



**Towards data-driven
Exploration instead of
Exploitation**

01

THE DILEMMA

Keyhole View

02

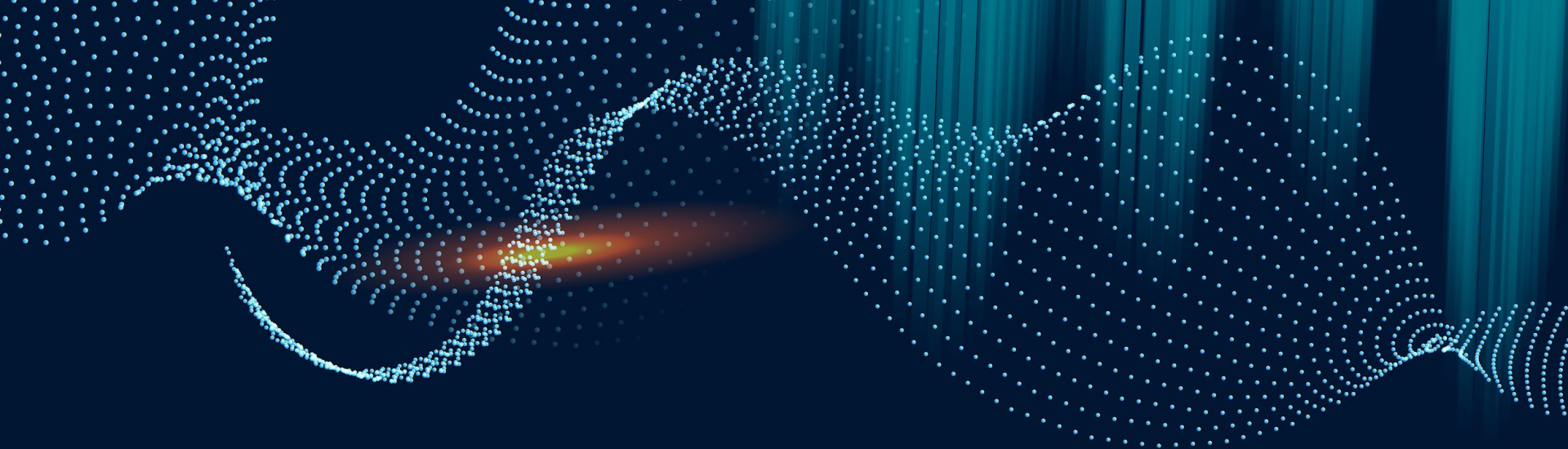
EXPLORE vs. EXPLOIT

Echo Chamber

03

SUMMARY

Explore & Inspire

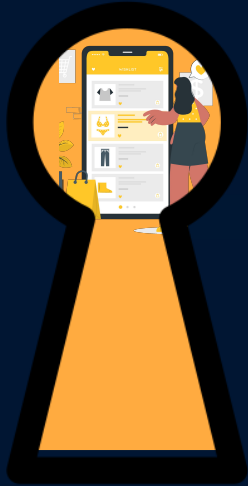


01

THE DILEMMA

We are analyzing the world
through a keyhole

CAPTURED DATA vs. THE FULL PICTURE



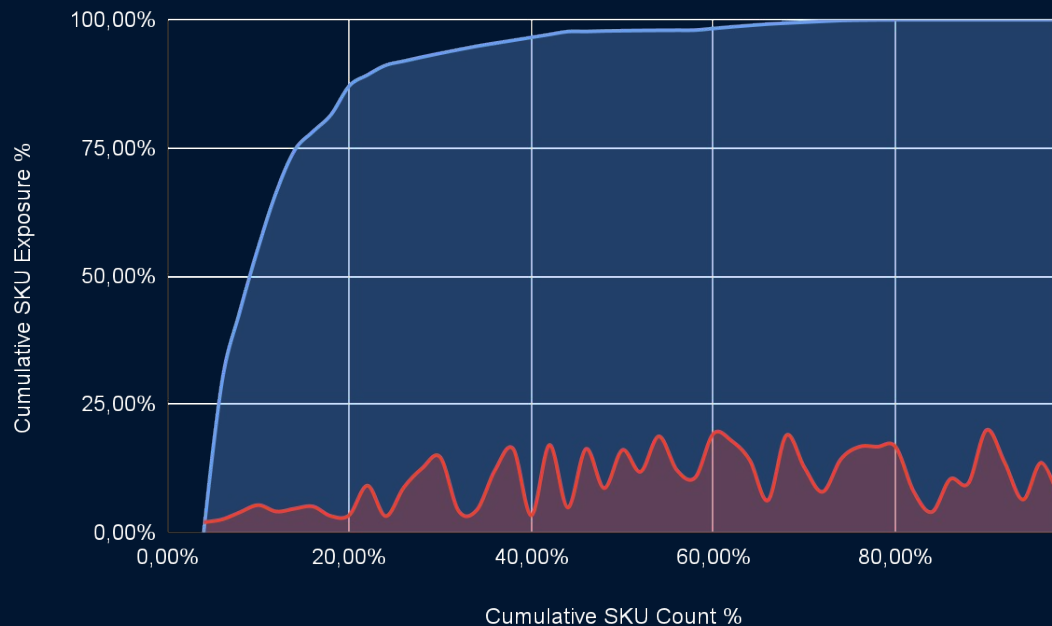
**“Online tracking
captures the what
not the why and how”**

