

Finding investment criteria for monitoring based commissioning (MBCx) services – focus group evidence from Finland

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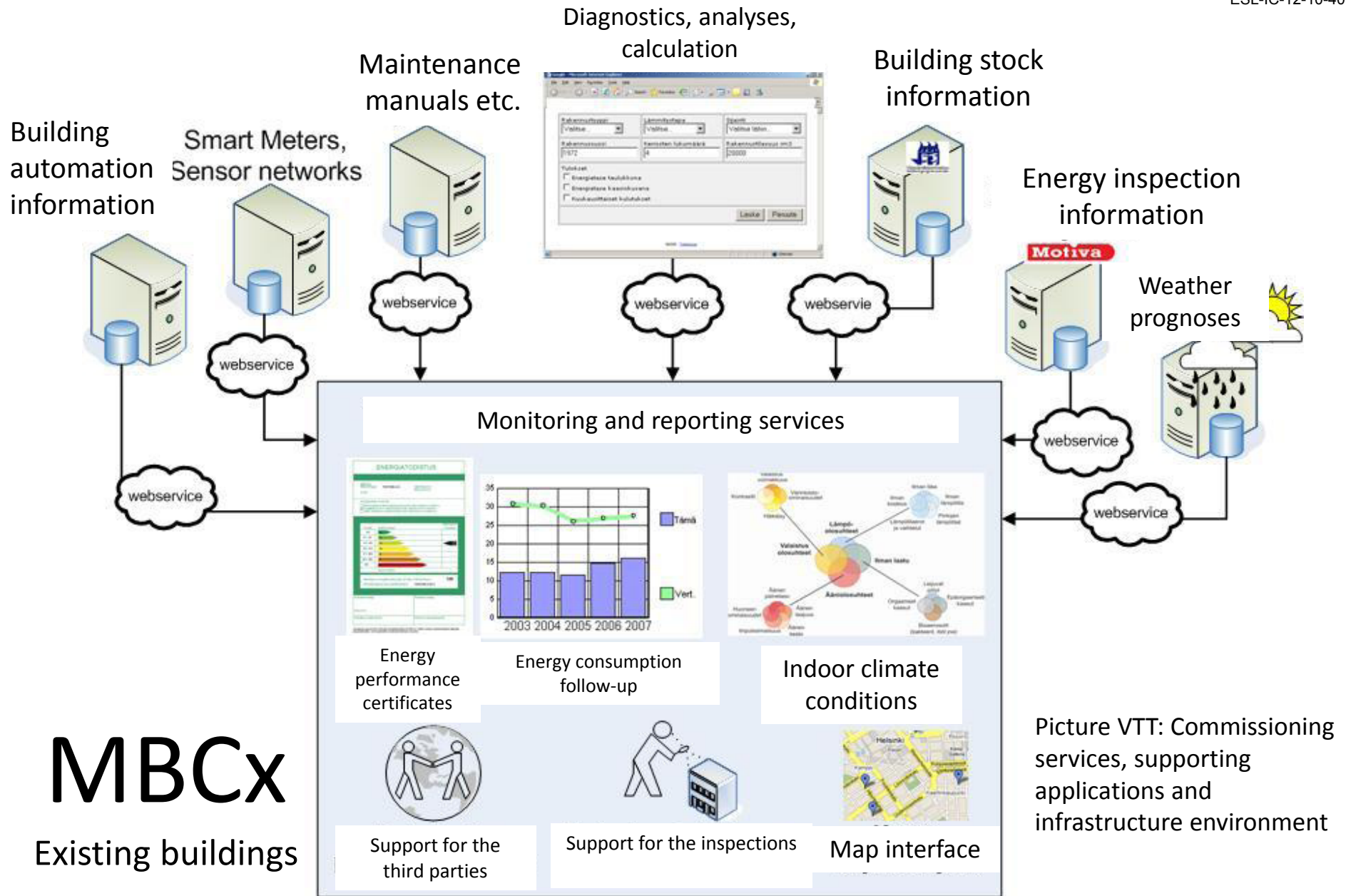
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MBCx

Existing buildings

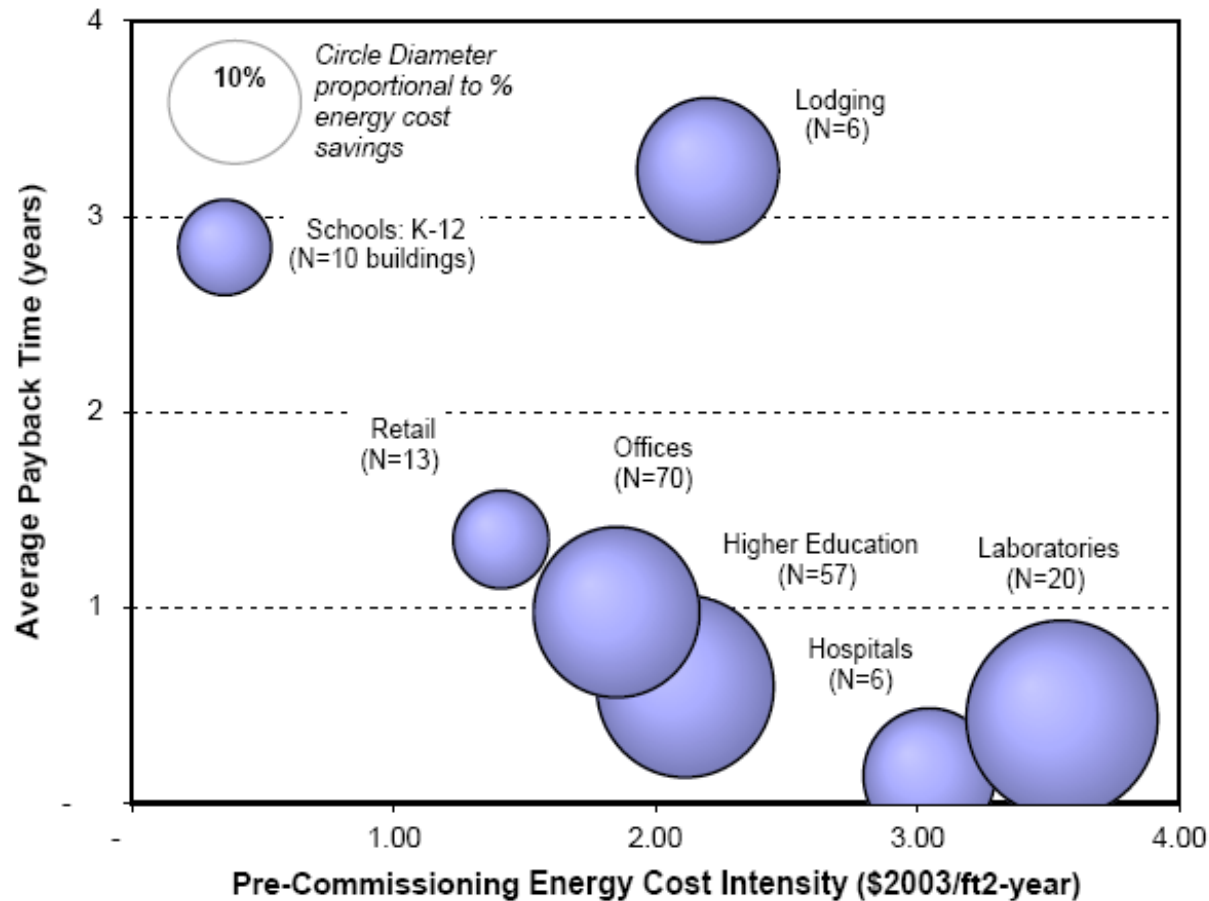
Picture VTT: Commissioning services, supporting applications and infrastructure environment

