The complexity of responsible design - key factors affecting the consultant industrial designer’s opportunity to implement sustainable design and innovation

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Introduction:

Industrial design is an evolving profession, but throughout its history, the designer’s main role has been constant: to assist in growing profits for companies by designing distinct products which are appealing and desirable to consumers, and which entice them to purchase (Cooper & Press 1995; Heskett 1980; Kotler & Rath 1984; Meikle 2001; Sparke 1983; Whiteley 1993). Today, a growing recognition of the profound issues affecting society calls for designers to address additional goals beyond those associated with profit-making. Needs associated with an ageing and expanding population, environmental crisis, social inequalities and diminishing quality of life; coupled with an awareness of design’s potential to contribute positively; have raised wide felt concerns (not least of all by designers themselves) for the implications and responsibilities of industrial design’s current role (Bhamra & Lofthouse 2007; Cooper 2005; Fuad-Luke 2009; Sparke 1987; Walker 2006; Whiteley 1993). However, while design may well be “the most powerful tool yet given to man with which to shape his products, his environment, and, by extension, himself” (Papanek 1984, p.102) the realities of design’s commercial context are seldom regarded or accurately accounted for in the existing debates and rhetoric surrounding these topics. There is an evident shortfall in the understanding of the factors shaping the designer’s opportunities, and a lack of consideration for the myriad of complex elements at play. The research presented here investigates this knowledge gap in regard to industrial design consultancies in particular, and the findings offer a more representative depiction of what determines the possibility for consultant designers to implement more responsible design solutions and address the greater needs of society.

Figure 1: Explanation of Responsible Design
Methodology:

This paper presents findings from an explorative study carried out in the UK and Ireland as part of a PhD research project. The overall aim of the doctoral project is to provide an understanding of what can be reasonably expected from industrial design consultants in regard to affecting a positive change on the needs of society within their commercial remit. As contribution to this, the aim of the research study presented here was to investigate what factors influence the design consultant addressing those goals; and to identify among them the key determinants.

The study consisted of two phases, and was informed by a prior investigation of the existing knowledge and literature. For the first phase, a multidisciplinary workshop was run in November 2010 as part of a seminar organised by the Sustainable Design Network in the UK. Nineteen attendees from academia and design practice took part; including a number of key contributors to the field of Sustainable Design research. Participants were organised into three groups, and completed a set of individual and group tasks designed to address the research enquiry directly. Table 1, below, provides a brief outline of these tasks.

Transcribed audio recordings from the workshop discussions and presentations were supplemented with the deliverables from the tasks, and a thematic analysis (Boyatzis 1998) of this data set was undertaken. The findings were combined with those from the literature review to form a preliminary construct of the emergent themes. This directed the format and line of enquiry for the main phase of research.

<table>
<thead>
<tr>
<th>Task</th>
<th>Task Description</th>
<th>Objective</th>
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<tr>
<td>Task 1</td>
<td>Individual response sheet  &lt;br&gt; What factors affect industrial designers achieving more responsible design?</td>
<td>• Obtain participants’ initial individual responses  &lt;br&gt; • Allow participants opportunity to form ideas to contribute to the group discussion</td>
<td>Individual response sheet</td>
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<tr>
<td>Task 2</td>
<td>Group discussion and task  &lt;br&gt; Create a diagram to explain the industrial designer’s role</td>
<td>• Observe participants’ views on the role of industrial design  &lt;br&gt; • Set a shared understanding among the group  &lt;br&gt; • Provide a frame of reference for interpretation of responses</td>
<td>Task diagram, and audio recordings of task discussion and short presentation</td>
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<td>Task 3</td>
<td>Group discussion and presentation  &lt;br&gt; What factors affect [name of designer] achieving more responsible design?  &lt;br&gt; (Designer profiles were provided)</td>
<td>• Evoke group discussion and interaction  &lt;br&gt; • Obtain group responses to the research question  &lt;br&gt; • Identify alternative perspectives on the research area</td>
<td>Presentation sheet and audio recordings of discussions and presentations</td>
</tr>
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Table 1: Description of workshop tasks

