

THE IDEA AWARD AS A DESIGN QUALITY METRIC: PART-A, DRIVING WEB CITATIONS AND PUBLIC AWARENESS

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ABSTRACT

Today, the resulting concepts from the conceptual phase are evaluated according to pre-established product criteria. These criteria fail to articulate and measure a concepts industrial design aspects, - leaving selection prone to subjectivity and decision bias, resulting in high failure rates among newly launched products. This body of work represents a portion of a developing methodology, connecting a designer's descriptions of their design to performance metrics in the market place. This is achieved using IDEA awards as a bridge between designer arguments, as captured by the Concept Aspect Profile, and general market awareness concerning a product. The research establishes that products with a high degree of design quality, as measured by the Industrial Design Excellence Award (IDEA Award) criteria, result in a ten times higher general awareness among users than non-qualifying products. Within Gold, Silver and Bronze winners there also exists a ranking and Gold winners have a 76% chance of obtaining more general awareness than Silver winners.

Key words: Evidence based design quality evaluation, evidence based decision-making, Concept Aspect Profile, design argumentation analysis, design awards, web-citations, web-links, web awareness, public awareness, investors expectation, stock-performance.

1 INTRODUCTION

1.1 What is the issue?

With a 35-41% failure rate in the development of new products [1], [2], [3] and [4] there is a tremendous need for metrics that predict consumer awareness and acceptance. The existence of a leading indicator would aid early stage decision-making with regard to continuing production and actively promoting, or discontinuing new product introductions. Even more desirable, such a metric would aid in selection amongst competing new product concepts. Traditional focus group studies have failed as an indicator of success, neglecting to focus on behaviour as the best predictor. [5] Without a metric for reliable design quantification, decisions made regarding viable concepts will continue to rely on subjective and biased decision-making. The research is reported in two separate papers, this and "The IDEA Award As A Design Quality Metric: Part-B, Predicting Investor Valuation."

1.2 How do awards predict performance metrics?

To improve upon the selection process, we propose using an evaluation tool, the Concept-Aspect-Profile (CAP) [6]. This is based on the recording of designer's verbal presentation of their concepts. The CAP captures design arguments, using the IDEA design award application form as interview guide. Subsequently the designer's argument story is segmented into a hierarchal framework of the key aspects representing a user's experience of the product and corporate design characteristics. Figure 1.

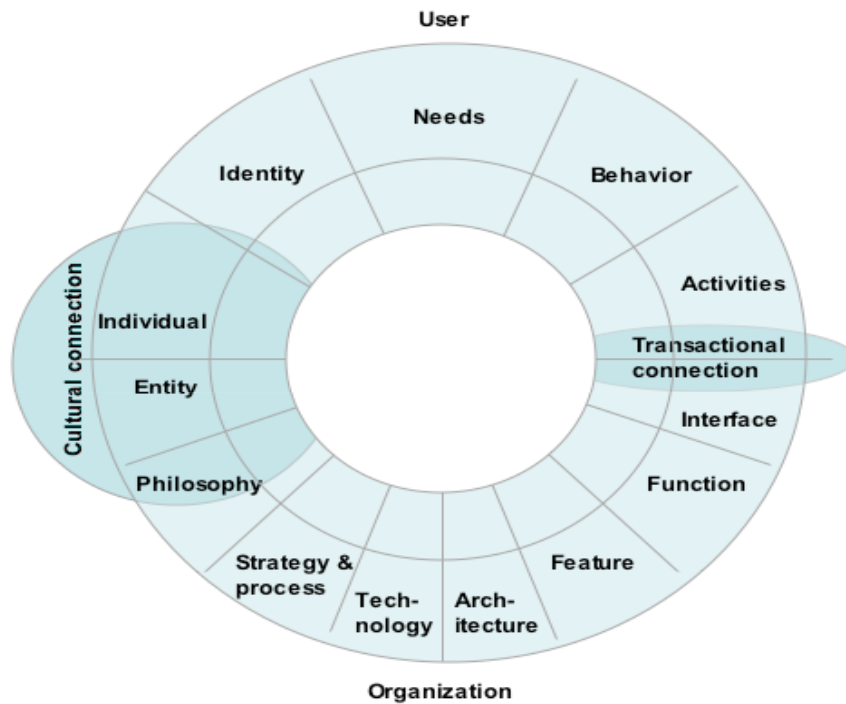


Figure 1. The circular Concept Aspect Profile segment, visualizes how users and corporate providers connect at a transactional and cultural point. At the concrete level, the user connects to the product through its interface. At an abstract level, the user connects to the corporation behind the product through their mutual cultural references.

