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

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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

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<th>Organising Themes</th>
<th>Basic Themes</th>
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| 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

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<thead>
<tr>
<th>Organising Themes</th>
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<tr>
<td><strong>Challenging regulatory frameworks</strong></td>
<td>Inappropriate industrial production laws</td>
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<td>Unsupportive copyright laws</td>
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<td><strong>Poor research and strategy</strong></td>
<td>Neglect of needs of micro and small firms</td>
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<td>Narrow promotion strategies</td>
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<td><strong>Structural dysfunction</strong></td>
<td>Lack of a long-term promotion plan</td>
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<td>No coordination between business units</td>
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<td><strong>Disconnect between industry needs and tertiary education</strong></td>
<td>Neglect of skills within the bamboo industry</td>
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<td>No relevant high-school training</td>
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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: