

# Knowledge-Graph-Driven Recommendations



In the IKEA Store...

~25 sofas \* 3 accessories = 75



On IKEA.com...

1587 sofas \* 10 accessories = 15,870

LANDSKRONA was added to your shopping bag

Continue to bag

Related products

1 BÄSTIS Lint roller €0.99/7.5 m (139)

2 LANDSKRONA 3-seat sofa €649.- (9) More options

3 SOLHETTA LED bulb E27 470 lumen €2.49/2 pack (119)

4 LANDSKRONA 3-seat sofa €999.- (7) More options

5 LANDSKRONA 2-seat sofa

6



A child's bedroom with a white dresser, a yellow stool, a colorful rug, and a small tent. The room is dimly lit, with a warm glow from a lamp. The dresser has a shelf with various toys and books. The rug is a colorful geometric pattern. The tent is a small white structure with a yellow interior. The overall atmosphere is cozy and playful.

**We need to generate accessories  
for any given furniture, we cannot  
capture them manually.**



# Today we have "Wisdom" of the Crowd – Statistical Analysis of Other Customer Behaviour Drivin g Recommendations



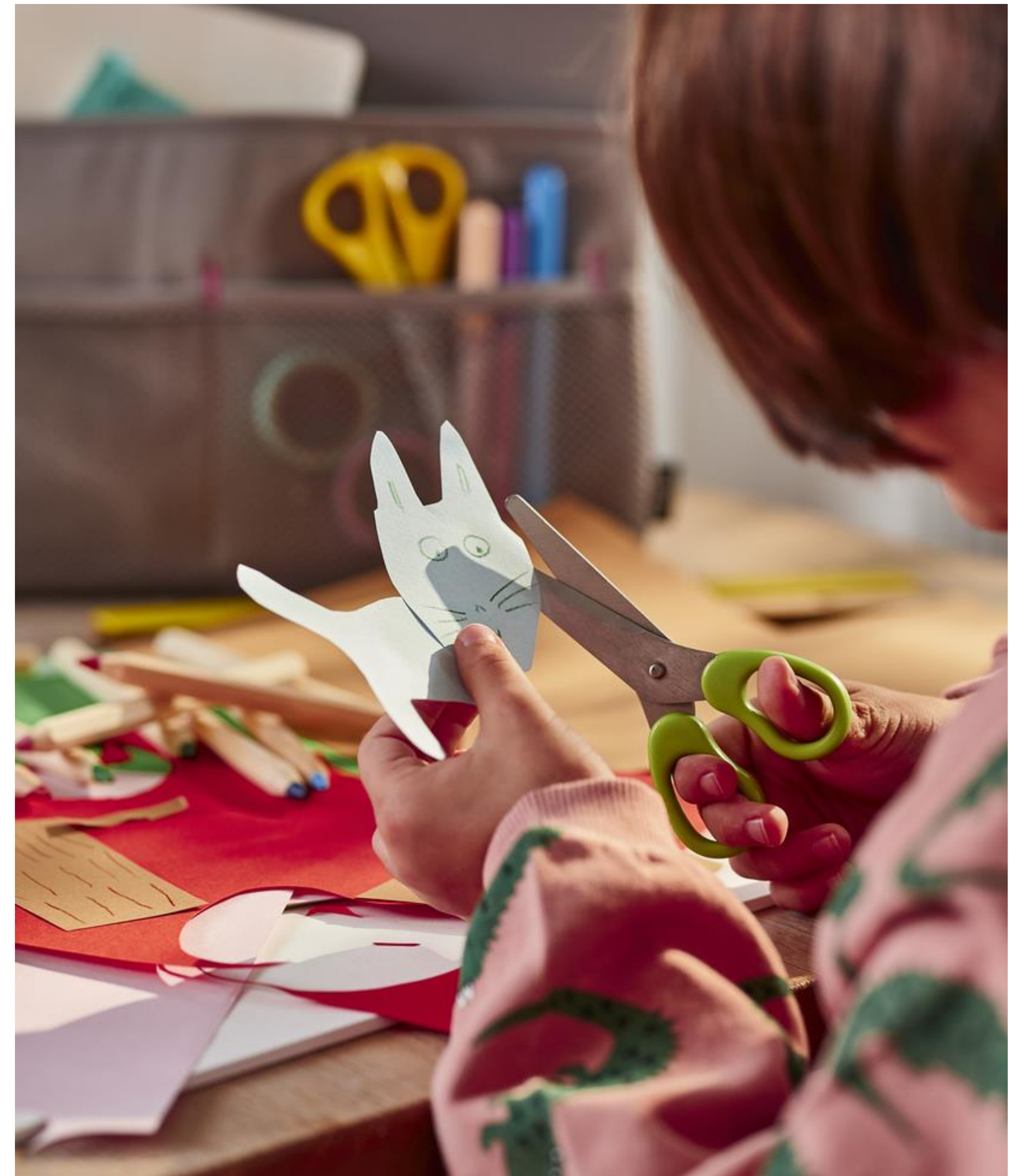


**With more and more customers  
opting out of cookies, the  
amount of data for crowd of  
wisdom declines**





**Also, this approach gives us the  
WHAT but not the WHY**



# These recommendations can generate mistakes which are hard to vet



Total price: **\$59.15**

Add both to Cart

**i** These items are shipped from and sold by different sellers. [Show details](#)

- ✓ **This item:** Portable Nebulizer - Nebulizer Machine for Adults and Kids Travel and Household Use, Handheld Mesh N... **\$49.99 (\$49.99/Count)**
- ✓ Essential Oxygen Food Grade Hydrogen Peroxide, Natural Cleaner, 3%, 16 Ounce **\$9.16 (\$0.57/Fl Oz)**



