Is the industrial designer's changing role improving their opportunities for responsible design practices?

Vicky Lofthouse*, Norman Stevenson**

Sustainable Design Research Group, Loughborough Design School, v.a.lofthouse@lboro.ac.uk
**Sustainable Design Research Group, Loughborough Design School, n.stevenson@lboro.ac.uk*

Abstract: Past research has indicated that if designers could gain involvement at a strategic level, they would have greater potential to have a positive impact on the sustainability agenda. In recent years, changes to the way that consultant designers are interacting with their clients, means that a contribution to strategic decision making is now a possibility for many established consultancies. This paper reflects on whether these changes in the industrial designer's role are improving their opportunities to incorporate practices such as ecodesign, sustainable design and universal design into their work. Founded on empirical research collected from consultancies in the UK and Ireland, the paper reflects on the nature of the opportunity that this shift in role has provided, and whether it is the opportunity that was anticipated. It concludes that despite increased influences in strategic decision making, the opportunities afforded industrial designers are less significant than anticipated as ultimately there are still a range of factors which restrict them from becoming reality; for example, client companies' receptiveness to responsible issues, and the designer's ability to offer a persuasive case to decision makers.

Key words: Sustainable Design, Industrial Design theory

1. Introduction

Previous research established that given the opportunity, industrial designers have great potential to positively influence the environmental and social impact of the products, services and systems they design [1-3] because of their influence at the early stages of the product development process where the design brief is more flexible and the most critical decisions with respect to; cost, appearance, materials selection, innovation, performance, and perceptions of quality are made [4-5]. In the late 1990s there was much talk about the increased impact that designers could have on the sustainable design agenda if they could contribute to strategic decision making, as it offers them the potential to have a deeper impact on the final solution [2,6]; but it was also recognized that these opportunities had been limited as there was a lack of guidance or pertinent information, and designers were not typically involved in strategic decision making [3,7,8].

Industrial design is a relatively young and evolving profession, however, and recently more strategic involvement from in-house and consultant designers has been evident [9-12]. This appears to be propelled on the client side by a perpetual quest for innovation, along with a growing recognition of design's value [13-14]; evident, for example, in the wider appointment of design directors, and on the consultant's side by the maturation and increased experience of the design industry, coupled with designers' eagerness for greater input on project

solutions [15,16].   It is also recognized that strategic functions are typically attributed a higher value by business, therefore offering a better potential remuneration for consultants [11].

Drawing on the findings of an exploratory doctoral research project which investigated the possibility for industrial designers to undertake responsible design within their commercial remit, this paper investigates whether industrial designers' evolution towards more strategic involvement, is improving their opportunities to incorporate responsible design practices; such as ecodesign (focus on environmental issues) and sustainable design (focus on social and environmental issues) into their work on a regular, rather than niche basis.   It reflects on the nature of the opportunity that this shift in role has provided, and whether it is the opportunity that was anticipated.

2. Literature: The changing focus and role of industrial designers

The movement towards more sustainable design practices has followed a pathway which has seen scope, depth, complexity and levels of potential impact grow over time.   Initially the focus was on green design which considered single issues and led to approaches such as Wellington Boots made from recycled material [17]; in the 1990s the focus moved to ecodesign which considers key environmental issues across the product life cycle (from cradle to grave) as illustrated by the work of Philips [18]; approximately 10 years later the focus moved to sustainable design which incorporates the consideration of social issues on top of environmental considerations [3].   Though it should be recognized that there is still a limited understanding of the types of social issues which fall within the remit of industrial designers [21], the work of Herman Miller [19] illustrates current good practice at a company level.

As it became recognized that industrial design can directly influence the environmental performance of products and services, research began to focus on how ecodesign can be integrated into industrial design practice. Empirical research showed that designers were lacking appropriate information, informative and inspiring examples, and guidance on how to incorporate ecodesign into their work [3, 20].   On top of this it was seen that any tools which did exist were inappropriate to their needs as they failed to take into consideration the culture of Industrial Design [3, 20].

Over the last thirty years, the services provided by industrial design firms have evolved from simply addressing the formal aspects of the product.   Feldman and Boult [13] reflect that consultancies are now hired less for their aesthetic savvy, and more as partners towards improved competition through innovation.   Unsurprisingly, design firms have embraced this link between design and innovation, and a number of agencies emphasise it within their main descriptors.   For example, IDEO, ZIBA and PDD describe themselves as: "a design and innovation consulting firm" [22]; "a design and innovation consultancy" [23]; and a "product and service innovation consultancy" [24] respectively.   The drive for innovation is causing people to look in all directions for opportunities, and responsible design could potentially contribute opportunities in this light.   Respectively, a move to more responsible business practices can lead to increased innovation via market differentiation, as illustrated by Interface's move to a service oriented model for carpet tile provision [25-26].

Design consultancies are also pushing to position themselves as contributors to their client's product planning and strategic thinking [9, 14, 27].   In addition to their intrinsic understanding of business objectives (gained from close involvement with clients) firms are demonstrating new approaches to help understand clients, markets and

consumers [28, 29, 31]   and as this expanding knowledge is increasingly understood and recognised, consultants are moving toward a broader and more strategic role [11,27, 30].

Their evolving strategic role has altered how consultancies approach their commissions.   Friis [31] explains that traditional design consultancies work in a problem solving mode, and assume the client has already identified the requirements; whereas strategic consultancies will not take for granted that the client has identified the real problem or opportunity space, and will instead treat problem definition as their starting point.   This provides opportunities for new ways of thinking such as increased efficiency or the consideration of extreme users, to be added to the debate at the briefing stage. Similarly, Gemser and Van Zee [9] recognised that the more reputable consultancies in their study would "strive to be actively involved in determining the attributes and determinants of the product at the 'front-end' of product development" (p.45).   Taking this focus has the potential to result in a greater impact on the product, given the importance of 'front-end' activities in determining the attributes of the final outcome.

From the consultancy's perspective, a major incentive to provide a more strategic offering is the possibility of improved billing figures due to the greater value attributed by business to those higher level services [11]. Moreover, designers are typically visionary people, who aspire to move towards work of greater impact, so it is a natural progression to link design to strategic thinking [16].   Increased competition; relentless pressure to cost reduce; along with the increase in design services from Asia; may also account in part for consultancies wishing to offer a higher level role [11, 32].

Overall, the consultant's evolving strategic role suggests they may gain opportunity to have greater impact on the product, and potentially incorporate more responsible design concerns.   Whether this is the case, is an aspect which requires further investigation.

3. Methodology

This paper draws on the findings of an exploratory doctoral research project which collected empirical research from design consultancies in the UK and Ireland.   The main PhD study consisted of a series of semi-structured in-depth interviews carried out between January and 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); along with 4 leading academics in the areas of sustainable and socially responsible design; and 5 design-related strategic consultants (see Figure 1).   Of the participating design consultants, the majority have been practicing 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.
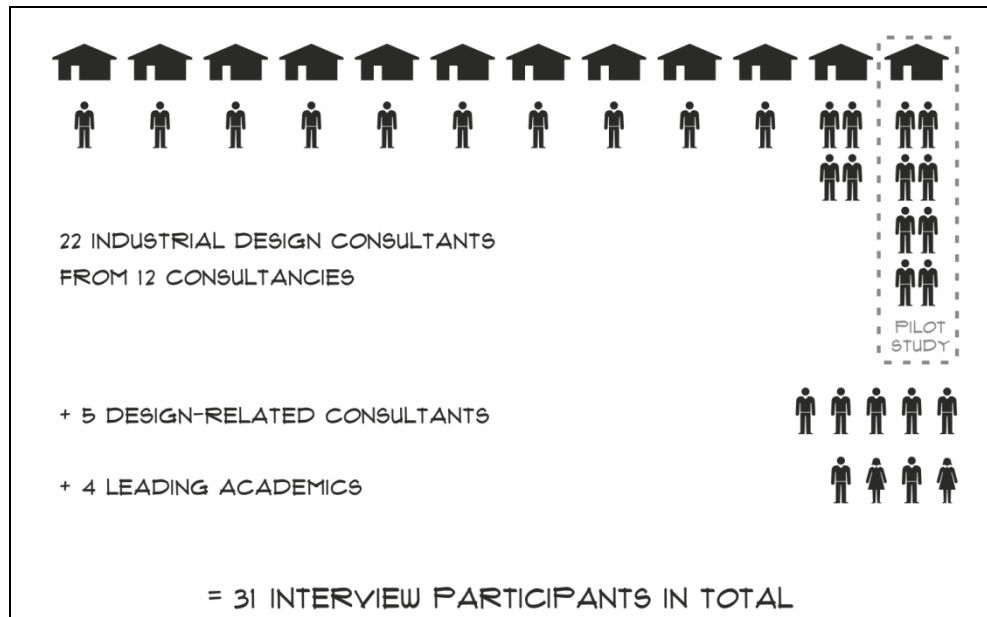
Figure.1 Visual description of participant sample

Interviews lasted approximately one hour.   Each interview was audio recorded along with additional notes. Any other material introduced by the participants (such as sketches or diagrams) was also collected or photographed and included as supplementary to the data set.   In preparation for analysis, each interview recording was transcribed in NVivo software, which facilitated a continuous link to the raw recorded data during the coding and analysis.   Once prepared, a thematic analysis was performed on the data to identify themes which were then compared and combined to form theoretical constructs [33-34].   The data analysis process used a coding and clustering process [35], through which the goal was to establish the breadth of the influences at play within the consultant designer's commercial context, and to then identify the main factors affecting the designer's possibility to incorporate more responsible design concerns.

