

MINDSHARE

2025 10-11  
SEP

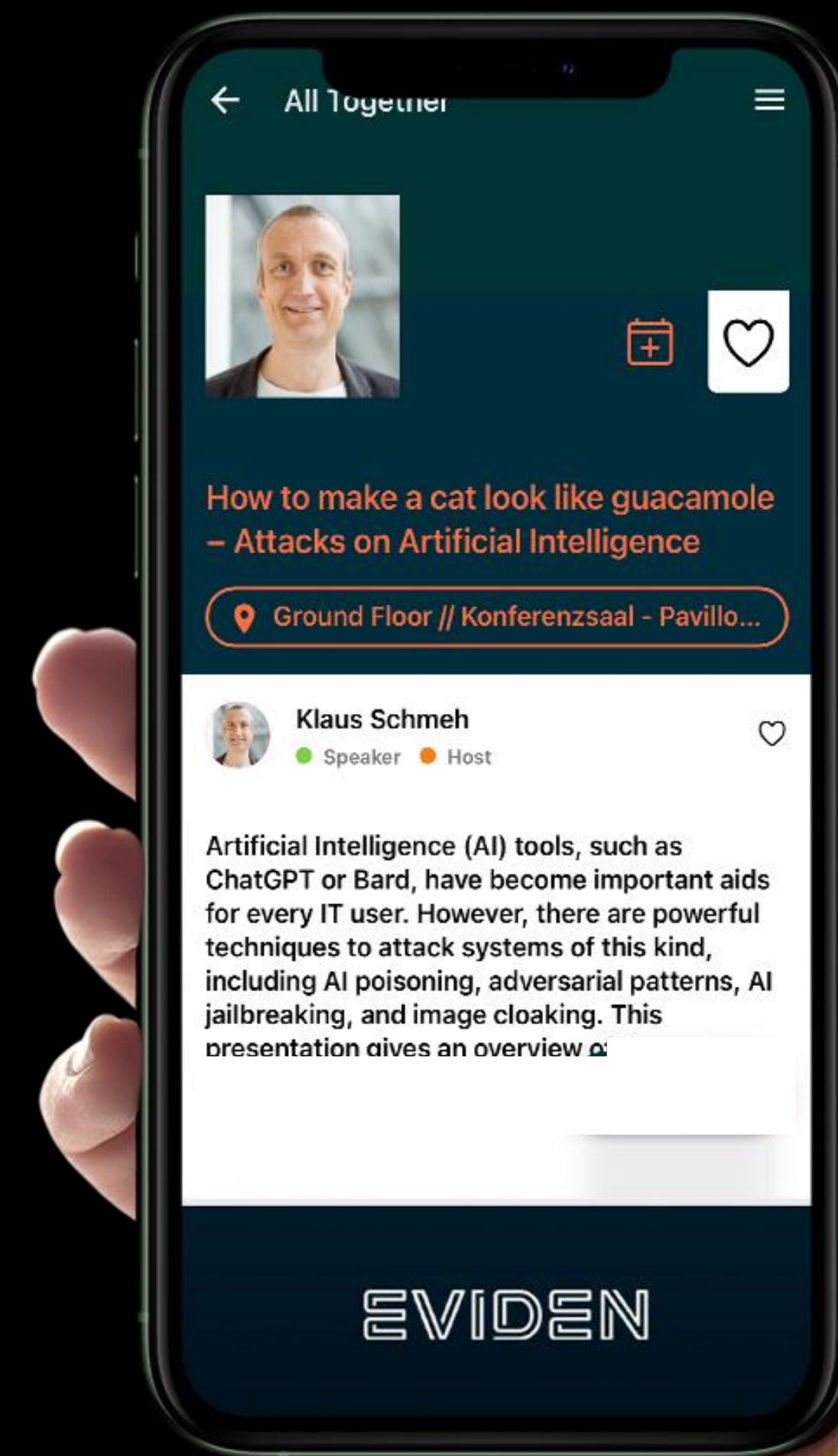
CYBERSECURITY  
LEADERSHIP FORUM

Securing  
Identity for  
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Future