**...and we miss out on the  
opportunity to serve quality  
interior designer knowledge  
to IKEA customers**



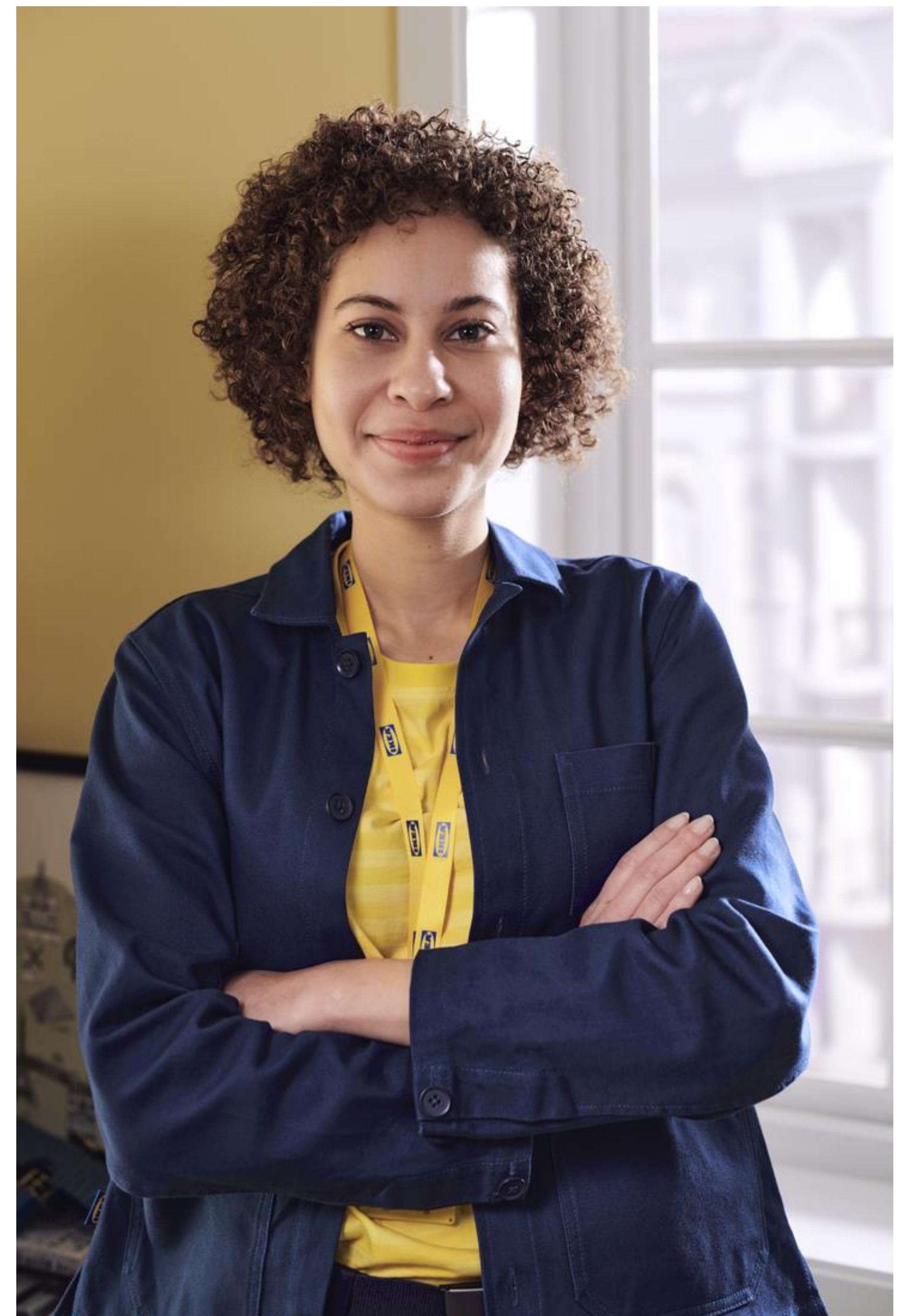


**If we capture the WHY for recommendations we could