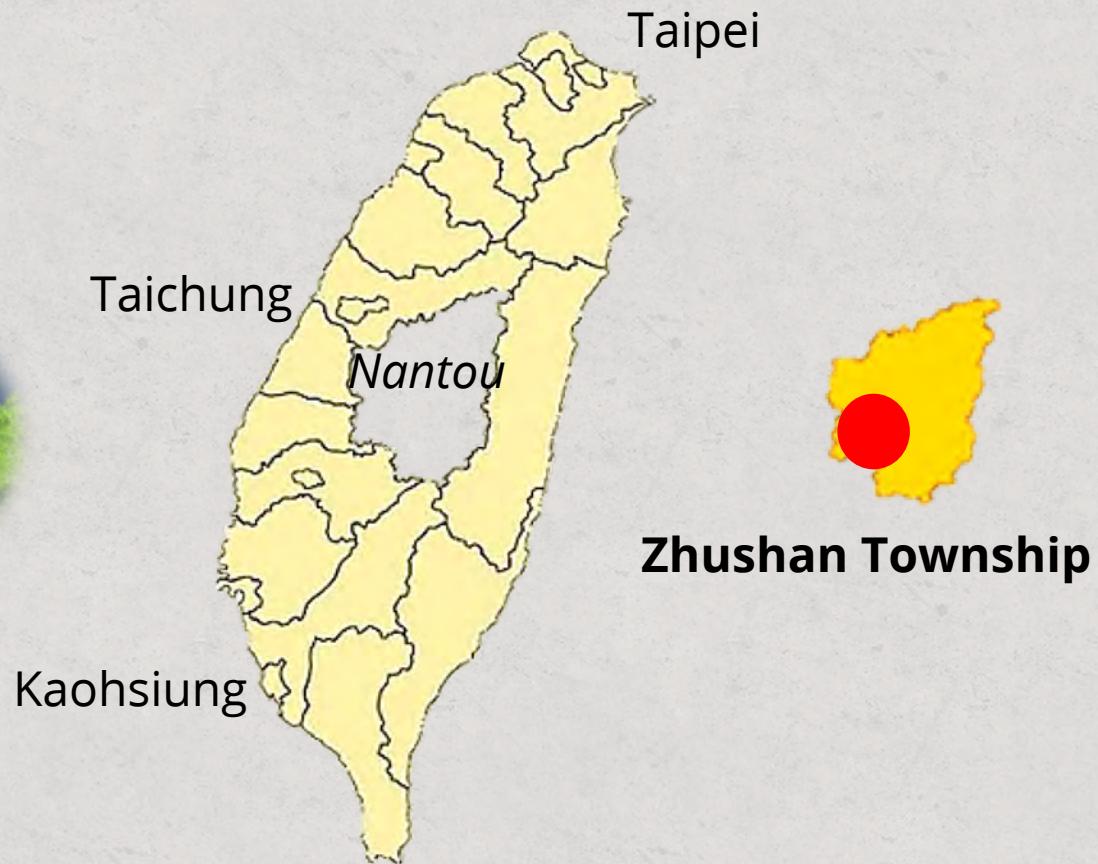


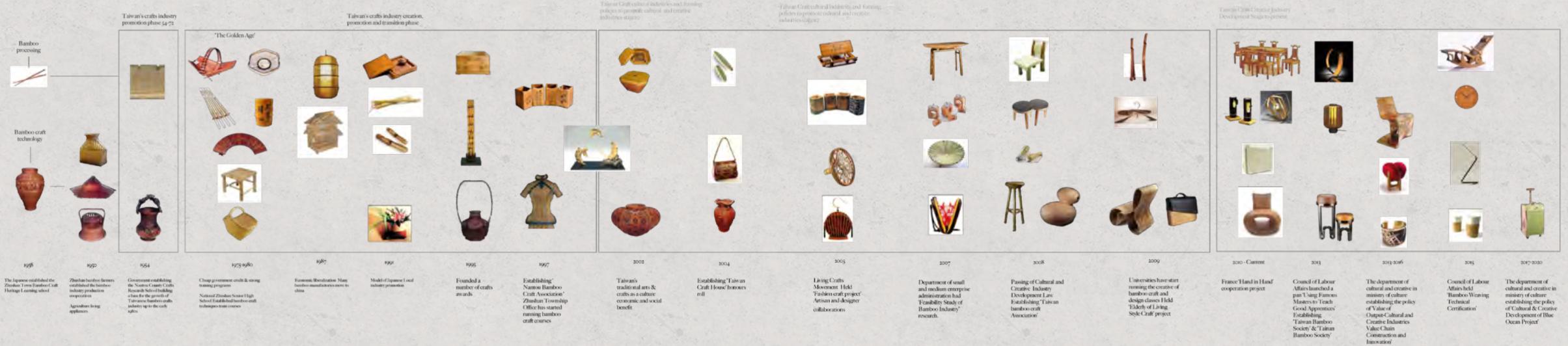
Saving Taiwan's Bamboo Product Manufacturing: Design Management and Trade & Industry frameworks versus a cultural industry response

Mr Hung Wei Lee, A/Prof Carolyn Barnes, Dr Gianni Renda
Centre for Design Innovation, Swinburne University of Technology, Melbourne Australia

Taiwan's Heart of Bamboo



A selected history



(Lee, Renda, Barnes, 2016)

Craft versus Product



Collaboration
between product
designer & artisan

The Decline and Fall of the Industry

- A shift from products, due to lower cost alternatives
- OEM focus on manufacturing, not design innovation
- Government subsidies focus on creating, not innovating
- Craft sector well funded, but stagnant

The Investigation

- Interviews across the following sectors:
 - Manufacturing Companies (n=10)
 - Craft studios (n=6)
 - Product Design Studios (n=4)

The major issues arising from the interviews

Organising Themes	Basic Themes	
Limited manufacturing capacity & poor product quality	Broken industry chain Poor bamboo agronomy Poor manufacturing conditions and equipment	Poor production management Poor product quality control
Workforce and management issues	Lack of job opportunities No use of product design	No concept of teamwork
Cost Structures	High material costs High production costs	High salary costs High marketing costs
Market Conditions	Consumer resistance Strong international competition Limited product range	Lack of product innovation Lack of design management expertise

Government policy and support

Organising Themes	Basic Themes	