Some literal findings

- “Energy paradox” (“efficiency gap”)
- Jackson, J. 2011
 - Firms appear to be bypassing profitable energy efficiency investments
 - Reasons
 - Short-term managerial decisions, capital rationing, lack of information on equipment performance, energy price uncertainty, transaction costs
 - DeCanio 1993, Sunstad and Howarth 1994, Brown 2001, Ansar and Sparks 2009
 - Capital budgeting
 - Jackson 2011
- Anderson & Newell (2002)
 - “Projects with paybacks with an average of greater than 1.29 years were rejected (consistent with an 80 % IRR)”

An example of the results of US Cx studies (Mills, E. et al. 2004)

**Fig 9. Key Results by Building Type
(Existing Buildings)**



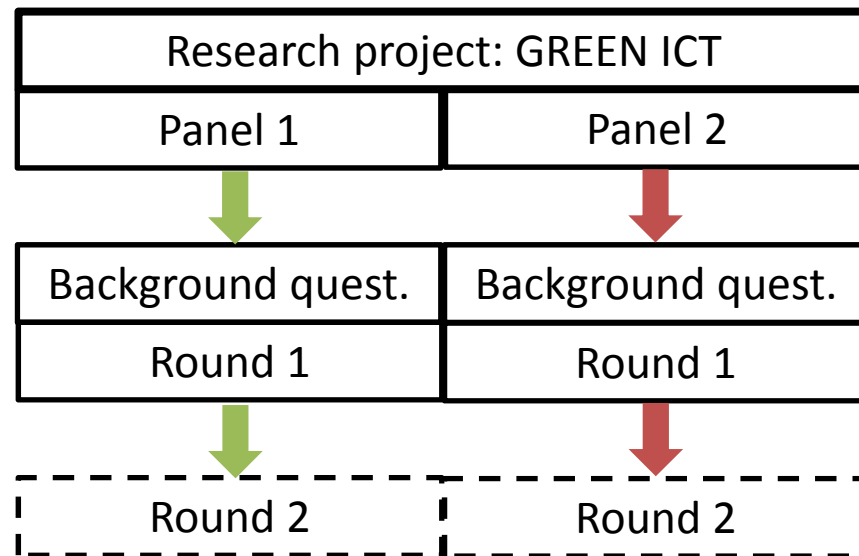
II RESEARCH SET

Research Question

What are the anticipated investment criteria for the MBCx investment in existing buildings?

Methodology

Delphi?



or focus groups?

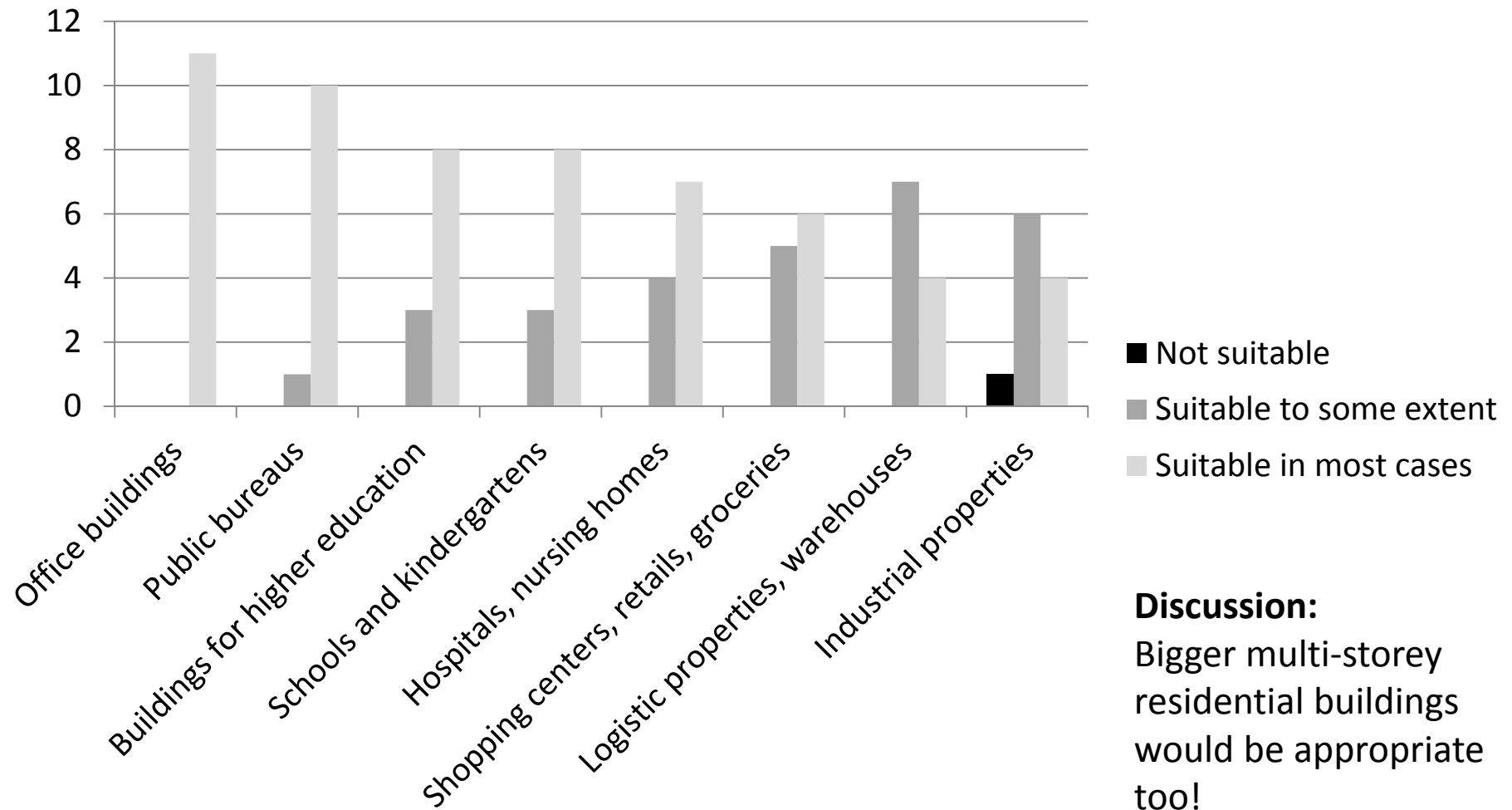
- Maybe just one round
- Not typically background questionnaires
- More qualitative

