

List of google products: <https://about.google/products/#all-products>

Market Research Topics to consider:

1. Which AI do people use the most, which platform are they using it? pc, mobile etc.
2. Which google products do people use the most, what people are insecure about
3. Find info/studies abt AI privacy issues in general, people's main concerns about AI, what they like, what they don't like
4. Look at info about google AI competitors
5. Look at people's behavior
6. Research on the demographics of AI users
7. AI Bard privacy terms
8. Google AI ethics etc.

Rachel's findings:

1. **AI market size, share & trends analysis:** <https://www.grandviewresearch.com/industry-analysis/artificial-intelligence-ai-market>
 1. The global artificial intelligence market size was valued at USD 136.55 billion in 2022 and is projected to expand at a compound annual growth rate (CAGR) of 37.3% from 2023 to 2030.
 2. The continuous research and innovation directed by tech giants are driving the adoption of advanced technologies in industry verticals, such as automotive, healthcare, retail, finance, and manufacturing.
 3. AI is proven to be a significant revolutionary element of the upcoming digital era. Tech giants like Amazon.com, Inc.; Google LLC; Apple Inc.; Facebook; International Business Machines Corporation; and Microsoft are investing significantly in the research and development of AI.
 4. The essential fact accelerating the rate of innovation in AI is accessibility to historical datasets.
 5. North America dominated the market and accounted for over 36.8% share of global revenue in 2022. This high share is attributable to favorable government initiatives to encourage the adoption of artificial intelligence (AI) across various industries.

2. Top 10 Google Products

<https://www.digitalmenta.com/en/sem/top-10-products-from-google/>

- 1) Google Search Engine
- 2) Google Chrome
- 3) Gmail
- 4) Android
- 5) YouTube
- 6) Google AdSense
- 7) Google Drive
- 8) Google Ads
- 9) Google Maps
- 10) Google Docs

3. What does google do with you data? <https://www.avast.com/c-how-google-uses-your-data>

1. **Data Collection:** Google collects data about how you use its devices, apps, and services. This includes your browsing behavior, Gmail and YouTube activity, location history, Google searches, online purchases, and more. Anything connected to Google is likely used to collect data on your activity and preferences.
2. **Why Google Wants Your Data:** Google uses the data it collects to deliver better services, make improvements, and customize your experience. This includes targeted advertising, location tracking, improving usability, tweaking algorithms, and trendspotting and analysis.
3. **Does Google Sell Data?:** Google is not a data broker and does not sell your personal information. However, it does use your data to help advertisers and third parties show people relevant and targeted ads in Google products, on partner websites, and in mobile apps.
4. **What Information Does Google Have on You?:** Google collects a wide range of data, including the language you speak, your purchases, your location history, your email content, your Google Drive content, your YouTube viewing habits, your Google Calendar schedule, and more.
5. **Can You Ask Google to Delete Your Data?:** Yes, Google allows you to delete your data. You can do this from the My Google Activity page in your Google account.
6. **How to Protect Your Privacy:** The article suggests using anti-tracking software to browse anonymously, keep your identity private, prevent Google data mining, and

stop advertisers and other third parties from following you. Avast AntiTrack is recommended as a tool for this purpose.

4. Google Analytics privacy issues:

<https://matomo.org/blog/2022/06/google-analytics-privacy-issues/>

1. **What Google Analytics Collects:** Google Analytics collects session statistics, referring website details, approximate geolocation, and browser and device information. It uses both first-party and third-party cookies to gather this data.
2. **Issues with Third-Party Cookie Data Collection:** Cookies can transmit personally identifiable information (PII), which can end up with advertisers without consumers' direct knowledge or consent. This has led to regulatory frameworks such as the General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA).
3. **Google's Response to Regulatory Pressure:** Google has announced plans to deprecate third-party cookies usage for all web and mobile products. However, this has been delayed until the second half of 2023.
4. **Google's Use of Collected Data:** Google uses the data it collects for ad targeting and personalisation, as well as to improve its products. It has extensive data from its collection of products, which it uses to build advanced user profiles.
5. **Google's Data Collection Obsession:** Google's business model is heavily reliant on data collection. It collects more data than it shares with web analytics users and advertisers, and it uses this data to sell high-precision targeting and contextually personalised ads.
6. **Issues with Google Analytics:** By using Google Analytics, companies indirectly support Google's data collection and usage practices. This can lead to reputational and legal risks, as Google Analytics is not GDPR compliant.
7. **Alternatives to Google Analytics:** The article suggests using privacy-friendly alternatives to Google Analytics, such as Matomo, which respects privacy and leaves data ownership 100% in users' hands.