CAPTURED DATA vs. THE FULL PICTURE



**“and more importantly
not what could have
been”**

WEB DATA from a large European fashion retailer



20% of the assortment drives >87% of the overall product exposure

Only exposed SKUs can generate KPIs like clicks, carts and buys

SKU performance is heavily exploited

● Product-Exposure
● Product-Margin

PRESENTATION BIAS

“The performance of products, which users have never seen, cannot be judged”

WHY IS THIS A PROBLEM ?

- 1. Products without exposure still produce inventory costs** (depending on your business model)
- 2. Short-head products face the biggest competition - cutting product margins**



02

EXPLORE vs. EXPLOIT

Exploration is the Foundation of
Learning

E-COMMERCE TENDS TO EXPLOIT

EXPLORATION

Bring products into the view of shoppers
because viewing products can activate forgotten or new needs

VS

EXPLOITATION

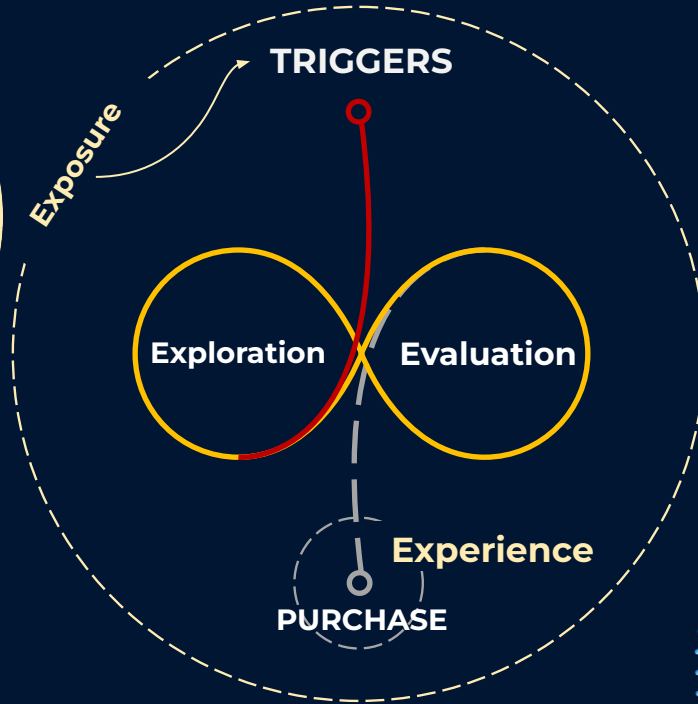
Maximize the probability of a conversion.
Based collected signals

