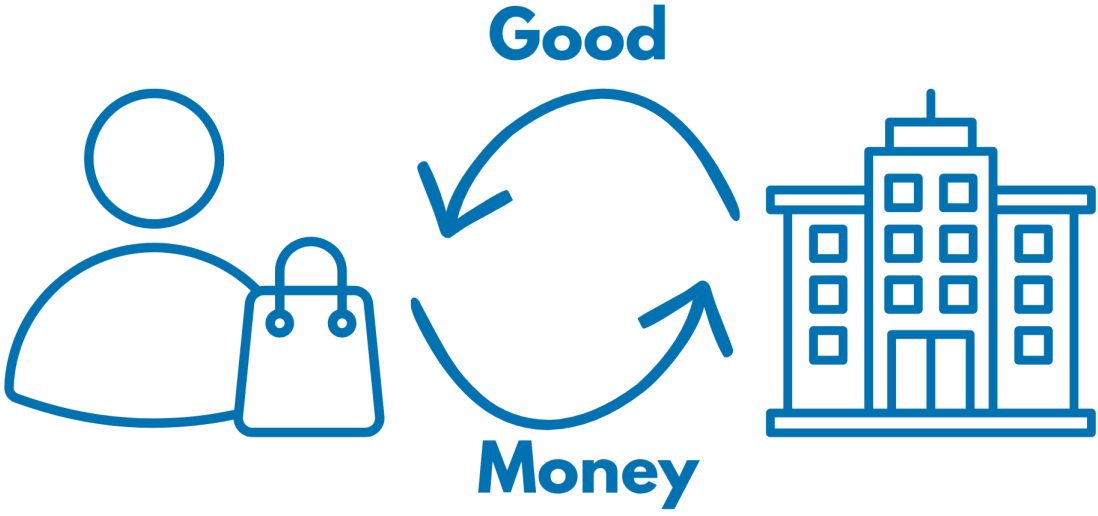
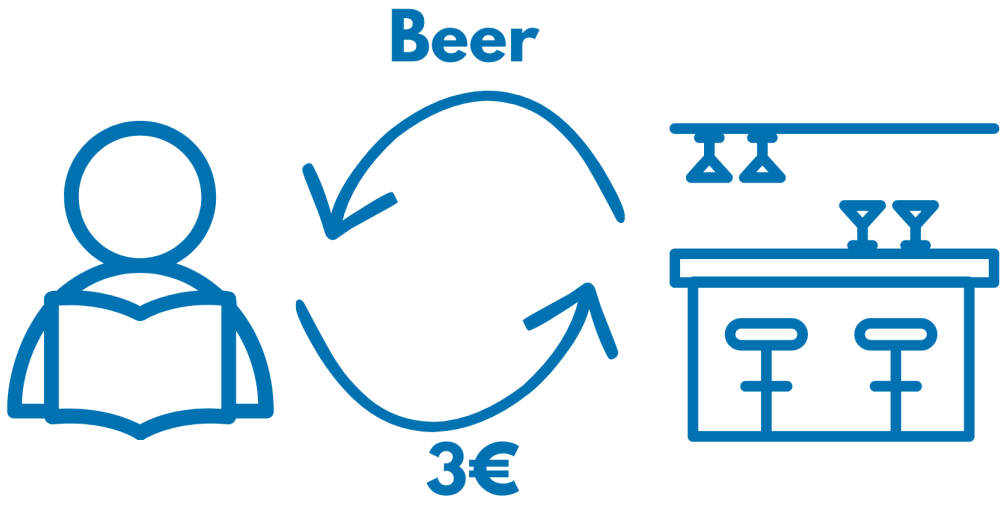
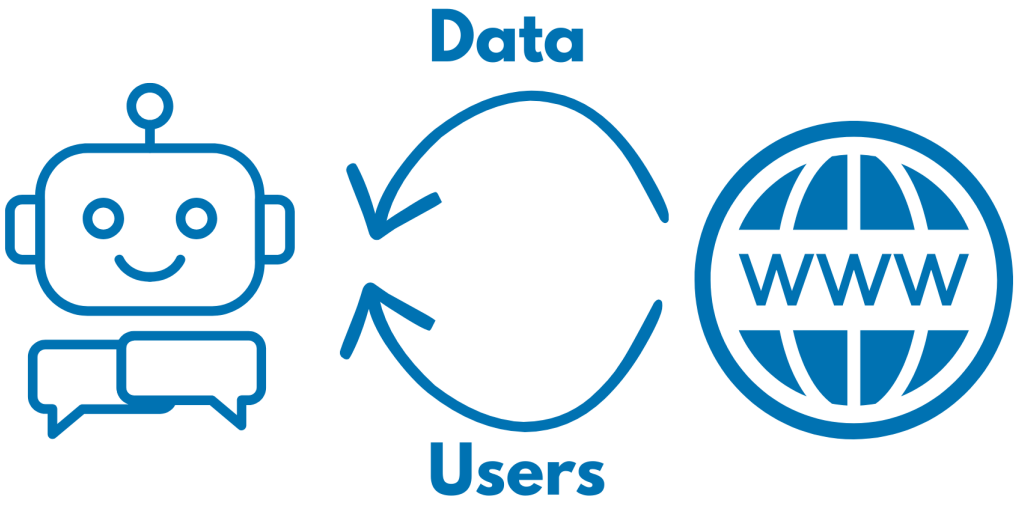
Will AI change the internet?