5. Artificial Intelligence and the Future of Humans

<https://www.pewresearch.org/internet/2018/12/10/artificial-intelligence-and-the-future-of-humans/>

1. **AI's Potential Benefits:** The experts predict that networked AI will amplify human effectiveness and offer opportunities for individuals to enjoy a more customized future. They foresee AI's significant role in healthcare, diagnosing and treating patients, helping senior citizens live healthier lives, and contributing to broad public-health programs. They also anticipate AI's positive impact on formal and informal education systems.
2. **Concerns about AI:** Despite their optimism, most experts expressed concerns about the long-term impact of AI on the essential elements of being human. They worry about the loss of human agency, data abuse, job loss due to AI takeover, dependence lock-in, and potential mayhem due to autonomous weapons, cybercrime, and weaponized information.
3. **Suggested Solutions:** The experts suggest improving human collaboration across borders and stakeholder groups, developing policies to assure AI will be directed at 'humanness' and common good, and altering economic and political systems to better help humans 'race with the robots'.
4. **Overall Outlook:** Despite the downsides they fear, 63% of respondents in this canvassing said they are hopeful that most individuals will be mostly better off in 2030, and 37% said people will not be better off.

6. advantages and disadvantages of artificial intelligence (AI)

<https://www.simplilearn.com/advantages-and-disadvantages-of-artificial-intelligence-article>

Advantages of AI:

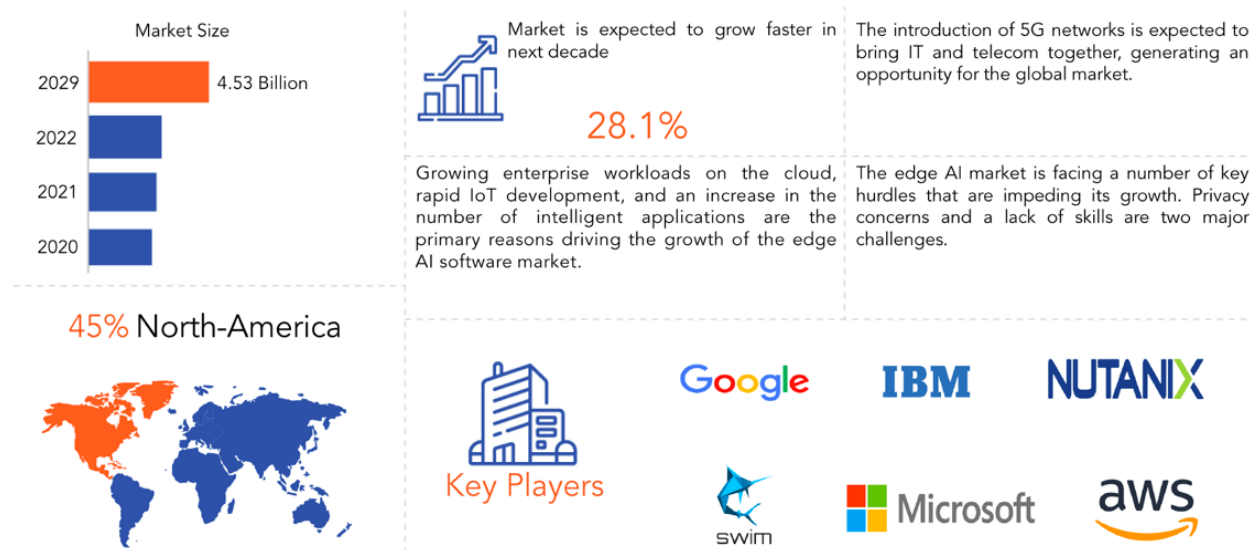
1. **Reduction in Human Error:** AI can significantly reduce errors and increase accuracy and precision. It can make decisions based on previously gathered information and certain algorithms.
2. **Zero Risks:** AI robots can perform risky tasks for humans, such as defusing a bomb, exploring space, or the deepest parts of oceans. They can survive in unfriendly atmospheres and perform tasks with greater responsibility.
3. **24x7 Availability:** AI can work continuously without breaks, handling multiple tasks at a time with accurate results. It can handle tedious repetitive jobs easily with the help of AI algorithms.
4. **Digital Assistance:** AI can eliminate the need for human personnel in customer service, providing user-requested content through digital assistants.

5. **New Inventions:** AI is the driving force behind numerous innovations that aid humans in resolving challenging issues.
6. **Unbiased Decisions:** AI doesn't have any biased views, ensuring more accurate decision-making.
7. **Perform Repetitive Jobs:** AI can efficiently automate menial chores and repetitive tasks.
8. **Daily Applications:** AI has made its way into our everyday lives, from Google Maps to voice assistants like Alexa and Siri.
9. **AI in Risky Situations:** AI robots can perform perilous tasks on our behalf, helping us overcome many dangerous limitations.
10. **Faster Decision-making:** AI can help organizations make faster and more informed decisions by automating certain tasks and providing real-time insights.
11. **Pattern Identification:** AI can analyze vast amounts of data and identify patterns and trends, helping businesses better understand customer behavior and market trends.
12. **Medical Applications:** AI has made significant contributions to the field of medicine, from diagnosis and treatment to drug discovery and clinical trials.

