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The impact of design on business

Design Council briefing

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To survive in challenging economic conditions and stay ahead of overseas competition, UK businesses must add value – designing innovative products and services instead of cutting prices.

However, design is increasingly being used beyond this traditional remit as a strategic tool which enhances performance and unlocks innovation. Research has begun to examine this interdisciplinary role of design, and future work must aim to understand its full impact on business performance.

The contribution of design to innovation has been widely recognised

Design is the process that links creativity and innovation

Design has been defined as the process that links creativity and innovation.¹ It does this by shaping ideas to become practical and attractive propositions for users or customers. Innovation – the successful exploitation of ideas – requires the use of design to develop new products, services or processes. This interdependency is why design is now increasingly seen as a vital part of innovation along with business and technological expertise.² The contribution of design to innovation processes has been found in several important studies.³

The design industry is a source of innovation for UK businesses

Creative sectors such as design are a significant factor in innovation and growth throughout the UK economy.⁴ Where businesses exploit the skills of UK designers, significant performance benefits have been demonstrated – for example, manufacturers who invest in design see significant outcomes as a result, including improved quality of goods and services, and increased market share.⁵

This reflects recent research by NESTA suggesting the creative industries may play a greater role in the UK's innovation system than has previously been recognised by policymakers. For instance, firms that spend double the average amount on creative inputs – including design – are 25 per cent more likely to introduce product innovations.⁶ Further research found that designers are increasingly being asked by clients for intelligence on future market trends. As a result 'front-end research' (e.g. materials development, market evolution), which helps to inform innovation processes and activities, is becoming seen as a staple activity for designers.⁷

Good design is a source of competitive advantage

Companies that invest in design can avoid competing on price alone

Research has shown that design is a significant source of competitive advantage. Companies that invest in their design capability and develop a reputation for innovation can avoid competing on price alone.⁸ In the UK, 45 per cent of firms that don't use design compete mainly on price; only 21 per cent of firms where design is significant do so.⁹

Investing in design allows businesses to compete in numerous ways:

– Creating new products and services

Design enables the creation of innovative products and services, allowing companies to open new income streams and compete overseas.¹⁰ According to PricewaterhouseCoopers, top innovators generate over 75 per cent of revenue from products not in existence five years ago.¹¹

Design is a significant source of competitive advantage

– Adding value through innovation

Rapidly growing businesses are twice as likely as others to compete on the basis of innovation.¹² Design can enhance the outcomes of numerous innovation activities, bringing benefits such as increased quality of goods and services, improved production flexibility and reduced materials costs.¹³

– Stimulating exports

51 per cent of Queen's Award for Export Achievement winners in 2002 directly attributed overseas sales success to their investment in design. Over 90 per cent found that design was valued by their international customers and 86 per cent indicated that design helps them to compete internationally.¹⁴

– Attracting investment and identifying markets

The Design Council's business support programme, Designing Demand, has helped technology companies to attract investment by using design to shape strategy based on customer needs and market opportunity:

– **SmartSensor Telemed (SSt)** used design to turn advanced bioscience into a user-centred home testing kit for diabetes. It has since opened markets in the US, and the NHS is awaiting the arrival of the new kit.¹⁵

– **Axon Automotive**, a manufacturer of fuel efficient cars, identified new markets for its carbon fibre technology and designed a new brand – leading to £650,000 from the Energy Saving Trust and a Rushlight Award for innovative environmental technology in 2007.¹⁶

¹ HM Treasury (2005) 'Cox Review of Creativity in Business: building on the UK's strengths.' London: HM Treasury

² Ibid.

³ Acha, V. (2008) 'Open By Design: the role of design in open innovation.' London: DIUS; DTI (2005) 'Economics Paper No. 15: Creativity, Design and Business Performance.' London: DTI

⁴ Sunley, P. et al (2008) 'Innovation in the creative production system: the case for design.' Journal of Economic Geography 8. Oxford: Oxford University Press; NESTA (2008) 'Hidden Innovation in the Creative Industries.' London: NESTA; The Work Foundation (2007) 'Staying Ahead: The

Economic Performance of the UK's Creative Industries.' London: Department for Culture, Media and Sport

⁵ HM Treasury (2005) 'Cox Review of Creativity in Business: building on the UK's strengths.' London: HM Treasury –citing results for UK manufacturers from the Third Community Innovation Survey.

⁶ Bakhshi, H., McVittie, E. and Simmie, J. (2008) 'Creating Innovation: Do the creative industries support innovation in the wider economy?' London: NESTA

⁷ NESTA (2008) 'Hidden Innovation in the Creative Industries.' London: NESTA

⁸ DTI (2005) 'Economics Paper No.15: Creativity, Design and Business Performance.' London: DTI

⁹ Design Council (2005) 'National Survey of Firms.' London: Design Council

¹⁰ HM Treasury (2005) 'The Cox Review of Creativity in Business: building on the UK's strengths.' London: HM Treasury; DTI (2005) 'Economics Paper No. 15: Creativity, Design and Business Performance.' London: DTI

¹¹ PricewaterhouseCoopers (2003) 'Innovation Survey.'