# MINDSHARE AGENDA



GET APP





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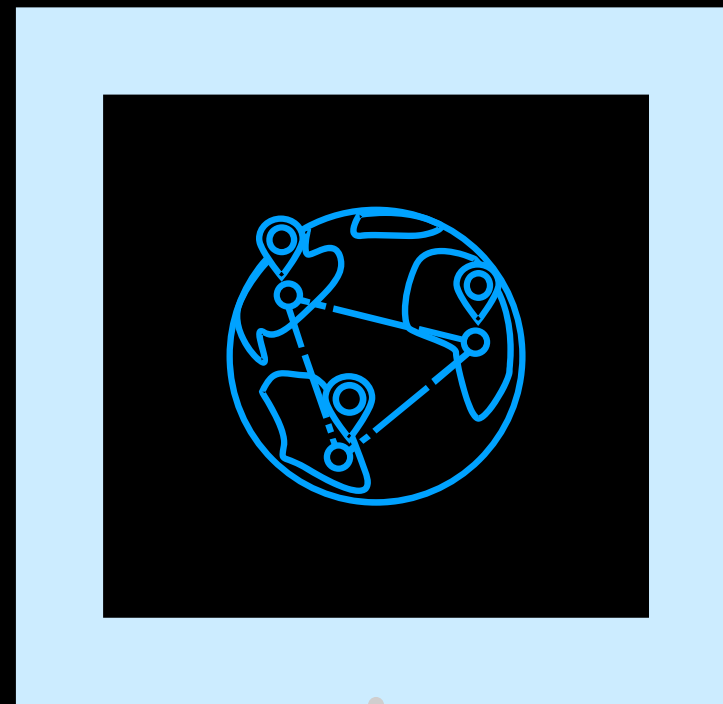
Felix Reichmann,  
Ruhr University Bochum

Too Good to Be True: The  
Impact of Inaccurate  
Cybersecurity Marketing



# Our Studies

We investigated the spread of cybersecurity information. We performed two exemplary studies in the B2B and B2C sectors



## [1] VPN Providers

In a study, we investigated who a VPN is claiming to protect against what



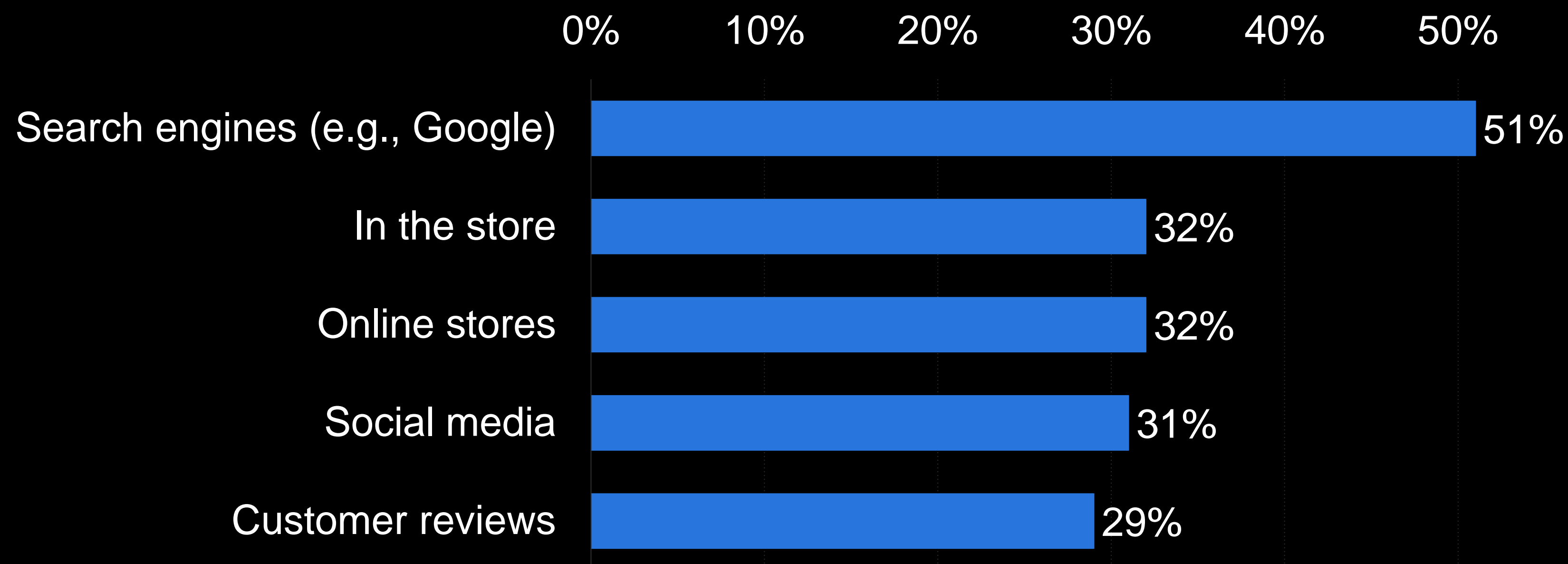
## [2] Security Awareness & Training Vendors

