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# DESIGN FOR EMOTION: AN ANALYSIS OF SMES IN THE IRISH CREATIVE INDUSTRY

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## ABSTRACT

In this paper we report on the results of an exploratory study that investigated the experiences of key informants from SMEs in the Irish creative sector that are involved in design. A purposive sample of 56 small firms was surveyed in order to better understand the nature of design in responding companies; the type of tools used to capture customer requirements and feelings and whether the individual respondent appreciates emotional design in products. The contributions of this research are twofold; a better understanding of the nature of design and associated practices in creative SMEs and an appreciation of whether design for emotion is important to the target audience. Results of the study indicate that there is a desire to reap the benefits of design for emotion, however specific methods and tools are not used to capture users latent needs, wants and expectations. It can be concluded that gathering information and producing knowledge about appropriate methods and tools can have some tangible benefits for SMEs.

## INTRODUCTION

The commercial world is changing. Compelling evidence suggests that goods and services are becoming commodities (Pine and Gilmore, 1999) and increasingly consumer focus is shifting from designing consistent products and services to staging memorable personal experiences that create an emotional response in the customer (Stuart and Tax, 2004). These experiences offer more than a tangible good or a defined service. There is a very real emotional component attached to the experience. Such value-adding design and development create a sense of enjoyment, knowledge, diversion and beauty for customers (Pine and Gilmore, 2004). This is referred to 'design for emotion' in the literature (McDonagh and Lebbon, 2000; Patlar and Kurtgözü, 2004).

Design for emotion analyses the emotional experiences of users interacting with products. It tries to determine the emotional meanings assigned by users to the interaction with products and experiences. In order to create an emotionally rewarding experience for the customer, product design teams must seek to gain a better understanding of their customers' world. Such user led design means working more closely with the end user to gather the data or inspiration necessary to ensure that users feel an affinity with the final product (Barnes and Lifford, 2009). Research demonstrates that it is even possible to design products that target specific types of emotions (Desmet et al, 2007). However design for emotion is an emerging field and there is a dearth of empirical studies in this area. The concept is abstract, intricate and complex which makes it very difficult to manage. Research indicates that organisations are failing to effectively identify customer

value propositions and translate them into tangible products, services and meaningful experiences. It seems that the concept of design for emotion is not very well understood or managed in practice. Consequently, new initiatives are not exploited to their full potential. In other words, companies are not reaping the full benefits of their investments. This research intends to develop a better understanding of whether people are engaging with design for emotion as a progression from 'product and service' to 'customer experience' and how these offerings create more value for business. In this paper we attempt to address the identified research gap by examining the experiences of small firms operating in the creative sector. The paper presents findings of an empirical study conducted in Ireland. A purposive sample of 56 small firms operating in the creative industries were surveyed in order to

- Determine the type of design used to create products
- Identify what performance factors are important in design
- Ascertain whether respondents consider customer feelings in the design process
- Determine what tools respondents use to analyse customer requirements
- Assess whether respondents are familiar with the concept of emotional design
- Determine what methods are used to incorporate customers' feelings into the design process

This study is warranted because research in the area of design for emotion is still in its infancy. The concept is not clearly defined and it is relatively underdeveloped in the published literature. Many of the key issues that are central to this area are as yet unexplored. Consequently research suggests that there is a lack of information available to practitioners about effective methodologies and tools. The contributions of this research are twofold; a better understanding of the nature of design and associated practices in creative SMEs and an appreciation of whether design for emotion is important to the target audience. The remainder of this paper is organised as follows. First, the literature on user centred design and design for emotion is synthesised and analysed. Second, the research methodology employed in the study is presented. Third, our key findings are presented. Fourth, the results of the survey are discussed and analysed. Fifth, we conclude and discuss some managerial implications of the findings, important limitations of our study and some suggestions for further research.

## **BACKGROUND**

There are two key areas of literature which impact this area of research; firstly user-centred design which endeavours to put the users' needs at the centre of the design process, and secondly design for emotion which seeks to design products that elicit an emotional response in the user. Both areas create a movement toward the design of meaningful experience for users.

