



Design Awareness of Non-Designer Professionals

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ABSTRACT

This paper elaborates on design in business. It particularly focuses on design awareness of non-designer executives. The paper is constructed in two parts: Initially, existing design and design management literature is reviewed to reveal various definitions of design and descriptions on design awareness and design sensitivity. Secondly, this paper aims to address the research question whether non-designer managers are aware of what design in business entails. Therefore, as part of an on-going research, an exploratory study has been carried out: 18 managers from 12 different industries in Turkey have been interviewed. A content analysis has been carried out to evaluate the answers given by the non-designer executives. Empirical findings suggest that non-designers do not have a broad perspective on what design in business entails. Consequently, their companies are likely to be missing major opportunities, since effective and efficient deployment of design is important in gaining competitive advantage and to achieve it many design related disciplines are to confront, communicate and collaborate in harmony.

Keywords: design in business, design awareness, design sensitivity, communication design, identity design, environmental design, PSS (product-service systems) design.

INTRODUCTION

Effective deployment of design in a business setting requires an interdisciplinary design awareness meaning that products, services, communication materials, corporate identity components and environmental elements should all be designed taking the big picture into account. On the other hand, designers' point of view on design in business varies depending on their area of specialization. Even design scholars do not agree on a single definition of design.

Although design is an important differentiator for all industries, the majority of managers are not educated in design therefore they are not likely to be aware of what design in



business entails. This paper initially elaborates on the definitions of design to determine what corporate domains could be affected by design. Secondly, it explores the design awareness level of non-designer executives by means of interviewing them.

What is Design?

Design in English language is used as a noun and a verb, however within the scope of this study; we will focus on the verb form of design. According to Archer (1972, p.9), design is the preparation of a prescription for some artifact or system in the light of all the relevant functional, constructional, economic, marketing, ergonomic and aesthetic requirements. Authors that focus on the broader definitions of design emphasize design's capability to plan for change and thus bring a new order to life: Simon (1996, p.111) suggests that design is changing existing situations into preferred ones; according to Papanek (1984), design is the conscious effort to impose a meaningful order; Bayazit emphasizes that design is a system related to every aspect of life; a creative action of problem definition and problem solution (Bayazit, 2008; p.175). "Design is considered what links creativity and innovation... it is creativity deployed to a specific end" (Cox, 2005). In broadest terms, design can be regarded as generating information by which a product/*service (a.n.)* can become reality (BS: 7000-10, 2008).

Although the British Standard 7000-10, 2008 does not mention service in its latest definition of design, the author feels obliged to include it because we are living in an era of product-service systems where the product in its isolation is almost meaningless. Besides, even the earlier definitions of design that is afore mentioned point out the intangible outcomes of design.

Constant change has become an imperative for all industries to remain competitive. Innovation is the buzzword. Innovation is the successful application of new ideas in practice in the form of new/improved products, services or processes (Bruce and Bessant, 2002). In order to achieve novelty, in other words, to link novel ideas with successful outputs, planning is essential and design accounts for it. Then how does design distinguish itself from planning? Bruno Munari (Munari, 2008; p.29) defines the role of a designer as a planner with an aesthetic sense; according to Ayşe Birsel (Birsel, 2014), "to say that something is designed means it has intentions that go beyond its function". Steve Jobs approaches the issue in a more holistic and radical manner: "Design is the fundamental soul of a human-made creation that ends up expressing itself in successive outer layers of the product or service" (Isaacson, 2011; p.200). Since all businesses deal with the creation of either products or services, then what design illiterate companies are doing means planning for products/services with no-soul? To



classify a large sample of products/services scientifically according to the availability of a soul is almost impossible but detecting for design literacy in companies seems to be a more realistic task to be achieved. For design literacy design awareness is a prerequisite.

What is Design Awareness and Design Sensitivity?

Awareness is a state of consciousness in which we perceive and recognize the relevance of a certain object. This means that as individuals, awareness refers to our ability to sense objects and cognitively to react to them; thus awareness relates us to other people, to other life forms, to tangible and intangible objects (Recker, 2011).

