

A Survey of Criteria for the Assessment of "Good Product Design"

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A survey of criteria for the assessment of "Good Product Design"

Synopsis

This paper explores and compares in a qualitative study how various cultures, organizations (such as design journals, museums, design collections and design competitions) and individuals (designers and design jury members) rank particular attributes and combination of attributes to select examples of "good product design". The premise is, that each organization has its own understanding and definitions of "good product design".

The desirable attributes for the selection and nomination of "good product design" (GD) are compared, contrasted and correlated in a current review of recent design awards, competitions, GD exhibitions and collections, and qualitative research of practicing industrial designers. Related common and divergent values or attributes are mapped spatially (globally, national or regionally), culturally and organizationally. A definitive description of GD is unrealistic and is not being pursued. This reductionist approach for analysing GD as a list of individual attributes may be problematic. We know from experience and our judgment of "what is good and bad in product design" is a synthesis and complex interplay of individual desirable attributes. A whole is more than a sum of its parts. However, patterns, trends and groupings of the language used to describe GD will hopefully reveal common ground of what is regarded as good design.

Keywords: *design vocabulary; good product design.*

Introduction

The idea for this paper emerged during an industrial design studio session where staff members were discussing the notion of 'good design' with first year students. Examples of GD from various sources were presented for evaluation. Both students and lectures presented examples and expressed reasons for their choice. Despite the divergent range of designs presented, it was noted that specific words and phrases were used frequently. Furthermore, it was felt that the choice of words, whilst similar, might reflect different viewpoints and positions towards design and sometimes mean different things.

The preliminary research investigates if there is a consensus among the various definitions and criteria of good design. For this purpose, design vocabulary (words and expressions) employed by designers and various international design organizations has been analysed by using crude frequency analysis and content analysis methods. It is acknowledged that the nature of this research raises numerous questions as to the meaning of words, surface meaning as well as the deeper meaning of language (Walker, 1989). Linguistics, psychological and sociological analysis of language is beyond the scope of this study. As well, the context for assessing GD is dependant upon purpose for which it is intended. The designer, user, industry and society will differ in their evaluation of GD, as they each have a different agenda. Heskett comments on this in the introduction to his book 'Industrial Design' "a design as a tangible artifact becomes part of the physical reality of its time, applied for specific purposes in a society that conditions how its form is perceived and evaluated. This evaluation may be based on premises different from those of the designer and producer, and it will be argued that the values attributed to designs in their social function are not fixed and absolute, but fluctuating and conditional" (Heskett, 1984: 9).

This paper serves two main purposes:

1. To present an overview of the preliminary survey results;
2. To widen the debate as to the merit of such research and possible means to improve the research methodology.

The meaning of *good design* (GD) is conceptually well understood as being the best in its class or the benchmark to which other products aspire. A chosen set of desirable attributes elevates one design above others to the status of GD, which is the aspiration of any designer, manufacturer or supplier of goods. Criteria or attributes may be clearly stated formally (as with the selection criteria for a competition) or it may be a less formal and a more dynamic process (a customer assessing for purchase one design over another). Irrespective of such conditions, in assessing the desirable attributes of GD many influences are at work, such as cultural, organizational and personal preferences. The design

vocabulary that is employed to express these attributes is also varied. This study is an attempt to identify GD attributes and map them for comparison.

GD is a frequently discussed topic. During the research period of this preliminary study, a lively discussion took place on the email forum IDFORUM on this very question, “what is GD”. Among the active participants of this discussion group, De Souza Aranha, (2000) states that one has to be careful with stereotypes and prejudices. Cultural stereotypes such as: miniaturization (the smaller the better) = Japan, over engineered or dominant culture = American, low cost = China, modern, functional, natural, economy of materials and form = Scandinavian (Raatikainen, 2000) are misleading and change over time. Cliché terms such as *clean lines*, *functional*, *sleek* and ambiguous terminology such as *nice* and *cool* is also hard to qualify. Such terms are less common with design awards and competition reviews, but may become more frequent with informal discussion of GD. Figure 1 shows the expected areas and juxtapositions of the various descriptions of GD. It is expected that the definition of GD will be different for users (which will be assessed in a further study).

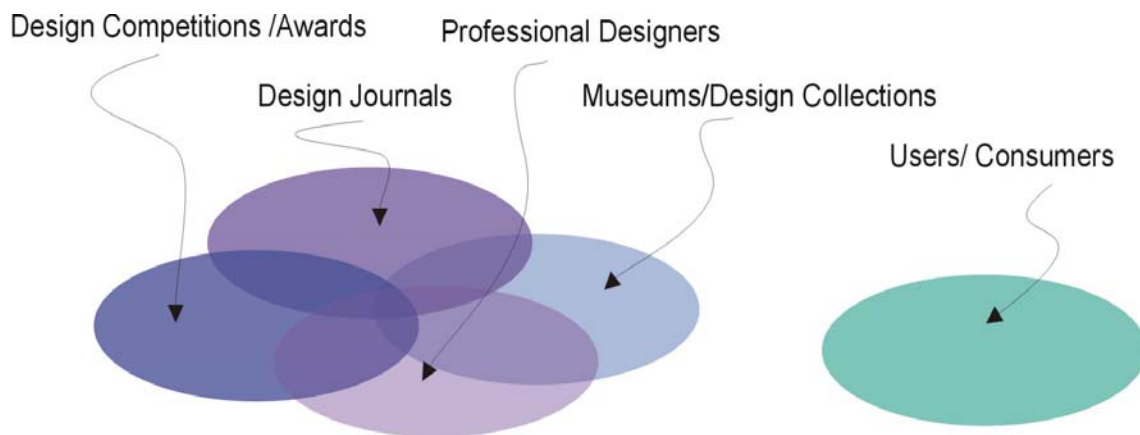


Figure 1. Expected areas and juxtapositions of the various descriptions of GD.

Methodology

A literature review of GD was carried out to compile a database of design awards, competitions, reviews and existing literature on the subject. This review includes:

- Entry requirements and criteria for design competitions and awards;
- Judging criteria and comments of design competitions;
- Design reviews & Design Journals - Design History, Consumer choice,
- Monographs; Design yearbooks;
- Internet forum discussions – Core, DRS, IDFORUM;
- Design collections – Criteria, Policies, Exhibition catalogues and public feedback, curators statements, critical reviews Museum and other organizations.

Certain words, identified as descriptors of GD were extracted and compiled for analysis. The aim was to develop a matrix of words used to describe the desirable attributes of GD. They were then ordered so comparisons and relationships across cultural, organizational and regional differences could be identified. This paper serves two main purposes:

1. To present an overview of the preliminary survey results;
2. To widen the debate as to the merit of such research and possible means to improve the research methodology.

World Wide GD awards

Design awards were identified in many countries. Among these are:

- DesignMark™, Australian Design Award (Australia)
- Baden-Wottemberg International Design Prize (Germany)
- Best of Canada Award (Canada)
- Design Effectiveness Award (Canada)
- Design for Europe Award (Belgium)
- Design Museum, Design Sense Award (UK)
- Design Plus Award (Germany)
- ETMK Design Award, Turkish Society of Industrial Designers (Turkish)
- German Federal Award for Product Design (Germany)
- G-Mark Good Design Award (Japan)
- Golden Compass Award (Italy)
- Good Design Award (Norway)
- GOOD DESIGN® award, The Chicago Athenaeum (USA)
- Good Design Products Selection (Korea)
- Good Industrial Design Award (Netherlands)
- ID Magazine Design Distinction Award (USA)
- ID Prize (Denmark)
- iF Design Award (Germany)
- Industrial Design Excellence Award (U.S.A.)
- Red Dot Award (Germany)

GD criteria of selected design awards

The GD selection criteria for 6 different design awards, namely: The Australian design award, the G-Mark Good Design Award, The Chicago Athenaeum GOOD DESIGN® award,

the Design Museum Design Sense award, the ID Magazine Design Distinction Award, and the IDSA Industrial Design Excellence Award were reached and they are given below:

The Australian Design Award

The Australian design award recognizes that every product is different and that the appropriate weighting of the criteria may vary from product to product and from category to category. In addition, the judges are considering the worth of individual products as examples of design excellence for presentation to the public and their contribution to Australia's design identity. The 10 basic criteria sought in assessing a product for the granting of an Australian DesignMark™ are listed below:

- Functionality;
- Ergonomics;
- Aesthetics;
- Creativity and Originality;
- Safety;
- Environmental Considerations;
- Manufacturing (Construction and Use of Materials);
- Price (Value for Money);
- Packaging;
- Marketability.

The G-Mark, Good Design Award, Japan

Established in 1957, the Japanese GD Selection System known as the "G-Mark System" is based on the following criteria divided in three groups:

1. Is it a good design?" evaluates expected basic elements of products and facilities that are: aesthetical superiority; sincerity; originality; good value for the price; user friendliness; designed with safety in mind; designed to fit the usage environment where it's used; meeting the needs of consumers; offering good functionality and performance; attractiveness.
2. Is it a superior design?

Design: the design concept is superior; the process or the management of the design is superior; the formal expression is new and exciting; the design is superior in its overall sense of completeness.

User: it shows a high level of solving the problems facing the user; it puts the principle of universal design into practice; it presents new modes of behaviour and manners; it conveys versatility and a high degree of functionality in an easily understandable way;

consideration has been given to maintenance, improvements, and expansion during usage.

Industry: it makes skilful use of new technology and new materials; it offers solutions through the creation of systems; it utilizes high-level technical skills; it demonstrates new modes of production; it embodies new ways of selling and providing; it plays a leading role in developing regional industry.

Society: it presents new modes of communication among people; it will have a long useful life; it puts the principles of "ecology design" into practice; it enhances a harmonious landscape

3. Is it a design that breaks new ground for the future? Considerations for evaluating whether the design actively engages issues having to do with the future life, industry, and society.

Design: the designer has discovered an expression that is at the forefront of the era; the design will lead to a global standard for the next generation; the design takes a leading role in fashioning a Japanese identity.

User: it encourages creativity in the user; it creates a new lifestyle for the next generation.

Industry: it gives rise to new technology; it leads to the humanization of technology; it contributes to the creation of new industries and businesses.

Society: it gives rise to social and cultural values; it contributes to a broadening of the social base; it contributes to the realization of a sustainable society; new considerations other than these may be discovered at the adjudication stage.

The Chicago Athenaeum GOOD DESIGN® Award

The Chicago Athenaeum, Museum of Architecture and Design is awarding the followings:

- New and innovative product thinking;
- Originality;
- For stretching the envelope beyond what is considered standard product and consumer design.

The Chicago Athenaeum states that the GD award was the first of its kind in the world, founded in Chicago in 1950 by Charles and Ray Eames, Eero Saarinen, and Edgar Kaufmann Jr. of MoMA.

Design Sense Award (Excellent design), The Design Museum

The Design Museum, Design Sense award is an international award focusing on industrial design and architecture. The primary aim of the award is to educate. It is intended to raise the level of debate about the importance of sustainable design and aims to encourage

greater dialogue on how excellent design can work in harmony with the environment and also remain commercially competitive. Candidate products are considered in terms of the following impacts:

- Environmental (working in harmony with the environment);
- Commercial (remaining commercially competitive);
- Social;
- Aesthetic;
- Greatest achievement in sustainable design;
- How it improves the quality of life.

ID Magazine Design Distinction Awards

Jurors on the Consumer Products panel bring to the table their own particular set of aesthetic criteria. The word *restrain* is commonly used to identify a value of good design. The following is the criteria for ID Design Distinction Awards 99:

- Restrain;
- No excess, no wit, no ambition;
- Need for: Passion; interaction with user; universal design issues; less is still more; purity; precision;
- Good design is something one does not have to explain (inspired from Dieter Rams);
- Products interact with their users, importance of ergonomics and ease of use among audiences with particular needs, such as the elderly;
- Products that serve both our physical and metaphysical needs;
- Improve the lives of consumers;
- Embodying at once aesthetics, functionality and a sense of occasion intrinsic to their use, purity and precision- incorporating beauty into everyday processes;
- Passion (a value that runs through a product, from engineering to aesthetics);
- To augment the passion of life itself.

