

THE IDEA AWARD AS A DESIGN QUALITY METRIC: PART-B, PREDICTING INVESTOR VALUATION

Soren Ingomar Petersen

Stanford University, Department of Mechanical Engineering, Center for Design Research

ABSTRACT

Decision-making in the conceptual phase of product development is prone to subjectivity and decision bias, leading to high failure rates among newly launched products. This work represents a portion of a developing methodology, connecting designer's argumentation to performance metrics in the market place using the IDEA award as a bridge. This paper focuses on establishing a connection between IDEA award recipient and investors expectations of the product, as measured by the stock price of the corresponding company. The research establishes that products with a high degree of design quality, as measured by the Design Excellence Award (IDEA Award) criteria, do poorly the year of award reception. However, the following year, these same products exceeded the performance of the prior two years. Observed over a four and a half-year period (2000 – 2005), the award winning product's companies outperformed the S&P500 by 32% (approximately 6.5% per year).

Key words: Evidence based design quality evaluation, evidence based decision-making, design argumentation analysis, design awards, investor's expectation, stock price, Concept Aspect Profile.

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 can predict the financial success of concepts. An early profit indicator could aid early stage decision-making with regard to continuing, cancelling or conducting additional iterations in the development. Such a metric would help in the selection amongst competing new product concepts and facilitate the integration of concepts to optimize the chance of success. The research is divided into two separate papers, the second one being "The IDEA Award As A Design Quality Metric: Part-A, Driving Web Citations And Public Awareness".

1.2 How do awards predict performance metrics?

To improve upon the selection process, I propose using an evaluation tool, the Concept-Aspect-Profile (CAP) [5]. This is based on recording designer's verbal presentations of their concepts. The CAP captures design arguments, using the IDEA Design Award Application Form as interview guide. The designer's argument story is then segmented into a hierarchal framework of the key aspects representing a user's experience of the product and corporate design characteristics. Figure 1.

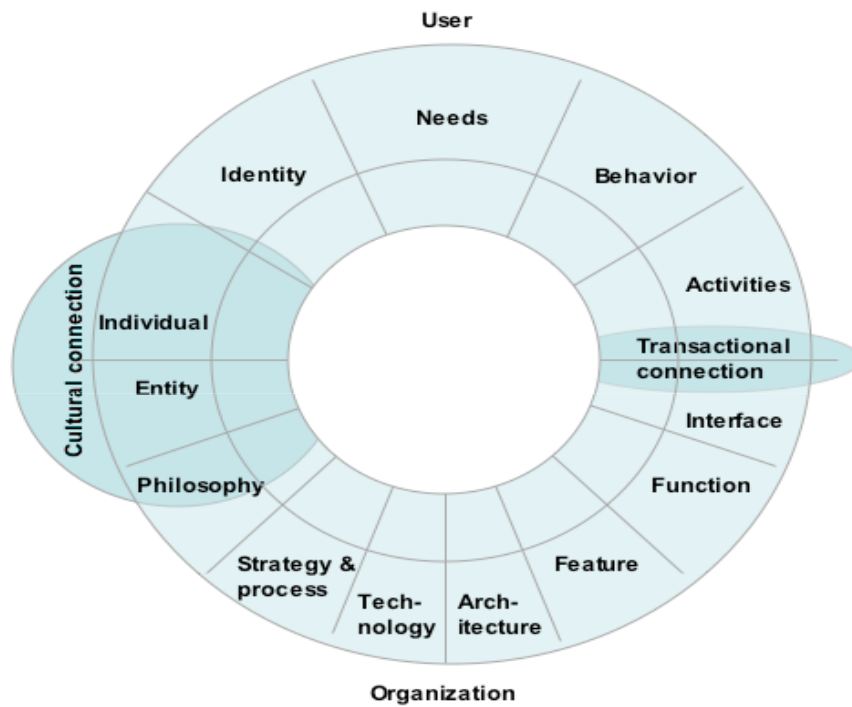


Figure 1. The circular Concept Aspect Profile segmentation, visualizes how users and corporate providers connect at a transactional and cultural point. At a concrete level, the user connects to the product through its interface. At an abstract level, the user connects to the corporation behind the product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