This framework could eventually aid the decision-making process for concept selection in the conceptual phase, by comparing an actual design argument with historically successful arguments. This connection could be established by identifying a connection from a designer's argumentation of concepts, as captured by the Concept Aspect Profile, with IDEA Awards received and to public exposure and investor's expectations. These connections can be established by observing the relationship between the Concept Aspect Profile, the IDEA Award Application Profiles and the IDEA Awards in the Gold, Silver and Bronze categories. These connections can be further established by observing the relationship between IDEA Award reception and a products performance metrics in the market place. Figure 2.

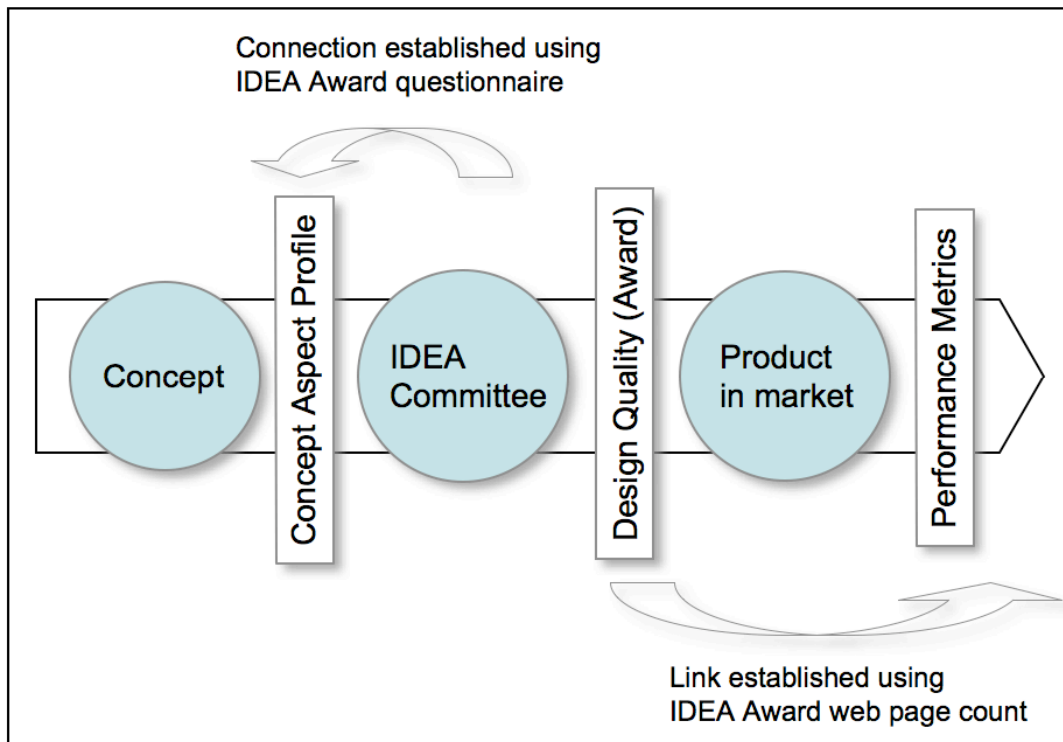


Figure 2. Connecting the Concept Aspect Profile (CAP) segmentation, with the IDEA Award, along with performance metrics in the market place. CAP connects to IDEA through analyzed award applications while IDEA connects to performance metrics through observations of award winners' reception of web links and stock value

1.3 How do awards predict consumer awareness?

Regarding the two metrics of consumer awareness and investor expectations, the objective of this work is to establish a connection between consumer awareness and IDEA Award reception as measured by web-links.