Belief behind the method:
Group forecasts are more accurate than in
unstructured discussions

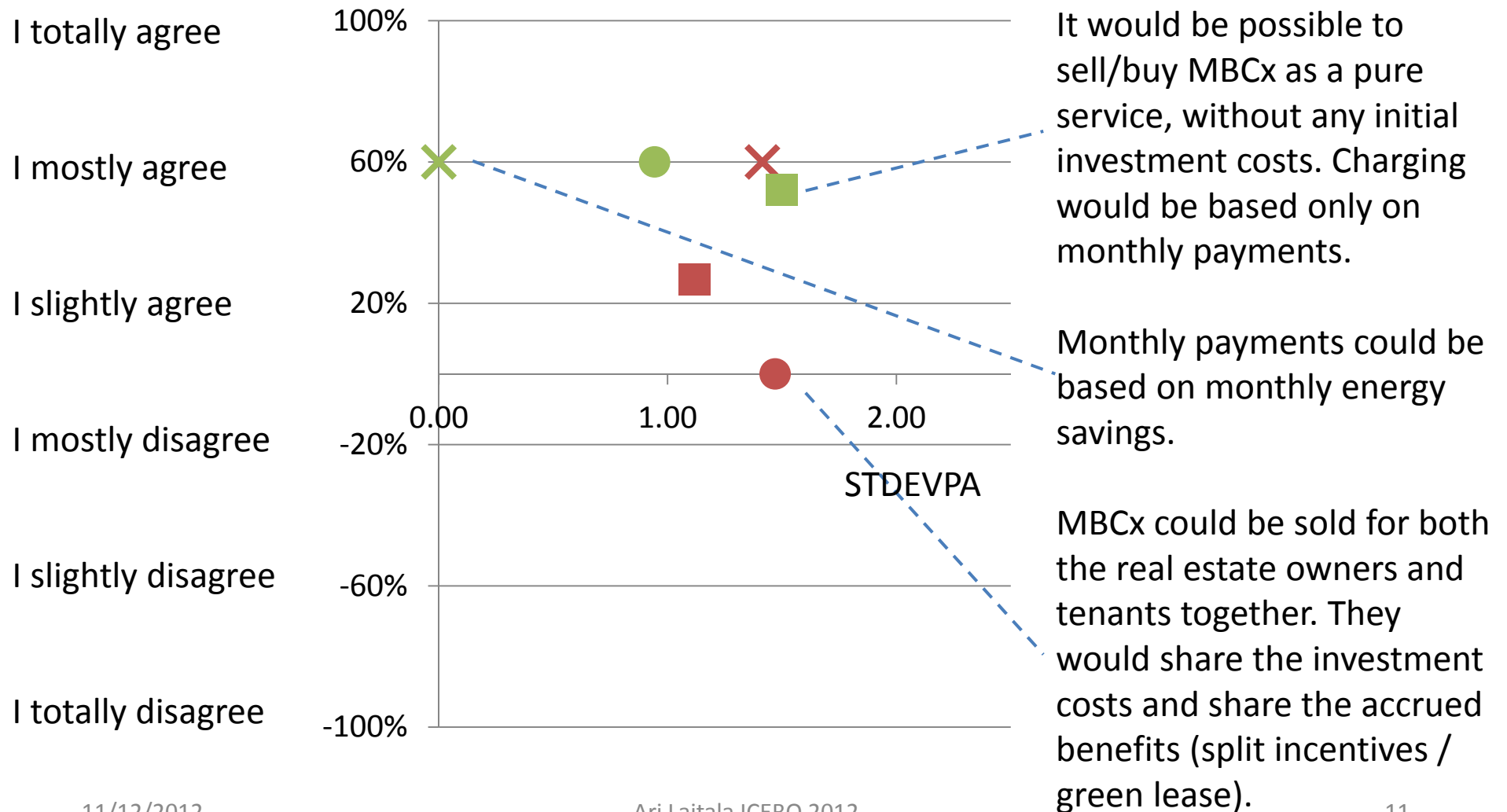
III EMPIRICAL RESULTS

- TYPE OF REAL ESTATE**
- BUSINESS MODEL**
- BELIEVED BENEFITS**
- INVESTMENT CALCULATIONS**

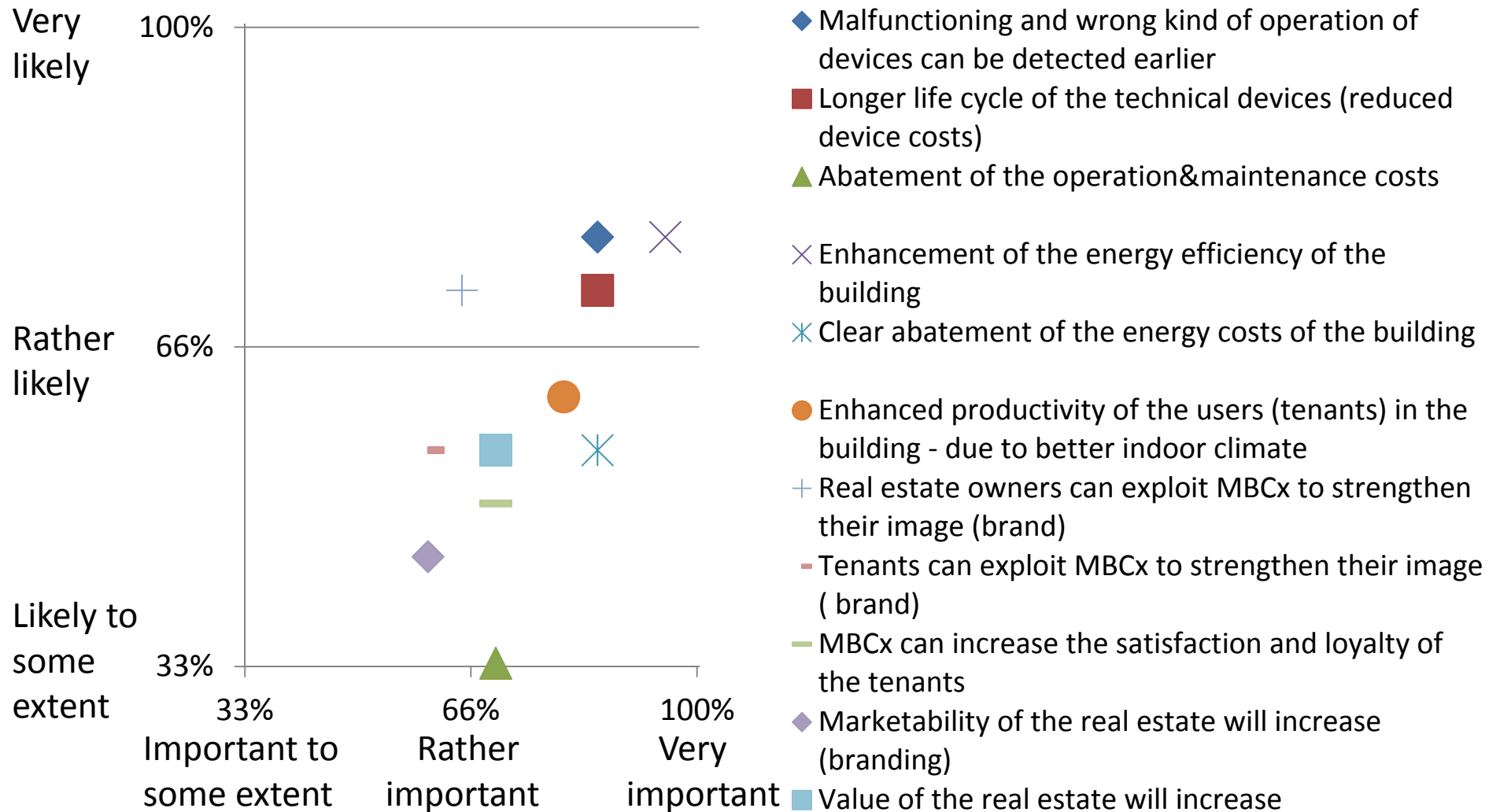
What kind of existing buildings would be appropriate for MBCx implementation when thinking through on business basis (focus groups together)