### **User Centred Design**

One of the major issues identified with traditional methods of design is that customers have difficulty articulating needs and defining the intangible aspects of products that please them. According to Ulwick (2002) '*customers do not know what they want. Customers only know what they have experienced. They cannot imagine what they don't know about emergent technologies, new materials and the like*'. Consequently, products and services are mostly designed to cater to customers' explicit or stated needs, but not

necessarily to their latent needs or future desires. Whilst good designs will always need a genesis, designing for possibilities rather than designing to solve problems implies a key difference of approach (Desmet and Hassenzahl, 2012). On the one hand solving a problem involves observing a stated need and affecting a solution in the form of a product or service, designing using a possibility-driven approach implies that users might not even know what emotions can be derived from a future experience.

We are currently witnessing a shift away from rationalist epistemology, to a more experiential or user centred approach (Ho et al, 2011; Battarbee and Koskinen 2005). While the rationalist approach results in a better understanding of a product's functions and features the user centred approach adopt a holistic perspective of the user and encourages designers to build close relationships and empathy with users. In this view, designers should focus in the interaction between the products and the users (Battarbee and Koskinen 2005; Kouprie and Visser 2009) the experiences of using a product (Jordan 2000, Rozendaal and Schifferstein 2010) as well as the context in which the product is used (Leonard and Rayport 1997). User centred design is lauded to facilitate and stimulate richness in the designed experiences. According to Hassenzahl (2010, p. 8): *'An experience is a story, emerging from the dialogue of a person with his or her world through action.'* In user centred design this dialogue is central to the design process.

User centred design evolved from the paradigm of human-computer interactions and now encompasses broader concepts such as social ecologies, networked technologies and ubiquitous applications (Keinonen, 2010). Lately, the term 'user experience' has become a more inclusive term for design activities (Nieminen et al, 2011) which demonstrates the evolution of thinking in this space in a relatively short time. The development of innovation theory plays a role in the trajectory that moves from problem-based design toward design of future user experiences. Keinonen (2010) highlights how the identification of 'must-have' and 'delighting' features as part of the Kano model explain users' satisfaction and gratification with products. The Kano model splits features and functions of products into three categories (Matzler and Hinterhauber, 1998):

- Must have: this category of features must be provided, or customers will feel dissatisfied.
- One-dimensional: the more the feature is present, the greater the customer satisfaction.
- Attractive/Delighter: these features provide vast amounts of satisfaction to the customer who might feel both surprised and pleased that the feature is present, and at its level of functionality.

Keinonen (2010) rightly asserts that in matured markets the 'must have' features are commonplace which is a motivator for companies to pay closer attention to 'delighters'. He also elucidates the evolution between user centred design and user experience design, and demonstrates how it can be linked to positioning for completely new markets such as those proposed by Kim and Mauborgne (2004). The value for companies in this regard seems clear.

### **Design for Emotion**

Olsen and Wello (2011) point out that another flaw in using traditional methods of design is that they do not have a clear focus on user emotions and reiterate the argument that as products and services become commoditised, it is increasingly important to relate

to users at an emotional level. Understanding design in terms of removing problems is quite different from focusing on what will make the user happy and enjoy the product (Desmet and Hassenzahl, 2012). Ultimately, the literature suggests a closer bond between design and the unstated needs of the user, in other words the ability to design for emotion. Desmet and Hekkert (2007) discuss product experiences in terms of aesthetic experience, experience of meaning, and emotional experience. The aesthetic level involves a product's capacity to delight the user; the meaning level involves the user's ability to assess the personal or symbolic significance of a product and the emotional level involves emotional experiences, such as love and anger. Design for emotion focuses on studying the emotional experiences of users with products as well as the emotional meanings assigned by users to the experience and interaction with product. The goal is to identify assess and integrate users' emotional needs wants and expectations and infuse them into the product development process. As emotion is a personal experience and cannot be separated from the user, design for emotion must adopt a user centred perspective. Hoonhout and Stienstra (2003) discuss several factors that contribute to enjoyment of the product and outline the ways in which products can challenge and create meaning for users. In their study of children interacting with games designed to elicit emotional responses they found that factors such as the stimulation of imagination, simulation of curiosity through provision of novel elements and aesthetics in the product contributed to the enjoyment of the product. Desmet et al (2007) consider the impact of positive .n emotions and products that thrill or elate customers. Demir et al, (2009) also found that products can be developed with the intention of evoking positive emotions such as pleasant surprise, or avoiding negative emotions such as disappointment.