¹² Design Council (2005) 'National Survey of Firms.' London: Design Council

¹³ HM Treasury (2005) 'The Cox Review of Creativity in Business: building on the UK's strengths.' London: HM Treasury – citing findings for SMEs in manufacturing from the Third Community Innovation Survey.

¹⁴ Whyte, J., Salter, A., Gann, A. and Davies, A. (2002) 'Investing in Design to Improve Export Potential.' Sussex: University of Sussex. The sample included winners from 1999 to 2001.

¹⁵ EKOS Consulting (2008) 'Designing Demand Innovate Service: Follow-up evaluation. Draft final report.'

¹⁶ Ibid.

UK businesses are increasingly using design to compete

In UK businesses where design is integral to operations, 84 per cent say they've increased their competitiveness through design; and 79 per cent think that design's importance to competitiveness has risen over the past decade.¹⁷ These trends look set to continue – a recent CBI survey showed that 55 per cent of manufacturing firms see design and development as one of their most important sources of competitive advantage in five years' time.¹⁸

But UK businesses need support to innovate through design**Large and rapidly growing businesses commonly use design...**

Design is commonly used among large businesses. The Design Council found that 32 per cent of firms with 250 or more employees see design as integral to their operations.¹⁹ The research also found a higher intensity of design activity among rapidly growing businesses, who were six times more likely than static ones to see design as integral to their operation.

...but more businesses could benefit – particularly SMEs

The Design Council's research with UK businesses found a lack of creativity among UK firms. While 83 per cent of firms where design is integral have introduced a new product or service in the last three years, only 40 per cent of firms overall have done so.²⁰ As argued in the Cox Review of Creativity in Business, many UK small and medium enterprises (SMEs) currently don't know how to access and use good design, which limits their potential for innovation and growth.²¹ This is also suggested by the Design Council's research: 32 per cent of larger businesses see design as integral, but this is only true among 15 per cent of SMEs.

The Design Council is helping SMEs to innovate through design

The Design Council's national business support programme, Designing Demand, was launched in 2006 to make SMEs more competitive through the strategic use of design. The programme has worked with more than 1,200 companies, helping them improve competitiveness by using design to bring new products to market, improve products and services, streamline strategic processes, and strengthen branding and promotional activities.²²

New research has shown the broader impact of design**Past studies have assessed design as a single factor...**

Several landmark studies have sought to attribute business success to the use of design. In the 1980s, small engineering companies with high growth were found to make significant use of industrial design.²³ During the 1990s, a relationship was found between design-use and average profit margin among design-conscious firms.²⁴

Recently, companies judged as exhibiting high design effectiveness were stronger on performance measures including higher returns on sales and net income.²⁵ Design Council research has also suggested that a group of design-aware companies outperformed the FTSE 100 index by more than 200% between 1994 and 2003.²⁶

...but research must capture the interdisciplinary nature of design

Isolating design as a single factor in business success is problematic. It can ignore the relationship between use of design and factors such as company size, sector and culture. It can also play down the contribution of other factors such as strategy, marketing and sales, which can themselves incorporate design to an extent that goes unreported.²⁷ Where possible, research needs to evaluate the interdisciplinary role of design and avoid making claims for its value as a single input.

Recent work has adopted this broader perspective

The Department for Innovation, Universities and Skills (DIUS) has recently demonstrated that design is a core capability that shapes open innovation practice, and that design is given higher importance by firms which have such practices.²⁸ Design Council research has found the design function being used by global companies to foster innovation across organisational boundaries:

- **LEGO** has developed a new design system to run its whole innovation process. The programme aligns corporate objectives and design strategy, and puts designers at the heart of multidisciplinary project teams. The system has allowed LEGO to cut its average design cycle from two years to six months.
- **Virgin Atlantic Airways** uses design as a key competitive differentiator. It locates designers across the business to allow for cross-functional sharing of ideas; and has created a service design department which works with the crew management and HR departments to develop and deliver new offerings.

¹⁷ Design Council (2005) 'National Survey of Firms.' London: Design Council

¹⁸ CBI (2007) 'Understanding Modern Manufacturing'

¹⁹ Design Council (2005) 'National Survey of Firms.' London: Design Council

²⁰ Ibid.

²¹ HM Treasury (2005) 'The Cox Review of Creativity in Business: building on the UK's strengths.' London: HM Treasury

²² EKOS Consulting (2008) 'Designing Demand Innovate Service: Follow-up evaluation. Draft final report.'

²³ Black, C. & Baker M. (1987) 'Success through design.' Design Studies, Vol. 8 No.4. The study looked at a sample of around 60 small engineering firms.

²⁴ Walsh, V. et al (1992) 'Winning by design: technology, product design and international competitiveness.' Oxford: Blackwell Business

²⁵ Hertenstein, J. et al (2004) 'The Impact of Industrial Design Effectiveness on Corporate Financial Performance.' Journal of Product Innovation Management, Vol. 22 Issue 1, Boston: Blackwell

²⁶ Design Council (2005) 'The Impact of Design on Stock Market Performance.' London: Design Council. Similar results were found in: Hertenstein, J. et al (2004) 'The Impact of Industrial Design Effectiveness on Corporate Financial Performance.' Journal of Product Innovation Management, Vol. 22 Issue 1, Boston: Blackwell. However, in many such studies there remains an unavoidable subjectivity in how 'design-aware' companies are identified.

