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Incorporated**

Facilitating the Future: Now!

Heinz Luettringhaus
Design Exchange West (DEW)
Associate Professor of Design,
University of Western Sydney, Nepean
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'Facilitating Business Results - by Design'

Abstract

The presentation investigates the link between investment in Design and the return performance this investment offers to businesses. The immediacy of this linkage is based on the experience that Design is an essential element in the continuum of quality, iterative improvement and best practice leading to innovation. Design is the critical value adding and value capturing mechanism with a crucial role in sustaining and expanding economic viability and international competitiveness.

In particular, the presentation focuses on specific issues to document how Design and positively affect a company's bottom line.

- ◆ Investment in Design and links with strategic planning (Design Management)
- ◆ Design's relationship with other major competitiveness improvement strategies
- ◆ **Competitiveness and the impact of Design on the customer**
- ◆ Awareness and demand for Design services
- ◆ The Design service market and how these services are utilised
- ◆ Case studies

The talk is supported by audiovisual material (photographic and PowerPoint slides).

HEINZ LUETTRINGHAUS

Associate Professor of Design, University of Western Sydney, Nepean
Heinz is a consultant with industry in the areas of Design Management, Product Semantics, Value Engineering and Product Design and Development and holds several Australian Design Registrations together with Industry Partners. He is a joint Chief Investigator of an ARC funded industry collaborative research team and his current research focus is in Design Management and product Semantics.

DESIGN EXCHANGE WEST (DEW)

I am delighted to have been given the opportunity to speak to you, the delegates of this Conference, about Design and its contribution to Deliver Commercial Advantage.

When Kevin Griffin, the Chairman of the Conference Organising Committee, and I met in Canberra in May this year during the Inaugural National BEC Managers Conference, I took his invitation to address your Conference as a timely opportunity to extend my speaking engagements as a member of DEW, Design Exchange West into the national/international arena.

Design Exchange West, or in short DEW - was established as a Design Centre in the Great Western Sydney Region as the result of a recent feasibility study conducted on behalf of Western Sydney ITeC by the Canberra Business Centre, and funded by the Central Western Sydney Area Consultative Committee.

The management and implementation of the Centre is administered by a Management Committee involving representatives from:

- Western Sydney Information Technology Centre Ltd (Western Sydney ITeC)
- CADRE Centre for Applied Design Research and Education, University of Western Sydney, Nepean
- Department of Design Studies, University of Western Sydney, Nepean
- Garage Graphix
- Western Sydney Regional Organisation of Councils (WSROC)

Design Exchange West has three broad aims:

1. To promote the use of design to business in Greater Western Sydney by raising the awareness of micro, small and medium sized businesses about the benefits of using design;
2. To build linkages between educational institutions and the design industry in order to assist graduate designers to gain business experience facilitated by a 'hybrid' Design incubator (planned to become operational during 1998)
3. To create employment opportunities in Design and associated professions in Greater Western Sydney

That much in relation to why I am interested in spreading the word about Design and its effect on business results.

OVERVIEW OF PRESENTATION

Now to my presentation



The presentation investigates the link between investment in Design and the return performance this investment offers to businesses. The immediacy of this linkage is based on the experience that Design is an essential element in the continuum of quality, iterative improvement and best practice leading to innovation. Design is the critical value adding and value capturing mechanism with a crucial role in sustaining and expanding economic viability and international competitiveness.

The discussion of data that have emerged from recent research will make evident that the views presented above are now shared by growing numbers of Australian firms and industrial organisations world wide supported by their national Governments. The case studies presented connect that shift in the perception of Design to a shift within Design itself facilitated by an emerging new discipline in Design named 'Design Management'.

The points discussed will document that this shift and focus on Design as a strategic tool has happened predominantly within larger organisations, most typically multi-national companies, whilst remaining under-utilised by micro, small and medium sized businesses.

The message of my paper is simple: I believe that by working closely together we will be able to establish a more focussed understanding amongst those who we think need to use Design more - the MSM enterprise managers.

SECTION 1



To underpin the view that Design is an investment - not a cost following are some quotes from Australian Government Ministers and key figures in international business.



Senator The Hon Peter Cook commented in his address to the 1995 Australian Design Awards:

'Few areas of investment are like to provide firms with greater financial and strategic returns, at lower risk, than investments in the effective use of Design'.