Good
Money


Beer
3€


Data
WWW
Users

Introduction

- **RQ:** *How does* ***Generative AI*** *(GenAI) affect* ***online content supply*** *and* ***quality****?*

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  - Future: Bring the Data to the Model
- **Preview:** Gen AI makes things worse but not always.

Literature Review

The Model

Users

- Search for infomation online.
- Mass 1.
- Pick between AI and the Web - discrete choice.

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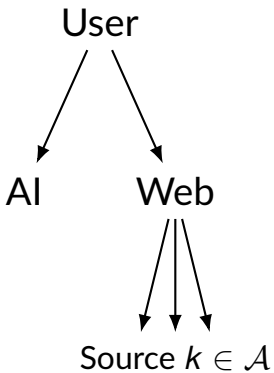
Gen AI

- Aggregates information available online.
- Altrenative to the Web.
- Decreases costs for providers.

User Side



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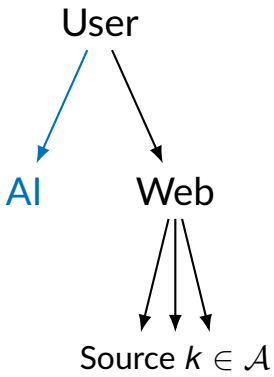

$\mathbf{Q_j}$-Quality of j

- Utility:

$$U_{iA} = lnQ_A + \epsilon_{iA}$$

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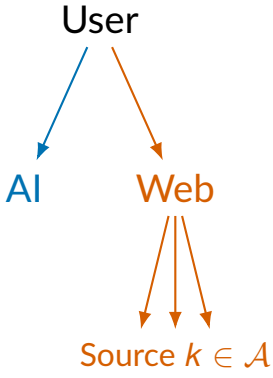

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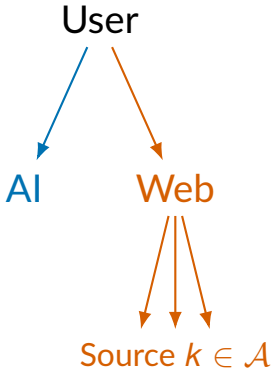

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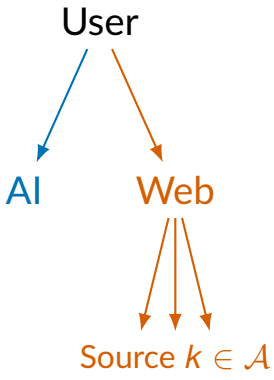