We evaluated the information Security Awareness & Training Vendors provide on their websites

# Sources of Information

People primarily inform themselves about products online.  
Most of them use search engines to gather information

## Share of respondents

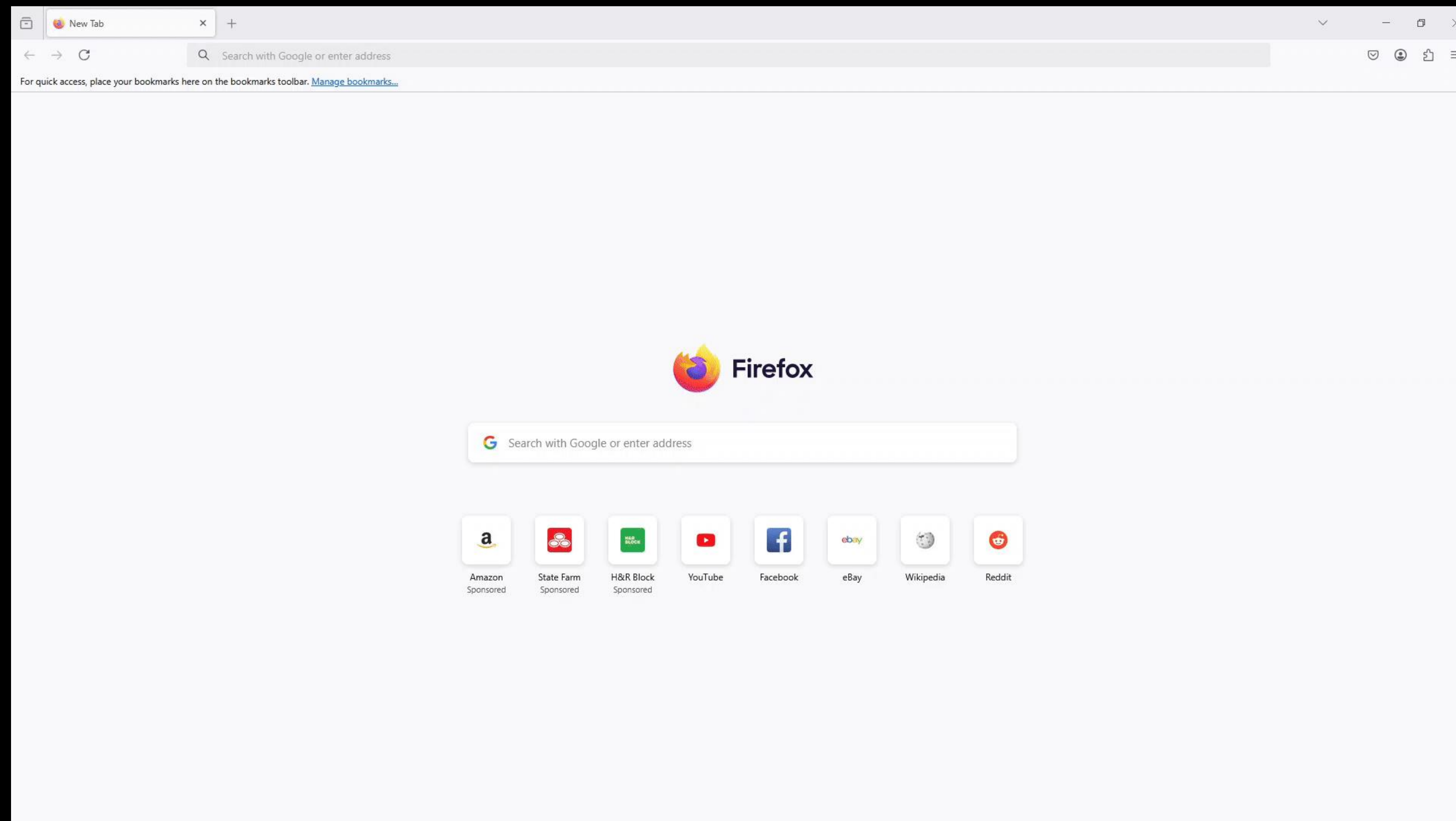


**Note(s):** United States; July 2024 to June 2025; 18-64 years; 13689 respondents

**Source(s):** Statista Consumer Insights; [ID 997051](#)

# Methodology

We aimed to align with actual consumer behavior. They typically use search engines to gather information



