Priority Research Needs of the New Zealand Building Professionals

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NZIOB
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Professionals’ Research Needs

• If you were to ask a typical construction professional what their research needs are, they would say something like: -things that make projects go:\(^1\):
  – Better
  – Faster
  – Cheaper
  – Safer

• Faster, cheaper and safer are self explainable.
Better?
Better?

• This is not the first time this question has been asked.
• The latest has been an extensive and combined consultation of the industry by; CIC, CSG, BRANZ and MBIE\(^2\).
• This survey clustered professionals according to the function they performed:
  – Building Officials
  – Architects
  – Designers
  – Builders
  – Educators/consultants/Other

Rogers, B. (2014). *Priority research needs of the New Zealand building professionals*, Keynote delivered at the 4th New Zealand Built Environment Research Symposium (NZBERS), 14 November, Massey University, Albany campus.
Common Themes Identified

• Important research needs found are:
  – Productivity
  – New technology integration
  – Retrofitting and upgrading existing buildings
  – Business Management
  – Building user behaviour
  – Construction Management
  – Building envelope
  – Materials durability
Research Strategy

• The work was further formalised into a research strategy\(^3\) structured into nine areas:
  – Better buildings
  – Materials performance
  – Maintaining and improving the performance of existing buildings
  – Sustainability
  – Automation, industrialisation and new technologies
  – Operating environment
  – Productivity
  – Meeting the housing needs of all New Zealanders
  – Building better cities and communities
Context

• Thus we see a maturing development in identifying our needs and not only qualifying “Better” but expanding the concept to include context.

• A tale of two Cs: Content and Context
  – Content: BoKs or the physical construction
  – Context: continuum from abstract to detail\(^1\) and a subsystem within a system

• Essential that we understand context and the need for new skills: integration, systems thinking, convergence and collaboration.

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Ensuring Research Aligns

• Industry research needs may be quite different to professional research needs, E.g. BoKs in different professions.

• Need to ensure that research aligns with industry professional needs:

<table>
<thead>
<tr>
<th>Research Topic</th>
<th>Industry Rank</th>
<th>Research Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constructability</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>Estimating/Bidding</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Economics/Cost Control</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Design/BIM</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Materials/Equipment</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>Project Delivery</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Management/Risks</td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>

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Research Wish List

In a construction context:

• Strategy & Strategic Management
  – Governance, Emergence vs Planning

• Organisation and Behaviour

• Building Regulation and other regulation
  – Performance, balance, policy impacts

• Sustainability

• Bodies of Knowledge & the “new professionalism”
Knowledge Transfer

• We need more focused on KT
• Research tends to target other academics
• Has to acknowledge industry context
• Longitudinal studies, -we need more.
• Narrative, -story telling approach
• BRANZ is a successful example

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Lessons Learnt

• The answer to what are research needs depend upon:
  
  – Your profession:
    e.g. The need for research on construction management & site practices is important to builders and educators but not Architects and Building Officials.
  
  – Economic environment: e.g. The GFC focused attentions on economic cycles and cost control.
  
  – Other environmental factors: e.g. Earthquakes, leaky buildings etc.
Lessons Learnt

• We have explored research needs and derived a research strategy. However the emphasise on themes and subjects within themes will change over time³.

• Consult widely industry professionals in your area of research.

• Follow your passion but make it accessible⁴.

• Establish or underpin principle when contributing to knowledge.

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References