The IDEA (Industrial Design Excellence Awards), IDSA (Industrial Designers Society of America)

The IDSA believes that there are many misconceptions surrounding what Industrial Designers do and that this can be answered by showing the fruits of their labour. The IDEA showcases the 'best' industrial design from across the US and around the world. These awards are dedicated to foster business and public understanding of the importance of industrial design excellence to the quality of life and to the economy in USA. The IDEA01 jury applies the following five criteria of excellence in selecting award winners:

- Design innovation;
- Benefits to the user, including performance, comfort, safety, ease of use, and universal function and access;

- Benefits to the client, including increased sales and market penetration, plus reduced time to market or to manufacture;
- Ecologically responsible use of materials and processes throughout life cycle, including source and waste reduction, energy efficiency, and repair/reuse/recyclability;
- Appropriate aesthetics.

Amongst the previously mentioned 6 design award giving organizations, detailed GD criteria description was only found for 4 of them, therefore the results presented in this paper are limited to the following design awards: the Australian Design Award, the G-Mark Good Design Award, the ID Magazine Design Distinction Awards, and the Industrial Design Excellence Awards. Figure 2 shows a schematic representation of the intersections between these awards.

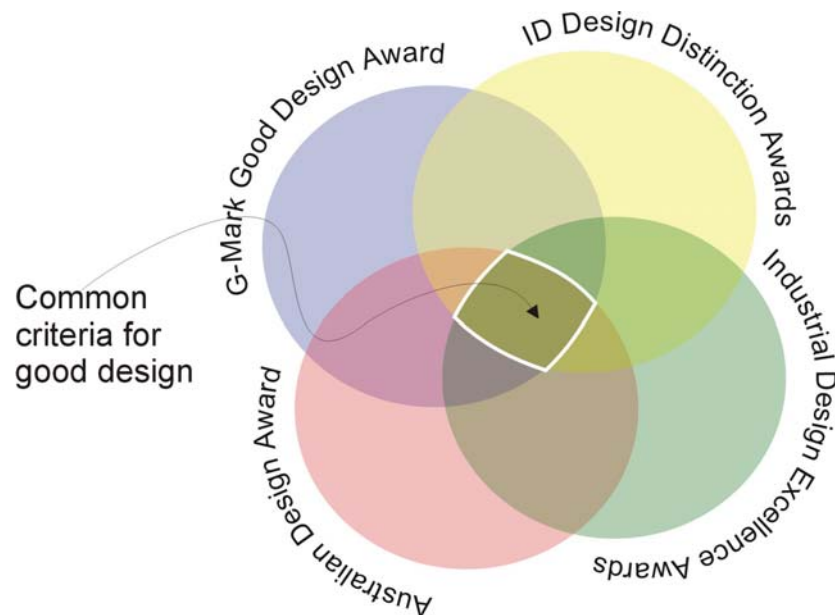


Figure 2. Area of common criteria for assessing GD.

Descriptive language of design

Industrial designers stimulated by advances in technology, materials and manufacturing processes are required to address numerous, competing and contradictory issues during a design project. In such a dynamic environment they are required to dip into many other specialist fields in order to design a solution to a given problem. As a result, industrial design practice is multidisciplinary. According to Krippendorff (1995), the vocabulary employed by industrial designers has been shaped from these divergent sources including the following:

- arts (e.g. aesthetic qualities of form, materials, surfaces, expressions, styles, periods, schools, artists as individual creators);
- crafts (e.g. workmanship, honesty of material);

- engineering (e.g. structure, function, technology of mass production);
- ergonomics (e.g. anthropometrics, efficiency in performance, manipulability);
- advertising (e.g. average consumer, niche market, creatable motivation, purchasing power, market forces), popular culture (e.g. generations, socio-cultural differences);
- software manufacturing (e.g. the emerging linguistic standards for interfacing with computers, CAD).