2 PROCEDURE

2.1 Why the IDEA Award?

After auditing historic design quality definitions, I decided to use the IDEA Award. The IDEA is awarded yearly and the winners are announced in Business Week and on the IDSA website. The award's committee evaluates 500+ worldwide design applications from designers, in the consumer product category, granting approximately 10 Gold, 20 Silver and 20 Bronze awards. The applicants, as well as, award recipients represent a wide range of company sizes, geographical areas, operations and origins.

Auditing one hundred and three awards posted on the World Wide Web provided nineteen awards with declared criteria for design quality. Their focus and scope varied between continents, changing from performance metrics in western cultures to strategy focus in eastern cultures. Observing the one hundred and three award's presence on the World Wide Web, the IDEA Award was found to be the seventh most significant within product design and second in the US [7]. Though second in the US, from an awareness standpoint, in US industry, it is regarded as the leading award.

The consequence of using the IDEA Award as a design quality measurement, limits its reference to western products. However, its general applicability as a bridge from design concept argument evaluation to products performance in the market place is not necessarily affected.

Comparing the IDEA Award criteria with that of the Danish Design Prize Table 1, illustrates where the two sets of criteria align. Though there are significant differences, such as the IDEA Award including innovation, while the Danish Design Prize chose to include structural aspects instead. The

Danish Design Center has, in addition, developed the Design Ladder, mapping companies design involvement to a four-step ladder. Step one being absence of design and step four, being design as innovation. They found a correlation between the level a company is on the Design Ladder and the company's revenue, export and employment performance. [8] The Design Ladder corresponds well to the criteria for the IDEA Award, strengthening confidence in the IDEA award criteria as being appropriate for bridging concept and market performance.

Table 1 IDEA Award Criteria compared to Danish Design Prize criteria and the Design Ladder. Design criteria are categorized according to Performance, Context and Strategy for IDEA and Danish Design award winners. These criteria are in the right column seen related to the Danish Design Councils "design ladder"

		IDEA Design Awards	Danish Design Prize	Danish Design Council
Strategy	Philosophy			Step 4: Design as innovation
	Structure		Design solution in a strategic relationship	
	Innovation	Innovation: Is the design new and unique?		
Context	Social/Human	User: Does the design solution benefit the user?	Sustainability (ethics, environment, safety)	
	Environmental	Earth: Is the project ecologically responsible?		
	Viability	Business: Did the design improve the client's business?		
Performance	Process			Step 3: Design as process
	Function		Function	Step 2: Design as Styling
	Expression	Aesthetics: Does the appearance enhance the product?	Aesthetics	
				Step 1: Non Design

2.2 How do awards predict consumer awareness?

How do you measure public awareness? Marketing firms' use in person or telephone interviews, media coverage and web hits on the company's website. Companies like Amazon and others, measure consumer interest using comments from users who bought an item [9]. These approaches are time-consuming, costly and limited. In contrast, the Internet offers immediate response. Google, provides two approaches, Google Trend and Google Web Search. Since Google Trend is relatively insensitive to web traffic and needs significant traffic to register a trend (equivalent to a Google Web Search resulting in 200,000 web-links), I decided to investigate Google Web Search.

The Google Page Rank technology is based on the concept of scientific citations from paper citations in the scientific community. The technology utilizes the collective intelligence of the web to determine an entries importance [10] and [11]. Research has shown web links to correlate with general awareness, similar to citations [12], [13] and [14]. Therefore, this approach was chosen as the framework for this research into the public exposure of a product and its brand, utilizing the web-link count resulting from hits using Google Web Search, as a metric for exposure.

2.3 What is the step-by-step protocol?

Using product name plus brand name (e.g. "Apple + iPod") as search parameter, the research consists of conducting automated; daily Google Web searches on the winners (Gold, Silver and Bronze) in the period 2000 – 2007. Following each automatic search, the number of web-links was registered, providing the connection from award winning to public awareness. In addition 50 of the non-