reuse it for other applications, such as image recognition.**





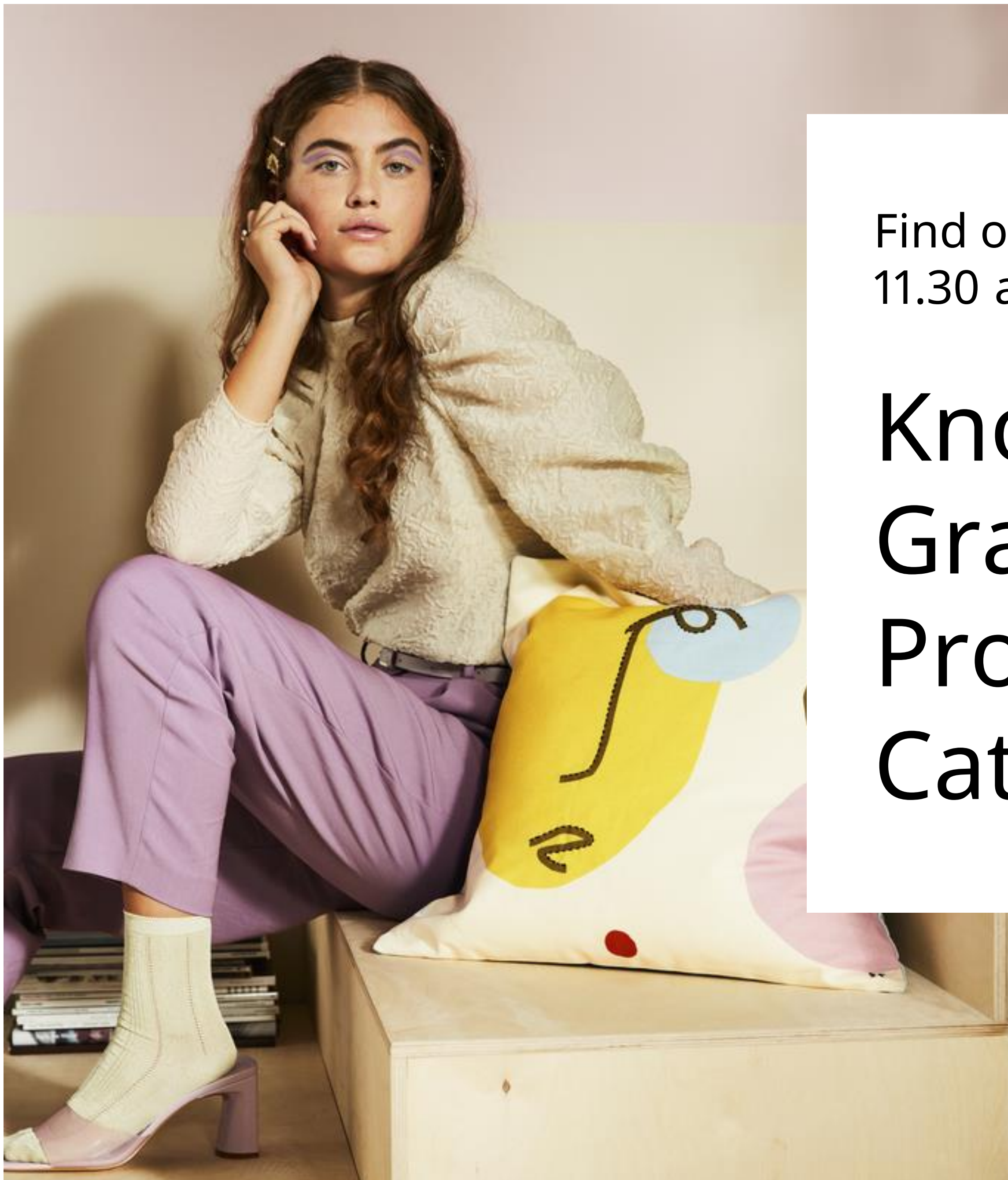
**Capturing the WHY is not hard for IKEA, our interior designers know how to combine accessories!**