That his view of Design as a strategic tool is carried on by the current Government is evidenced by The Hon Amanda Vanstone in her introduction to the 1997 Design Education Survey:



'Design has a key role to play in ensuring the competitiveness of Australian products and services. Establishing productive partnership between Designers and industry and integrating Design into every aspect of the production and manufacturing process is crucial to sustaining and improving the quality of Australian goods and services'.

The sentiments of the two Ministers are echoed by the following internationally renowned key figures in business and multi-national corporations.



Professor Robert Hayes, Harvard Business School:

'Design represents not simply a new frontier for management, but the next frontier for industrial competition'.



Norio Ohga, President of Sony:

'Design may soon be the only element that differentiates one product from another'.



and Nobuhiko Kawamoto, Honda President:

'Design is the next big discriminator in the way the world buys cars. We have been through the quality cycle and are nearing the end of the cost-cutting cycle. I suggest that if all cars of the near future are high quality, well finished, reliable products as well as good value-for-money then Design will be the decisive factor to sway consumer decision'.

SECTION 2



To give you a first example of the strategic use of Design - in this case in cost control - here a diagram (Diagram 1) to illustrate that the cost of developing a new product are low compared to the cost it commits:

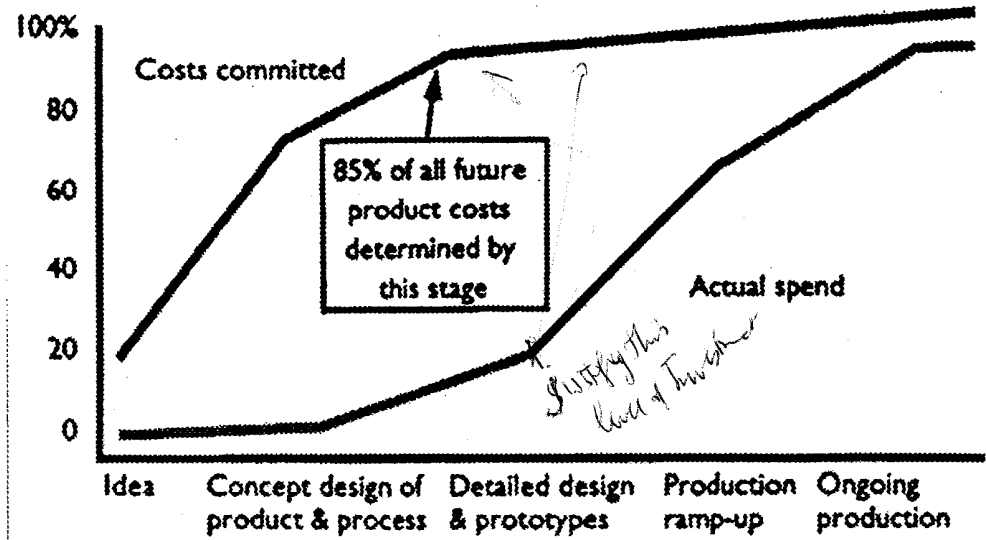


Diagram 1.

The diagram illustrates a fact that any Design professional knows all too well: That having an idea and sketching the concept costs practically nothing apart from one's own time. The 'virtual' cost though that the idea and the conceptual development by implication commit can be equivalent to 85% of the total design development and pre-production cost.

Design strategic aspects become apparent in the discussion of the graph:

Investment levels for a product can be specified early during the development process at two decision making points:

- at the end of the concept development stage; and
- at the end of the detailing and prototyping stage.

Designers are able to provide at these points fully detailed models or prototypes that can be test-marketed with consumers for acceptability and functionality. The tests provide the knowledge based on which informed decisions for or against the continuation of the project can be made.

In the case of discontinuation the level of actual dollars spent is relatively low in comparison to the cost committed in the case the project would have gone ahead.

If the decision is to continue with the project the likelihood for product success in the market is expected to be high. This in turn justifies the level of investment because of the projected returns.



The next example supports the potential return performance of Design. Research undertaken by the British Design Council has shown that firms using Design as an integral part of their marketing strategies have:

- increased their sales by more than 30%
- achieved savings in materials and assembly time of 40%
- achieved production cost savings of 40%
- significantly decreased risk in commercialising innovations
- gained successful entry into new markets



An example for the cost-effectiveness of Design:

The cost of professional product and process design represents generally 1-2% relative to the total cost of new product development, production and marketing.

The Open University's Design innovation group which surveyed 220 small to medium sized businesses that had taken part in a Government-funded product development scheme, reported that two-thirds of the products that went into production 90% made a profit and 78% of the firms recovered their total investment in less than two years.



