduction

“Design is one of the most influential competitive factors for all companies operating in a global economy. This makes the management of design a vital factor for all these companies regardless of whether they are based in the core, or the periphery of the global economy” (Er and Er, 1999).

The recognition of the fact that design has a strategic role not only in the new product development activities of the companies but also in the way they position themselves in the market and undertake their activities led to the development of educational programs to enable that design fulfils its potential as a competitive factor. Such a recognition also led to the development of individual courses trying to link design with business context based on the body of knowledge accumulated in the field of design management in countries such as Turkey which is a Newly Industrialised Country (NIC). As Turkish companies try to lessen their dependence on price competition, design is increasingly seen as a factor enabling differentiation and added value creation. Would an educational program at graduate level in the field of design management require a specific approach in a country like Turkey than a program to be established in an advanced economy? What are the new concepts that such a program should take into consideration and what its unique qualities should be? These are some of the questions that this paper aims to deal with.

On the basis of the findings of a recent research study on international approaches to design management education (Er, 2004), this paper will first review the prevailing factors influencing the field of design management. It will then reveal the findings of a local survey into the design management needs of manufacturing companies. Through these findings, the paper will search for the foundations of an independent degree program in design management. The paper will argue that research should be at the core of such a program in order to create a local knowledge base and the students should be donated with research and analysis skills to diagnose company and industry specific design management problems, and to propose and implement informed and innovative solutions to these problems.

Through a literature survey on the evolution of design management and interviews with program leaders and lecturers, certain developments were identified which have an impact in the direction of design management education. We will review them in the following section.

2. Developments Having an Impact on the Direction of Design Management Education

The establishment of the thinking that design is a strategic asset for companies and organizations alike to create value for all their stakeholders demands alternative concepts and tools to unleash its potential. In this context, some authors (Cooper and Press, 1999; Press and Cooper, 2003; Manzini, 1993) find that the term design management may not be sufficient for such a role.

There has been an increasing emphasis on the contribution of design to company strategy in the last decade (e.g. Mozota, 2003; Press and Cooper, 2003; Chung, 1998; Cooper ve Press, 1995; Manzini, 1993). To secure such a contribution, design needs to be managed strategically at the

top level and the design management process should start at the stage of defining the corporate strategies before the identification of a new product and/or service idea, going beyond being a function to be managed at organizational or project levels. A new thinking is also developed that design is not only concerned with products and that it is a strategic factor which can be used by organizations/companies to define themselves and shape their business processes (e.g. Buchanan, 2002; Rotman, 2004; Liedtka, 2004) . The concept of design management which is traditionally considered as an organizational or project level task, is increasingly referred in areas such as organizational change management, the identification of customer requirements and brand identity development. Mozota (2003) makes a very general definition of design management: "Design management is the deployment of design within a company to help the company develop its strategy". The evaluation of design as a factor which determines the company strategy and leads innovation and change brings alternative concepts such as strategic design or management led by design.

In the light of a paradigm change from product-oriented innovation to experience-oriented innovation (Pine and Gilmore, 1999; Prahalad and Ramaswamy, 2003), it is increasingly accepted that every aspect of the relationship between the products and the users concerns design. Brand identity, packaging, product and all other aspects influencing the user's perception and usage processes should be in harmony to create a whole experience. More and more the planning of new products are considered together with brand and service strategies in the context of a specific marketing concept.

According to Buchanan (2002) design is now about "how people relate to other people and the products that mediate that relationship". Companies are more and more conscious of the need to understand how people use products, leading to a preference for field studies over focus groups in product development efforts. In order to differentiate themselves companies try to turn points of interaction between users and service providers or products into "delightful" experiences. In fact as they try to design all points of interaction, companies also realize that they can design their own organizations, how its parts relate to each other and their business processes. Designers with their special abilities such as to facilitate communication between different disciplines in an organization by visualizing issues and problems, are in best position to design the structure of the organizations and the ways they do their business (Buchanan quoted in Raz, 2002).

Buchanan (2002) also states that CEOs trained to think like designers can design all aspects of their businesses. Along this line, a new concept is developed as *managing as designing* in a workshop organized in the Weatherhead School of Management in 2002.

On the website of this workshop, it is stated that: "In the emerging digital economy, there is a need for new models of what organizations can be, new ideas of how value can be created in business and society, and new images for leadership. We believe that design thinking is central to providing these new models, ideas and images. Beginning with this workshop, the Weatherhead School of Management will lead a movement in education and research to make the act of designing and the critical evaluation of design recognized as two of the most important abilities a manager can develop"*.

Similarly, Roger Martin, Dean of the University of Toronto's Rotman School of Management writes that "business people don't just need to understand designers better: they need to be designers. They need to think and work like designers, have attitudes like designers, and learn to evaluate each other as designers do" (Martin, 2004).

These ideas imply that there will be changes in the nature of MBA programs to integrate design thinking and tools in the education of potential CEOs and managers. They also imply that instead of separate design management programs, design will be an integral part of management education.