## **RESEARCH METHOD**

The goal of our research is to examine design for emotion in small firms operating in the creative sector in Ireland. As there is a dearth of studies in this space our work is exploratory (Babbie, 2007). Exploratory research is conducted to develop initial insights and to provide direction for any further research needed. Although interest in this area is increasing, there is little empirical evidence to help companies thinking of entering this area fully understand what factors lead to the successful design of emotional products. Therefore, an exploratory study is required to gain much needed background information about the process. This study targeted small design firms who focus on generating creative products and services. A purposive sample of 56 small firms was surveyed. The selection criteria for the interviewees were:

- The target company must focus primarily in the area of design
- The informant must have experience in designing creative products or services
- The person must be working in the area for at least 3 years

We developed a survey in order to better understand the nature of design in responding companies; the type of tools used to capture customer requirements and feelings and whether the individual respondent appreciates emotional design in products. The survey was used as a common protocol to guide the structured interviews. The participants were interviewed between April 2010 and March 2011. Interviews lasted between 30 and 60 minutes. Adopting this approach as a data collection tool allowed responses to be gathered in a standardised way. Furthermore it is a quick and easy way to collect information from busy professionals. Responses were coded and analysed using SPSSx.

## RESULTS

Data was obtained from 56 companies. The majority of companies surveyed were small with 84% employing 10 individuals or less. Of the companies surveyed, 46% were in the industrial design category, 32% were in the craft category and 21% were web design companies. Understanding how companies currently use design in their new product development processes is important. Therefore respondents were asked to classify the type of design employed in their companies. The majority of companies use design “to create completely new products and to make changes to existing ones” (47%) or “to create completely new products” (44%) while the lowest percentage of respondents use design primarily “to make small changes to existing products” (5%) or “to make major changes to existing products” (4%).

### Understanding design in responding companies

Respondents were offered a list based on Roy and Riedel’s (1997) design roles, which were adapted to include emotion among the roles. Respondents reported that the following factors in the design of their products were very important. The list is presented in order of relative importance

- To improve product quality
- To convey the impression of quality
- To improve the style or image of products
- To affect the way customers feel when using the product
- To increase profit margins
- To improve technical performance
- To provide new or improved functions
- To improve the style or image of product packaging
- To improve the ease of use of products

Overall, companies appear to be very positive about considering customers’ feelings in the design of their products. Of the companies surveyed, none felt that considering customers feelings was “not worth the effort” while 84% of respondents stated that considering customers feelings in the design of products “is a good business strategy”, 77% noted that it helped to “build customer loyalty”, 75% found that it was a good way to “attract new customers”. Only 4% noted that it was “too expensive” and 5% that it was “too difficult to measure”.

Participants were asked about the type of tools their company uses to analyse customer requirements. 56% of respondents mentioned that they use customer feedback; 25% used brainstorming techniques, 13% of companies used user observation, 2% of respondents stated that their organisation used sales analyses and finally 2% of respondents stated that their company does not use any tools to analyse customer requirements.

### Understanding emotional design

41% of those surveyed had heard about the concept of emotional design while 59% were not familiar with the term. Respondents were asked to define emotional design using their own words. Most definitions included words such as “feelings”, “subconscious”, “connection”, “consideration of the user”, “engaging the user”, “experience” and “visceral attachment”. When asked which emotions respondents would

like the users to experience when using their products 38% of the respondents surveyed mentioned “*happiness*” as the key emotion they would like users to experience. Other emotions that respondents would like users to experience in their products are represented in Figure 1.