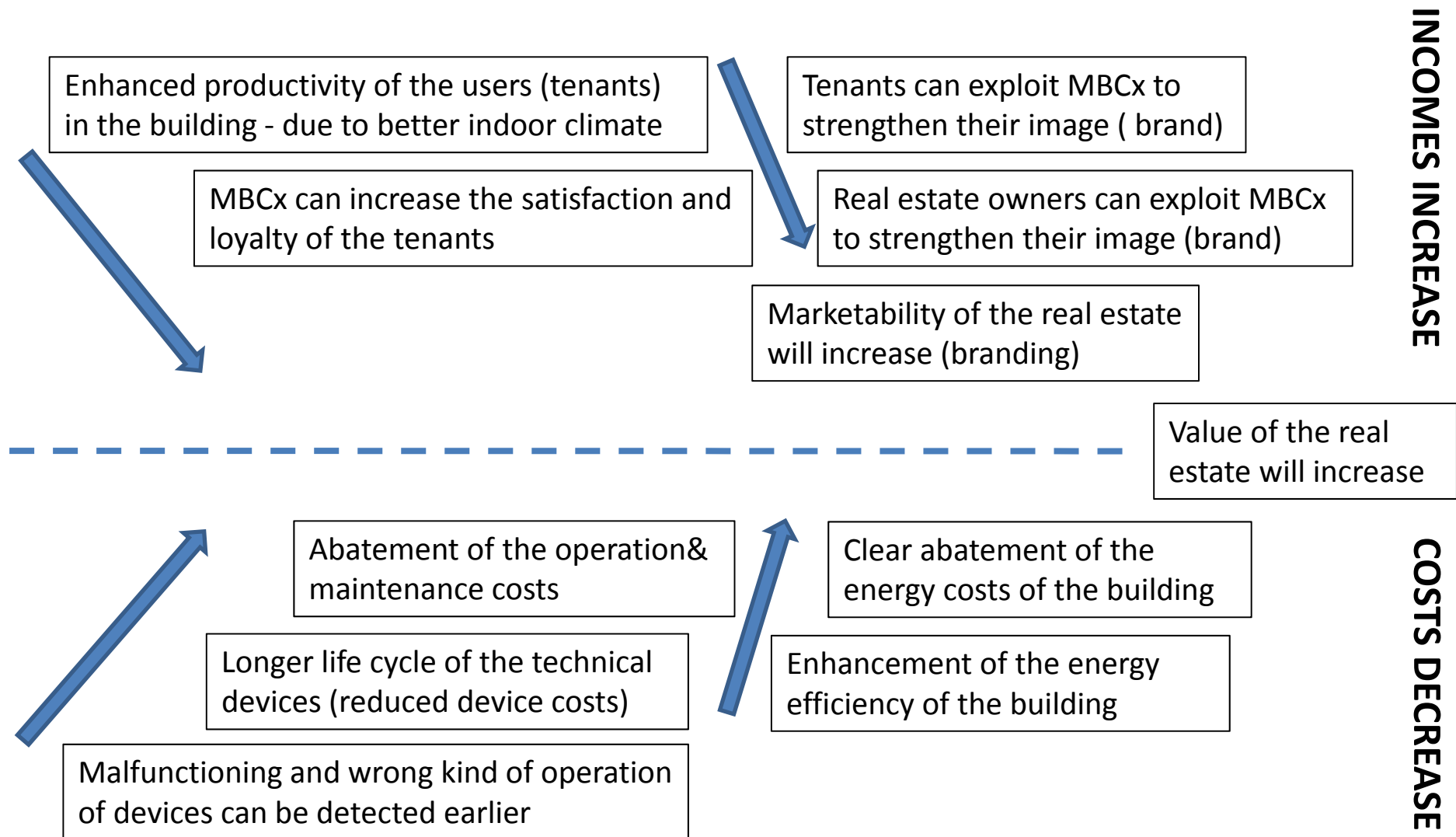
Finding an appropriate business model



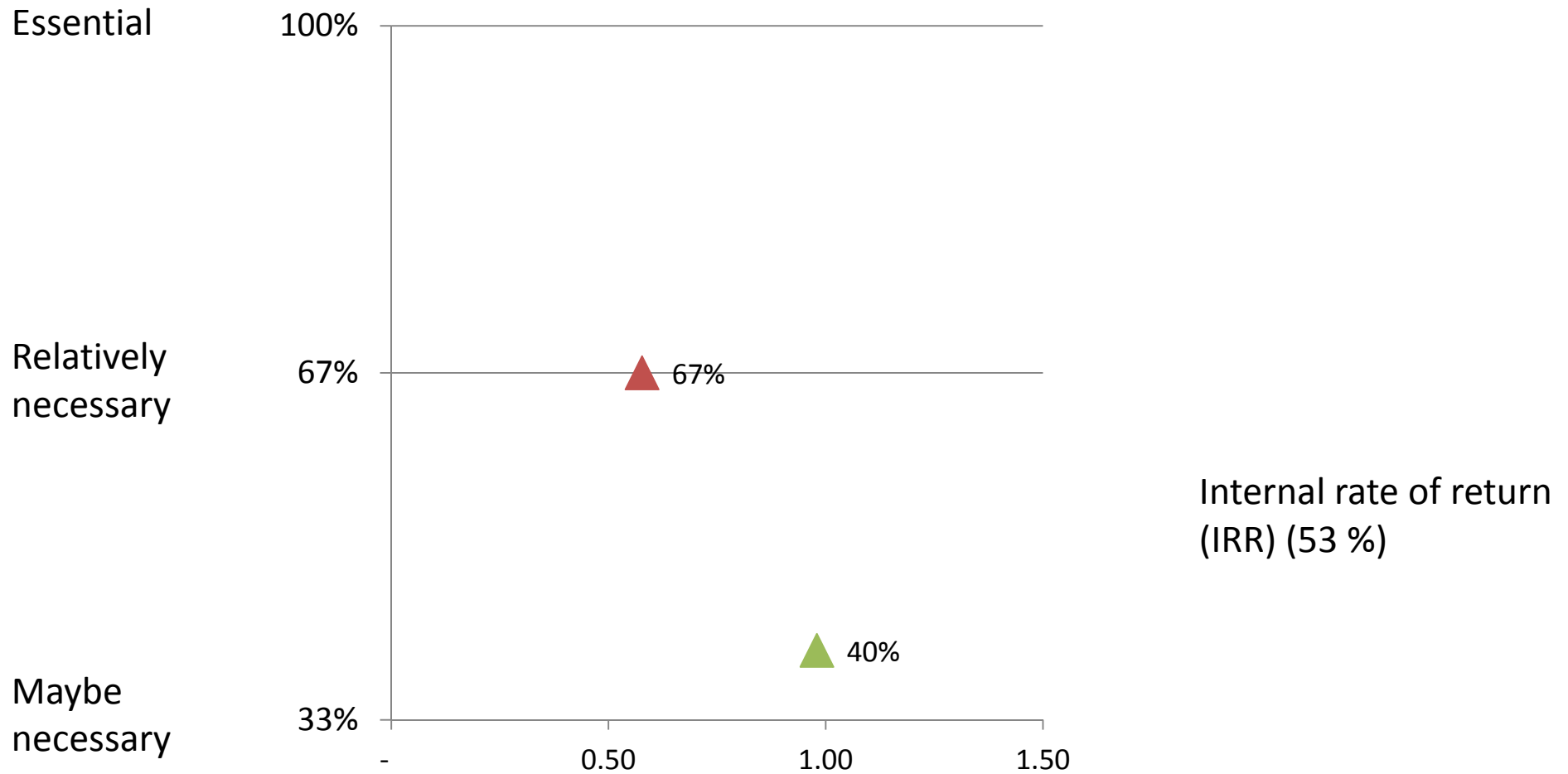
Probability of the achieved benefits and their importance (real estate owners)



Cause and effect of the benefits?



What is the necessity of the following calculations when considering MBCx investments?