Challenging regulatory frameworks	Inappropriate industrial production laws Unsupportive copyright laws	Limited technology transfer
Poor research and strategy	Neglect of needs of micro and small firms Narrow promotion strategies	Lack of research into new technologies
Structural dysfunction	Lack of a long-term promotion plan No coordination between business units	Business units lack skills and knowledge
Disconnect between industry needs and tertiary education	Neglect of skills within the bamboo industry No relevant high-school training	Limited exposure to bamboo manufacturing in universities Poor skills and knowledge for industry

A Way Forward

- Reinstate the high school programs
- Investigate the use of new technologies
- Engage with the OEMs to transition to 'own brand'
- Focus on craft with Design Led Innovation (DLI)

Design Led Innovation (DLI)



How it could work

Design Led Innovation

Organizational
Structure &
learning

Manufacturing
Processes

Relations with
Suppliers,
Distributors,
Customers
and other
Businesses

Design and
Innovation
Management
theory

Government policy
to the industry
strategies

New Product Development

Innovation
Capabilities

Technology
Platforms

Product
Platforms

Company
Performance

Positive
Relationship
across the
industry

All needed to renew
Taiwan's bamboo
products industry



Conclusion; Where to Next?

- Refocus the OEM Sector, provide DLI training
- Promote collaboration between craft and OEM sectors
- Engage the Education Sector with Industry
- Be patient

A special note of thanks to the following organisations for supporting this research:

