

Business models for reducing plastic waste along the value chain

Towards innovative trends in retailing

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Packaging poses an environmental burden.

Packaging (39.7 %) and building/construction (19.8 %) are the largest end-use markets for plastics.

Strong increase in consumption of plastic and paper/board packaging

Packaging has a short lifetime (~ 0.5 years on average).

24% of plastic waste is incinerated, 18% recycled.

Entry of plastic waste into rivers and oceans. Exposure to wind, waves and sunlight turns it into microplastic.

Less (plastic) packaging as preventive measure



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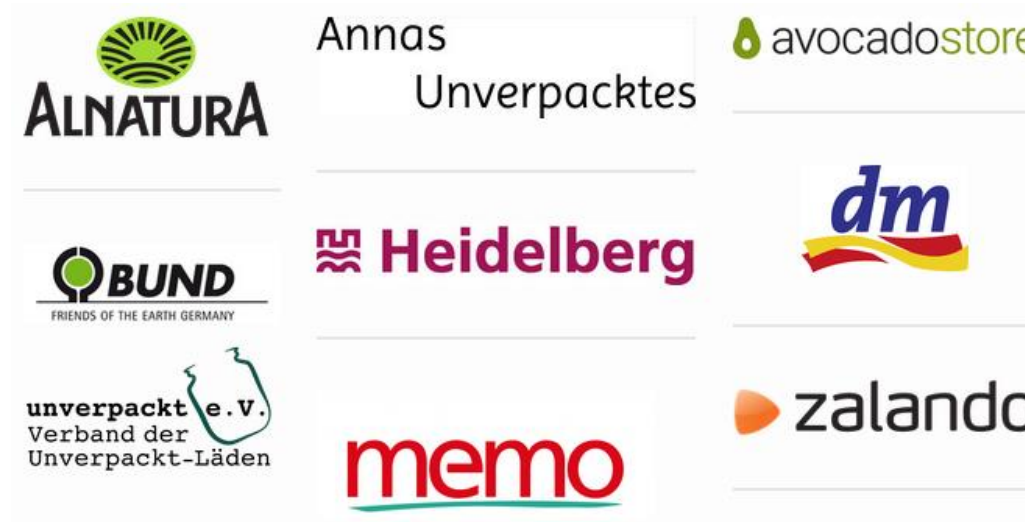
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Innoredux proposes proactive and strategic organizational solutions.



- **Project duration:** 01.02.2019 – 31.1.2022 (36 months)
- **Ideas and aims:**
 - Aim is to **collaboratively develop, implement and evaluate technical, organizational and social innovations** in the retail sector
 - Focus: **packaging** of various product groups (food, textiles, office supplies, cosmetics and detergents/cleaning agents)
 - Developing and implementing **municipal measures** in Heidelberg (real-world laboratory approach)
 - Identifying potentials for **upscaling**
- Project partners are retailers, NGOs and an administration of a German city

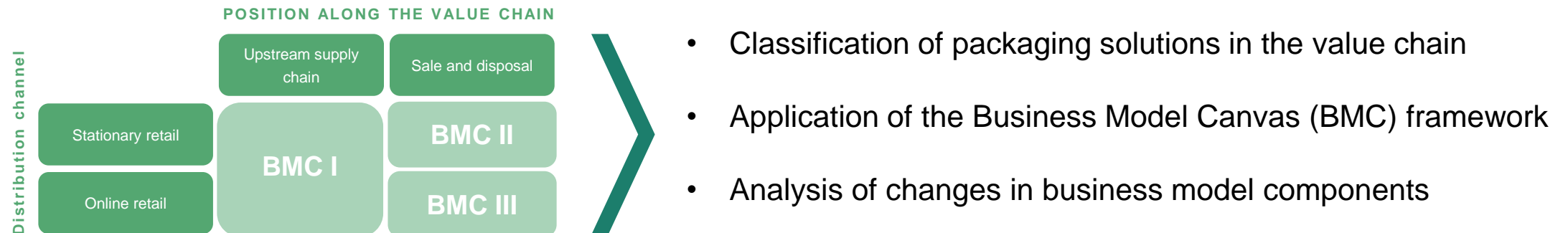


We link packaging with business model innovation.

Business model innovation is ...

- the creation of completely new business models, or
- the modification of at least two or more business model building blocks and/or their relationship to each other

Focus on innovations in **retail companies** and **packaging**, and how this influences business models.



Previous work linking BM and BMI with measures to reduce packaging...




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- ... is heterogeneous in
 - its approach
 - in the BM concepts used
 - the methodology employed
- Reduction of packaging or plastic is rather a secondary issue
- Usually no indication of concrete BM elements that change or BM types that would be adequate, but if so circular economy and Circular Business Models are referenced


Sustainability-oriented packaging improvements (SOPI taxonomy)





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1 **Packaging free** 
Omission of sales packaging of goods, *e.g. sale of bulk goods, refill stations*

2 **Returnable and reusable packaging** 
Packaging is designed in such a way that it can and should be used several times...
1) without return system, *e.g. reusable bags and coffee cups*
2) with return system, *e.g. deposit bottles, cups and glass jars*

3 **Reduced use of materials** 
The goods remain the same, but the packaging material used is reduced by an adjustment...
1) for a more efficient material use, *e.g. thinner packaging and lids*
2) on the product side, *e.g. concentrates*
3) of the packaging volume

4 **Substitution of materials** 
The packaging material is replaced by...
1) an alternative material, *e.g. paper/cardboard instead of plastic*
2) materials that are easier to recycle, *e.g. no black plastic*
3) recycled material, *e.g. rPET*

5 **Revised packaging design** 
A completely different packaging solution is used...
1) without product modification, *e.g. refill packages, flexible instead of rigid packaging such as plastic pouches*
2) with product modification, *e.g. solid shampoo bars and toothpaste*

6 **Retailer services** 
e.g. customer information on proper disposal and ecological impact of packaging alternatives, measures to **prevent returns** in e-commerce such as *detailed product descriptions or product videos*

Further approaches:
Integrated strategy: sufficiency-oriented marketing, *e.g. repair services, encouragement to reflect on consumption needs*
Supplementary strategy: reuse of previously used packaging such as *cardboard boxes for shipping*

Changes in packaging are reflected in business model building blocks.



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Position along the value chain

