New Business Ecosystems and Innovation Diffusion within WMC

A Case Study in Finland

KäPy – End-User Orientation to Development of Business-Ecosystems in Wood-Based Multistorey Construction

Toivonen, R., Toppinen, A., Lähtinen, K., Pöyhönen, J.

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Ritva Toivonen – ritva.toivonen@helsinki.fi  Juho Pöyhönen  juho.poyhonen@helsinki.fi
http://woodenliving.net/in-english
URBAN RESIDENTIAL HOUSING FROM WOOD - WMC

Prefabrication, innovations & new actors on the market....but still piloting!

Are there BEs in the WMC business? How to develop their operation and success?

Picture by Juho Pöyhönen, 2017
User approach to developing business ecosystems in WMC – KäPy Project

• University of Helsinki, Dept. of Forest Sciences
• Funding: by Tekes and partner companies
• Designed around concrete WMC building projects during 2016-2018
  1. Business ecosystems in WMC
  2. Living in a wood-frame apartment house
  3. Cities as gatekeepers for success of WMC
• Partner Universities: Vaasa, Linköping, BOKU, UBC
Research questions

• How is a WMC BE formed? How does it operate?
• What are the key factors for the success?
• How are innovations (products and processes) created? How do these diffuse in the BE?

• How is the end-user information obtained in a construction project and how is the information used?
This study:
“A WMC BE efficiently integrates synergistic resources and capabilities of firms and non-profit actors of the society, including municipalities and R&D organizations,

and purposefully and systematically aims to create value for customers and profit/success for the BE members.

The success of a WMC BE leads to recreation of the business ecosystem (to new business projects) in new construction projects.”
BE Core Business Firms & Success Factors

WMC project participant firms: roles and tasks

- Governance: formal and informal
- Shared logic: values and targets etc.
- Investors & finance
- Designers, planners
- Value creation by the Core BE
- Consumers, residents
- Suppliers
- Sub-contractors
- Real estate marketing
- Suppliers
- Real estate marketing
- Consumers, residents

Suppliers, designers, planners, investors, and finance create value for consumers and residents through the WMC project.
Methods and Data

• Qualitative case study: a WMC project in Finland (2017)
  • Data: thematic (semi structured) interviews (spring 2017)
  • Interviewed persons: 13, organizations 10
  • **BE enlarged enterprise:** identified firms 18, organizations 20

• Next steps
  • Two more cases (WMC construction projects) from Finland
  • Planned: comparative data from Sweden/Austria

Picture by Juho Pöyhönen, 2017
Case 1:

- Two-storey wood element loft, a city in Central Finland
- Main contractor = Investor and the keystone enterprise in the core BE
- Wood elements, new between-storeys floor solutions introduced - “the innovation” in this Case
- Construction 2016 – spring 17
- Residents are moving in June 2017 -
Preliminary insights to the Case I – Formation and functioning not the final analysis!

An early-stage sketch of the Business ecosystem in CASE I

(based on interviews by Juho Pöyhönen)
Benefits and value creation

Difficult for the interviewees to identify how/where/what!

• Perceived as "a project among others"
  • .... But visibility in the region, experience ....
• The value for end-user/resident
  • ....But: Excellent price-quality ratio
Innovations – new experience, solutions

• Perception: ...not any particularly innovative project...
  • The Keystone player firm saw the whole project as learning and piloting for new, innovative constructs and assembly solutions.

• Some innovative issues were identified:
  • ”new” (base construct between floors) elements - experience
  • ”Innovative” solutions were invented when problems/not B-a-U situations appeared -> ready solutions for further projects
  • Almost merely (?) prefabricated wooden elements
    -> experience of (fastness!! of ) assembly at the site
Early observations...treat with caution!

• Innovativeness is overarching – not yet any BaU solutions in WMC
• Shared logic / fuzzy logic...? Clearer awareness of the project targets
• => Closer/more systematic communication, more formalized communication platform and roles?

• Orientation toward “learning new”
• Vision of continuity of co-operation by the core enterprise members
• ...Overall perception of success!

• End-user (resident) orientation was not in anybody’s focus (!)
Case II
A 4-storey residential building
(16 family apartments, private markets)
• A city in Central Finland 2017-18

Case III
A 12-storey student home building
• Helsinki Metropolitan Area
• 2018-2019?
International Comparative Analysis planned

- BOKU in Austria/Vienna
- A case is being identified,
- Start fall 2017?

Interested in joining?

Picture by Ritva Toivonen, 2017 (WMC residential area, Vienna)
Thank you!

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