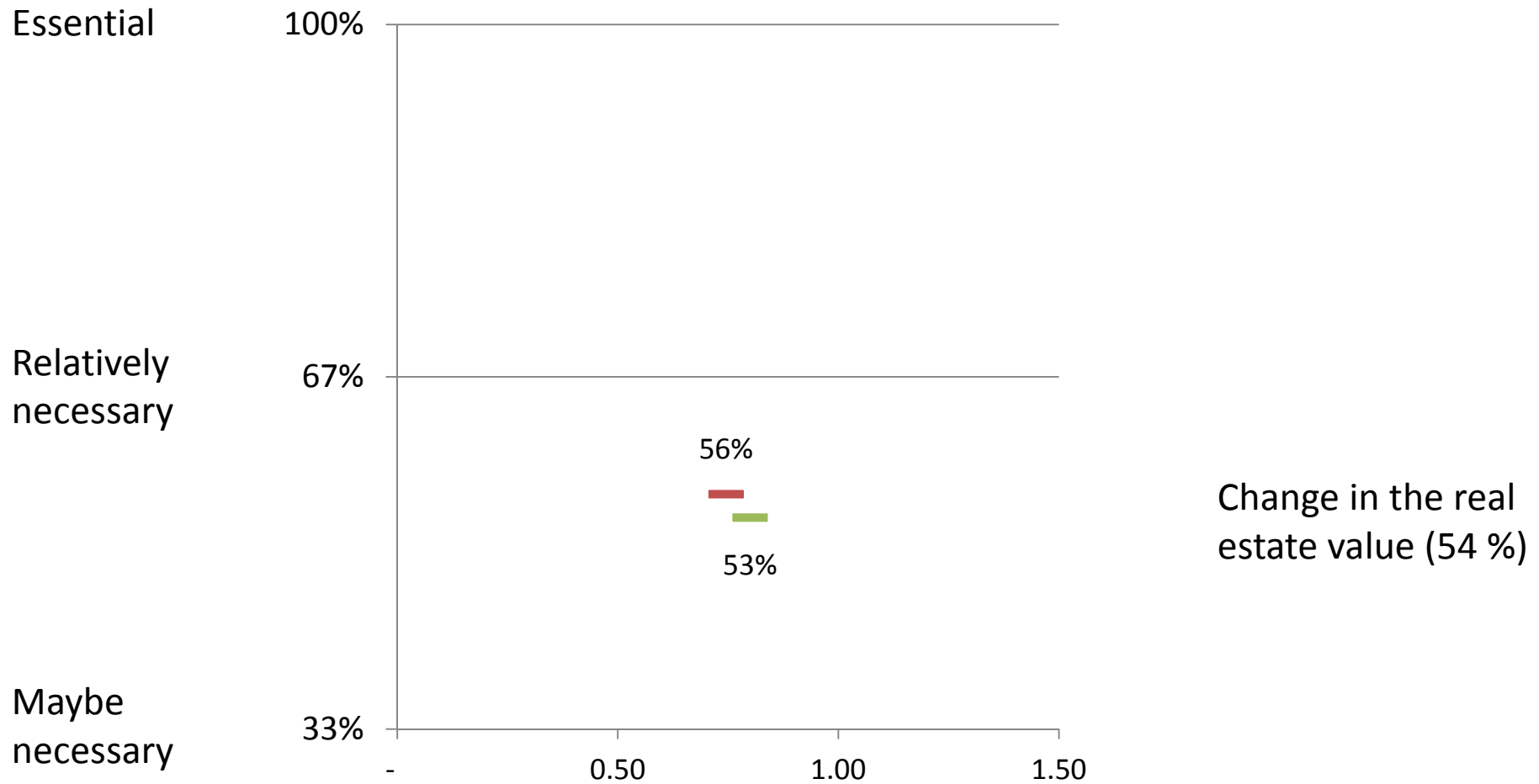


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Unnecessary = 0 %

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