# Experts building the business rules

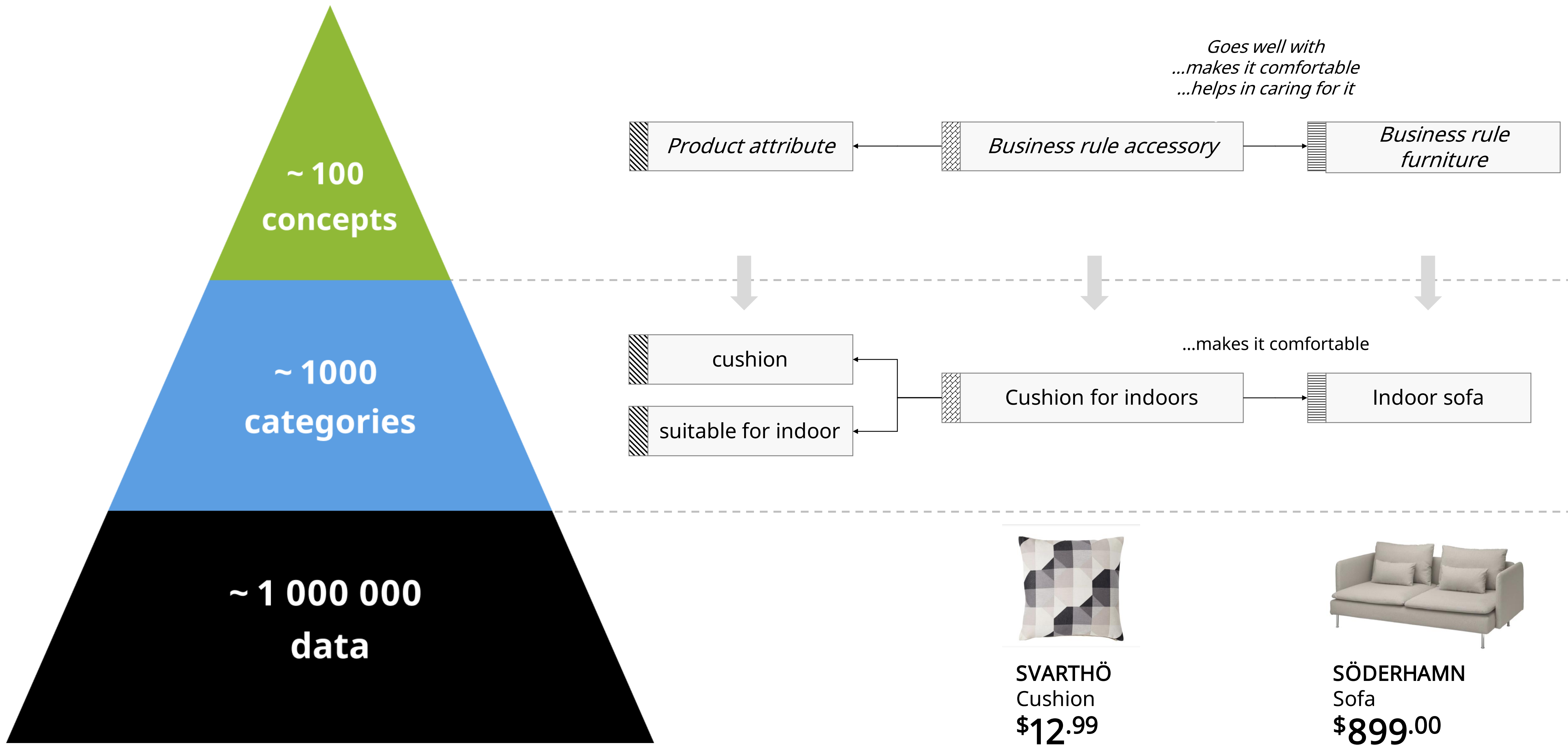