# Methodology

We aligned our approach with user behavior. This enabled the identification of websites that users are likely to encounter

①

Gathered Search Terms from Practitioners

Imagine you have decided that you want to start using a VPN solution in your private life. What words or phrases would you search for, to find the VPN provider that best fits your personal needs?

Please list at least five search terms you would enter into Google Search.

- A search term may consist of multiple words.
- Please enter English search terms only.

Search Term 1	<input type="text"/>
Search Term 2	<input type="text"/>
Search Term 3	<input type="text"/>
Search Term 4	<input type="text"/>
Search Term 5	<input type="text"/>
Search Term 6	<input type="text"/>
Search Term 7	<input type="text"/>
Search Term 8	<input type="text"/>
Search Term 9	<input type="text"/>
Search Term 10	<input type="text"/>

# Methodology

We aligned our approach with user behavior. This enabled the identification of websites that users are likely to encounter

①

Gathered Search Terms from Practitioners



②

Searched all Terms via Google Custom Search API and identified relevant Websites

## Google Custom Search API



```
{
  "queries": {
    "request": [
      {
        "title": "Google Custom Search - vpn",
        "totalResults": "1070000000",
        "searchTerms": "vpn",
        "count": 10,
        "startIndex": 1,
        "inputEncoding": "utf8",
        "outputEncoding": "utf8",
        "safe": "off",
        "cx": "70b5e944b68404858",
        "gl": "gb"
      }
    ]
  },
  "nextPage": [
    {
      "title": "Google Custom Search - vpn",
      "totalResults": "1070000000",
      "searchTerms": "vpn"
    }
  ]
}
```

# Methodology

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Gathered Search Terms from Practitioners

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Searched all Terms via Google Custom Search API and identified relevant Websites

③

Downloaded and filtered the websites

## Google Custom Search API

Filtered for keywords on websites

**VPN Study:** “private network” OR “vpn”

**SAT Study:** “security”

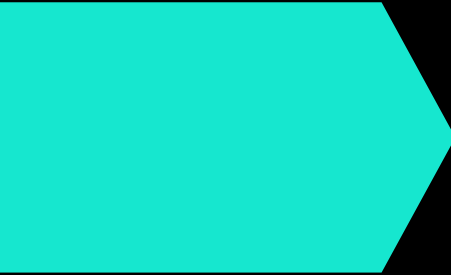


# Security Awareness Vendors


We identified 59 different vendors from 3 different countries.  
They still use the framing of humans as the weakest link



We identified 59 Vendors offering Services when searching from Germany, Austria, and Switzerland



Some vendors continue to frame humans as the weakest link. This perspective has long been outdated in research



Measurements play a crucial role, yet customers often rely solely on vendors' metrics to assess success. Objective, vendor-independent data would provide a more reliable basis for high-quality evaluation.



# VPN Paper

We identified 4 kinds of problematic claims providers make.  
These can foster incorrect mental models

**1** Incomplete Descriptions Hinder User Understanding

**2** Generic and Over-Promising Statements

**3** Misleading and Wrong Information Fosters Wrong Mental Models

**4** VPN Products are Not Clearly Defined as Standalone Solutions



Protect yourself properly.

*Yourself should be protected, but  
against what?*

80% of all websites describe  
what should be protected, but  
only about half of the pages  
against whom.



# VPN Paper

We identified 4 kinds of problematic claims providers make.  
These can foster incorrect mental models

## 1 Incomplete Descriptions Hinder User Understanding

## 2 Generic and Over-Promising Statements

## 3 Misleading and Wrong Information Fosters Wrong Mental Models

## 4 VPN Products are Not Clearly Defined as Standalone Solutions



If someone is trying to spy on your browsing activity [...]