Archer (1972: p.12) treats design awareness, as an attribute of the general community that is analogous to literacy or numeracy in other aspects of the corporate character. He further elaborates on literacy as follows:

By literacy, in its best sense, we generally mean more than the mere ability to read, although literacy is clearly dependent upon the ability to read. Literacy includes familiarity with our literary inheritance and the ability to appreciate and criticize written texts with a measure of discrimination. On the other hand, when we describe an individual or a population as literate we do not generally mean that each and every individual has a highly developed ability to write creatively. Nor do we define literacy as taste. Essentially, literacy is familiarity with our literary inheritance and the ability to apply certain yardsticks in literary criticism. (Archer, 1972: p.12)

In a similar way, numeracy is more than the mere ability to manipulate numbers, although numeracy must clearly begin here. Numeracy includes familiarity with our rational inheritance, and the ability to appreciate and criticize mathematical logic. In particular, numeracy should include an appreciation, not only of quantitative relationships but also of the general theory of relationships. Again, when we describe someone as numerate we do not imply that he is necessarily creative in mathematics; but we do imply that he can follow and criticize mathematical reasoning. Hence, if we seek to promote universal design awareness, equating it with literacy or numeracy, we do not claim that we are promoting universal design creativity, although that would be nice, or universal adherence to one school of design philosophy or aesthetic taste, which would be a pity. (Archer, 1972: p.12)

Linking design awareness with design literacy sounds plausible; however when it comes to design in business, it seems as if design awareness itself should come one step before



literacy since what design in business entails is not known by many business executives. Sommer (1972: p. 24) points out: "People must be aware of a situation as a problem before they will do anything about it". After all, almost every illiterate knows that there is an alphabet to be learned as a first step to become literate. On the other hand, since what design in business entails is not known by business executives, the first obstacle is to overcome the issue related to meta-cognitive awareness (Flavell, 1979). In this aspect, in order to enhance design awareness of managers and thus companies, it is important to make visible the outputs, owners and both the internal and external customers of the design process within the corporate structure.

The concept of awareness has also been used to conceptualize our state of recognition of how organizations work: organizational awareness in this sense refers to the state of recognition of the organization's mission and functions, and how it's social, political, and technological systems work and operate effectively. Organizational awareness typically includes knowledge of the programs, policies, procedures, rules, and regulations of the organization. (Recker, 2011)

Concerning organizational awareness of design, Lorenz (1994) points out at the paradoxes and questions; he asks if design's commercial power is so manifest, why so many managements fail to recognize it. Lorenz (1994) also emphasizes that most companies still need to undertake a voyage of executive discovery or rediscovery about the various potential roles which design can play in strategy and further elaborates on these roles, the nature of the voyage and its implications for managers.

According to Archer (1972; p.14-25), the elements of design awareness are:

1. Aesthetic sensibility: The appreciation of form, proportion, harmony, colour, texture, and other aspects of the impact of design upon senses.
2. Scientific sensibility: The understanding of fact, relationship, cause and effect.
3. Practical sensibility: The facility in the means of expression and knowledge of the techniques of organization and construction.

Archer relates the crises of conscience with "What is good design?". According to him, good design is holistic design, in which all the functional, cultural, social and economic interests of all those who are directly or indirectly touched by it are enriched as much, or impoverished as little as human ingenuity can contrive (Archer, 1972; p.37).

Based on personal experience and anecdotal evidence, the author believes that non-designer managers who are either engineers or graduates of managerial and social sciences are likely to have well developed skills in practical and scientific sensibility,



however when aesthetic sensibility is concerned they often fail to demonstrate a holistic approach. Archer (1972; p.32) believes that in the general concept of design-for-marketing, aesthetics can be seen as something close to but distinct from functional styling.

FIELD RESEARCH

Methodology

In order to address the research question concerning if non-designer executives are knowledgeable concerning what design in business entails, a survey has been designed and applied by the author. The survey questionnaire is provided in the Appendix. This exploratory study is the initial part of an ongoing research.

Research Sample

The research has been carried out in Turkey in 18 different companies, operating both in manufacturing and services. With respect to size, companies can be grouped into three segments: SMEs (six); Large (+250 employees) Local Companies (seven); Multinational Corporations (five). The subjects of the survey have been selected among non-designer professionals from 12 different industries (machinery production, plastics, energy, chemicals, textiles, ship building, IT, consultancy, marine, telecom, real estate, retail).

When the undergraduate degrees of participant are analyzed, it is seen that the sample population comprises of twelve engineers, three graduates of management studies and the remaining three managers were graduates of various non-design disciplines. Out of the 18 managers interviewed, nine of them had no graduate degree; followed by six having an MBA degree and three an MSc. degree in engineering. From these results we conclude that the sample population has a high level of formal education in non-design areas.