Design education on the other hand will face the fact that their graduates are more and more likely to work with the MBA graduates, engineers, social scientists etc. who are familiar with the concepts and tools that they are equipped with.

Rachel Cooper and Mike Press who wrote several books on design management and undertook research in various aspects of it point out the danger in understanding design management as merely a control mechanism for achieving short-term aims of the companies (Press and Cooper, 2003). In their view, the perception of design management as process controlling would mean distancing from the original conception of design management to increase the impact of creative thinking and action in organizations. In the light of the challenges awaiting the future design professional such as the need for sustainable industry, new technologies and issues of usability and the paradigm change from product oriented innovation to experience oriented innovation, design management as a concept needs to be reconsidered. According to Press and Cooper (2003), “design management now not only means managing the people and the process, but deconstructing and analysing the total product experience to enable the designer to work with the organisation team to understand and contribute to that experience”.

Press and Cooper (2003) also point out the need to create new design professionals who will use their knowledge and skills to develop products and services which will add value to the lives of the people, who are also able to speak the languages of different disciplines in a business setting and to comprehend business processes structurally. They refer to the need that these new design professionals to be educated to pioneer change and innovation in the companies that they work for within or from outside, as consultants and also to evaluate design in the context of the whole product experience (Press and Cooper, 2003).

This approach implies that design professionals who can ensure the contribution of design in creating and adding value to the lives of the people can be cultivated through educational programs established within design schools/departments. Being independent from the factor of location, it is also emphasised that such programs should have an interdisciplinary character and strengthen the skills of teamwork.

Ezio Manzini offers alternative terms to describe the potential role of design for companies and the society in general. According to Manzini (1993), in the light of the paradigm change from a product-oriented economy to a service-oriented economy, companies are in need of a different and high design competence than managing design and the final aim is to become a company led by design. He offers terms like design direction and strategic design in the sense that design leads or shapes the company strategy (e.g. Manzini, 1993; 1999).

Some specific implications in terms of the content of design management programs are the results of various studies at firm-level. The research undertaken at firm-level show that the responsibilities of design managers change from one firm to another and that it is impossible to create a recipe which would suit the needs of each one of them (Thackara, 1997; Press and Cooper, 2003).

Two conclusions can be drawn from this finding. One is that the people who will be charged with the responsibilities of design management should be donated with a broad scope of knowledge and skills to comply with different circumstances. Therefore design management education should have a rich content to contain many responsibilities that a design manager undertakes in business context and also should enrich the abilities of research and evaluation, entrepreneurship and strategy development. The other is that design management courses should be confined to the specialist fields of design management such as creative team management, design procurement management, etc. as suggested by Press and Cooper (2003). In either case, it is apparent that there is a need to develop educational programs understanding the potential of design in terms of value creation and organizational change. It is also apparent that design management as a concept needs to be reinterpreted.

In the following section, we will reveal the findings of a survey into the design management needs of Turkish manufacturing companies.

3. The Design Management Needs of Turkish Manufacturing Companies

In the context of the research into the design management education, a survey was undertaken to understand the design management needs of domestic manufacturing companies. This survey was targeted to the companies with a design manager position. Out of 20 such companies 14 of them replied and the following results are based on their responses.

The companies which have identified a design management function in their organizational structure are mostly large scale companies in sectors where design is intensively used. A few medium-sized family companies can be added to these companies which have adapted a design-oriented competitive strategy. As such the findings of this survey represent the design management needs of large scale companies in design-intensive sectors. However, as 98% of Turkish manufacturing industry consist of SMEs, these findings will be interpreted in comparison with our experience with almost 80 SMEs through a project titled as “Industrial Design for SMEs” that we are involved in since 2002 in collaboration with Istanbul Chamber of Industry (Er and Er, 2003).

Contribution to the formulation of company design strategy and the definition of design process are the leading factors among other items listed as the fields of responsibility of corporate level design management. Contribution to the corporate strategy on the other hand appear as the least mentioned field of responsibility. Contribution to the formulation of product strategies and the identification of new product needs as fields of responsibilities also appear of less importance. Our experience with SMEs however show that their needs in the area of design management cover a large spectrum from the definition of company and product strategies to new product opportunities and needs. The transformation of market and user information into design criteria, the preparation of design briefs, the formation of design teams and the distribution of responsibilities, the planning and management of the prototyping process, undertaking of the necessary changes following the construction of the first prototype and the monitoring of this process, the coordination of the relations between different units during the project result are the prevailing responsibilities associated with design management.

The feasibility studies of design projects, project cost analysis and control also appear as less important factors. For SMEs however, these are all fields of responsibility of equal importance.

For instance, considering that SMEs are short of financial means, the control of project costs is also among the responsibilities of a design manager.

The findings of this survey show that learning from successful national and international cases where design has played a role, to gain skills to identify and forecast market trends, future life styles and needs are positioned on the top of the list among the expectations from design management education. The other important knowledge and skill sets are in the area of creativity, teamwork, time and project management techniques, presentation and foreign languages.

