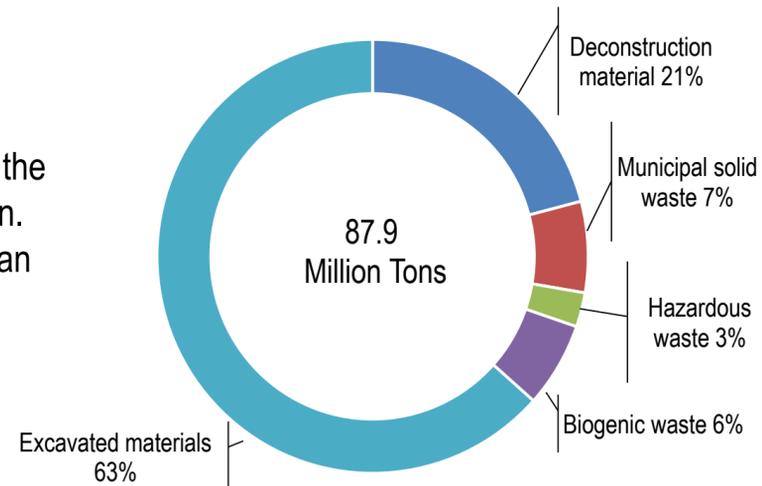


Introduction – Recycled concrete in a Circular Economy

- In Switzerland, the construction sector is responsible for **50% of total primary energy demand** and about **30% of total greenhouse gas emissions**.
- Construction and Demolition (C&D) waste recycling is considered a valid option to curb the depletion of primary resources and decrease the impacts associated with their extraction. The use of **aggregates** coming from C&D waste into **recycled concrete** is considered an important strategy to reduce the environmental impact of the building sector.
- In this study, we explore why recycled concrete is rarely used in the construction sector, despite being a feasible alternative. To do so, we need to understand the drivers of **architects'** decision behind the recommendation of construction materials.

Waste produced in Switzerland in 2017



Source: FOEN, 2018

Research Questions

What are the drivers that lead architects to recommend the use of recycled concrete?

How can the use of recycled concrete be supported?

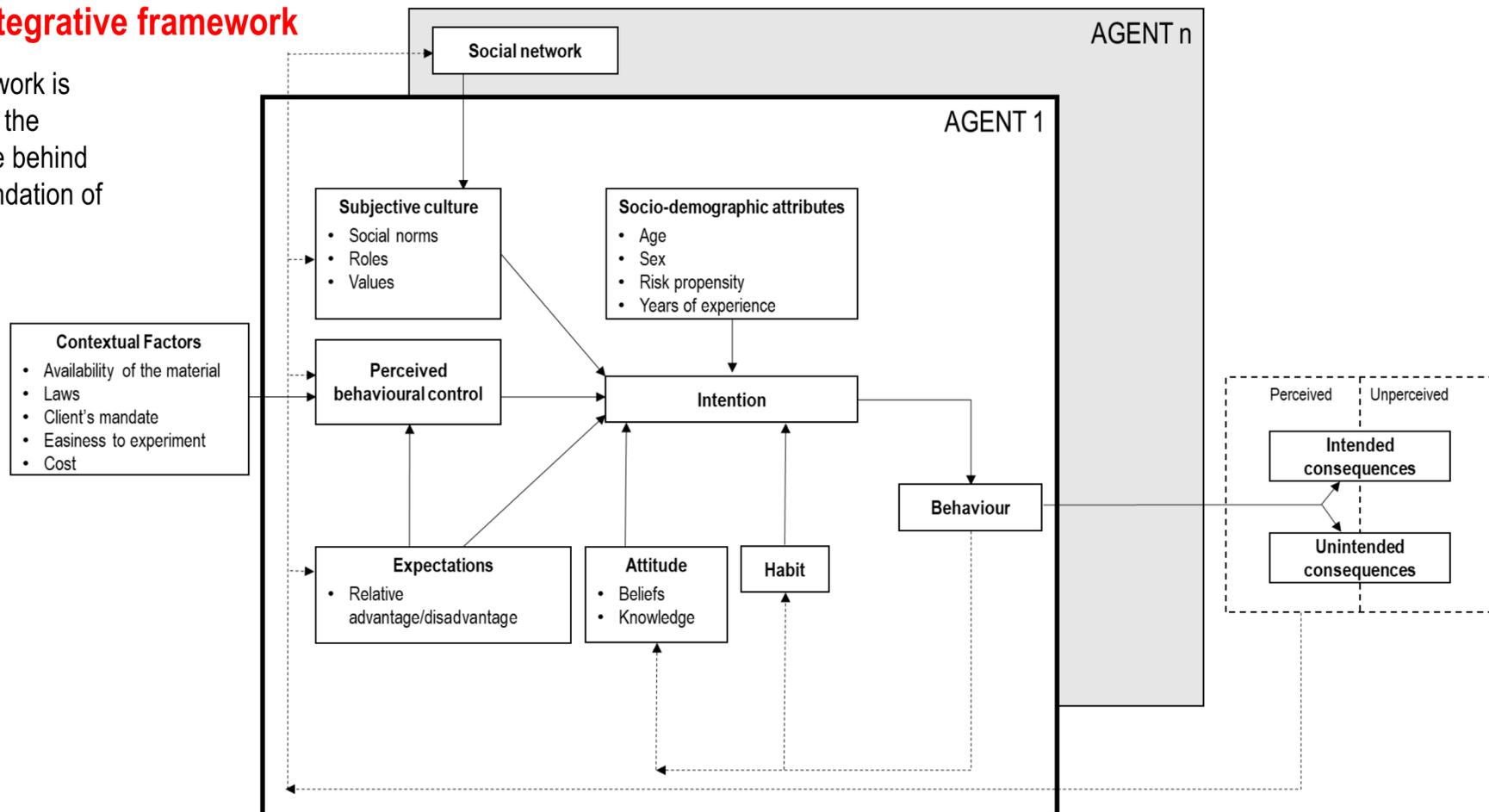


Methodology

- Framework development:** Our goal is to develop and operationalize a behavioral framework that brings together **Theory of Planned Behavior** (Ajzen, 1991) with elements from **Innovation Adoption Theory** (Rogers, 1962). The **Integrative Agent-Centred** (IAC) framework (Feola & Binder, 2010) was used as a starting point.
- Framework validation:** 16 **semi-structured interviews** with architects working in Switzerland, with 5-40 years of experience. Interviews transcribed and coded with the software MAXQDA (12.3.6).
- Framework operationalization:** In the next step of the research project **survey** data will be collected and analyzed, to quantitatively assess the relevant importance of each factor in influencing the actor decision.

Results – An integrative framework

An integrative framework is developed, depicting the determinants that are behind architects' recommendation of recycled concrete.



Adapted from Feola & Binder, 2010

Conclusions – Preliminary findings

- The architects' decision to recommend recycled concrete for the construction of a building is the result of many diverse factors.
- The analysis of the interviews allowed to integrate all the relevant factors into the framework. The preliminary results of the interviews suggest that contextual factors, the subjective culture and the beliefs of architects play a major role in the decision-making process.
- Further research is needed to quantify the relative importance of the identified factors.