4. Findings

During the research exploration it became apparent that there are a number of determinants that influence the designer's ability to engage in responsible design.   Through analysis of the data collected it was possible to establish a set of six pertinent areas which offer a portrayal of the current state of affairs for the participating industrial design consultancies.   Figure 2 depicts the system of determining factors identified from the analysis; indicating how the six key themes are formed from a larger set of factors identified within the data.

Figure2: The system of determining factors
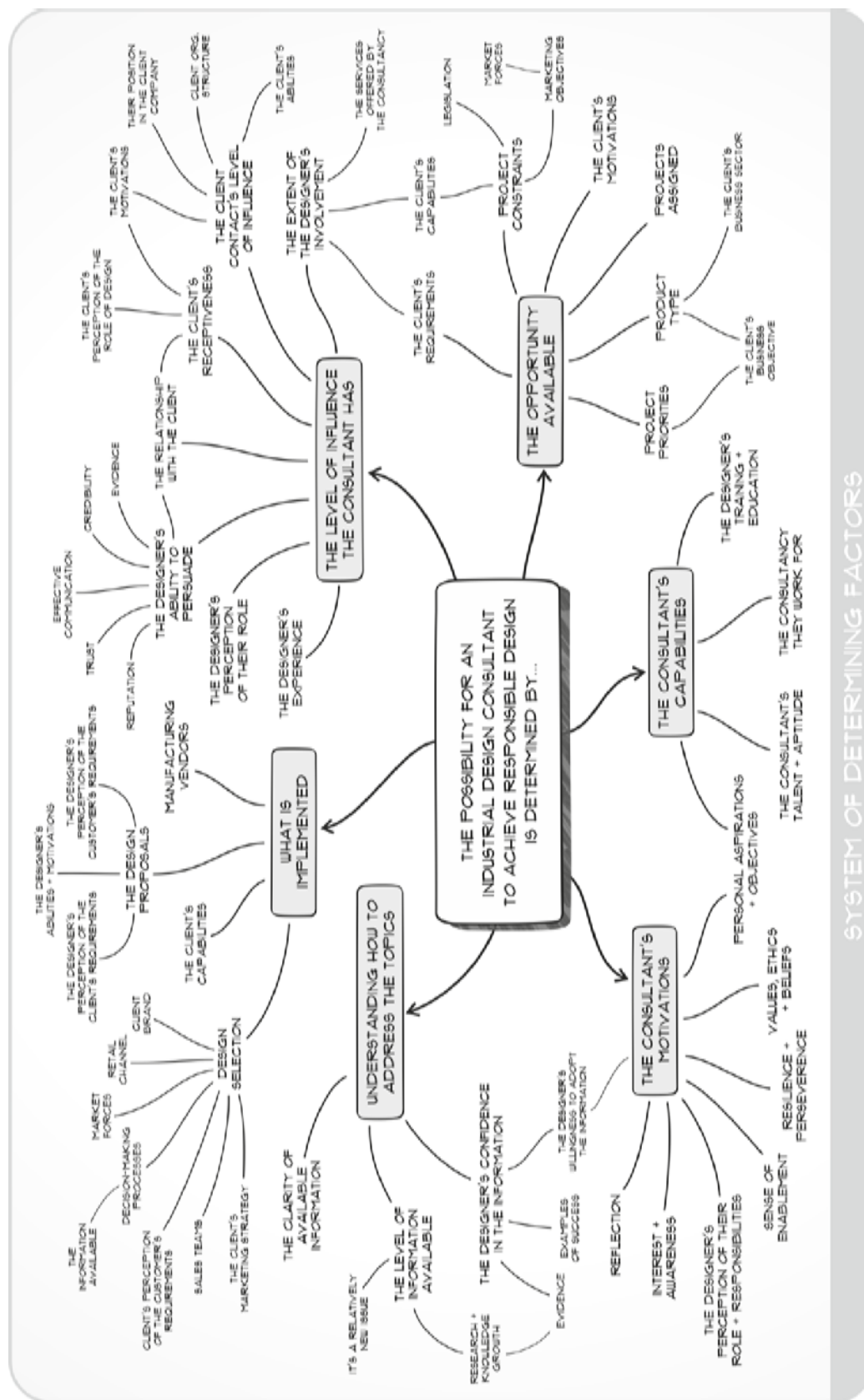
Each of the areas identified need to be appeased if the consultant is to have effect, and the extent of their effect will depend on the combination of how all six are resolved; that is, the overall outcome may be diminished by any of the six areas.