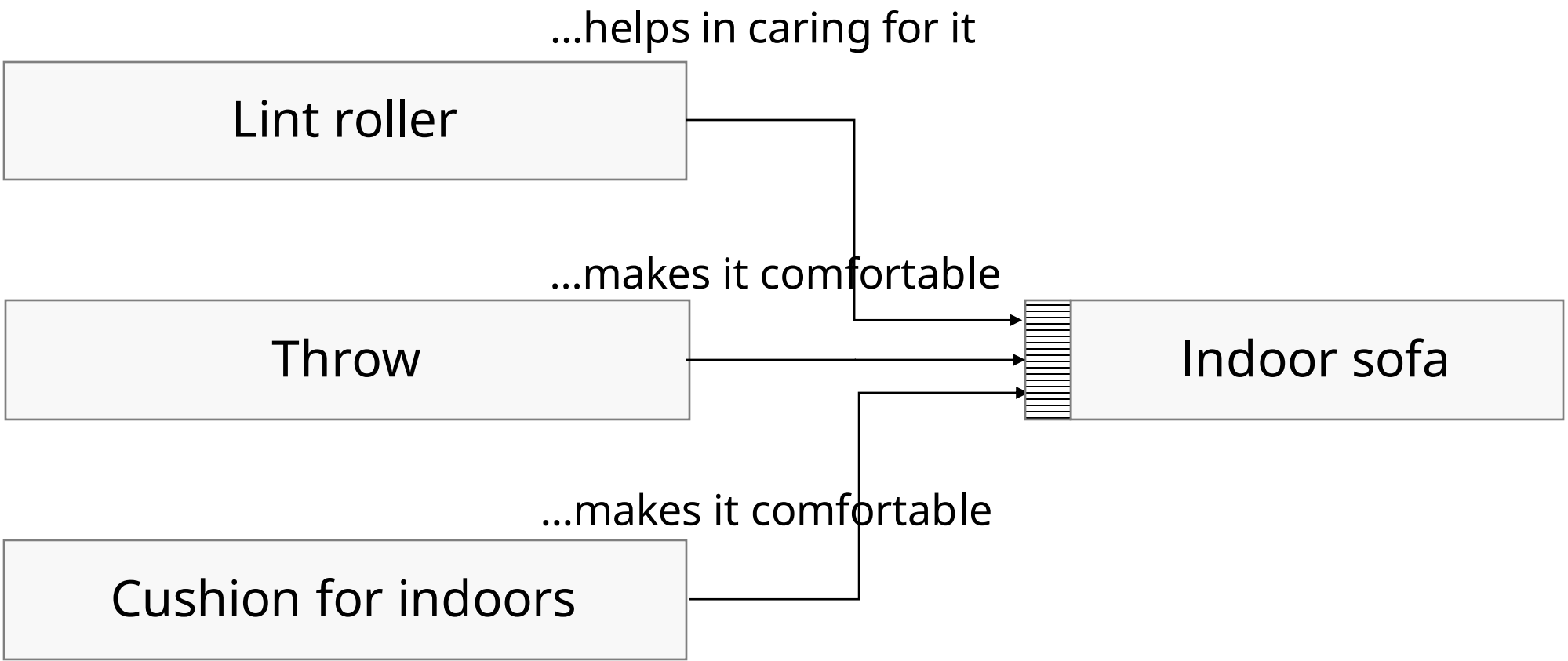
Find out tomorrow (Thursday) at  
11.30 am, talk by Adam Keresztes.