*Who is meant by **someone**?*

Wordings like “Anybody”, “Someone”, “Interested Individuals”, “Everyone” or “Full Anonymity” are highly interpretive and may not be fulfillable



# VPN Paper

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It hides your IP address from prying eyes like your ISP [...]

*Even with a VPN, the ISP still can see the source IP address. Otherwise, networking won't work*

**False or misleading information can foster incorrect mental models**



# VPN Paper

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Block ads and malware

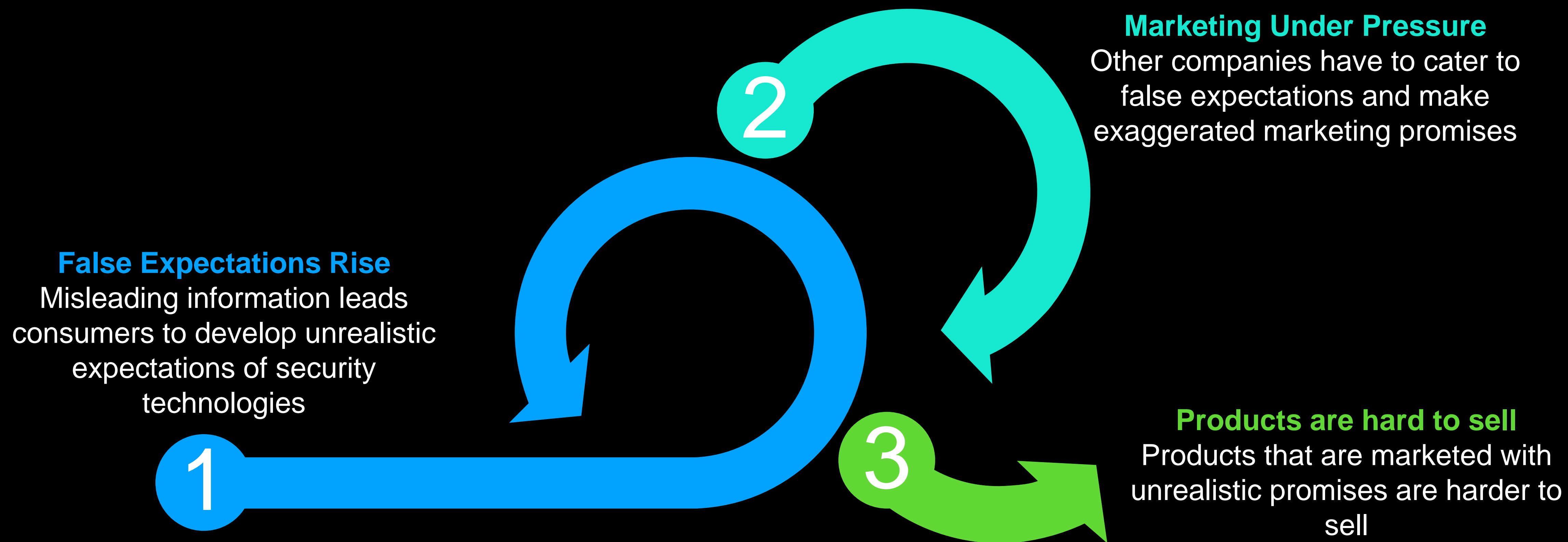
*Features like malware protection, DDoS or File Sharing can only be realized with additional technology*

**Mixing technologies supports wrong mental models of VPNs**



# Implications

False claims create false expectations. Honest providers might feel pressed to follow these overpromises



# Way Forward

Honest communication about security technologies is essential. Clear marketing builds trust and educates users





# Opportunities

Setting realistic expectations fosters trust. It can help to build long-term relationships to customers

- 1 TRUST**  
Providers who communicate security capabilities realistically foster long-term trust. Instead of overselling, they create credibility
- 2 EDUCATION**  
Clear communication empowers users and customers to make informed decisions. It strengthens their mental models and enables better adoption of security practices and products
- 3 SUSTAINABILITY**  
Honest marketing reduces the pressure to match unrealistic claims. This lowers risk exposure and contributes to a healthier, more sustainable cybersecurity ecosystem
- 4 DIFFERENTIATION**  
Realism becomes a unique selling point. In a market flooded with hype, companies that communicate transparently can stand out and appeal to more mature, security-conscious clients

# Conclusion





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# Questions

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# TAKE A MINUTE AND GIVE US FEEDBACK