²⁷ The underreporting of design-spend (along with other intangibles such as R&D) in firms remains a problem for research. See Tether, B. (2005) 'Think Piece on the Role of Design in Business Performance.' London: DTI

²⁸ 'Open' innovation is an umbrella term for the various means, depths and motives for reaching across organisational boundaries to achieve an innovation task. Acha, V. (2008) 'Open by Design: The Role of Design in Open Innovation.' London: DIUS

– Whirlpool now sees design and innovation as central to its growth strategy: core elements include a centralised design function to control costs and exploit emerging trends, and robust metrics linking design and manufacturing quality to sales and support costs.²⁹

Government has begun to recognise these wider benefits

There have recently been major advances in design policy

The Department for Culture, Media and Sport (DCMS) now has a creative industries strategy that will support the growth of the UK design sector amid increased global competition.³⁰ DIUS has provided seed funding to develop a design-led innovation enabling programme in the public sector – and funding to accelerate technology transfer through design in higher education institutions.³¹ There are also new university schools opening across the country that combine design, business and science teaching.³²

There is international evidence of successful design policies

Pro-active government design policies in Finland and South Korea have enabled companies such as Nokia and Samsung to become world leaders, and made their countries more competitive as a result:

- Finland’s national design strategy, introduced in 2000, aimed to enhance the country’s international competitiveness. By promoting design education and research, integrating design into a broader national innovation strategy, and promoting Finland as a design leader, Finland has positioned itself among the most innovative nations in the world. Nokia has since reinvented itself with a design-focus to become the world’s biggest supplier of mobile phones, with a 40 per cent share of the world market.³³
- South Korea’s national design strategy has helped companies such as Samsung and Daewoo to become market leaders. After the Asian financial crisis of 1997-1998, South Korea established policies to raise design education standards, develop design infrastructure such as the Korean Design Centre and encourage companies to adopt design in their business models. Samsung has benefited from such government support and now designs a broad range of high quality consumer and business products.³⁴

However, further research on the impact of design is needed

New academic research is needed...

Many important studies on the impact of design are now over 10 years old, and new research should build on the evidence of design’s impact on business performance, particularly in the broader context of innovation.³⁵

...along with efforts to classify design accurately among the creative industries

The UK leads the world in measuring the economic contribution of its creative industries – but the current standard industry classifications (SICs) mean that high quality data on design is difficult to obtain. There is a growing interest in improving the sector and sub-sector definitions to provide policymakers with more robust evidence and allow for international comparisons.³⁶

This work will enhance our understanding of the knowledge economy...

New and accurate data on the economic impact of design will contribute to current work on the knowledge economy, which has shown that design makes contributions which are not picked up by traditional metrics. For example, research by NESTA has shown that traditional innovation measures do not capture ‘hidden’ innovations around the workplace, which often include the use of design processes.³⁷

And the Department for Business, Enterprise and Regulatory Reform (BERR) has reported the shift in investment priorities among UK manufacturers towards the exploitation of intangible assets such as design and development, marketing and R&D – further evidence of design’s role in the move towards a knowledge-driven economy.³⁸

...and support the Design Council’s national design research forum

The Design Council is developing a national design research forum with universities, research councils and other research organisations. The forum will bring together UK and international research on design, and disseminate research findings among business, academic and policymaking communities.³⁹ The Design Council’s research programme will also continue to enhance the national evidence base for design’s impact on business and public services.

²⁹ Design Council (2007) ‘Eleven lessons: Managing design in eleven global brands.’ www.designcouncil.org.uk/elevenlessons

³⁰ DCMS (2008) ‘Creative Britain: New Talents for the New Economy.’ London: DCMS

³¹ DIUS (2008) ‘Innovation Nation.’ London: DIUS

³² HM Treasury (2005) ‘The Cox Review of Creativity in Business: building on the UK’s strengths.’ London: HM Treasury

³³ Labone, R. et al (2003) ‘Success by Design.’ Wellington: New Zealand Design Task Force

³⁴ Ibid.

³⁵ HM Treasury (2005); DIUS (2008) ‘Innovation Nation.’ London: DIUS

³⁶ Roodhouse, S. (2008) ‘Defining the Creative Industries: their role in London and beyond.’ London: Creative Industries Observatory

³⁷ NESTA (2007) ‘Hidden Innovation: How innovation happens in six ‘low innovation’ sectors.’ London: NESTA

³⁸ HM Treasury (2007) ‘Intangible investment and Britain’s productivity: Treasury Economic Working Paper No.1’ London: HM Treasury; BERR (2008) ‘Manufacturing: New Challenges, New Opportunities.’ London: BERR. See also: The Work Foundation (2007) ‘What You Get Is Not What You See: Intangible assets and the knowledge economy.’ London: The Work Foundation

³⁹ Design Council (2008) ‘The Good Design Plan.’ London: Design Council

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