The following diagram (Diagram 2) may help to discuss the position of Design as an agent of change in the matrix between a corporation's internal innovation process structure and its external customer base.

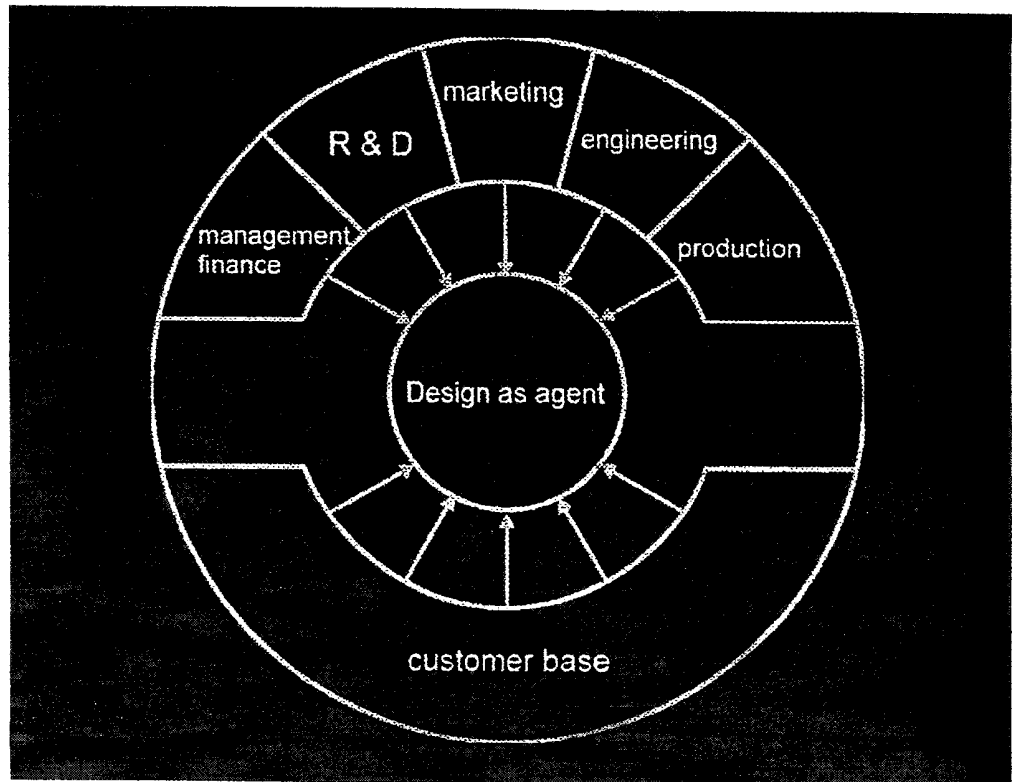


Diagram 2

The diagram illustrates the function of Design as the 'Translator and Communicator' to either side of the spectrum.

It documents the closeness of Designers to a company's customer base whilst maintaining direct dialogue with those specialists who form the company's internal product planning and development teams.

Design's importance to enhance market sales and product success by maintaining closeness to a company's customer base and focus on optimising the user-product interface as well as the user benefits rating for a product is best explained by this finding that emerged from the research undertaken in preparation for the Competing by Design review:



Some 90% of consumer decisions at point of sale are based on design appeal criteria with only 10% on technical and operational factors.

Here are two examples that confirm this finding by demonstrating how advertising professionals make use of the design appeal of a product to promote the lifestyle benefits it provides its owner with:



Discuss Ericson ad.
Discuss Tag-Hever ad.

SECTION 3



Industries in many countries around the world have experienced that the continuing pressures to improve quality and reduce cost to achieve competitive advantages has narrowed the gap between many competing products. The following selected short summaries give an indication of the extent by which countries world-wide are now actively supporting the strategic use of Design as the one differentiating factor left to explore.

Japan



For more than thirty years, there has been a clear understanding in Japan of the importance of Design in achieving export sales from manufactured goods at all levels of government and industry. Considerable financial resources have supported programs to enhance the understanding of Design and to encourage industry to use Design as a strategic means of achieving global market penetration.



Taiwan

In order to nurture its Design base in manufacturing, the Taiwanese Government is contributing some \$US170 million over the six years.



Singapore

The government actively promotes Singapore as a centre for the use of Design services in the world's fastest growing region.

Assistance schemes, Design referral services, seed funding and a national ward program, have promoted Singapore as a centre for Design in the South-East Asian region.