The six key areas identified were:

1. **The knowledge and understanding of how to address responsible design goals**

   This refers to the understanding and knowledge which exists to guide any efforts toward the goals. In order for the consultant to have a positive impact it is necessary to understand, with confidence, what constitutes a positive effect and how it can be accomplished. Any intentional results will be limited to the extent of that understanding.

2. **The designer's motivations**

   This accounts for the designer's interest in addressing responsible design goals. In order for the designers to pursue such goals, they need to be driven or inclined to do so, and the extent of their efforts and actions will be determined by what motivates them.

3. **The designer's capabilities**

   This represents the designer's capacity to create options which could address the goals. In order for the designer to have a positive impact, they need to be able to generate options and solutions which can have a positive effect, and this is dependent on their design abilities.

4. **The opportunity available**

   This area regards the level of opportunity available for the designer to act on the goals. The designer's possibility to pursue responsible design goals will be limited by the characteristics of each design job they are involved in and the opportunities it presents and allows.

5. **The level of influence the designer has**

   This accounts for the level of influence the designer can achieve. Given the nature of the designer's role, this aspect determines their actual effect on the final result, and therefore the extent their intentions get carried forward.

6. **What is implemented**

   This area regards what is finally implemented. In order for the designer's efforts and intentions to have effect, they need to get produced, and survive to reach the user. The final outcome will ultimately determine the extent to which the consultant can have an impact.

From the research it was apparent that having an input at a strategic level is not enough and there are a range of other factors which influence the designer's ability to contribute to more responsible design. Firstly, it was felt that the understanding and knowledge of the topics is still insufficient, and that there is not adequate or suitable guidance; which consultants can be confident in; on how to effectively tackle the goals. This finding demonstrates that the situation with regards support for designers engaged in responsible design practices has changed little in 12 years [3], and there is still a need for greater support and evidence. Participants also felt that many of the topics 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. Furthermore, the

consultant's central motivation is to satisfy the requirements of their clients, and this tends to take precedence; overshadowing other objectives.

However, participants felt confident that they had the capabilities to tackle the goals, and many of their proficiencies; such as creativity, communication skills, and the ability to envision alternatives; support this prospect.   Furthermore, there was evidence that consultants are keen to create products which will last and which people will cherish.   However, it was apparent that this expertise and motivation will only come into play where opportunities are available and recognized, or where they can be generated by the consultant.   In this regard, it was clear that the details of a commission, and more so the attitudes of those within the higher levels of the client company, are critical.   This situation was also recognized by McAloone [8] in his study of large companies. Further to this, clients have to agree with what is proposed and believe it is the right step to take, or it will not go forward.   This is heavily dependent on the confidence the consultant can build in the client; which involves aspects such as their relationship, the client's perception of the designer's involvement, but more critically, the consultant's ability to persuade and offer strong backing for their proposals.   The value of dealing with the higher levels of a client organization as a means to enable greater influence was also felt to be key.

Ultimately, the designer has their main impact by means of what is produced, and where a proposal akin to responsible design is made, it still needs to make it through to the market sufficiently intact.   However, it was evident that numerous other parties and factors impact on the final outcome, many of which exist outside the consultant's involvement, and as such, the designer's intentions are often at the mercy of those involved in bringing it to production.

One further topic of relevance is the notion of industrial design as a profession, and although it does not as yet meet the requirements [36-37], it is evident that a professional status could contribute to designers addressing more responsible design by potentially offering greater guidance and understanding of their responsibilities, in addition to setting and maintaining standards for practice and adding to the credibility and influence design could achieve.

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, it was apparent that what is possible will be mitigated by what is acceptable, and that proposals need to fall within the expectations of the client and market, or what they are willing to take on.   Therefore, for responsible design goals to be achieved more widely, those goals will need to be recognized among the factors of importance for a project and also need to be made sufficiently relevant to the client, the user, and the product's sales potential.

4. Conclusions

Recent changes in the designer's role have provided additional opportunity to consider responsible behavior because they enable access to higher levels within companies, and earlier influence in the product development process.   However, it is not as straight forward as was initially anticipated, and access to strategic decision makers is not enough in itself for designers to achieve an impact.   There are still a range of factors which restrict or limit this opportunity from becoming reality; for example, client companies' receptiveness to respond to responsible issues, and the designer's ability to offer a persuasive case to decision makers.   The research also

illustrated that there are still limited support mechanisms, both in terms of guidance and information, for practicing designers, and that there is real difficulty in accessing data and evidence suitable to the designer's needs.

It also appears that the designer's sense of responsibility and their willingness to assert it, are key determinants of the level of impact that can be accomplished. This raises the question as to how broad the scope of designers' responsibility should be and reflects the current situation with regards understanding the scope of the types of social issues which designers need to consider. Further work in both of these areas needs to be undertaken to gain a better understanding as to where design practice should be focused.

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