1 Industrial design involves the design of products for mass manufacture, and can be defined as: “the professional service of creating and developing concepts and specifications that optimize the function, value and appearance of products and systems for the mutual benefit of both user and manufacturer.” (IDSA 2010)

Industrial design consultants are designers who operate by gaining commissions from a variety of clients, as opposed to those who are a direct employee to a single manufacturer (Heskett 1987).
The main phase of the study consisted of a series of semi-structured in-depth interviews carried out in January through April 2011 involving a total of 31 participants in the UK and Ireland. The sample comprised of:

- 22 industrial design consultants; of which 18 were sector managers, directors or managing directors; and 4 were mid-tier or senior designers;
- 4 leading academics in the areas of Sustainable and Socially Responsible Design;
- and 5 design-related strategic consultants

Of the participating design consultants, the majority have been practising industrial design for over 20 years, and the sample included a cross-section of firms who are prominent in the industry or at the leading edge of industrial design practice in the UK and Ireland.

Interviews lasted approximately one hour. Three separate structures were designed to guide the different sets of participants, but during the interviews, the line of questioning was tailored to suit the nature of the respondent's main contribution; resulting in a wide range of data. An outline of the guidance structure for the industrial design consultants’ interviews is included in appendix A.

Each interview was audio recorded, and the transcribed data was analysed using coding and clustering (Miles & Huberman 1994). The goal of the analysis was not to establish a comprehensive set of factors, but instead to account for the breadth of the influences at play within the consultant designer’s commercial context, and to then identify among them the key determinants.

Findings:

Overall, three types of factors were identified from the research. These can be categorised as:
- The network of components involved in the product development process; for example, the client team, the product’s brand, or the retail channel; and their related factors.
- The activities and processes which the consultant is connected to; for example, the procurement of design services, briefing, or stage-gate processes; and their related factors.
- Other influences external to the consultant’s core network and activities; for example, commercial trends, the economy, or technological advances.

These elements, depicted in figure 3, form the context for the research enquiry and frame the key determining aspects.
From the analysis of the data, six key areas were established which determine the possibility for consultant designers to address the greater needs of society. Figure 4 illustrates how these are formed from the larger set of determining factors recognised in the data, and each key area is presented in further detail below.

**Identifying how to address the topics**

Of paramount importance for design consultants (or others) to be able to address the needs of society is the knowledge and understanding of what is required to positively impact the m. Throughout the interviews, however, respondents suggested that this is something which is not yet established. Consultants commented that there was a lack of clear, consistent and useful guidance which is suitable for their needs; and more importantly, which they can have confidence in. Even designers keen to address the topics, were unsure as to where best to start, and how to be most effective.

“I want to make sure I’m toiling away in an area that’s going to have a - make a difference. Em, so I want to know where that is, and that’s the stumbling block ... where we’re stuck.” (IDC:20, 34)

Also apparent was a feeling that many of the issues have only been highlighted to designers recently. Some explained that it is still early days; while others called attention to the fact that the knowledge is still evolving2. Designers discussed how numerous variations in approaches and methods of assessment exist, also commenting that topics were often ‘open to interpretation’; all of which contribute to frustrations and a lack of clarity.

In general, consultants seemed unsure as to what denotes an improvement, and were very aware of the difficulties in evaluating the impact - both positive and negative - of their actions. In addition, there was a critical need for evidence that their actions would, in fact, make a difference.

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2 One design director related the notion of an early phase of knowledge to dietary advice from the past, explaining:

“... a similar analogy, I guess would be, when I was a kid we were told to eat a lot of fat because it was good for us. And then, you’re not allowed to eat any fat because it’s bad for you, and then, actually some fats are quite good for you. It’s that sort of [thing].” (IDC:13, 41)
Figure 4: The system of determining factors
The consultant’s motivations

The consultant’s motivations and interests will doubtlessly impact on what they wish to achieve through their work. Their values, aspirations and objectives, along with the sense of responsibility and enablement they feel, filter their approaches and will dictate to what extent they aim to address society’s needs. Central to this is the designer’s perception of their duty and remit. The consultants interviewed typically remarked on how their role was dependent on the client’s requirements. Most explained their main function as that of advising, directing or supporting their clients; while others described it as ‘being a gun for hire’. Participants also emphasised that ‘having an opinion’, ‘challenging the client’, ‘questioning information’ and ‘pushing boundaries’ were vital to their role. However, there was a caution as to what level of these is appropriate. In regard to sustainability issues, for example, some respondents felt that “if you do come in too hard, you kind of scare clients off at the minute” (IDC:17, 37). Designers were aware of needing to offer options which clients, and the market, would be willing to accept; and gauging this appeared critical to the consultancy’s effectiveness, and their business prospects, given their reliance on client relations. Consultants did acknowledge that it was incumbent on them to address the goals concerned, but there were strong sentiments that they are heavily restricted in what they can achieve.

Overall, the consultant’s strong will to meet the requirements of the client overshadowed other objectives and personal motivations, and this challenges their potential to assert more responsible design solutions.

The consultant’s capabilities

The skills, abilities and knowledge, which design consultants possess, will determine their capacity to create proposals which address society’s needs. These capabilities are formed by the education, training and experience they gain, but are also subject to the individual consultant’s talent, aptitude and character. In general, industrial designers boast a distinct level of creativity, along with an ability to visualise and propose seductively, and this was recognised by respondents as a means for consultants to envision and "tangibly manifest alternatives ... so people can respond to [them].” (ACD:02,14) Participants also highlighted the designer’s deftness to think holistically and look at the big picture whilst simultaneously paying attention to small details; which suggests a potential to include larger issues within their focus. However, as a means to create proposals, the consultant needs to resolve or balance the requirements and compromises of a project. For many, the ability to recognise the important aspects of a project and effectively combine them to produce compelling options, despite the restrictions, is the crux of being an industrial design consultant; and this is often an already demanding goal without the inclusion of additional objectives.

“When you’re doing highly innovative products, quite often, just trying to create something's hard enough and then you pile on all this other stuff on to it.” (IDC:19, 22)

The level of influence the consultant has

Given the nature of a consultant designer’s role, their possibility to affect change is primarily dependent on the level of influence they can achieve. At the core of this is the designer’s ability to persuade. Consultants stressed how this was crucial to performing their role, and their tactics towards it typically define (and are defined by) the consultancy’s process. From the interview responses, a number of approaches to persuasion were identified, including: ‘seeing through the client’s eyes’; having evidence, research or back-up; ‘bringing the client along’; and relying on reputation and credibility.

How the client contact, and the other parties involved, perceive the role of design, and their receptiveness to the designer’s influence significantly impact the consultant’s effectiveness. Of greater importance, however, is the level of influence which the client contact themselves has. Numerous participants stressed the value of cutting through layers of management and getting in at a higher level in the client organisation.

3 It is often considered that consultants acquire a broad scope of skills and experience based on the variety of work they typically undertake, but participants remarked that it is not unusual for a firm’s work to be dominated by one company or sector; or similarly, for a designer within a consultancy to be ‘typecast’ in their work.
“So, the higher we can get involved within a company, the quicker we can help to make a difference, and if you get a director who buys into what you’re doing, then things move very quickly.” (IDC:22, 13)

The quality of the relationship with the client was also emphasised as a crucial factor. Consultants spoke about compatibility, good communication, reassurance and mutual trust; and highlighted the importance of aligning the expectations of stakeholders as early as possible in a project. Further to this, participants discussed how longer-term relationships afforded them greater influence, and enabled them to be more effective. However, it was also observed that consultants can sometimes compromise their opinion, particularly during early involvement, for the sake of building relationships.

**The opportunity available**

The extent of the possibility for design consultants to affect change will be limited by the opportunities available to them; and these are governed by the characteristics of the client, the project, the product and the intended market. Respondents remarked that these aspects differ hugely across the range of their work. They discussed, for example, how client contacts varied in their approach to design and in how empowering they are; some offer lots of freedom to explore, while others have set agendas and are simply looking for a means to realise them.

The priorities of a project was also identified as a key factor. Different product categories have different requirements, and the opportunities, therefore, can vary according to whether the product is medical, fast moving consumer goods (FMCG) or industrial, for example. Similarly, the objectives of a particular project can range from discontinuous ‘blue sky’ ventures, to cost reduction or incremental revision. In addition, respondents underlined the significance of the product’s intended market:

“… if you’re working on consumer products, you know, with a targeted … demographic of between 18 and 22, OK, you can treat it inclusively within a bracket of 18 to 22. But actually what people are very often after are … exclusive products, so it’s not always easy in that situation.” (IDC:13, 37)

The opportunity available to the consultant is also heavily dependent on the phases and duration of their involvement. Early involvement can offer the potential to have a greater effect on the final outcome; however, consultants who operate in front-end projects commented that it can be difficult to introduce targets, such as sustainability, in the early stages when requirements are undefined. It was also recognised that further on in the process is where most compromises tend to occur.

Along with the constraints associated with a commercial project - such as time to market, price point and legislative requirements - consultants also called attention to the tight time-scales and demanding workloads inherent in consultancy work, and many commented that they seldom have the opportunity to fully reflect on issues such as those being discussed.

**Implementation**

The effect a consultant’s work can have on the greater needs of society is ultimately determined by what is actually implemented. While consultants were conscious that the proposals they offer are their main voice, they also stressed that they are not the main decision makers. Respondents emphasised that often numerous other significant parties are involved, each with their own motivations and objectives, and each bearing an influence which is not always fully acknowledged. Designers recounted cases where vendors had made dramatic changes to intended designs, identifying this as a frequent stumbling block to achieving an intended standard.

“We could do a lovely eco indicator and just tell them where to spend their time on materials, we could do all these ;- but the Chinese manufacturer will go ‘well, I’ve got this grade material’ or ‘I’ll just use this reground material over here - oh, it failed’. It’s, it is still ‘wild west’-like in these areas, however hard you try.” (IDC:19, 20)

The client’s sales team, along with the background histories of previous projects, can also have a huge influence on what will be implemented. Similarly, the retailer or retail outlet can have a great deal of power. Based on revenue potential and their perception of the market’s requirements, they typically decide product placement opportunities, and their approval can sometimes be the main determining aspect in whether a product is actually manufactured. Further to this, respondents called attention to the crucial influence of market demand and consumer behaviour. However, it was highlighted that this is only a real force if it is identified as affecting purchasing decisions.
Conclusions:

The findings presented here identify a set of six key areas which collectively determine the overall possibility for industrial design consultants to address the greater needs of society. Each of these areas needs to be appeased if the consultant is to have effect, and the extent of that effect will be determined by how they are resolved in each case.

Firstly, a greater understanding of how to effectively address the topics is required. This is critical, and constitutes the overarching limitation to any effort. Next, consultants need to be motivated to address society’s needs, and have the capabilities to incorporate them in the design proposals they generate. However, this merely determines potential solutions, and crucially, the consultant needs to have sufficient influence and opportunity to ensure such proposals can go forward. This is heavily dependent on the characteristics of the product, the client, the project, and the target market. Finally, based on the premise that the designed product (or service) is the designer’s primary means of influence, the consultant’s effect will depend on what is actually implemented, and whether those products are released, purchased, and put into use.

From the interview responses, it was evident there is not adequate knowledge on how consultants can be most effective regarding society’s needs. Furthermore, participants felt that many of the issues depend on factors far outside their control. They were very aware of the limits to their remit, stressing that while they can have a lot of influence, they were not the final decision makers.