Malaysia

The Standards and Industrial Research Institute of Malaysia has been provided with \$US18 million to promote Design in small to medium sized businesses.



Germany

The German model demonstrates that, over time, a core of committed companies supported by governments and professional bodies can establish a critical mass to change how Design is applied and perceived, and that the process is more powerful if the community is regarded as an indispensable participant.



United Kingdom

The British Design Council focuses on delivering assistance to key sectors of British industry with a yearly budget of 12 million pounds including a 7 million pounds grant-in-aid from the Department of Trade and Industry and 5 million from sponsorship, publications and government programs.

SECTION 4

As stated in the introduction, current research categorically underlines the finding that small to medium sized companies in Australia to a large extent do not use Design in the ways referred to above.

- It should therefore be clear to us that we need to raise the awareness amongst small to medium sized firms of the positive effects Design can have on the bottom line of their businesses.
- In the following some suggestions of barriers that are perceived as main impediments to this process:
- The key restricting factor is money, particularly if the business is underfunded. Small businesses often do not have the foresight to realise the potential payback from use of professional Design services.
- Business do not understand the potential return on investment and impact on sales from Design. It has been suggested that some businesses think the use of Design is 'simply making something look pretty'.
- Businesses do not realise the value Design has on the perception of consumers.
- There is a failure among business to approach Design holistically, i.e. as a strategic tool.

Having understood this lead to our conviction that if Business Support managers and Business Consultants like yourselves take on board to promote the use of Design amongst their MSM clients we will together be able to establish a more focussed understanding of Design as a business tool.

SECTION 5



Let me use Design itself as a case study for prospering business against the odds by looking at some figures of business developments for Australian Industrial Design since 1990:



Major shifts:

- Communication Technology and Rapid Prototyping
Facilities have neutralised Australia's remote geographic position
- Strategic use of Industrial Design, Design Management
- Speed to market, concurrent R&D

Results

- Australian Industrial Design teams now work for European, USA and Asian clients
- Typically overseas business was in 1990 under 1%, is now between 50% to 60%

Here are some examples of successful collaborations between Australian Industrial Designers and international companies:

Blue Sky Design: Jogging shoe with Mechanical Return System
Client: Dunlop

Blue Sky Design: Drill/Driver
Client: Ryobi, Japan

Blue Sky Design: TV set
Client: Philips

Nielsen Design Associates: Conduit Connector
Client: **Adaptaflex Ltd, UK**

Nielsen Design Associates: UHU Glue bottles
Client: Eberhard Faber, Germany

Baley Design Associates: Double Deck City Train
Client; Danish Rail

Transport Design International: Jubilee Line driver console
Client: London Underground

Design Resource International: House Hold lantern for US, European and Asian Market
Client: Eveready, USA

Design Resource International: sports timer
Client: Harvestway, Hong Kong

Designamite: Image Editing Computer
Client: Canon, Hong Kong

New Techniques (Victoria): Cellular phone
Client; Goldtron, Singapore

New Techniques: Modular Cordless Phone
Client: Goldtron, Singapore

Applied Design Develop (in partnership with Design Continuum Inc, Bonston, SanFrancisco, Milano): Spaceball
Client: Spaceball Technologies, USA

And finally, some examples of fruitful collaboration between Australian companies and Industrial Design consultancies:

CI TECHNOLOGY

Brief	Create a new identity that reflects the sophistication of CiT's products.		
Approach	Develop integrated Corporate Design Strategy		
Design Outcome	Exterior and interior architecture/design Building, signage, public areas, foyer, boardroom, training rooms.		
	Visual Identity design New name, logo, corporate stationary and brochures, product brochures		
	Training and promotion Training of sales personnel, promotional public presentations (eg launch of new visual identity)		
Result	Total project cost (including: design development, building reconstruction and interior fitout)		\$600,000
	Design development cost	\$90,400	
	(Subsidised by Ausindustry \$ for \$)	(\$45,900)	

Year	Turnover (m)	Employees	Export (m)
6/91	7.70	50	0.25
6/92	7.98	52	0.30
6/93	9.56	58	0.45
6/94	14.00	85	2.20
6/96	19.50	114	3.86
12/97	27-28	160	7.00

EBERHARD FABER

Brief UHU PVA glue bottle design development

Result: 67% market share 6 months after launch

SHEEP VACCINE APPLICATOR

Investment	Design Development		(\$19,000)
	subsidised by Ausindustry (\$ for \$)	\$9,500	\$9,500
	Design development supervision		\$39,400
	Tooling		\$52,400
	Trialing/Evaluation		\$8,500
	Pin Development		\$7,700
	Field trials, in-house development, project management, intellectual property protection		\$132,500
	TOTAL		\$250,000
Return	Sales increase: from 2m to 6m in first year		