Fourteen of the managers interviewed were industry professionals, whereas four of the respondents were company owners at the same time. Out of the 14 professionals interviewed, five were in charge of sales and marketing, four in charge of operations, three in charge of information technologies, one in charge of finances and one in charge of quality departments.

This exploratory research is the initial phase of an ongoing research. Due to time and budget constraints, the selection of respondents was restricted for practical reasons ie. the ones next door have been selected. This is a weakness of the study. However the presence of 12 different industries both from manufacturing and services is believed to offset some of the error coming from biased sample selection.



Research Findings

During the field research, a face to face survey has been conducted. (For survey questionnaire please refer to Appendix). Initially, brief personal information (Section 1) about subjects and concise company profile information (Section 2) was collected. The aim was to ensure that the respondents did not have a formal design education.

While responding to the questions in Section 3, the same non-designer professionals were asked five questions that aimed to reveal respondent's design awareness and the availability of overt design resources within the company. The main objective was to capture as many physical manifestations of design as possible on a free recall basis. After collecting the answers of Section 3, the same non-designer professionals were asked to fill Section 4 in the same session.

Section 4 comprised of a matrix that listed various the physical manifestations of design (i.e. design related activities) in the rows and functional departments in the columns. The rows were derived from existing literature and the corporate functions were listed based on the industry experience of the authors. The columns also included options such as "we do not have such an activity", "there is no design in this activity" and "I have no idea". The subjects were asked to fill in the table by means of looking at the design related activity and then deciding on which function/ functions in the company were involved in the ultimate decision making related to that activity. The subjects were also requested to feel free to add any columns or rows if necessary.

The answers of Section 3 were collected because it was believed that after seeing the table in the Section 4, some learning would occur which would affect the free recall of the subjects. Filling the matrix in Section 4 was meant to be used as an exercise to enable the respondents to concentrate on the subject more profoundly. Results revealed that exposure to the matrix increased the respondents' design awareness on physical manifestations of design. Because in Section 3, four (total nr. 18) of the respondents stated that there was no design activity at all within their company; in Section 4 of the research, all of the four respondents marked at least one design activity from the matrix. This suggests that four (22%) of the respondents were not aware that existing design activities within their company were actually a design activity. Table 1 illustrates design activities listed by non-designer professionals on a free recall basis. The data is grouped with respect to industries.



Table 1: Physical manifestations of design obtained on a free recall basis with respect to industry.

Industry	Manufacturing or Services (M or S)	Physical Manifestations of Design	Corporate Domain Affected By Design
		<p>"Q: Which design activities are carried out in the company you work for?"</p> <p>(Answers obtained on a free recall basis from 18 professionals from 18 different companies)</p>	<p>(Domain implied by the manager. The physical manifestation of design recalled by the respondent has been classified into one of the main domains by the author.)</p>
Machine Production	Manufacturing	"System design for efficiency increase."	Company 1: Product-service systems design (PSS design)
Plastics	Manufacturing	"Mould design."	Company 2: PSS design
Energy	Manufacturing	"We don't do any design."	Company 3: NA
Chemicals	Manufacturing	"Advertising and leaflet design."	Company 4: Communication design
Textiles/ Accessories (3 companies)	Manufacturing	<p>"Zipper puller design."</p> <p>"Label design."</p> <p>"Machinery design."</p>	<p>Company 5: PSS design</p> <p>Company 6: PSS design</p> <p>Company 7: PSS design</p>
Shipbuilding	Man. + Ser.	"Ship construction and repair design"	Company 8: PSS design
IT (3 companies)	Man. + Ser.	<p>"Design of products and automation devices"</p> <p>"Printing design and screen design"</p> <p>"Software and graphic design"</p>	<p>Company 9: PSS design</p> <p>Company 10: PSS design</p> <p>Company 11: PSS design</p>
Consultancy	Service	"Website design"	Company12:Identity design
Real Estate	Service	"There is no design related activity in our company."	Company 13: NA
Marine (3 companies)	Service	"Logo, uniform, website, stationary design"	Company14: Communication and



		"We don't do design." "There is no design activity here."	Identity Design. Company 15: NA. Company 16: NA.
Telecom	Service	"Software and application design for mobile devices."	Company 17: PSS design
Retail	Service	"Garment, packaging, retail shop, textile design."	Company 18: PSS and Environmental design

Content analysis was carried out to determine how the mentioned activities could be grouped with respect to corporate domains affected by design and if a pattern existed concerning the recall of physical manifestations of design with respect to sector and industry. For this purpose the responses given to question Nr. 2 in Section 3 (refer to Appendix) have been analyzed in detail. During the analysis, particularly, the words used before the word "design" have been taken into account. Those words have been classified considering the context of industry the company operates in. Then the words have been grouped into one of the four corporate design domains:

- **Product Service Systems (PSS) Design:** All product-service-process related physical manifestations of design.
- **Communication Design:** All communication related physical manifestations of design.
- **Identity Design:** All identity related physical manifestations of design.
- **Environmental Design:** All environment related physical manifestations of design.