Figure 1 Emotions respondents would like users to experience in their products

To help gain an insight into how respondents designed and developed products in their company we asked them to identify the methods they use to incorporate customer feelings into the design process. We found that many organisations had no formal methods of incorporating customers’ feelings into new products. 61% of those surveyed said that they do not use methods to incorporate customers’ feelings into the design process. 16% of respondents stated that they used customer interviews, 14% used QFD and 9% felt that their experience helped them to incorporate customers’ feelings into the design process.

In order to probe more deeply into respondents understanding of emotional design we asked them to give an example of a product that they thought was designed to consider customers feelings. 84% of respondents provided us with example and only 16% were unable to give an example. Some of these are represented in Figure 2.

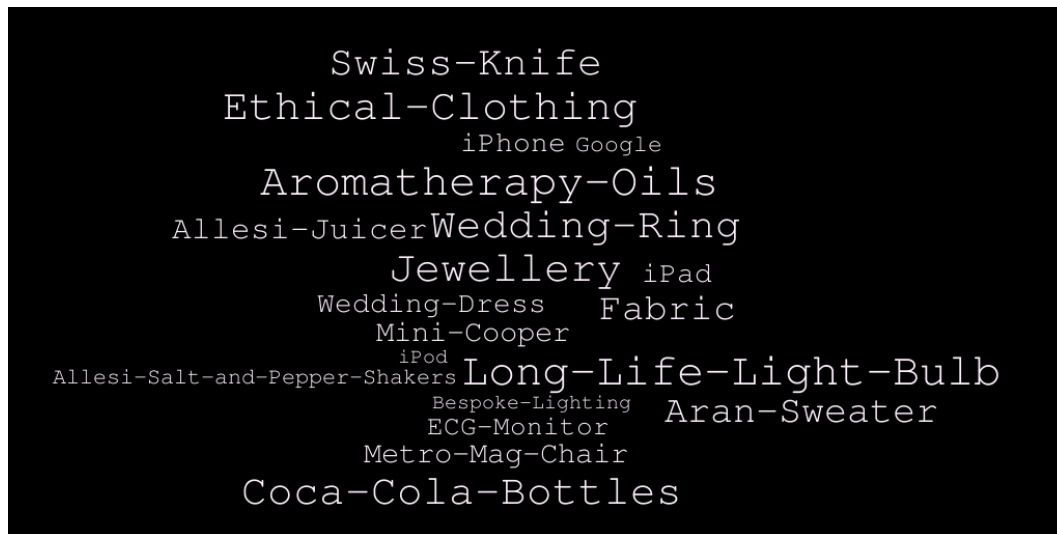


Figure 2 Examples of products designed using design for emotion

Respondents were also asked how customers' feelings affected product success. One quarter of respondents was uncertain about the relationship between customers' feelings and product success. However, the remaining 75% of those surveyed asserted that customers' feelings were a very important factor in a product's success. One respondent noted *"By endearing the customer through a product's functionality, beauty and imagination, it becomes a status item, desirable by the masses."* Another respondent stated that *"a customer is more likely to remain loyal to the business"*.

### Understanding attitudes towards support

The vast majority of those surveyed 86% stated that they were interested in the benefits of emotional design while 14% were not. Participants were asked if certain types of training interventions would help their company consider employing emotional design strategies and techniques. Our findings revealed that online training was the most preferred option of training among respondents (40%) and workshops involving company employees was the next most preferred option while workshop involving other company's employees was the least preferred option.

### Chi square analyses

Chi square analyses were conducted to identify significant associations between the frequencies of categorical variables. It was found that there is a significant association between company type and the tools used by companies to analyse customer requirements ( $\chi^2 = 15.91$ ,  $p = .044$ ). Customer feedback was the most popular method across the three company types. Industrial design companies also frequently reported brainstorming to analyse customer requirements. Sales analysis was the least frequently selected, with only one web design company reporting having employed this tool. Only one out of the 56 companies surveyed reported never having adopted a tool for assessing customer requirements.

A significant association also emerged between the types of tools adopted to assess customer requirements and the primary use of design within a company ( $\chi^2 = 31.10$ ,  $p =$



.002). In order to achieve the aim of creating new products and making improvements to existing products, customer feedback was the most frequently used tool among the companies surveyed (27%). Brainstorming was associated with the creation of completely new products in this sample (15%).