MEMTEC LTD

Product	Microfiltration Module M10
Development Time	12 months
Total cost:	1.5 million A\$
Design cost	40000 A\$=2.7% of total development cost
Result:	Sales volume doubled during two year period after launch Doubled again the year after

CORPORATE VISUAL COMMUNICATION

STATIONARY AUDIT

A large insurance company discovered that over the years there had been an accumulation of mostly internal forms: more than 4000. It was reduced by over 80%. The savings were millions.

PUBLICATIONS AUDIT

A listed company with a transport division.

The brief

Create a series of Yellow Pages advertisements in all states. Most of the turnover was created from the Yellow Pages but the dozens of different advertisements had no strategic or tactical commonality.

Each Yellow Pages response was sent 17 pieces of brochure material to respond to almost any marketing enquiry.

Each response package cost \$27 in print costs alone. The company had a close rate on quotes of only 10% = \$270 of print material had been sent through the mail to the ten respondents required to find one sale. Most sales fell between \$1000 and \$2000.

The solution

One cover-all booklet should be written and designed to replace the \$27 worth of bits and pieces and that it should answer the common questions asked and also give general advice and guidance. The Yellow Pages ads were written inviting the potential respondents to ask for the booklet.

The result

With the production of a single booklet advertised in the Yellow Pages enquiry rates improved, the close rate improved and the print cost of answering a response dropped from \$27 to \$2.50. As a result the print cost of closing a sale dropped from \$2070 to \$25 a saving of about 1100\$ per sale.

STATIONERY AUDIT

A big insurance company.

The brief

To change the attitude of the company's public profile with the redesign and rewriting, over two years, of more than 500 pieces of stationery and literature.

The research

Early research showed that the corporation had in its stationery list more than 40 different types of envelopes.

The solution

Envelope sizes were reduced to three

The savings

Estimated to be as much as \$1,000,000 a year.

COLEMAN SAFE KEEP MONITORS
DESIGNER: ZIBA DESIGN

Two years ago Coleman, the US camping-gear pioneer, was scouting for new brand extensions. Home safety monitoring fit the bill in two key ways; It leveraged Coleman's reputation for making safe and reliable emergency gear such as lanterns and portable stoves. And there were clear problems with existing devices as Portland (Oregon) based ZiBA Design Inc., employed by Coleman, found out. Heading this list was 'nuisance' activation from innocent causes such as charred toast. Some consumers get so annoyed at trying to stifle the screeching devices by fanning a magazine at them or climbing on a chair to push a deactivation button, they end up taking the batteries out and forsaking the protection entirely.

ZiBA gave the front cover a big, concave 'broom button' allowing a person simply to reach up with a broom handle and shut off the alarm when accidentally triggered. The broom button, plus a feature enabling the devices to be mounted on existing smoke-detector brackets to allow consumers to switch brands easily, helped Coleman capture a remarkable 40% market share in less than a year.

GATOR
DESIGNER: JOHN DEER AND HENRY DREYFUSS ASSOCIATES

The Gator is 'a classic case of strategic planning'. The Gator began in 1990, when Deer's design team, with partner Dreyfuss, was asked to develop an off-road utility vehicle that possessed both durability and pizzazz. When the first Gators rolled out of Deer's Welland (Ontario) factory in 1993, even Deer dealers didn't know exactly how to market them. But when customers 'began to realise how versatile this piece of equipment is' sales took off. They increased by 400% in that year.

Now, Deer is expanding the Gator line. The new Turf Gator, which drives like a golf car and features high-flotation tyres and the 'Med-Bed' a stretcher that can be quickly attached to the vehicle. During the design development Deer decided to use parts from existing products and used design-for-assembly to keep prices low, ranging from \$5,800 to \$9,425. This is design innovation at its best.

CONCLUSION

In concluding, I would like to go back to the main points I made in the introduction of my presentation which were aimed at underpinning why we believe that Design does in actual fact create business results by:

- ◆ understanding that spending money on Design is an investment - not a cost
- ◆ using Design in today's competitive national and international market, as a strategic business tool
- ◆ and realising that this in turn - picking up on the title of this conference - will Deliver Commercial Advantage.

Design, in the end, is about creating better things for people. Along the way, it generates better profits as well.

Thankyou

