Design Economies:
Moving on from the Knowledge Economy

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Financial rewards

Design-intensive companies outperformed the FTSE 100 by 200% over a ten year period.

Design Council, National Survey of Firms, 2004-2005

Economics of Design – UK figures

- British Businesses spend approximately £30 billion pa on design services - approx 3% corporate turnover (exceeding the 2.1% spent on R&D).
- UK exports of Design services are approx £1 bn per annum
- The design consultancy industry is around 4000 businesses and 80,000 staff.
- 90% of rapidly growing businesses say design is integral to their operation – only 26% of static businesses say the same.
- 74% of rapidly growing companies say that design is important to their competitive edge over the last 10 years - compared to 44% overall
- 64% of rapidly growing companies say design, innovation and creativity has contributed strongly to their competitiveness over the past 3 years – compared to 14% overall.
- The shareprice of companies renowned for their effective use of design outran the FTSE100 index by 65% (1995-2002) and outperformed it by 23% in the bearmarket of 2000-2002.

Competing through innovation

45%

of companies that don't use design compete mainly on price. Where design is significant, only

21%

have to compete on price.

Design Council, National Survey of Firms, 2004-2005

Bigger Design-focused Economic, Entrepreneurial and Business Picture

- Real direct contribution to GDP (business design spend + design services exports) is around 80% greater than reported.
- Design activity is an enabling process. The contribution to GDP of the approx 75% of firms that critically depend on design activity would be significantly less without design input.
- Design activities are central to management, entrepreneurial and other professional activities involved in business and innovation at all scales from enterprise to micro-businesses.
- Design research is the discipline that focuses on improving the efficiency and effectiveness of these design activities and processes
- Design research and design activity offers significant benefits for improving the success rate of entrepreneurial businesses, innovation programs and enterprise development.

Scope of Design Activity

There are over 650 different sub-fields of design activity.

- *Technical* design fields (engineering, construction, information systems, software, hardware etc)
- *'Art and Design'* design fields (graphics, fashion, photography etc)
- *'Other'* new design fields (e.g. social program design, organisation design; business process design; e-business system design; change management design; government policy design, curriculum design, etc)

The proportions appear to be approx: Technical-40%; Art & Design-10%; 'Other' design-40%.

Definitions

To *Design:*

To devise a plan to change an existing situation into a preferred one (Simon,1984)

A *Design:*

A specification or plan for changing an existing situation into a preferred one

Design infrastructure:

The expertise and resources necessary to convert information and new knowledge into designs for real world products, services, systems, organisations and policies.

Simon, H. A. (1984). *The Sciences of the Artificial* (2nd ed.). Cambridge, Ma: MIT Press.

Benefits of Strong Design Infrastructure

- Strong national design infrastructure increases national economic and social benefits by improving efficiency and effectiveness of design processes
- Allows increased complexity in the designs for products and services
- Shortens time to market
- Reduces effects of IPR protection
- Reduces downstream costs shaped by early design decisions
- Minimises risks of product and service failures.

Problems of Weak Design Infrastructure

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- Innovation programs compromised by lack of adequate design processes - leading to reduced quantity and quality of outcomes
- Delays in converting new knowledge into commercially and socially beneficial products, services and systems
- Reduced financial viability of innovation initiatives
- Severely reduced national economic and social benefits from investment in innovation and research.

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Design Infrastructure

Design infrastructure consists of:

- Designers – sufficient numbers with the right training
- Product and other design businesses
- Design education programs
- Professional design organizations
- Government bodies whose focus is design infrastructure
- Design research programs
- Government design policies

Without adequate design infrastructure, new Australian scientific knowledge does not emerge in economically viable practical applications.