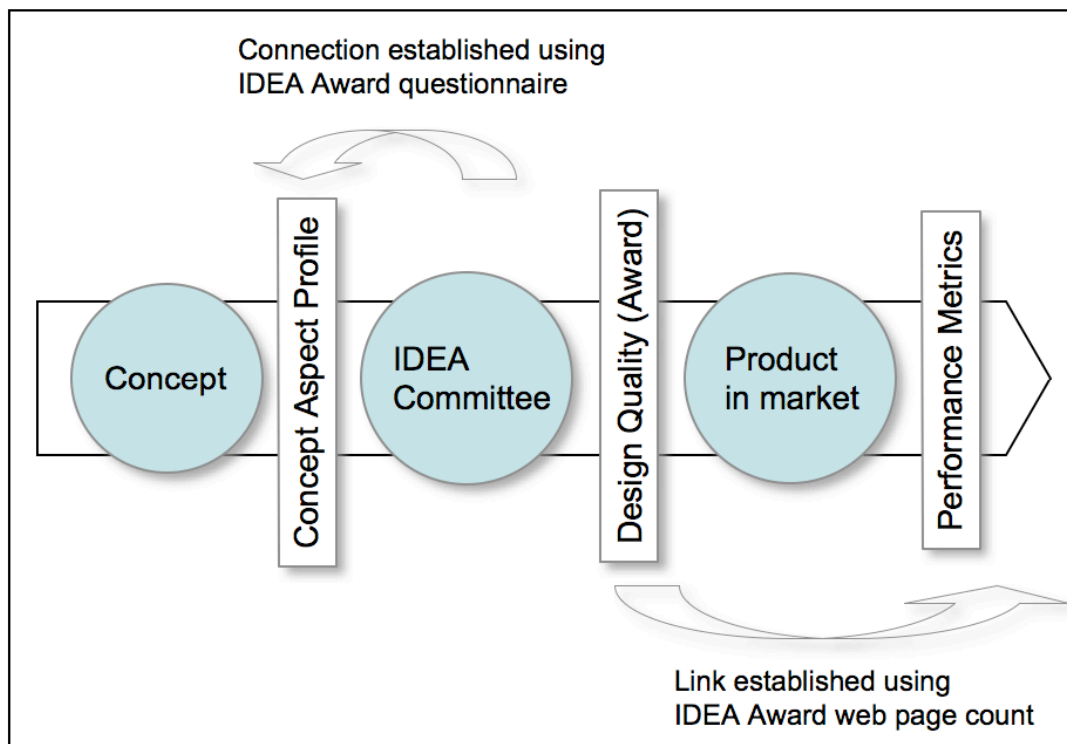


Figure 2. Connecting the Concept Aspect Profile (CAP) segmentation, with the IDEA Award, along with performance metrics in the market place. CAP connects to IDEA through analyzed award applications while IDEA connects to performance metrics through observations of award winners' reception of web links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

1.3 How do awards predict investor expectations?

Regarding the two metrics of consumer awareness and investor expectations, the objective of this work is to establish a connection between investor expectations and IDEA Award reception as measured by the award winning companies' stock performance. If a connection can be identified, design awards could act as an early indicator of a product's near future success potential.

1.4 How does the award to investor expectations metric work?

As a metric for design quality, I decided to use the IDEA Award, which is announced yearly in Business Week Magazine. The award committee evaluates 500+ worldwide design applications from designers, granting approximately ten Gold, twenty Silver and twenty Bronze awards. Product design is judged along the metrics of: innovation, sustainability and expression by a panel of twenty-eight prominent designers, design managers, design strategists and trend analysts. The judging criterion covers multiple facets of design and its performance regarding corporation's strategy, positioning in the surrounding context and product development and product performance. Table 1. Therefore an IDEA award reflects not only the final product but include the considerations behind its creation.

Does the reception of a design award affect the performance of a product and company due to increased positive publicity? Findings in "The IDEA Award As A Design Quality Metric: Part-A, Driving Web Citations And Public Awareness", show that a winner's web-link count superiority is rooted in the product and not the media hype.