In addition to the above, colour, may also be identified as an important attribute of GD. Although it's judgment may at times be fashion related. Colour choice and preferences could be a future topic of investigation. Numerous attempts have been made to map colour preferences. One such study by the Musashino Art University College of Art and Design in Japan (Chijiwa, 1997) was to map colour preferences by nationality. They produced a number of matrix groupings linking certain colours to nationality and description. A more subversive approach to the whole question of GD could be framed in a similar manner to the amusing and interesting work done by the Russian conceptual artists Komar and Melamid. They attempt by statistical polling of close to 2 billion people to produce the most liked and disliked paintings according to nationality (Wypijewski, 1997). The results may have been predictable but the interest and questions raised by such a project are more profound.

GD Definitions given by designers and people in the design field

The definition that, GD costs no more than Bad Design or no Design at all (Anon I.D., 1994) suggests that GD is independent to cost. Also referring to design and cost, Antonelli's (2000) ads, that if a beautiful object/product is really cheap, then it is a masterpiece. The market value (cost) is connected with the perception of GD. Either it should cost no more than other designs or its cheapness is an attribute of its goodness.

De Jesus (2000) proposes to establish objective criteria of what constitutes bad design. He questions, if the elimination of bad criteria will constitute an answer for GD. Further to De Jesus' definition, Overhill (1997) defines bad design as "ugly, inconvenient, polluting, expensive, fragile, pretentious, time consuming and absolutely impossible to keep clean". According to De Jesus' logic, GD is then beautiful, convenient, environmentally benign, low cost, durable, unpretentious, time saving and easy to clean. For Boltkov (2001), GD can be defined as something that lasts a long time - aesthetically and functionally, contrary to "flashy" fashion driven designs that have a short life.

Brejcha (2001) comments that GD must 'inspire' be innovative and smart. This description transcends the materiality of the design (for example its function and aesthetics) but offers little real understanding of GD. Simplicity is another common description of GD, suggesting that the user clearly understands how to operate or use the design. According to Skelton,

(2000), simplicity is a positive term mainly used to describe the aesthetic of an object/product. It does not refer in this case to the simplicity of the idea/concept nor denigrate the complexity and amount of work that has gone into its design. For Blake (1996) a successful product is one that is recognisable with an identity, an image that every potential consumer will instantly identify.

Olewiler (1998) points out that, GD comes from effective integration of information and he views the designer as creative integrators; analysing and assimilating various bits of data, objectives, and media into a cohesive form. Meeting (and some times exceeding) the needs and expectations of clients is another point of view (Taylor, 2000). Likewise, Portugal (2000) states the importance of meeting the needs of users and real customers.

Hollington approaches the subject in a different way, saying that “GD is no longer really newsworthy, it’s expected and should be considered normal” (Hollington, 2000: 19). He suggests that examples of GD could easily fill showcase in museums, acquired from a days relaxed shopping. GD today should be much more ambitious than “mere GD”, products are expected to “inspire and delight, to actually enhance our lives a little”.

For Antonelli (1997), Curator of the Museum of Modern Art, New York, GD is a timeless concept, exemplified by soundly manufactured and beautiful objects, working efficiently for the purpose, with ideas that go beyond form and function. She also values economy, simplicity, ingenuity, and sensibility in durable, reusable, and practical objects. As designing is relying more on invention, elements of surprise and deep intellectual beauty are more praised than the elaboration of styles (Antonelli, 1997). Finally, for her GD is “sympathetic art” and one can use it.

De Jesus (2001) finds it easier to judge GD on objective criteria such as functional objectives, business/market objectives, manufacturing objectives etc. On subjective judgments, based upon personal values such as aesthetics/beauty, he thinks that one can get into trouble.