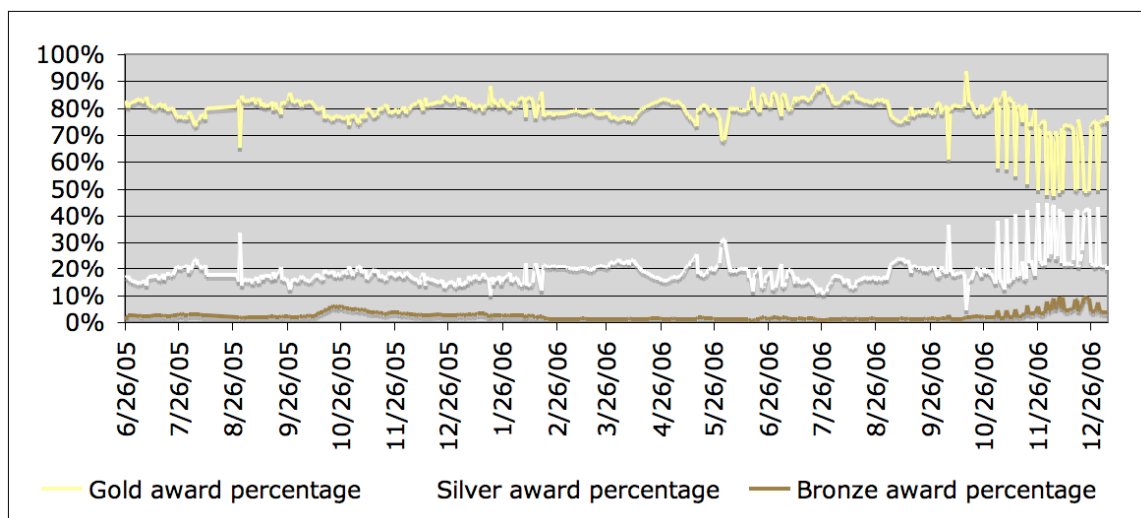
qualifying candidates for 2005 were observed in 2007 for comparison [15].

Finally, I submitted a questionnaire to twenty-six professional industrial designers to investigate the relationship between the web citation count and public awareness of a product. These twenty-six experienced designers recognized 36% of 34 IDEA Award recipients, from two years prior (IDEA 2003). However, designers recognized primarily products with high Web Citation numbers. When asked to predict general public awareness, of recognized products, their prediction correlated with their own recognition and the number of Web Citations for the products [7].

3 RESULTS

3.1 How well did award winning correlate with web-link count?

The study found IDEA Gold Award winners commanded roughly a factor 5 more web citations than Silver Award winners, which commanded roughly a factor 10 more web citations than Bronze winners. Over the following 18-month timeframe this relationship remained consistent though with a generally decreasing web-link count. Graph 1



Graph 1 Development of the number of web-links with time, measured for Gold, Silver and Bronze IDEA winning products over the period June 2005 – December 2006. The distinct difference in number of web-links remains over the period and first begins to dissolve towards the end of the period.

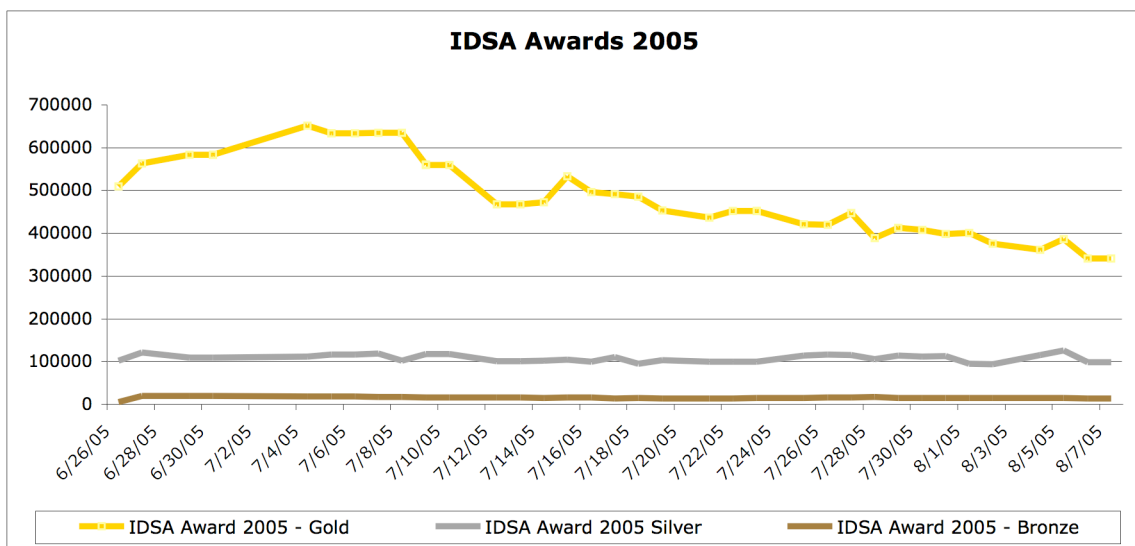
Investigating if the distribution was likely to be a coincidence, award-winning products from the period 2000 to 2006 were recorded for a period of 12 months. In five of the seven years observed, the gold winning products performed better than the Silver and Bronze winners. In one year, Gold and Silver tied and in another, Silver winners out performed Gold. Table 2. Comparing the findings for the winners with the non-qualifying IDEA entries revealed these to have a web-link count at a magnitude ten lower than gold winners for 2005.