Examining the consultant’s part more closely, their strong will to meet the requirements of the client (and its importance for their success) tends to overshadow other objectives and can diminish the designer’s sense of responsibility and enablement to address society’s needs. The consultant’s perception of their role as one dictated by service to the client, therefore, is the dominant challenge to their asserting more responsible design proposals in a commercial context where it is not, as yet, a real requirement.

The crux of effective industrial design can be regarded as identifying the priorities and factors of greatest importance for a product, and combining them in a compelling form, despite the restrictions. However, what is possible will always be mitigated by what is acceptable; both to the client and the market. Therefore, for society’s needs to be addressed more widely by design consultancies, those needs will first need to be recognised among the factors of importance for a project and also need to be sufficiently relevant to the client, the user, and the product’s sales potential.

It is apparent that industrial design is still at an early stage in dealing with these goals, and that currently the possibility to address society’s needs, in most cases, is likely best accomplished incrementally. Although the consultant may not be the final decision maker within the product development process, they hold the pivotal position of generating the next important incremental step, and therefore, remain central to any progress towards greater attention to the needs of society through the products we produce.
References:


Appendix A:
Guidance structure used for explorative interviews with industrial design consultants.

<table>
<thead>
<tr>
<th>Area of Enquiry</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Participant background</td>
<td>• Participant's name and consultancy&lt;br&gt;• Current position&lt;br&gt;• Career background (experience and qualifications)&lt;br&gt;• Length of time at current company</td>
</tr>
<tr>
<td>2 Design consultant's line of work</td>
<td>• What kind of design work are you involved in?&lt;br&gt;• What is an example of a typical project?</td>
</tr>
<tr>
<td>3 The role of a design consultant</td>
<td>• Explain your role as a design consultant&lt;br&gt;• How is that role changing?&lt;br&gt;• What do clients typically look for?</td>
</tr>
<tr>
<td>4 The design firm's offer</td>
<td>• What is the key thing you offer your clients?&lt;br&gt;• Why do companies need you?</td>
</tr>
<tr>
<td>5 Factors affecting performance</td>
<td>• What factors affect your ability to achieve a good design result?</td>
</tr>
<tr>
<td>6 Product solutions</td>
<td>• How are product solutions determined?&lt;br&gt;• What are designers responsible for?</td>
</tr>
<tr>
<td>7 The consultant's influence</td>
<td>• What level of influence does a design consultant have on the final product?&lt;br&gt;• What other factors affect this?&lt;br&gt;• How are other parties involved?</td>
</tr>
<tr>
<td>8 The consultant's relationship with the topics</td>
<td>• How do these topics enter into your work?&lt;br&gt;• Examples of relevant work&lt;br&gt;• How have those projects been different?&lt;br&gt;• Do you consider the design solution as a success?</td>
</tr>
<tr>
<td>9 Influencing factors</td>
<td>• Is it realistic to expect consultants to deal with these issues?&lt;br&gt;• What affects their ability to address these topics?</td>
</tr>
<tr>
<td>10 Design's contribution</td>
<td>• What role can design play in addressing these issues?&lt;br&gt;• What main value can design add to addressing them?&lt;br&gt;• In your opinion, what has to happen in order for more responsible/sustainable design to occur?</td>
</tr>
<tr>
<td>11 Motivation</td>
<td>• What are your main motivations and drivers as a designer?</td>
</tr>
<tr>
<td>12 Increasing influence</td>
<td>• What can a consultant do to gain greater influence?&lt;br&gt;• What would need to happen for you to be more effective as a designer?</td>
</tr>
</tbody>
</table>

A printed list of topics related to the research enquiry were provided and discussed. These were: Green Design / Eco Design; Universal Design / Inclusive Design; CSR (Corporate Social Responsibility); Sustainable Design; Responsible Design.