The persons who are charged with design management responsibilities in the companies included in this survey prefer to receive design management education as “on the job training” or as a package integrated into the undergraduate industrial design programs.

4. Fundamentals of a Model for Turkey

The urgency of the needs of Turkey in terms of generating added value through design, their broad scope spanning to companies of all sizes from almost all sectors and the insufficiency of the human resources require that a new educational program in design management should have the flexibility to cater for this broad range of needs. Such a program should be able to offer educational choices to its potential audience. For example, it can offer short-term modules to donate designers with management knowledge and skills as well as managers with knowledge and skills in areas such as visual thinking, strategic design, etc.

A practical approach in the development of these different options is to design the program to consist of a number of main modules. These modules can then be used to create short-term educational offers. To have a program consisting of modules to which, students from other programs can also enroll is a way of increasing the potential student numbers and also the interest in the program. For example, part of a graduate degree program in industrial design can consist of a common module with the degree program in design management.

Despite involving different educational options, there should be a core module ending with a degree in design management to generate knowledge at local level through research in Turkey.

The body of knowledge in the field of design management is based on transferred concepts and methods from advanced countries like industrial design itself. An important responsibility of an educational program in design management is to follow the recent developments in advanced economies as they emerge. Considering the communication channels that are available today, it is rather easy for design academics in NICs to follow up such developments. However, the main responsibility of an educational program in design management should be to generate new methods and tools which are suitable to the local and specific conditions of Turkish companies and sectors. A point of consensus on the subject of design management is that design management consists of a body of knowledge and skills which should be adapted to specific situations rather than theoretical recipes relevant to all cases. This is also valid for Turkey. Thus, an effective educational program in the field of design management in Turkey should contain the knowledge base and the skills to undertake research to diagnose and analyse the specific conditions of the Turkish companies. Unless it has such a character, design management education can not go beyond superficial and most of the time outdated knowledge transfer. In other words, a research based graduate degree module should be at the heart of a design management education program. Depending on their specific needs, the students, can arrange the

timing of their studies with short and long term options ending with various degrees such as diplome, certificate or MSc degrees.

In parallel with the approaches identified in the literature survey, a design management degree program to be developed for Turkey should cover the management of all the factors in the creation of product experience such as service, communication and packaging design in connection with the product itself in the context of “design management”. Another concept that such a program should consider is the management of the experience and therefore value creation process of a company/organization together with its stakeholders (Prahalad and Rawasmavy, 2003).

As well as the design management needs of the Turkish manufacturing industry, such a program should also consider the needs of the service sector. Under the general concept of design management, the program should look into communication, graphic and packaging design projects as well as product design ones within the perspective of experience and value creation.

In parallel with international approaches, the design management degree program at graduate level should have an interdisciplinary viewpoint. However, essentially such a program should depend on the body of knowledge created in the field of industrial design and be based in industrial design schools or departments.

In admitting students to such a program, balance should be maintained between the representation of disciplines such as design, engineering and management. Balance should also be considered in admitting students with and without business. Alternative time plans should be generated to cater for the needs of the working students. In sum, the program should have the flexibility to answer for differing needs.

Considering that design management roles and responsibilities change from company to company, the graduate program in design management should have a rich pool of courses to enable the students to make choices. Issues such as brand management, entrepreneurship, sustainability, social responsibility and intellectual property rights should be covered in the program.

5. Conclusions

In an earlier paper (Er and Er, 1999), we claimed that design management education should follow a two-track strategy in a country such as Turkey which is a Newly Industrialised Country. While the first track of this strategy is to follow and transfer the leading edge knowledge and tools developed in the context of advanced economies, the second one is to generate a local body of knowledge in design management. We argued that the specific conditions of Turkey such as the domination of SMEs in the economy, the urgency of their needs in terms of technology and product development in the face of increased competition coming from both the advanced and emerging economies require the development of a special program of education in the field of design management (Er and Er, 1999).

In the light of the results of the research study that this paper is based on, we can say that this argument is still valid, albeit in need of a review considering the new thinking developed by the fields of design and management. A new program of education is required which is based on the body of knowledge accumulated under the heading of “design management” while being aware

of its limitations as a concept to unleash the potential of design for companies and for the society in general. The core of this program should be based on research to generate an original body of knowledge and set of tools to cope with the specific requirements of a Newly Industrialised Country such as Turkey.

As we mentioned in an earlier paper (Er and Er, 1999) although a research-based approach aiming both to solve defined problems in an organization as well as extending knowledge and learning of the processes is not new in the design management education (e.g. Svengren, 1993), its significance increases for design management education in a country like Turkey where the local body of knowledge is weak. From this particular perspective, equipping students who will take design management responsibilities in their companies with necessary research and analysis skills to diagnose company and industry specific design management problems, and to propose and implement solutions to these problems suitable to their own context seems to be one of the principal aims of a degree program in design management.

* The papers presented in this workshop can be accessed at the following internet address and the book:

<http://design.case.edu/2002workshop/>

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