# Knowledge- Graph-enhanced Product Catalogue

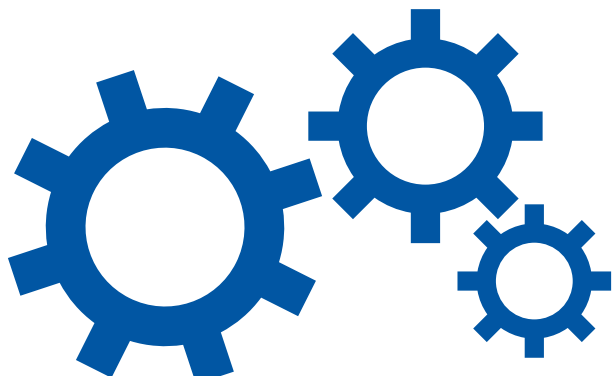






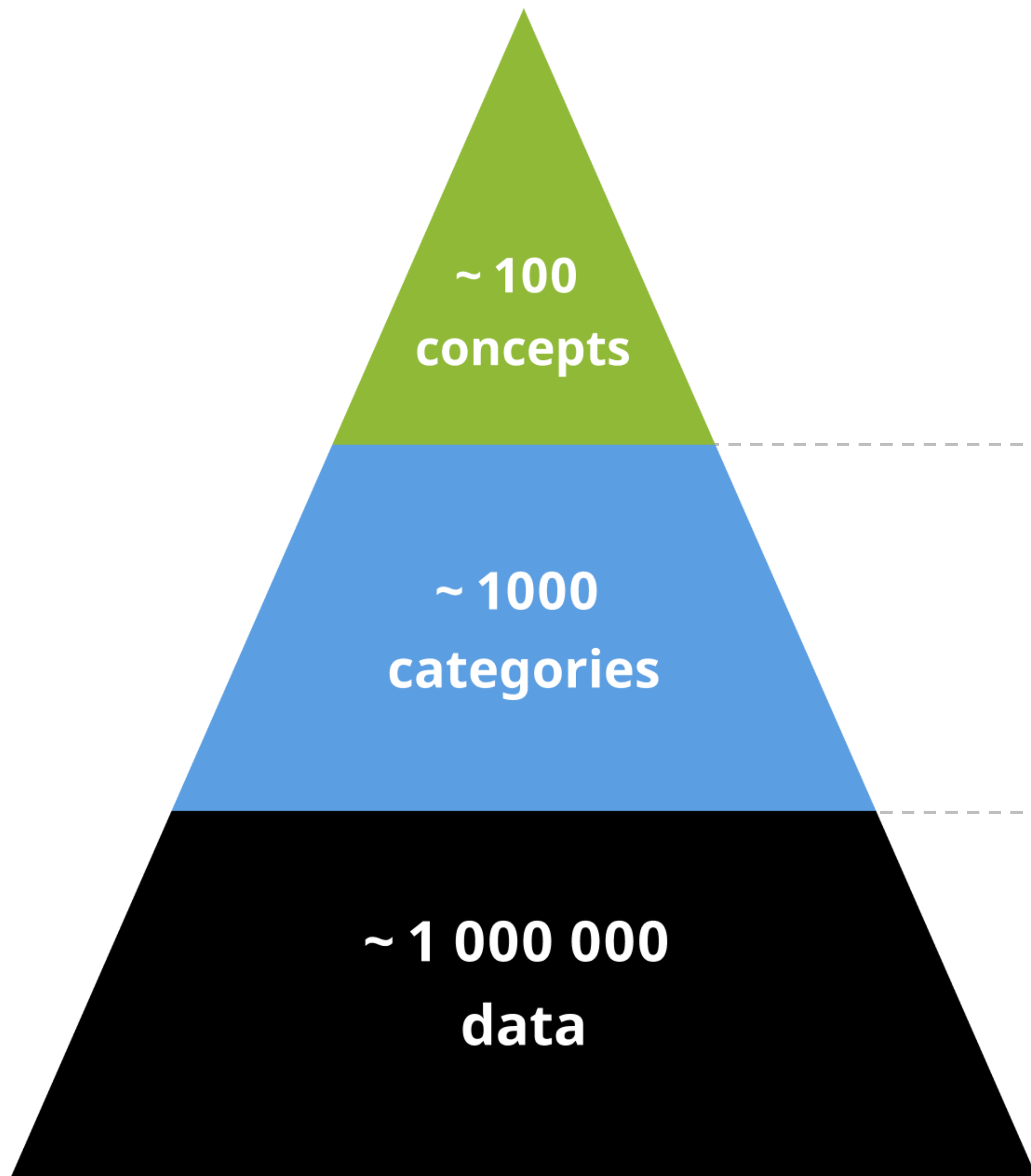


Cartesian product  
of generated  
connections



hundreds of accessory  
recommendations for  
all indoor sofas





Defines the expressiveness  
of our business rule model

Is the actual business rule in  
action