Company type was also significantly associated with training options which may help companies consider emotional design ( $\chi^2 = 14.45$ ,  $p = .025$ ). Online training was favoured by 40% of the sample. This option was favoured most often by web design companies (17%) followed by industrial design companies (14%), and finally craft based companies (10%). Workshops involving company employees was the second most opted for training scheme (37%). In this case, industrial design companies (21%) and craft companies (15%) accounted for this finding. The majority of the sample (87%) felt at least one of the training options would help their company consider emotional design.

### **ANOVA Kruskal-Wallis Test**

A Kruskal-Wallis test was used to test for significant differences between groups when the data is ranked. This test was conducted to assess whether a significant difference between company types in terms of the ratings applied to the importance of factors in product design. It was found that significant group differences in ratings existed in importance of improving technical design ( $\chi^2 (2) = 7.36$ ,  $p = .025$ ), improving the ease of use of products ( $\chi^2 (2) = 6.36$ ,  $p = .042$ ), improving the style or image of products ( $\chi^2 (2) = 6.67$ ,  $p = .036$ ) and improving the image or style of product packaging ( $\chi^2 (2) = 13.42$ ,  $p = .01$ ).

Post hoc analysis using the Mann-Whitney U test distinguished between the ratings of each company type studied. The only significant group difference pertaining to the importance of design for improving technical performance of products was between industrial design and craft ( $U = 132.5$ ,  $z = -2.57$ ,  $p = .01$ ) with industrial design companies (Mean rank = 26.4) rating this factor as significantly more important than craft companies (Mean rank = 16.86). Web design companies rated improving ease of use of products as being significantly more important in the design of products than craft companies ( $U = 45.00$ ,  $z = -2.48$ ,  $p = .017$ ). The mean rank chosen by web design companies was 18.75, while the mean rank chosen by craft companies was significantly lower at 11.31. Significant group differences in relation to using design to improve the image or style of products were found between industrial design (Mean rank = 19.48) and craft companies (Mean rank = 26.86) ( $U = 155.5$ ,  $z = -2.03$ ,  $p = .042$ ), and between industrial design (Mean rank = 17.1) and web design (Mean rank = 24.71) ( $U = 93.5$ ,  $z = -2.12$ ,  $p = .049$ ). Similarly, in relation to the importance of design in the improvement of image or style of product packaging, significant group differences were observed between industrial design (Mean rank = 17.31) and craft companies (Mean rank = 30.00) ( $U = 99.00$ ,  $z = -3.31$ ,  $p = .001$ ), and between industrial design (Mean rank = 16.4) and web design (Mean rank = 26.21) ( $U = 75.5$ ,  $z = -2.60$ ,  $p = .01$ ).

### **DISCUSSION**

This research provides some insight into the experiences of small companies designing creative products and services in Ireland. It suggests that there is an awareness of the importance of customer feelings (77% noted that it helped to “*build customer loyalty*”, 75% found that it was a good way to “*attract new customers*”). The vast majority of those

surveyed 86% stated that they were interested in the benefits of emotional design while 14% were not. Our survey also observes that most companies surveyed engage in innovative design (i.e. design for completely new products and services). As we have seen from the literature, it is important to focus on 'delighter' features and design for emotion offers a relevant and useful means of connecting companies with the unstated desires of their target market. It is therefore interesting to note that 59% of respondents were unfamiliar with the term emotional design indicating a lack of awareness around this method of fostering innovation. When respondents were asked to define emotional design using their own words common replies included "feelings", "subconscious", "connection", "consideration of the user", "engaging the user", "experience" and "visceral attachment". As our literature demonstrates, these interpretations are quite accurate, however respondents failed to indicate the tools and methods they would use in order to achieve it.

Desmet et al (2007) examine the combination of emotions which contribute to an overjoyed or elated experience and have identified; pleasant surprise, fascination, and desire as the three emotional affectations concerned. In light of our survey, it appears that developing tools and techniques that enable SME's to design for the possibility of an elated experience which will drive innovation and positioning into new markets is highly important.