Ten of the companies (total nr.18) were involved in manufacturing and the first recalled design activity by seven of the professionals turned out to be related to product design. Out of the remaining three professionals, one stated that they had no design activity carried out within their company at all. One professional recalled advertising design and one professional mentioned systems design for efficiency increase.

On the other hand, eight of the companies operated purely in services. The answers were considerably fragmented in the services industry. Three of the professionals operating in services (two in marine and one in real estate) stated that they had no design activities at all carried out within their company. One professional recalled corporate identity applications and mentioned logo, uniform, stationary. Two of the professionals (IT and Telecom) recalled software application designs related to the services they provide. One professional mentioned website design. One professional (retail) recalled product, packaging and retail shop design.



As it is seen from Table 1, the responses obtained from manufacturing industry executives are related the product they manufacture. Only one manager did not mention any product related issue and recalled communication design instead. This finding suggests that among manufacturing companies, product design is the most well-known and applied design area. On the other hand, responses obtained from the managers of service companies are rather fragmented. Besides, three out of the four managers “having no idea on design” turned out to come from services.

The major implication of the data in Table 1 is that none of the managers interviewed had a full perspective on the territory covered by design. In other words, the professionals interviewed had partial idea concerning what design in a business context may entail. Their free recall responses usually focus on the design of the product and service they offer, thus have a limited coverage.

The author believes that this is mainly due to a lack of formal education in design and the absence of design courses in business and engineering curriculums. On the other hand, a systematic taxonomy of corporate domains of design is likely to help the non-designers to grasp the issue more clearly and develop their own lists of physical manifestations of design more competently.

CONCLUSION

This exploratory study is important because even after a decade of intensive discussions on design contemplated both on the academic side and the business platforms, non-designer business executives are still not fully aware of design. Therefore, parallel to the existing literature (Archer, 1972; Topalian, 2002); this study provides further evidence that the hypothesis concerning “what design in business entails is not known to managers”, cannot be rejected. Secondly, this is the first study on design awareness of non-designers carried out in Turkey.

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APPENDIX

Phase 1 - Survey Questions

Section 1: Personal Information

Name and Surname.....

E-mail.....

Date of Birth (year).....

1- In which of the following fields have you completed your education?

	Design	Management/Economics	Engineering	Other
Undergraduate				
Graduate (if applicable)				
PhD (if applicable)				

2- For how long have you been working for your current company?

3- What is your title?

4- What is the name of the department you work for? (if applicable)

Section 2: Company Information

1- What is the name of the company you work for?

2- When was the company established?

3- How many employees work for the company?

4- What is the annual turnover?

- a) More than 70 Mio. USD
- b) Between 69-30 Mio. USD
- c) Between 29-10 Mio. USD



- d) Less than 10 Mio. USD.
 - e) No idea.
- 5- What is the export ratio?..... %.

Section 3: Design Practices

- 1) Which design activities are carried out in the industry your company operates in?
- 2) Which design activities are carried out in the company you work for?
- 3) Is there any employee with "designer title" in the company you work for?
 - Yes
 - No
 - I have no idea.
- 4) Is there any employee who has an undergraduate education in design in the company you work for?
 - Yes
 - No
 - I have no idea.
- 5) Does your company utilize external design services?
 - Yes
 - No
 - I have no idea.

Section 4: Survey Matrix

When the corporate domains listed in the table below are designed in your company, who is in charge of making the final decision? (Please check the appropriate box with X.)

	The Boss or his family	General manager /CEO	Marketing Manager	Sales/Exports Manager	Finance/Accounting Manager	IT Manager	R&D Manager	HR Manager	Logistics Manager	Design Manager	Production Manager	Communications Manager	Headquarters	I have no idea.
Product														



Service																			
Packaging																			
Buildings																			
Interiors																			
Retail points																			
Production Line																			
Warehouses																			
Website																			
Logo and signs																			
Staff uniforms																			
Company cars																			
Stationary																			
Publications																			
Advertising																			
Promotional material																			
Exhibition / Trade Show design																			
Interaction design																			