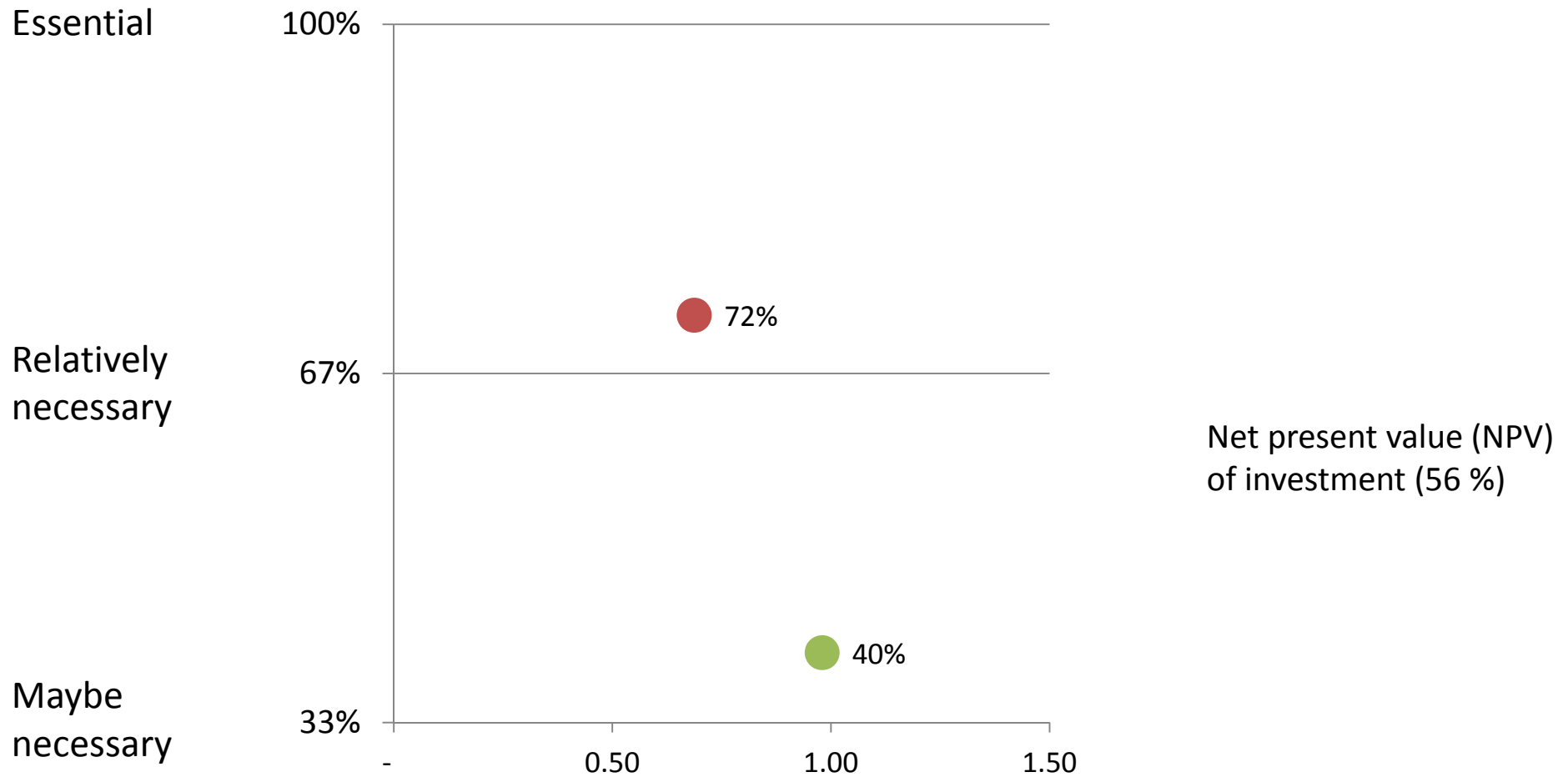


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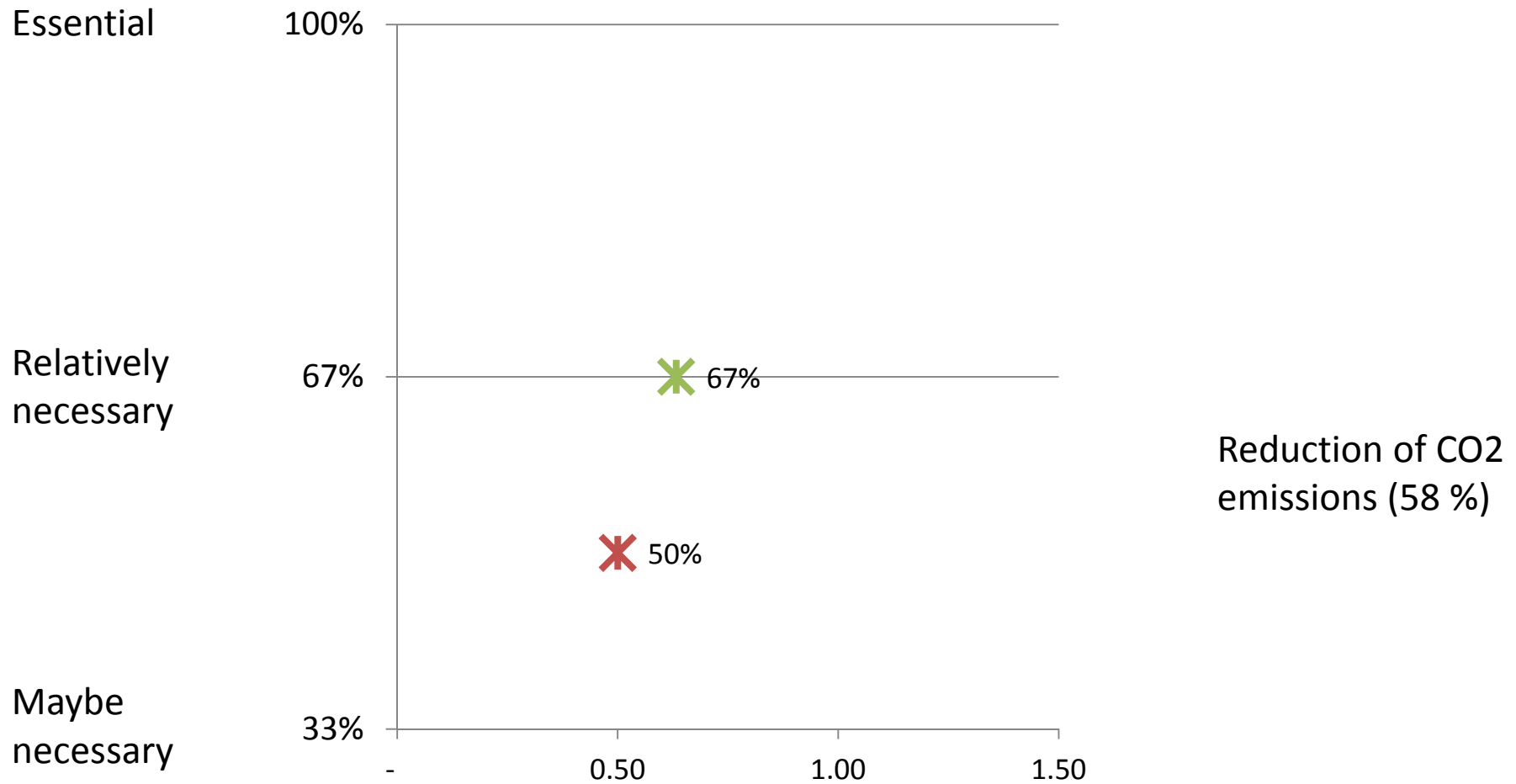