Upstream supply chain

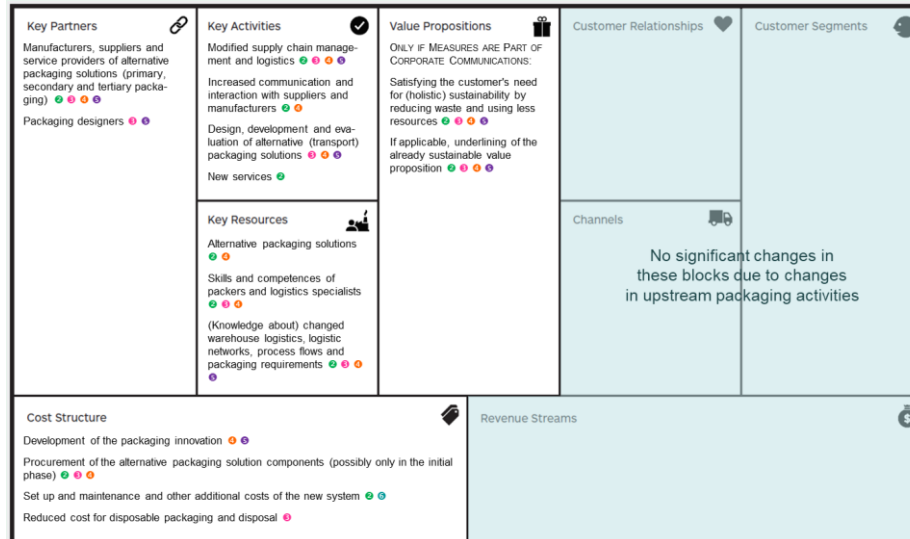
Sale and disposal

Distribution channel

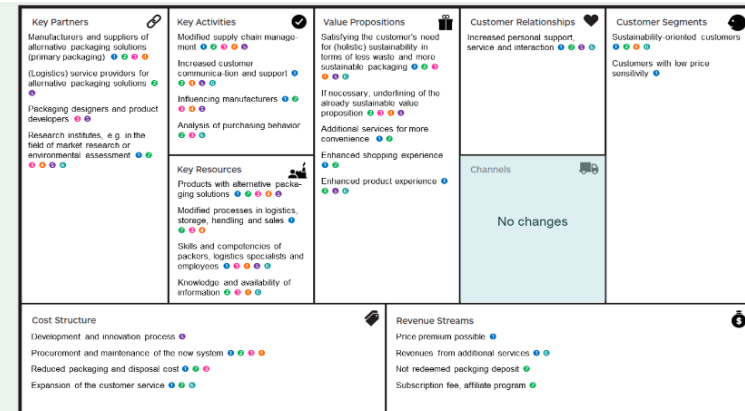
Bricks and mortar

E-commerce

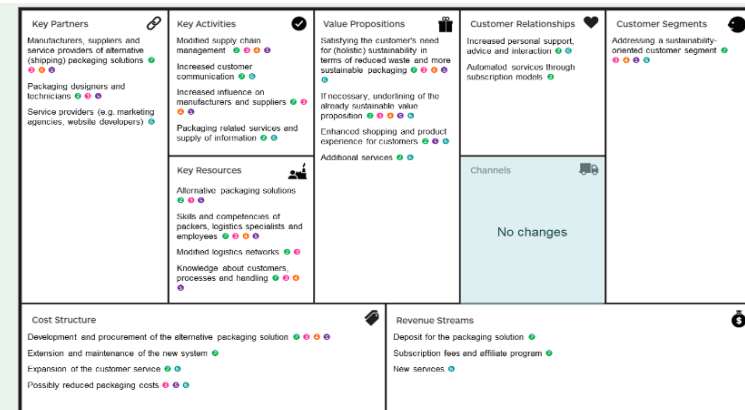
Mainly changes in transport packaging



Mainly changes in product packaging

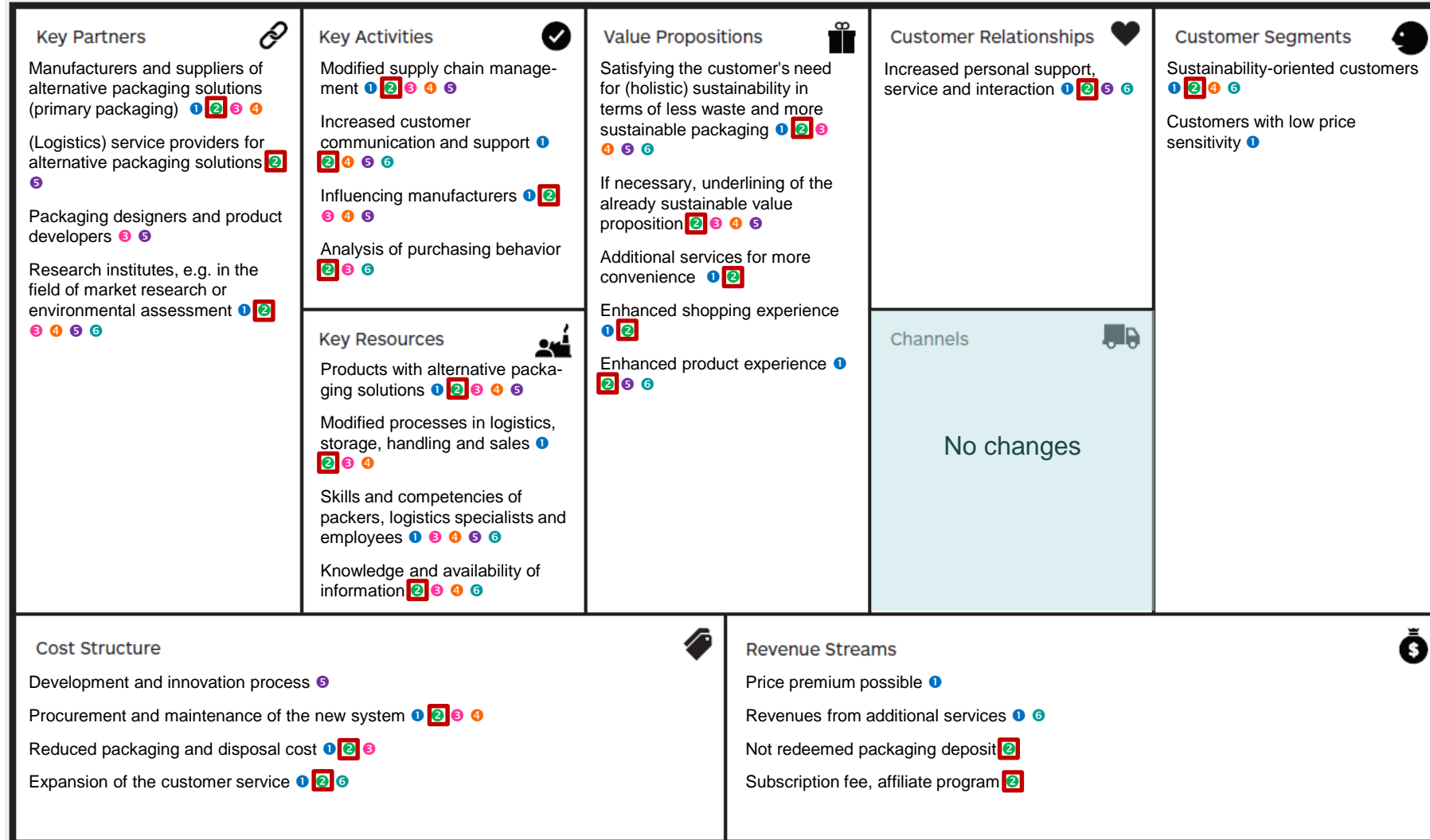


Mainly changes in (product &) shipping packaging





Stationary retail – sale and disposal



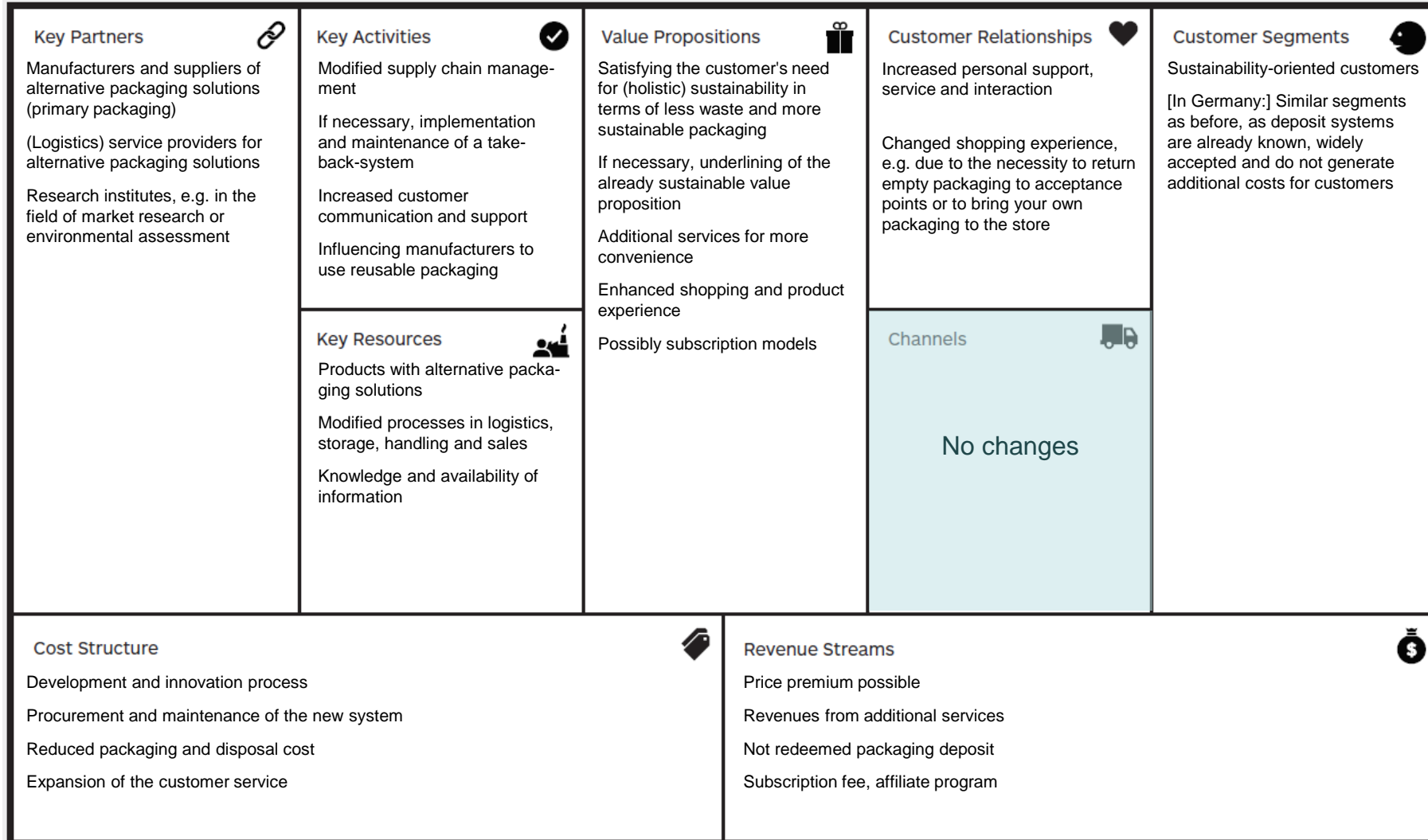
- ① Packaging free
- ② Reusable packaging
- ③ Reduced use of materials
- ④ Substitution of materials
- ⑤ Revised packaging design
- ⑥ Retailer services

Stationary retail – sale and disposal

② Reusable systems



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Take home message

- Sustainable and trustworthy strategies for retailers
 - Looking at the value chain
(horizontal and vertical cooperation, not only include „visible“ packaging but also transport packaging, talk to product/packaging designers and manufacturers and waste management companies)
 - Looking at the whole product range (comprehensive solutions, step by step)
 - Looking at customers (participation, acceptance)






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Thank you for your attention!

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