WHILE PHYSICAL RETAIL TENDS TO EXPLORE



SELL THROUGH RATE depending on product placement

EXPOSURE is the foundation for EXPLORATION



WE NEED TO BRING THEM CLOSER TOGETHER

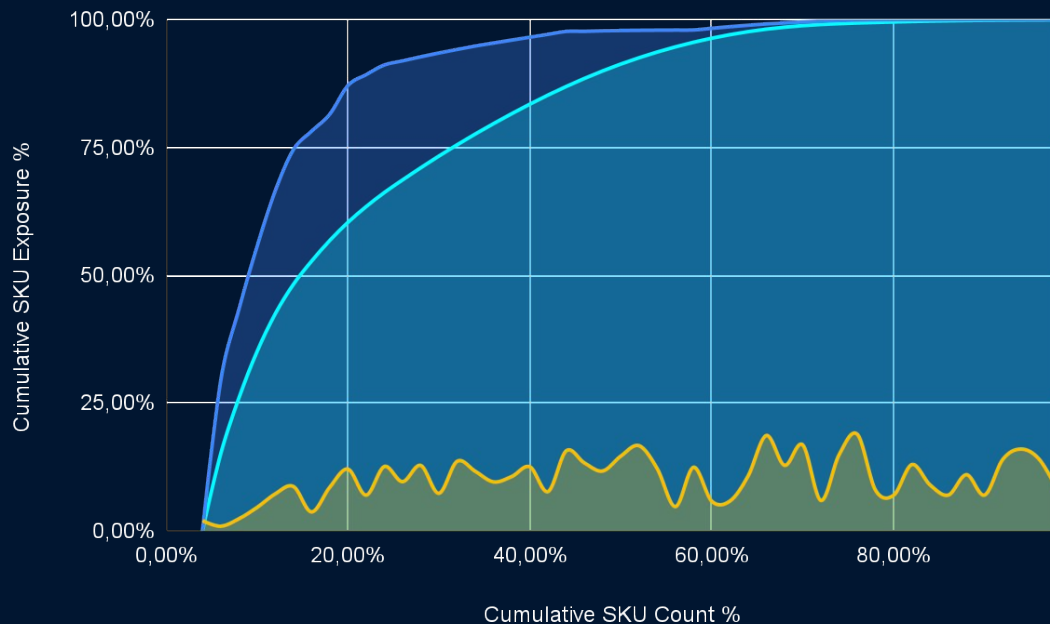
EXPLORATION

**Bring products into the
view of shoppers**
because viewing
products can activate
forgotten or new needs

EXPLOITATION

**Maximize the probability
of a purchase.**
Based on collected
signals

WEB DATA after adding 10% of random exploration












45% of the assortment drives 88% of the overall exposure.










SKU performance is less exploited and more SKUs are exposed to the users

Relative 8% uplift in Margin per Transaction

- Product-Exposure
- Product-Exposure + exploration
- Product-Margin

EXAMPLES of Random Exploration

 <p>adidas Performance Sporttasche LINEAR DUFFEL</p> <p>30,00 € 30,00 €</p>	 <p>MFTSMD Tasche Shopper BORSA</p> <p>389,99 € 548,00 €</p>	 <p>GREEN FALLBAUEN Umhängetasche HIGH COAST POCKET</p> <p>ab 32,95 € 89,99 €</p>
 <p>Babolat Tennistasche DH X12 PURE AERO</p> <p>94,00 € 109,99 €</p>	 <p>adidas Performance adidas Tasche</p> <p>ab 49,46 € 49,99 €</p>	 <p>adidas Performance adidas Tasche</p> <p>44,91 € 44,99 €</p>
 <p>still nordic Hermen Messenger Tasche</p> <p>149,99 €</p>	 <p>still nordic Hermen Messenger Tasche</p> <p>79,99 €</p>	 <p>still nordic Hermen Messenger Tasche</p> <p>149,99 €</p>










 <p>adidas Performance Sporttasche LINEAR DUFFEL</p> <p>30,00 € 30,00 €</p>	 <p>startStep Tasche Shopper BORSA</p> <p>389,99 € 548,00 €</p>	 <p>GREEN FALLBAUEN Umhängetasche HIGH COAST POCKET</p> <p>ab 32,95 € 39,99 €</p>
 <p>Babolat Tennistasche DH X12 PURE AERO</p> <p>94,00 € 109,99 €</p>	 <p>adidas Performance adidas Tasche</p> <p>ab 49,46 € 49,99 €</p>	 <p>Burberry Hermen Tasche</p> <p>1.390,00 €</p>
 <p>still nordic Hermen Messenger Tasche</p> <p>149,99 €</p>	 <p>Longchamp Reisetasche LE PLIAGE ENERGY</p> <p>330,00 €</p>	 <p>still nordic Hermen Messenger Tasche</p> <p>149,99 €</p>

99% less buys from the sixth position but 17% more clicks on laptop bags

67% less buys from the eighth position but 21% more clicks on weekender bags

increased Page Value about 9%

EXAMPLES of Random Exploration

<p>SALE</p>  <p>adidas Performance Herren Fußballschuhe Rasen und Kunstrasen SPEEDPORTAL 4 FG ACCURACHY FG ab 43,55 € 60,00 €</p>	<p>SALE</p>  <p>adidas Performance Herren Fußballschuhe X SPEEDPORTAL 4 FG ab 44,00 € 60,00 €</p>	<p>NEU</p>  <p>Puma Fußball - Schuhe - Herren KING Ultra MG Edge ab 20,71 € 20,00 €</p>
 <p>adidas Performance Fußball - Schuhe - Nocken X Speedportal 3 FG 85,55 €</p>	 <p>Umbro Fußball - Schuhe - Nocken Veloctis Alchemist Premier FG 78,72 € 88,00 €</p>	 <p>Puma Fußball - Schuhe - Nocken ULTRA Alchemist Premier FG ab 16,97 € 20,00 €</p>
 <p>Puma Fußball - Schuhe - Nocken ULTRA Ultimate Dazle FGAC 21,36 € 20,00 €</p>	 <p>Umbro Fußball - Schuhe - Nocken Veloctis VI Premier FG 50,97 € 60,00 €</p>	 <p>adidas Performance Fußball - Schuhe - Nocken X Speedportal 3 LL FG Nightstrike 99,95 €</p>