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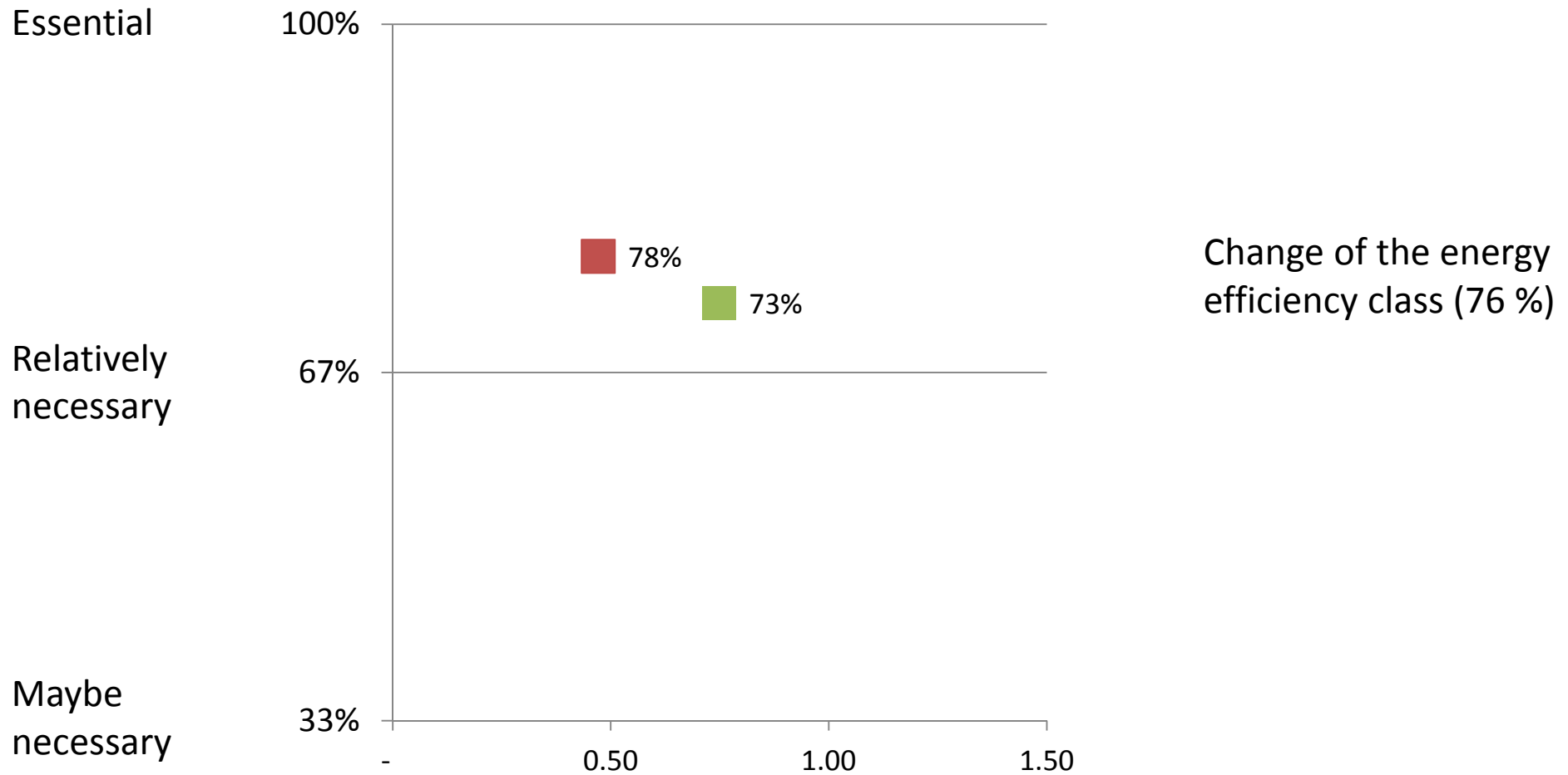


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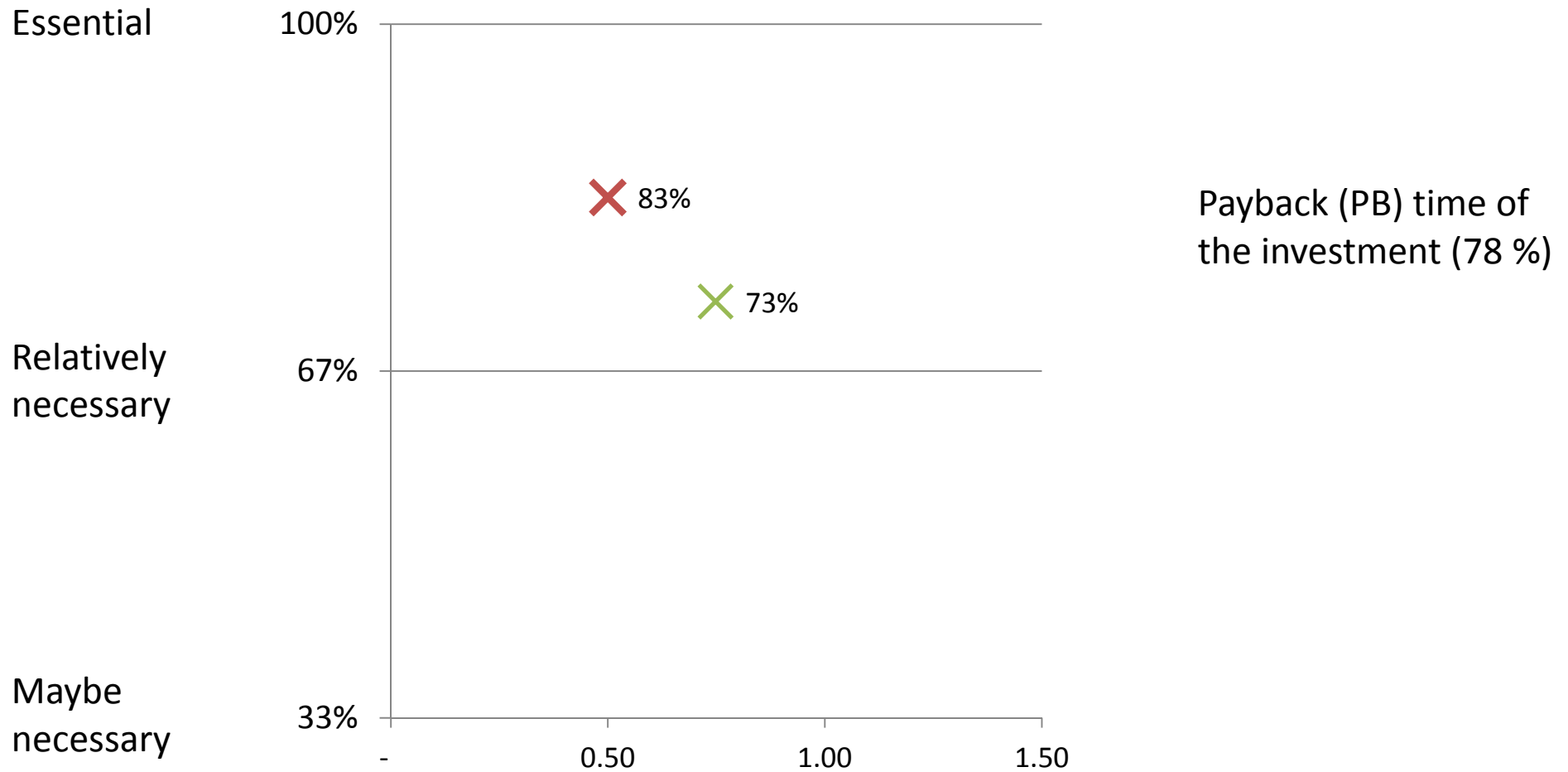