As a financial metric, I chose stock prices. The stock market and the price of an individual stock, fluctuate daily. However, over time, the stock's price aligns with its value as reflected by the company's earning capability. Due to the broad and complex contribution of design quality, as measured by the IDEA Award, revenue from a particular product's introduction always fails to capture its overall contribution to the entire organization. Therefore, stock performance; reflecting investor confidence and performance over time, is a more relevant profitability metric. This increases the overlap between what the IDEA award evaluates and what influences stock performance. For example, the quality of the company's innovation capabilities and other company offerings.

The UK Design Council has successfully connected design awards to stock prices in the past. They found that design intensive companies measured by the number of awards they have received, followed the general stock market trends. These same companies, however, outperformed the FTSE100 index by 200% (approximately 8% per year) over a ten-year period ('94-'00) [6]. This provides additional confidence that the receipt of the IDEA Award relates to investor expectations.

2 PROCEDURE

2.1 What was the analysis protocol?

Observing 261 IDEA Award winning products and their respective brands, covering the period from 2000 to 2005, I selected twenty-seven companies, listed on NYSE and NASDAQ. Collectively, these represented fifteen Gold, thirteen Silver and thirteen Bronze Awards from 2000 to 2004, in the consumer product category. The recipients consisted predominantly of Fortune 500 companies. Stock price data was collected using Yahoo Finance, over the seven-year period from 1999 to 2005, which included stock performance in the prior year, current year and subsequent year of the award reception. On the basis of the collected data, I analyzed award performance in relationship to stock performance in the year of award reception, the year prior to and the year following, over a five-year period.

As a reference, I analyzed the NASDAQ Composite, Standard & Poor 500 and the Dow Jones Industrial Average and found that the S&P500 most closely followed the fluctuation of our sample companies, prior to award reception. Since the S&P500 most closely represented the stock market, this index was used for comparison.

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.

As a consequence, using the IDEA Award as a design quality measurement limits its reference to western culture 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 in Table 1, illustrates where the two sets of criteria align. There are significant differences, such as the IDEA Award including innovation, while the Danish Design Prize includes structural aspects. The Danish Design Centre has also 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 company's level 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 financial performance.

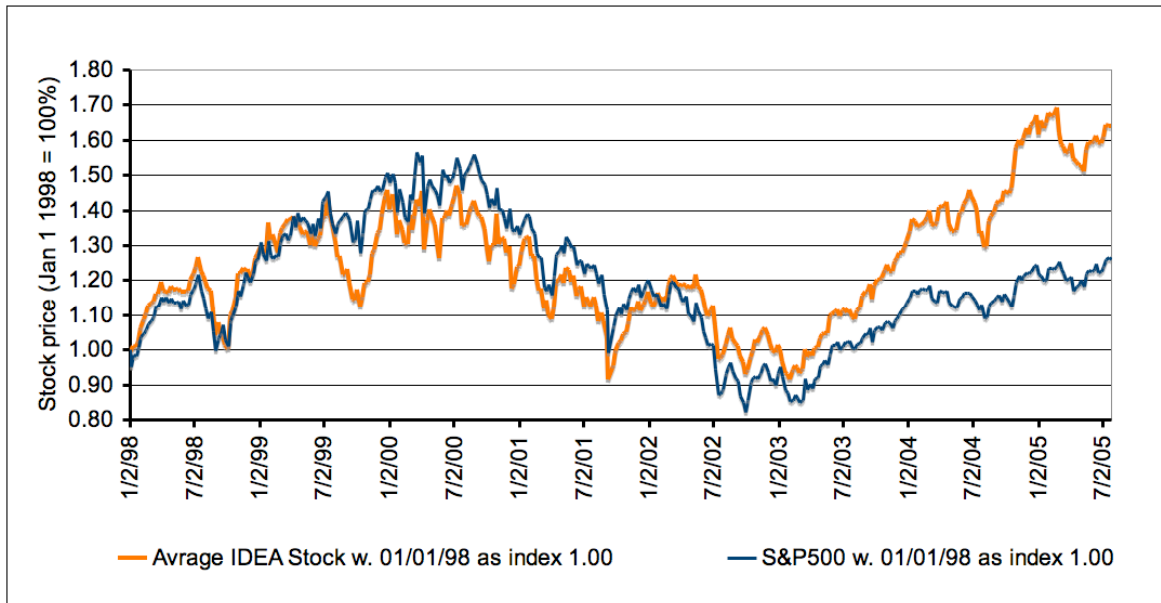
Table 1 IDEA Award Criteria compared to Danish Design Prize criteria and the Design Ladder. Design criteria are categorized according to Performance, Context and Strategy for IDEA and Danish Design Award winners. These criteria are in the right column seen related to the Danish Design Councils "Design 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	
	Expression	Aesthetics: Does the appearance enhance the product?	Aesthetics	Step 2: Design as Styling Step 1: Non Design