Preliminary comparisons of chosen design organizations

Shared common Criteria are shown in Figure 3 for the Australian Design Award, the G-Mark Good Design Award, the ID Magazine Design Distinction Awards, and the Industrial Design Excellence Awards. The core criteria for all of the four design organizations are:

- functionality; efficiency
- aesthetics; attractiveness
- ease in use; user friendliness
- setting new standard for the world to follow; out of the box thinking; at the forefront of the era; breaking new ground for the future; outstanding idea.

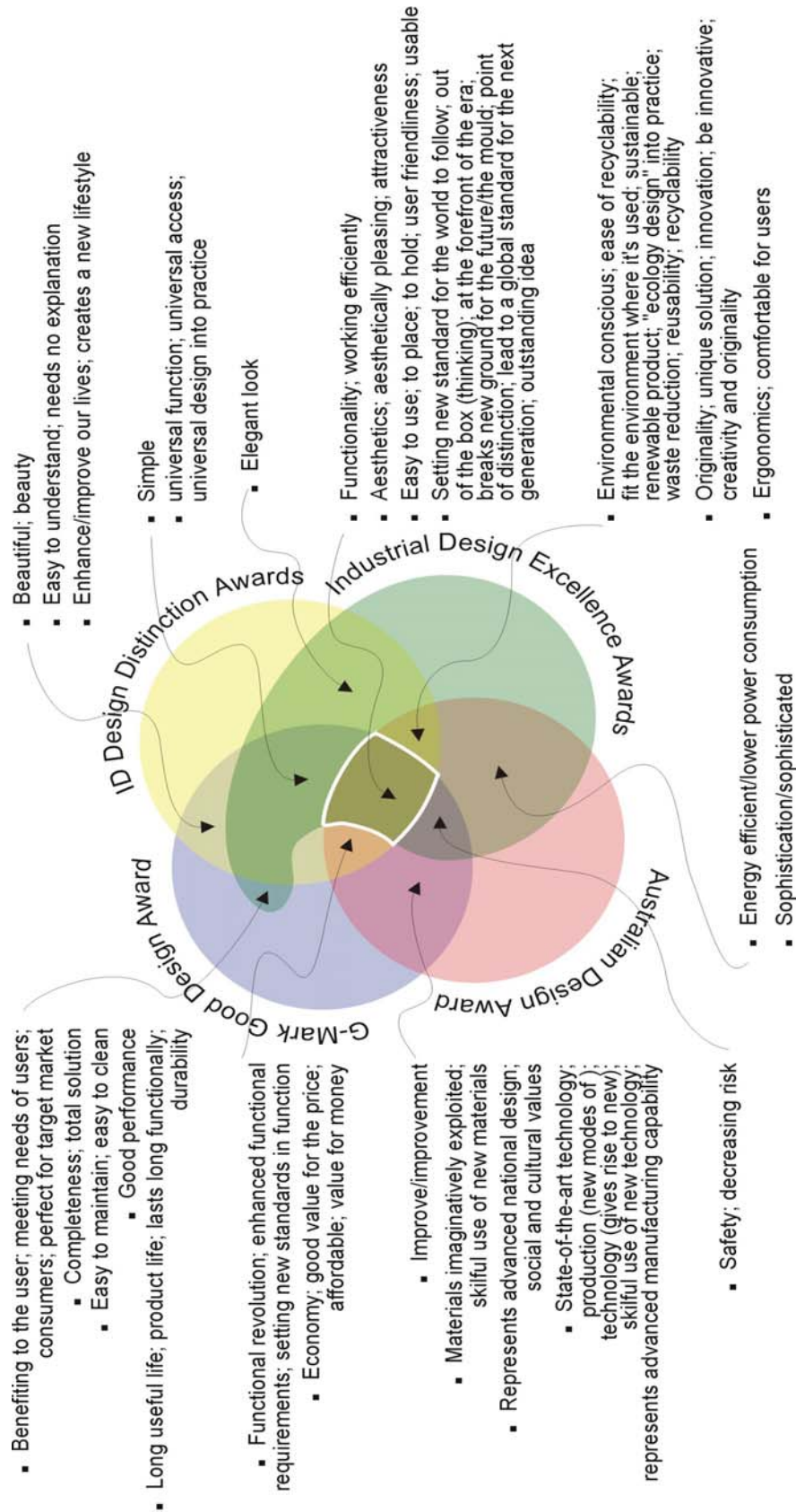


Figure 3. Shared common GD criteria

Criteria shared by at least three of each one of them are:

- simple
- universal design solutions
- environmentally conscious; ease of recyclability
- originality; innovation; creativity
- ergonomics; comfortable for users
- safety; designed with safety in mind; decreasing risk
- functional revolution; setting new standards in function
- economy; good value for money; affordable

ID Design Distinction Awards stands out to be a little different than the three others, being more oriented towards the visual and emotional impacts of products. The other three awards are more industry oriented and are sharing more GD criteria amongst themselves.

Table 1 shows on the left, 15 GD criteria used among international designers shared at least with one of the four previously mentioned design organizations, and on the right, 18 GD criteria of their own. Unshared Criteria for the Australian Design Award, the G-Mark Good Design Award, the ID Magazine Design Distinction Awards, and the Industrial Design Excellence Awards are given in figure 4.

Table 1. Shared and unshared GD criteria also by international designers.

15 common GD Criteria also used by International Designers	International Designers: 15 unshared criteria
<ul style="list-style-type: none"> ♦ beautiful/beauty ♦ benefiting to the client/meeting needs of clients ♦ benefiting to the user/meeting needs of users/consumers/ perfect for target market ♦ easy to maintain/easy to clean ♦ economy/good value for the price/affordable/price (value for money) ♦ enhance our lives/improve our lives/creates a new lifestyle ♦ environmental conscious/ease of recyclability/fit the environment where it's used/sustainable/renewable product/"ecology design" into practice/waste reduction/reusability/recyclability ♦ functionality/working efficiently ♦ going beyond function ♦ long useful life/product life/lasts long functionally/durability ♦ no ambition/unpretentious ♦ originality/unique solution/innovation/be innovative/creativity and originality ♦ recognizable/with an identity/with an image/distinguishing from existing products ♦ simple ♦ smart 	<ul style="list-style-type: none"> ♦ convenient ♦ deep intellectual beauty ♦ delightfull ♦ durability ♦ easy to clean ♦ going beyond form ♦ having elements of surprise ♦ ingenuity ♦ inspiring ♦ practicality ♦ sensibility ♦ soundly manufactured ♦ strong ♦ timeless; lasting long aesthetically/ functionally ♦ unpretentious