 <p>adidas Performance Herren Fußballschuhe Nocken X SPEEDPORTAL 4 FG ab 19,95 € 20,00 €</p>	 <p>adidas Performance Herren Fußballschuhe X SPEEDPORTAL 4 FG ab 44,00 € 60,00 €</p>	 <p>Puma Fußball - Schuhe - Herren KING Ultimate MG Edge ab 20,67 € 20,00 €</p>
 <p>Nike Herren Fußballschuhe Rasen ZOOM MERCURIAL SUPERFLY 9 ELITE XDF FG ab 279,89 € 279,95 €</p>	 <p>Umbro Fußball - Schuhe - Nocken Veloctis Alchemist Premier FG 78,72 € 88,00 €</p>	 <p>Puma Fußball - Schuhe - Nocken ULTRA Alchemist Premier FG ab 16,97 € 20,00 €</p>
 <p>Puma Fußball - Schuhe - Nocken ULTRA Ultimate Dazle FGAC 21,36 € 20,00 €</p>	 <p>Umbro Fußball - Schuhe - Nocken Veloctis VI Premier FG 50,97 € 60,00 €</p>	 <p>adidas Performance Fußball - Schuhe - Nocken X Speedportal 3 LL FG Nightstrike 99,95 €</p>

71% less buys from the first position but 11% more clicks on high end adidas soccer shoes

67% less buys from the fourth position but 15% more clicks on high end nike soccer shoes

increased Page Value about 3%

How to explore by randomization

IF Query Understanding available:

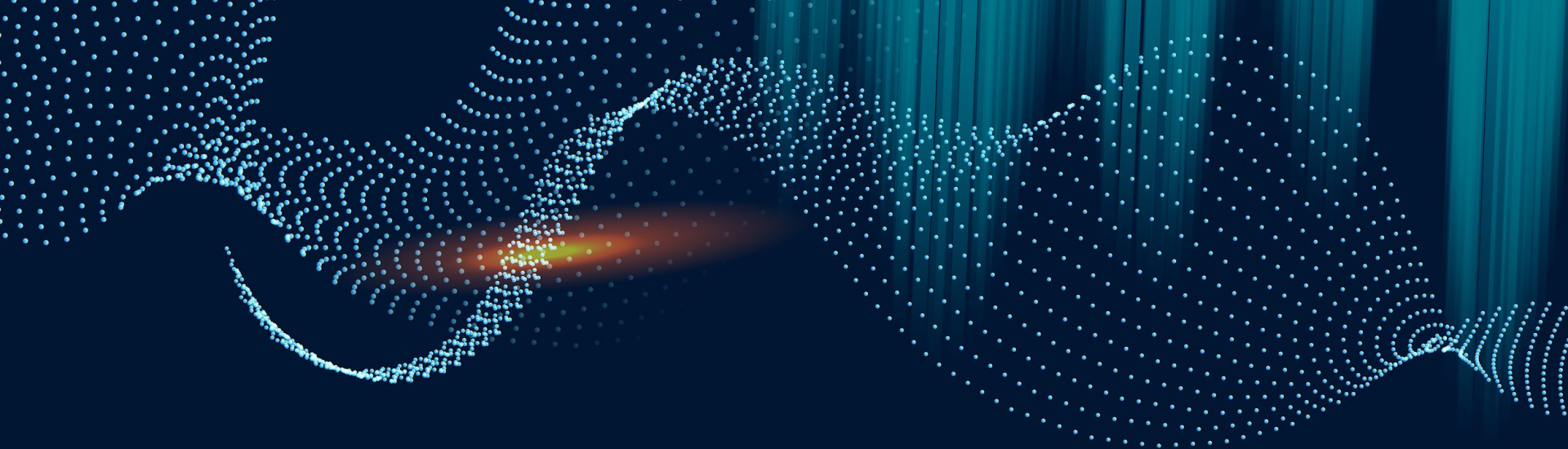
Try to find underperforming items and substitute them by items of the same product type with high collocated exposure to clicks/carts-ratios.

ELSE:

Add a randomized value for every item as additional ranking value to your search-Index or LTR-Model.

**“It’s still a keyhole -
but exploration made
it bigger!”**





03

SUMMARY

EXPLORE and INSPIRE

KEY TAKEAWAYS

- Don't let tracking data limit your abilities to learn and explore what customers want.
- Don't let tracking data limit your customers exploring what they want.
- Use exploration to challenge the current state and discover new opportunities.
- If you have deep in-house retail knowledge about product placement, merchandising, ... **use it** - it's worth more than most of your tracked data-points.

All of this can be achieved
without a single piece of PI

—

**“Retail creates places where culture
and commerce intersect.
It’s more like the Silk Road - a sense of
exploration mixed with the exchange
of things and ideas”**

—Ron Pompei

THANKS!

Do you have any questions?

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