3 RESULTS

3.1 What was learned from the analysis?

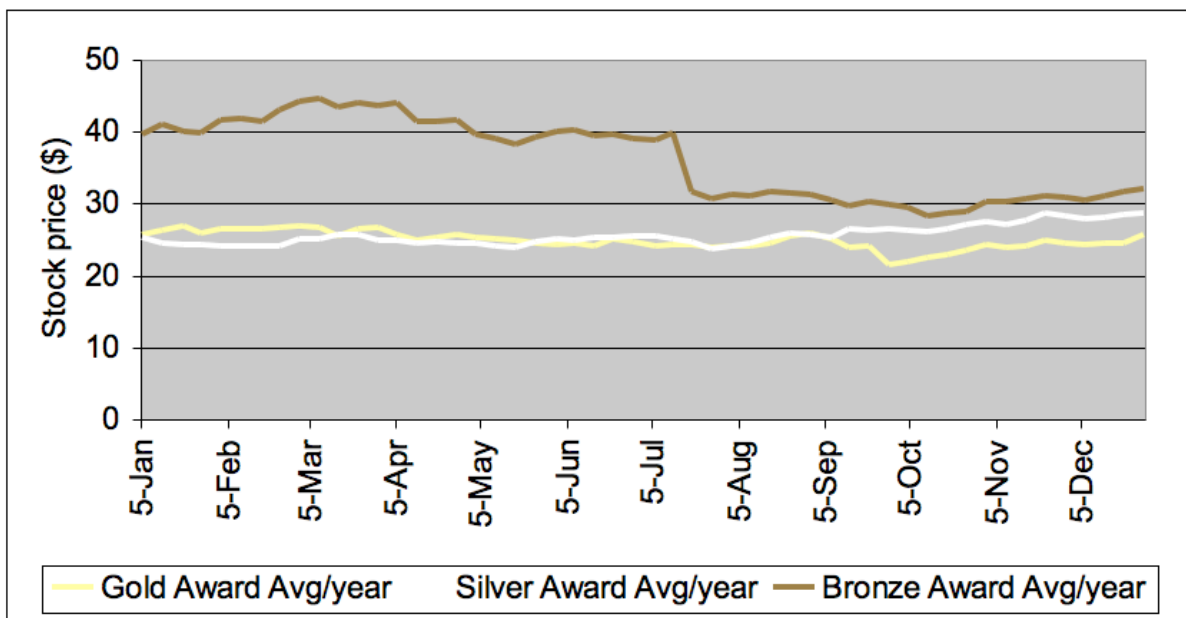
IDEA Award performance: Gold, Silver and Bronze correlates to investor expectation, as measured by the award receiving companies' stock performance. Over the five-year period, from 2000 to 2005, the stock prices of award winning products outperformed S&P500 by 6.5 % annually on average. The difference between the award winning companies and the S&P500 index is statistically significant. Graph 1. The graph suggests that investment in design quality is an investment with a minimum of four to five years return, measured as gained investors confidence. It is notable that during the bear market following the dot.com bust and the attack on 9/11, the award winning firm's performance closely followed the markets.