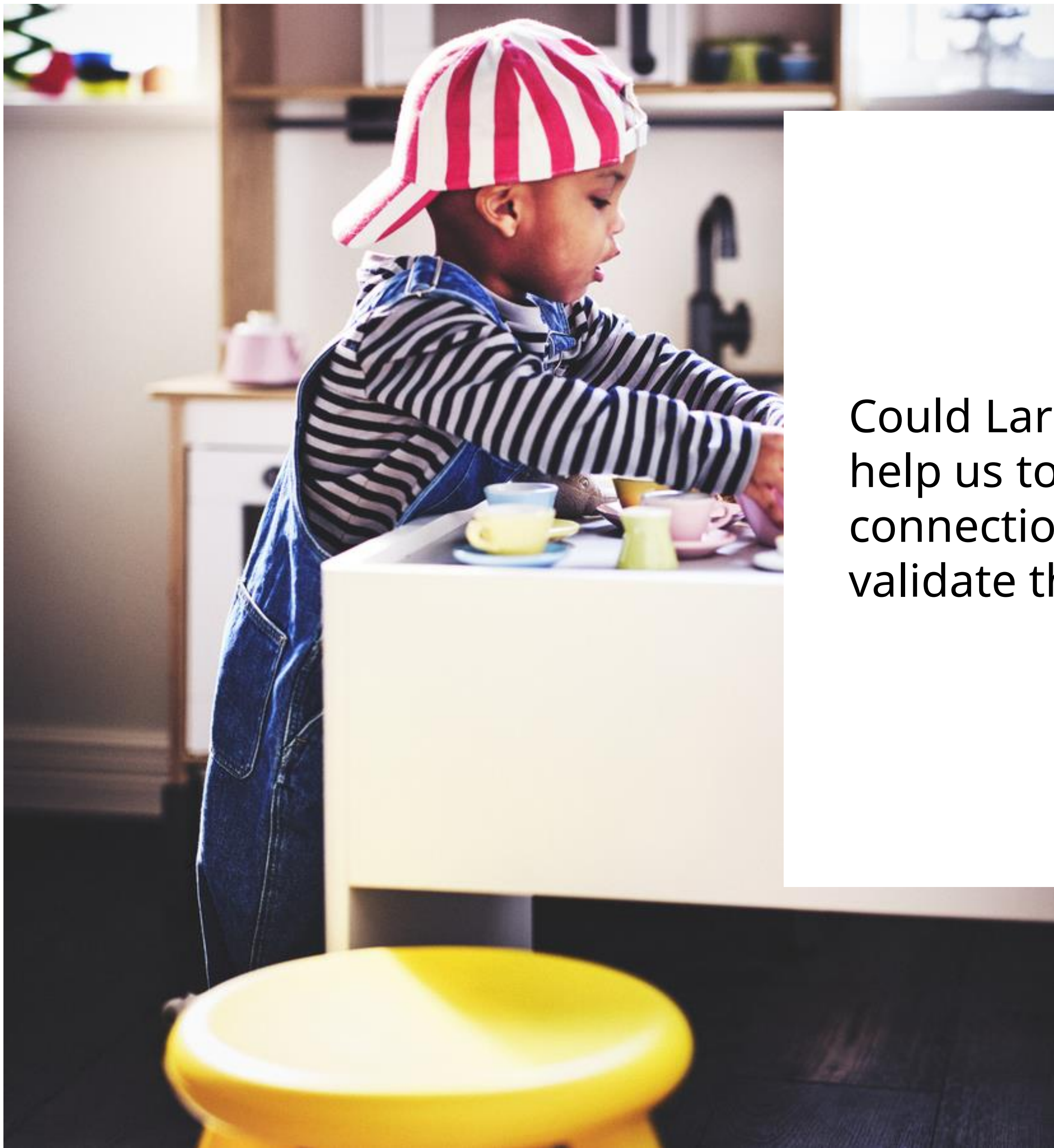
Generated new connections  
that drive the  
recommendation





Tool Developers:  
How can we make rule definitions  
usable to non-tech users?





Could Large Language Models help us to suggest these connections and have experts validate them?



# Thank you

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Inter IKEA Systems B.V. 