Our survey found that when asked which emotions respondents would like the users to experience when using their products 38% of the respondents surveyed mentioned "happiness". Desmet and Hassenzahl (2012) identify that happiness is an ultimate goal for human beings and identify two separate strategies to design for happiness:

- Design for the '*pleasurable life*' which provides products that are a direct source of pleasure
- Design for the '*good life*' which provides products that represent meaningful, but not immediately obvious goals and follow through by helping the user achieve them.

This suggests a disconnection between the core aims of SMEs in design for emotion, in that their goal is to design for happiness, and the literature which suggests that to maximise innovation an elated experience comprised of the more complex emotions of surprise, fascination and desire is necessary.

Nieminen et al (2011) describe how designing for experience requires a much deeper intimacy between the designer and the future users, but the results of our survey demonstrate that this is not yet tangible to the sample of SME's chosen. Our survey found that many organisations had no formal methods of incorporating customers' feelings into new products. 61% of those surveyed said that they do not use methods to incorporate customers' feelings into the design process. In their 2011 examination of methods of user interaction, Olsen and Wello investigated four key methods; namely web based surveys, interviews, observation and workshops. They concluded that the quality of the information the method provides is far more relevant than the quantity. In their state-of-the-art report, the Engage consortium (2005) demonstrated 10 standard methods and 21 standard tools that are currently used in design for emotion. Standard methods included: semiotic product analysis; discourse analysis; usability trials; value analysis; sensorial analysis; Kansei engineering; quality functional deployment; and conjoint analysis. Standard tools included: paired comparisons; ranking; observation; focus groups; rating scales;

interviews; semantic differential scales with minor adaptations; immersive experience; story telling; one-on-one; workshops; brainstorm sessions; scenarios; decision trees; and cultural studies. Olsen and Wello (2011) outline further methods of gaining customer information in the innovation process as being: cultural probes; generative tools with emotional toolkits e.g. collages and moodboards; generative tools with cognitive toolkits e.g. 3-D models of functionality; diaries; diagrams of relationships and process flow charts. They conclude that choosing the most suitable method of gathering the necessary customer information for a specific product development project is essential to the success of the innovation.

In our survey 56% of respondents mentioned that they use customer feedback to analyse customer requirements; 25% used brainstorming techniques, 13% of companies used user observation, 2% of respondents stated that their organisation used sales analyses and finally 2% of respondents stated that their company does not use any tools to analyse customer requirements. It seems evident that the full range of methods and tools have either not been exposed or are currently under-utilised amongst the sample since only four of the potential pool of 36 methods and tools listed were not named by respondents.

## **CONCLUSION AND IMPLICATIONS**

Literature illuminates the ways in which design for emotion can connect the experience of the user with the innovation performance of the product, service or experience which constitutes a value offering of a company. Our survey demonstrates that there is a desire to reap the benefits of design for emotion and an acknowledgement of its importance, however there is either a lack of awareness around the specific methods and tools used or that these methods and tools are under-utilised for a specific reason.

It is apparent that there are several managerial implications for SMEs. Firstly, the literature demonstrates clear links between design for emotion, 'delighter' features and innovation. It can be concluded that gathering information and producing knowledge about methods and tools can have some tangible benefits for SMEs:

- Enabling better decision-making and management processes around emotional design methods and tools
- A greater understanding of the practicality and usefulness of these methods and tools
- An ability to make knowledge about the methods and tools more widely available through training

Findings from this exploration provide the crucial starting point for subsequent investigation into the deployment of design for emotion in small creative firms. A quantitative study on a larger sample of companies would help to further support to confirm the findings in the paper. Future research could aim to provide more insights about the importance of each of the success factors. It could also try to determine the relative importance of each factor. This research could also be mapped onto different industries in order to allow for a cross-sectoral comparison and contrast.

This study is not without its limitations. As a result of our research approach, several limitations can be noted, which provide opportunities for further research. Given the small sample size, it is recognised that the results of this study should be considered as provisional. However, given the limited empirical research in this area, the findings provide an important point of reference for further work.

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