Graph 1. Comparison of S&P500 and stock prices of companies behind IDEA Award winning products in the period 1998 - 2005

3.2 Do Gold, Silver and Bronze winners perform differently?

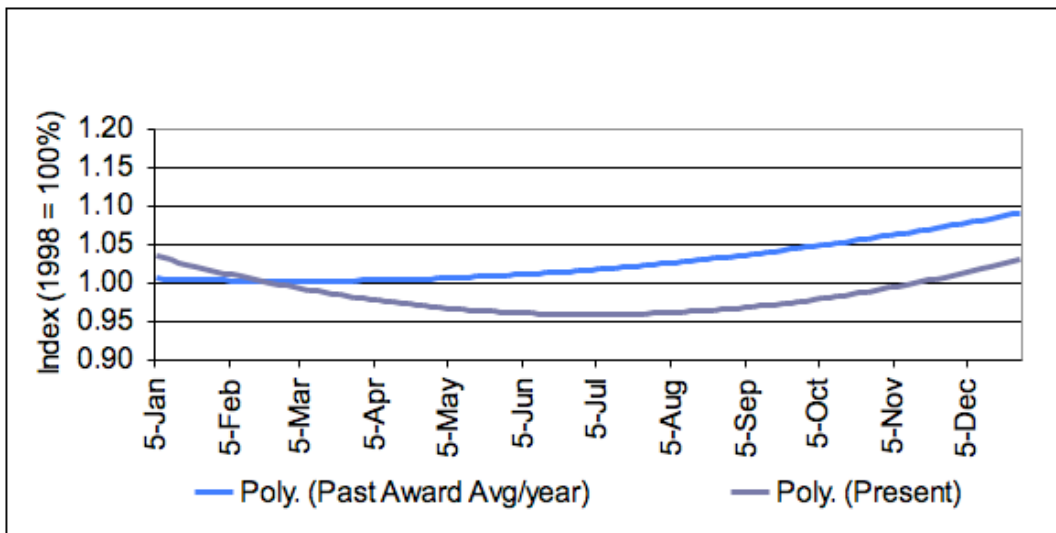
The study found that the “urban designer legend”, which says that winning the Gold is the “kiss of death” while winning Bronze indicates a sure winner, seems to hold true for the award winning year regarding stock performance. The popular belief is that Gold Award winning products are too advanced, to be accepted by the general public, while Bronze winners more accurately reflect the consumer’s current comfort level with design innovation. Multiple other reasons are possible for this trend, which observe that performance differences are statistically significant. Graph 2.



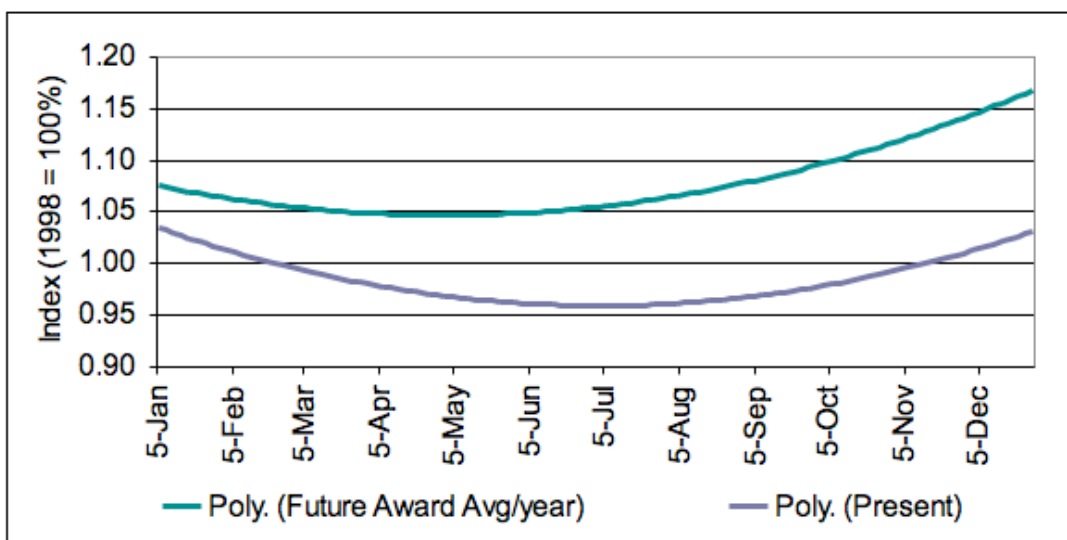
Graph 2. Comparison of the average stock price development over a year, for five years of collected IDEA Award winning stock performance

3.3 What is the breakeven point on design quality?

Although IDEA Award winning companies outperformed the S&P500 in the year of award reception, they performed better the year prior to and following the year of the award reception. Increased product development activity could spur investor confidence prior. Over enthusiasm regarding immediate results the year prior, could explain the decline in the year of reception. The final stock price increase the following year could reflect an actual materialized return on investment. Multiple other reasons are possible for this trend, which observe performance differences that are statistically significant. Graph 3 and Graph 4. It is noteworthy that the companies do not see an increase following award reception, indicating that the media hype surrounding the IDEA event does not immediately influence investor expectations.