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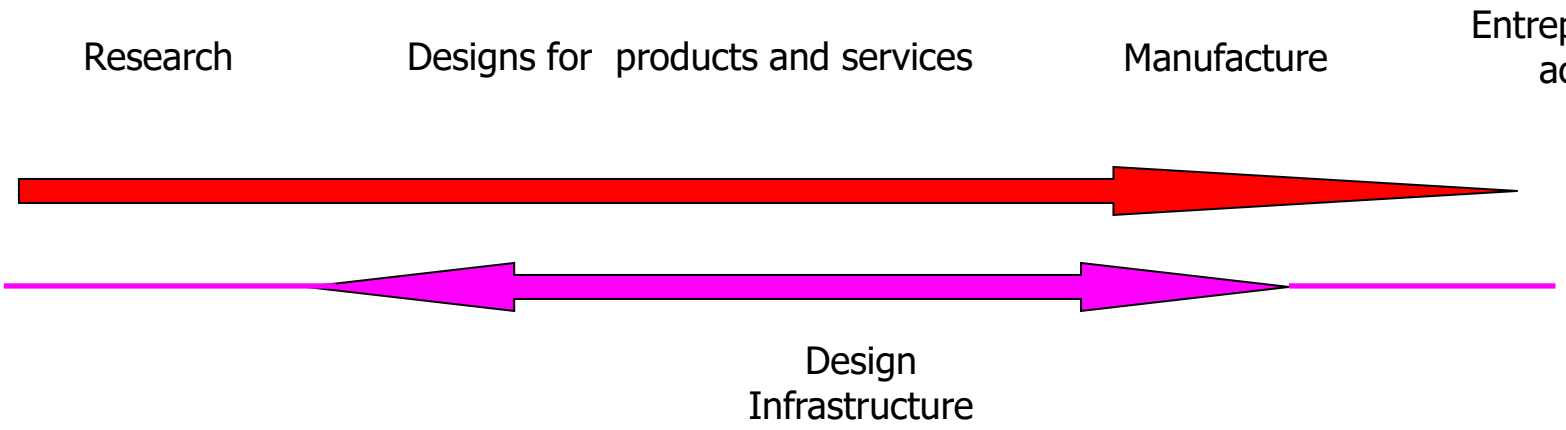
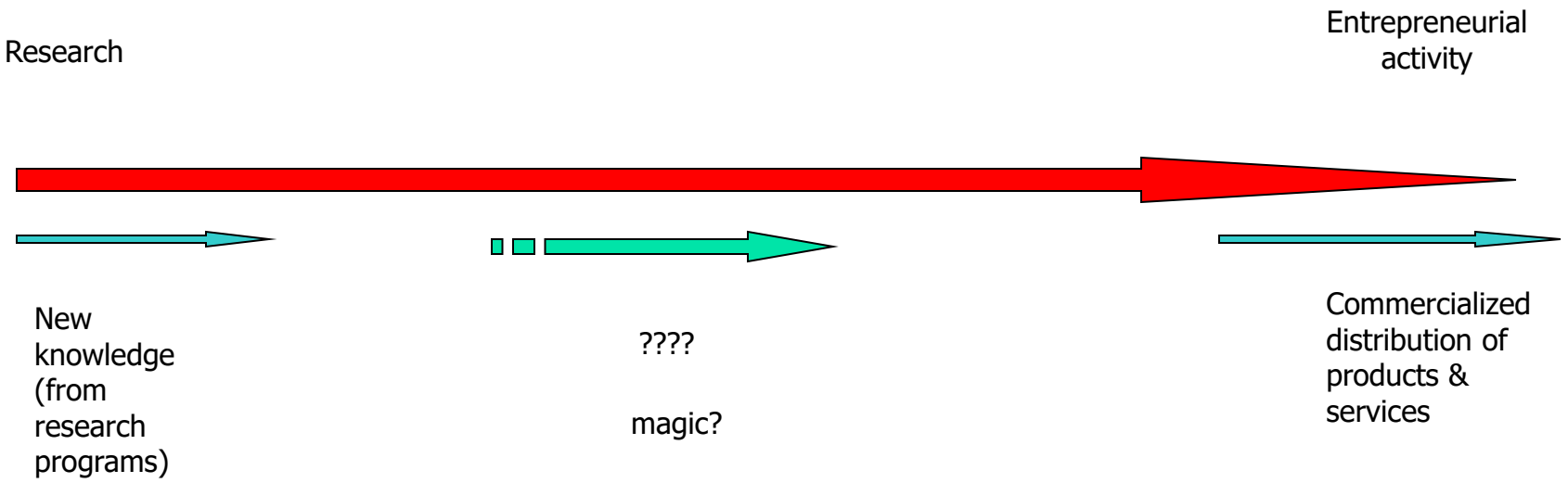
Design Infrastructure – key points

- Building design infrastructure is important for Australia's national development.
- Innovation programs are severely compromised where there is weakness in national design infrastructure
- Building design infrastructure directly improves innovation outcomes.