Table 2. Statistical significance of IDEA Gold Award winners, from 2000 to 2006, lead in web-link count, observed in January 2006.

IDEA Award winners Web-Link analysis							
Statistical significance of individual year (2000 - 2006)							
		Gold		Silver		Bronze	
Case	Year	Confidence	N	Confidence	N	Confidence	N
1	2000	NA	11	86%	21	NA	17
2	2001	81%	5	NA	17	NA	19
3	2002	70%	9	NA	18	NA	29
4	2003	63%	12	NA	10	NA	12
5	2004	52%	7	NA	12	NA	13
6	2005	73%	10	NA	18	NA	20
7	2006	NA	8	49%	8	NA	14
Confidence 76%, N=35							

3.2 How does idea media hype influence web-link count?

Evaluating the influence of hype potentially causing a reverse causality due to the public announcement of the award winners, the web citation count was observed for 90 days following the public announcement Graph 2. The findings show an increase in Gold Award winning web-links count only. This increase levels off after two – three weeks and it appears the count drops to pre-award winning level. This shows that winner’s web-link count superiority is rooted in the product and not the media hype following the announcement.



Graph 2. Development in the number of web-links over time, for Gold, Silver and Bronze IDEA winning products, during the first 90 days after announcement in June 2005

4 CONCLUSION AND DISCUSSION

4.1 What do we know from these results

IDEA Award Reception and the Gold, Silver or Bronze level achieved is an indicator of product and brand's number of web-links and therefore the public awareness of the product. The research establishes that products with a high degree of design quality, as measured by the IDEA award criteria, result in a factor ten-time higher general awareness among users than non-qualifying products. Within Gold, Silver and Bronze winners, Gold winners have 76% chance of obtaining more general awareness than Silver winners.

IDEA Award winning product's public awareness is due to the design quality as opposed to advertising or media hype related to the award announcement, since this effect can be observed as fading away in weeks. Therefore, a high degree of design quality, as defined by the IDEA Award criteria [7], facilitates a high level of public awareness and represents a marketing advantage. Furthermore, the IDEA criteria relates to the Danish Design Center's "Design Ladder", which correlates to revenue, export and employment.

4.2 How might we use the knowledge?

Having established a connection from IDEA award reception to general awareness, the next step is to create a connection to financial performance metrics, such as investor expectations. This is reported in the research paper: "The IDEA Award As A Design Quality Metric: Part-B, Predicting Investor Valuation".

When these connections have been established, the goal is to create a connection between the Concept Aspect Profile and IDEA Award reception. The plan is to triangulate, using:

- 1) Interviews with designers, mapping CAP to IDEA criteria
- 2) Interviewing designers working on the same projects, correlating their design arguments, using CAP, with an evaluation of their performance on the IDEA criteria
- 3) Analyzing IDEA applications for winning and non-qualifying entries

These steps, with the establishing performance metric connections, could provide a practical methodology for transforming design arguments into a Concept Aspect profile, connecting to public awareness and investor's expectations. In this way, concepts in the conceptual phase can be evaluated for their potential performance along general awareness of the product and investor expectation metrics, allowing for optimizing of the concepts.

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