Graph 3. Comparison of IDEA Award winner's stock performance, over a one year period, the year prior to reception and year of the award reception, observed in the period 2000 – 2005 and averaged



Graph 4. Comparison of IDEA Award winner's stock performance, over the period of a year, the year of the reception and the year following the award reception, observed in the period 2000 – 2004 and averaged

4 CONCLUSION AND DISCUSSION

4.1 What has been learned from this study?

Having found a relationship between design-quality, as measured by the IDEA Award and investor expectation, as measured by stock prices, we now have a metric capable of predicting products financial performance, consistent with the Concept Aspect Profile. The next step will be developing a practical methodology, connecting concepts to award winning using the Concept Aspect Profile. This methodology could aid decision-making in transforming design arguments into metrics with solid predictive powers.

4.1 What is known from these results?

IDEA Award Reception and the Gold, Silver or Bronze level achieved is an indicator of future investor expectations. The research establishes that products with a high degree of design quality, as measured by the IDEA award criteria, result in a 6.5 % higher stock value than the market, as measured by S&P500 over a five-year period. Interestingly, the UK investors' perceive 1.5% more value in design compared with US investors.

An immediate increase in stock-value is not seen following the announcement of the award, nor is there a long-term increase in general awareness [7] following the announcement. This leads me to believe that the delayed increase in investor expectations is related to design quality performance. Therefore, a high degree of design quality, as defined by the IDEA Award criteria [7], causes an increase in the companies' overall value. Furthermore, the IDEA criteria as it relates to the Danish Design Centre's "Design Ladder", which then correlates to revenue, export, employment and to increased investor expectations, supports this conclusion.

The public awareness of an IDEA Award winning product is due to the design quality and brand strength as opposed to advertising or media hype related to the announcement. This can be seen from the hype's rapid decreasing effect following the announcement.

4.2 How might this knowledge be used?

A connection between IDEA Award reception and investor's expectations has now been established. In the ICED07 paper "The IDEA Award As A Design Quality Metric: Part - A, Driving Web Citations And Public Awareness" a connection to general awareness of an IDSA award winning product was uncovered. Now the next step 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, along with establishing performance metric connections, could provide a practical methodology for transforming design arguments into a Concept Aspect Profile and connecting public awareness and investor expectations. In this way, concepts in the conceptual phase can be evaluated for their potential performance along with general awareness of the product and investor expectations metrics, allowing for optimization of the concepts.

REFERENCES

- [1] "New Product Failure Rates - Fact and Fallacies" - C. M. Crawford. Research Management, September 1979, 9-13
- [2] Product Leadership, Robert G Cooper, 1998
- [3] The 1997 PDMA Report, Chicago: Product Development Management Association D. S. Hopkins, New Product Winners and Losers, Conference Board Report no. 773, 1980
- [4] Booz-Allen & Hamilton, New Product Management for the 1980's, New York: Booz-Allen &

- Hamilton Inc., 1982
- [5] Design Argumentation Profile, ICED05, Søren Ingomar Petersen, Stanford University, Centre for Design Research, 2005
 - [6] The Impact of Design on Stock Market Performance - An Analysis of UK Quoted Companies 1994-2003, Feb 2004, David Kester Chief Executive Design Council
 - [7] Design Concept Argument link to Performance Metrics, Søren Ingomar Petersen, Stanford University, Centre for Design Research, 2007
 - [8] The Economic Effects of Design, September 2003, National Agency for Enterprise and Housing, Copenhagen, Denmark

Contact:

Soren Ingomar Petersen
Stanford University
Centre for Design Research
Bldg 560, Stanford, CA 94306, USA
Tel: 650-868-0014
Fax: 650-725-8475
E-mail: ingomar1@stanford.edu
URL: <http://cdr.stanford.edu>