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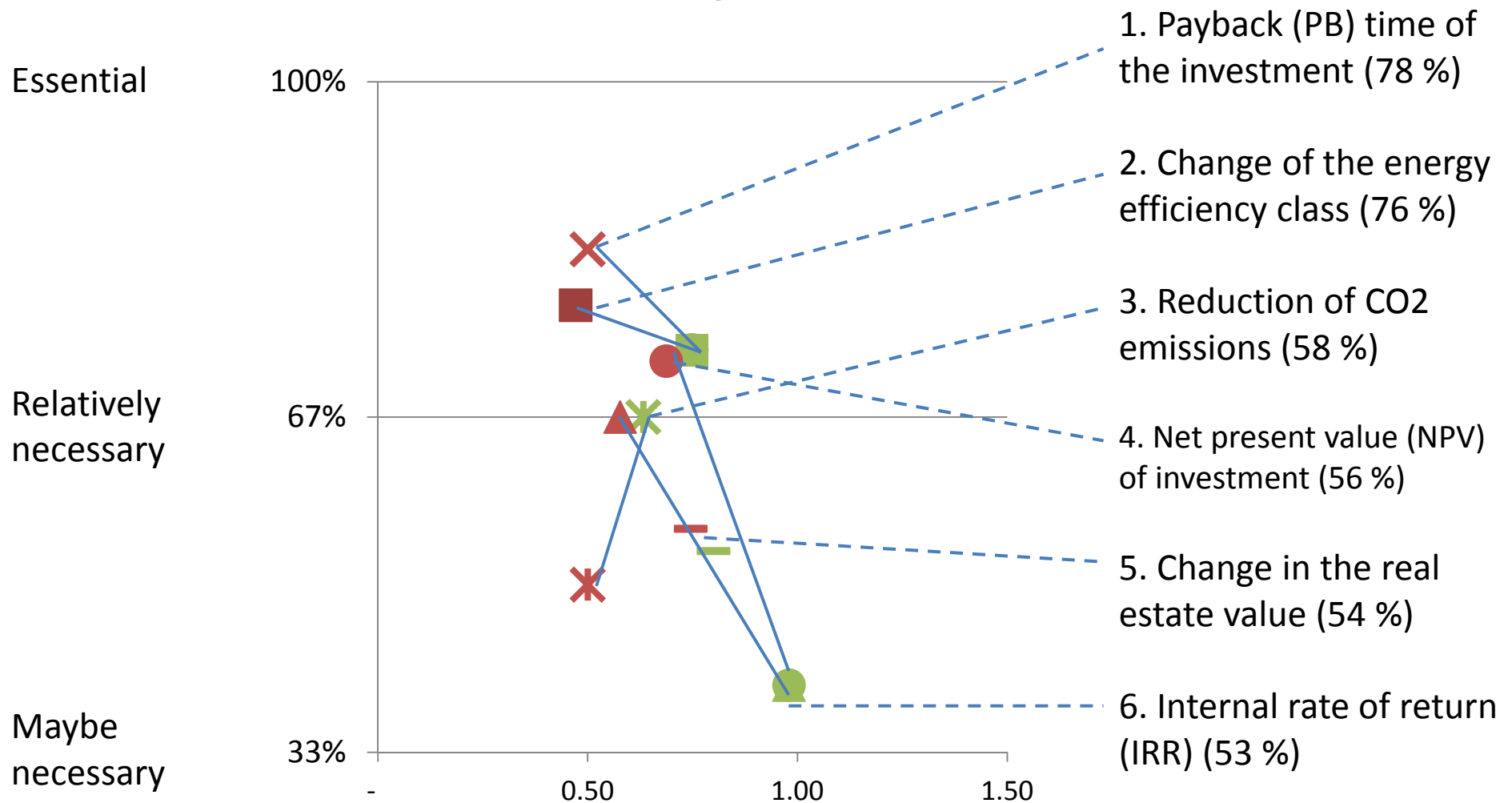


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IV CONCLUSIONS

- RESULTS

- SUGGESTIONS FOR THE FUTURE RESEARCH

Conclusions

- I. MBCx for existing buildings seems to be appropriate for almost every kind of buildings
- II. Different kind of business (investment) models are possible
 - Initial investment + monthly payments in relation to energy savings
 - Slight support for light model green leases
- III. Investment calculations have clearly more importance for the real estate owners than MBCx service providers have expected
- IV. Payback time seems to be the most important single decision making criterion
 - In the line with the earlier research findings

Criticism

- Evidence power of the focus group discussions
 - On the other hand it is believed that many of the leading MBCx experts (Finland) were represented in the focus groups
 - Actual discussions didn't bring very much new approaches
 - So the result are very much based on the background questionnaire
- Commercial real estate owners (investors) were underrepresented in the groups

Suggestions for the future research

- What the investment criteria have really been in the implemented projects
 - MBCx for existing buildings
- What is the real nature of energy paradox in the field of real estate?
 - why is it there, how big the gap is, should something be done and by whom?
- How the risks can be managed in the MBCx investments and in the whole life cycle period?
 - Can MBCx actually be seen as a risk management tool
- What kind of green lease structures MBCx offer
 - Especially, what are the measurement needs and cost effective sub-metering possibilities in multitenant (commercial) buildings

Thank you!

- questions & comments?

For further information

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