Elements of Successful Innovation



Research and Entrepreneurship Innovation Model found in Australia



Problems of Australian Design Infrastructure

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- Negligible funding for design research in Australia. This contrasts with the 100s of millions of dollars invested by countries such as the US and the UK.
- No government body dedicated to supporting design processes (Countries such as UK, US, Finland have several)
- Compared to other developed countries the level of Australian design infrastructure appears unusually low
- No formal national design policy
- Neglect of design processes in Australian innovation literature

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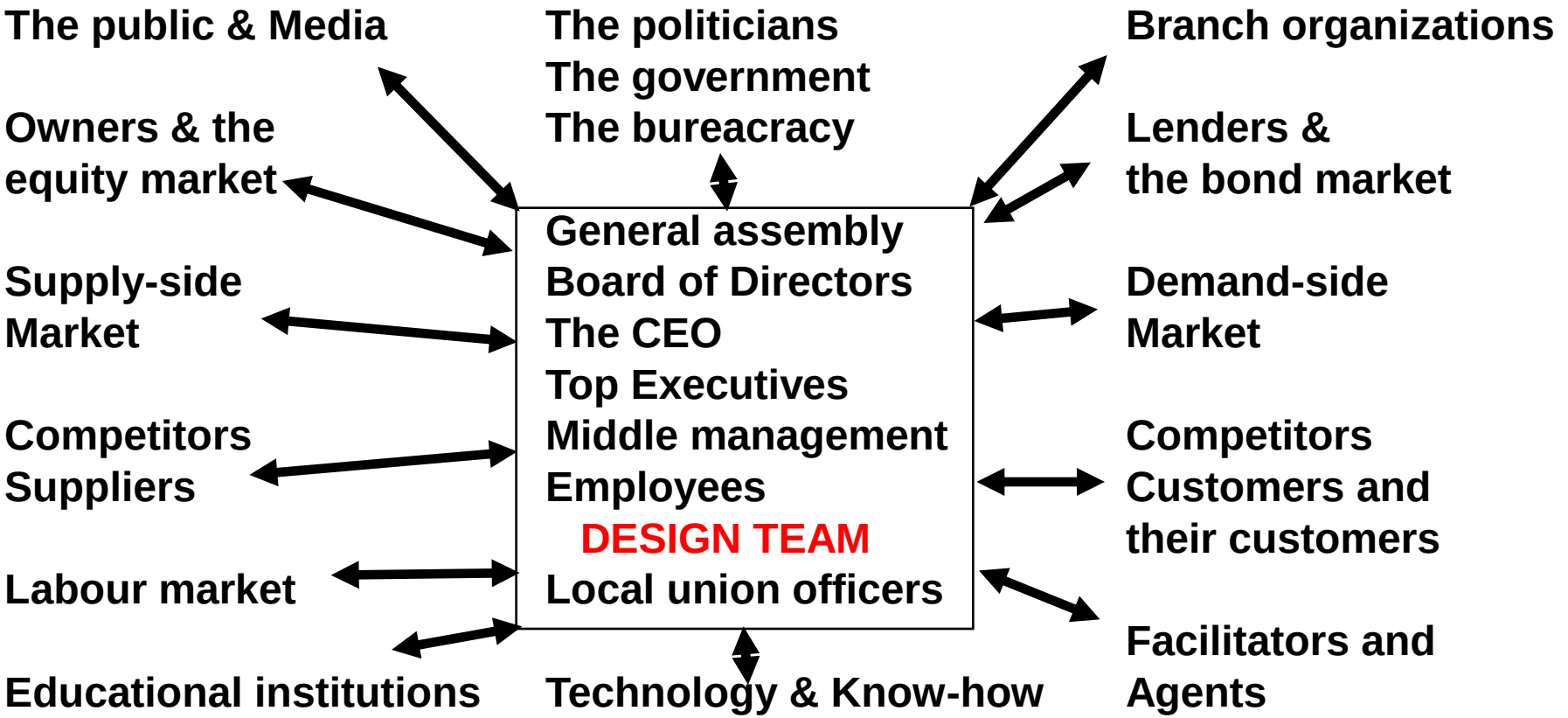
Designing and stakeholders

- Design activity involves many stakeholders:
  - Entrepreneurs
  - Marketing experts
  - Manufacturing experts
  - Materials experts
  - Business process planners
  - Users
  - Researchers
  - Other designers

Designers' constituencies



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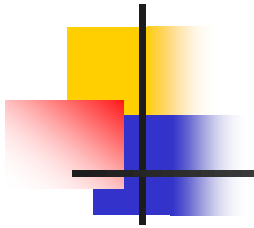

Questions?