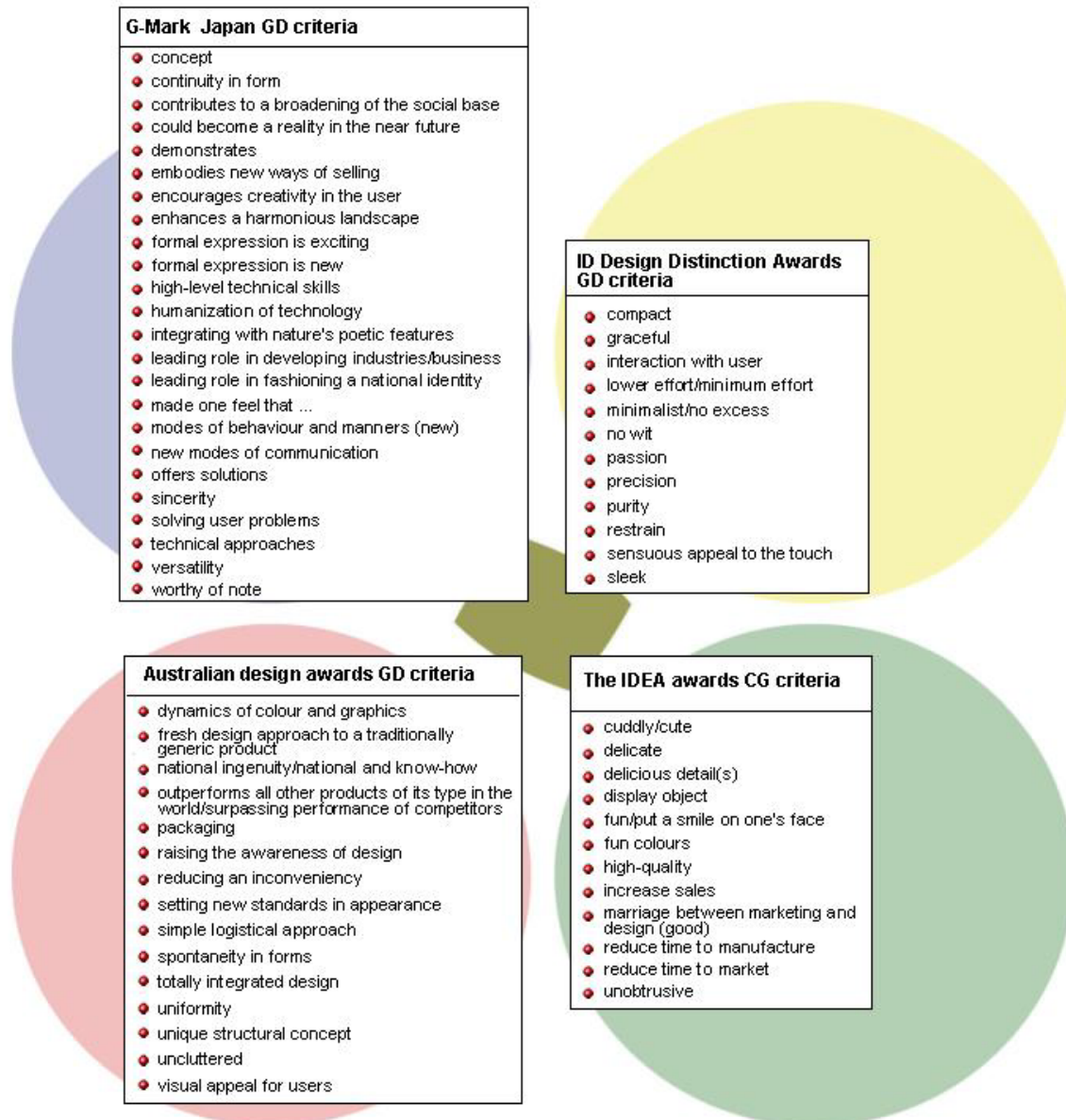


Figure 4. Unshared Criteria for the four different organizations.

Conclusion

With a core of common criteria (see Figure 3), GD clearly means different things to different groups and people. Despite the occurrence of common GD criteria among the surveyed entities, there is unlikely to be a universal agreement. Modernist mantras such as: 'Form follows Function', 'Less is more' and 'God is in the Details' are code for the necessary attributes of GD, demonstrating that attempts have been made at determining a universal set of core GD attributes. The diversity of product types, contexts, conditions and environment in which they are applied is too great to be summed up as a list of GD attributes. Komar and Melamid's work demonstrate the absurdity of pursuing a rationalist consensus approach to

defining good art. Likewise, to follow such a path to define GD would be amusing but not much point. But the process of identifying and groupings common attributes may offer insight and understanding of the pursuit of GD. The overlap as demonstrated in Figure 2 offers an interesting discussion point for further work.

The present study should be considered as a pilot study of four different design awards, comparing their GD evaluation criteria to each other and various international designer's. The study will then be expanded to other similar organizations to compare their common and divergent criteria for assessing GD.

Further research is required to determine real users/customers perceptions of GD, it is anticipated to be quite different than that of designers and design organization (see Fig. 1). It is envisaged that this would take the form of a survey distributed to users. Emphasis would be placed upon the recording of descriptions of GD in users/customers own words. This could then be compared with results from design professionals and organizations. Colour and other criteria could be added to offer a richer mix to the matrix results. The user survey may offer important insight to design professionals of users perception and awareness of GD.

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