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- AI aggregates the information available on the web, with efficiency ϕ

$$Q_A = \phi \left(\sum_k Q_k^{1/\theta} \right)^{\theta}$$

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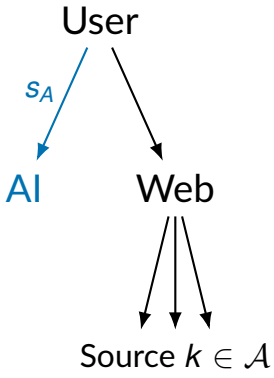

- The shares of users that go to:
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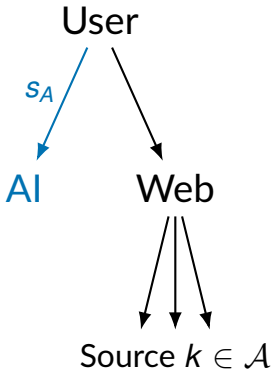

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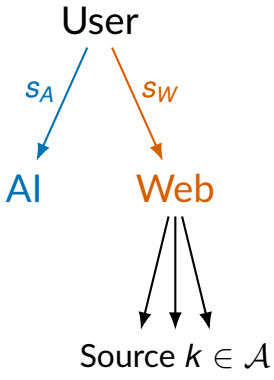

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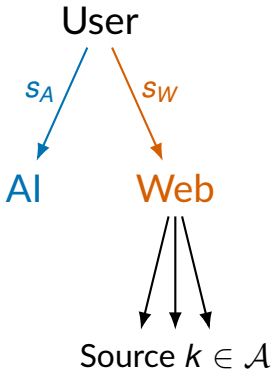

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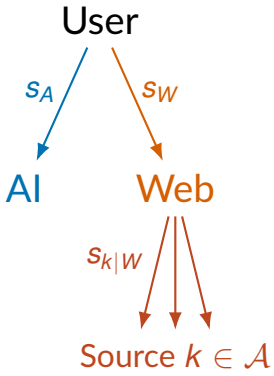

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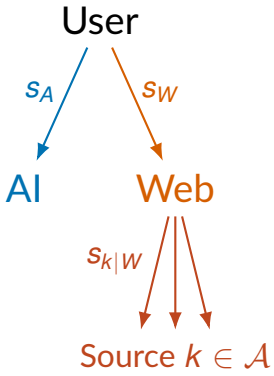

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Provider Side

$\mathbf{Q_j}$-Quality of j; $\mathbf{s_j}$-share of users using j;
$\mathbf{Q_0}$-Quality cutoff of entry;

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$$Q_0 = \left[\frac{Fm\gamma}{r(\gamma - 1/\theta)}(1-\eta)\frac{\delta_W + \phi}{\delta_W}\right]^{1/\gamma}, \quad \downarrow \eta \text{ and } \uparrow \phi$$

δ_W-Web preference; ϕ-AI's Ability r-Revenue per share; F-Fixed cost; η-Cost reduction due to AI

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$$m_{\mathcal{A}} = Q_0^{-\gamma}, \quad \uparrow \eta \text{ and } \downarrow \phi$$

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Supply of information:

- **increases**$\uparrow$ because AI decreases the cost of provision (η).
- **decreases**$\downarrow$ because AI steals the consumers, thus there is less incentive to produce (ϕ).

Quality

- We care about the quality that is consumed by the users:

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$$\begin{aligned}\widetilde{Q} &= s_A Q_A + s_W \sum_{j \in \mathcal{A}} s_{k|W} Q_k \\ &= \frac{Q_0}{\delta_W + \phi} \left[\frac{\delta_W(\gamma - 1/\theta)}{\gamma - 1/\theta - 1} + \phi^2 \left(\frac{r\delta_W}{F(1-\eta)(\delta_W + \phi)} \right)^{\theta} \right]\end{aligned}$$