Disadvantages of AI:

1. **High Costs:** Creating an AI system requires a lot of time, resources, and money. AI also needs to operate on the latest hardware and software to stay updated and meet the latest requirements.
2. **No Creativity:** AI can learn over time with pre-fed data and past experiences, but it cannot be creative in its approach.
3. **Unemployment:** AI robots are displacing occupations and increasing unemployment in some cases.
4. **Make Humans Lazy:** AI applications automate the majority of tedious and repetitive tasks, which can make humans lazy.
5. **No Ethics:** Ethics and morality are important human features that can be difficult to incorporate into an AI.
6. **Emotionless:** AI lacks the emotional connection that forms the basis of human teams.
7. **No Improvement:** AI is proficient at repeatedly carrying out the same task, but if we want any adjustments or improvements, we must manually alter the codes.

<https://exactitudeconsultancy.com/reports/21837/edge-ai-software-market/>



Mehrnoosh's findings:

How do people feel about AI?

The Alan Turing Institute

AI technologies have a significant impact on people's lives and have garnered increased national attention and policy discussions.

The Ada Lovelace Institute and The Alan Turing Institute conducted a survey in November 2022, involving over 4,000 adults in Britain, to understand the public's experiences and attitudes towards AI.

- The survey covered 17 different uses of AI, ranging from visible and common applications like facial recognition for mobile phones to less visible ones like job eligibility assessments and futuristic applications like driverless cars and robotic care assistants.
- The majority of AI uses inquired about received broadly positive views from the public, particularly those related to health, science, and security. AI applications for detecting the risk of cancer garnered strong support, with nine out of 10 people considering it beneficial.
- However, some uses of AI raised concerns among the public. Advanced robotics, such as driverless cars, and autonomous weapons were the most concerning AI applications, with over 50% finding them somewhat or very concerning.
- People's perceptions of benefits and concerns varied across the 17 AI technologies. For 10 of the technologies, perceived benefits outweighed concerns, while for five of them, concerns outweighed benefits. Two technologies had an even balance of benefits and concerns.
- People perceive speed, efficiency, and improved accessibility as the main advantages of AI across various applications. For instance, 70% believe facial recognition technology can speed up processing at border control.
- Concerns about AI replacing professional judgments, lack of individualized decision-making, and a lack of transparency and accountability are noted. For example, 64% express concerns about workplaces relying too heavily on AI for recruitment instead of professional judgments.
- Privacy and data sharing concerns arise for technologies like smart speakers and targeted social media advertisements. Over half (57%) worry about smart speakers gathering personal information shared with third parties, and 68% have similar concerns about targeted social media ads.
- The majority of people in Britain support regulation of AI technologies, with 62% wanting laws and regulations guiding AI usage and 59% desiring clear procedures for appealing to a human against an AI decision.
- People prefer an independent regulator to ensure safe AI usage, with 41% in favor. Younger adults (18-24) are more likely to support companies developing AI being responsible for safety (43% in favor).
- Understanding how AI decisions are made is crucial for users, even if it means sacrificing some accuracy for explainability. 31% of respondents believe humans, not computers, should make ultimate decisions and be able to explain them. This view is more prominent among people aged 45 and over, while younger adults are more open to explanations being given only in some circumstances.

Centre for Data Ethics and Innovation, 'Public Attitudes to Data and AI: Tracker Survey (Wave 2)' (2022) <https://www.gov.uk/government/publications/public-attitudes-to-data-and-ai-tracker-survey-wave-2>.

Syed's Findings:

Google AI Ethics:

- When you interact with Bard, Google collects your **conversations, your location, your feedback, and usage information**. That data helps us provide, improve and develop Google products, services, and machine-learning technologies, as explained in the Google Privacy PolicyOpens in a new window and the Bard Privacy NoticeOpens in a new window. You can change your location settingsOpens in a new window anytime.
- We take your privacy seriously and **we do not sell your personal information to anyone**. To help Bard improve while protecting your privacy, we select a subset of conversations and use automated tools to help remove personally identifiable information. These sample conversations are reviewable by trained reviewers and kept for up to three years, separately from your Google Account.
- **You can always turn saving your Bard activity off, and you can delete your Bard activity from your account any time at myactivity.google.com/product/bardOpens in a new window**. If you turn off Bard ActivityOpens in a new window, it doesn't delete your past data, but you can manually delete it anytime at myactivity.google.com/product/bardOpens in a new window.
- **Bard conversations are not being used for advertising purposes**, and we will clearly communicate any changes to this approach in the future.

Syed's AI ethics citations:

- <https://safety.google/products/>
- <https://policies.google.com/privacy>
- <https://bard.google.com/faq>

Brainstorming:

Idea #1:

Project Title: AI Transparency and User Education Interface (AI-TUEI)

Product Chosen: Google Maps

Problem Statement: As AI becomes an integral part of Google Maps, it's crucial to maintain user trust and clear misunderstandings about AI's role and functionality. Users

need to understand how AI is enhancing their experience and how their data is being used.

Solution: We propose an AI Transparency and User Education Interface (AI-TUEI) that will be integrated into Google Maps. This interface will educate users about AI features, how they work, and how they use user data, thereby promoting transparency and trust.

Features of AI-TUEI:

1. **AI Feature Explanation:** Whenever a user interacts with an AI-powered feature (like route suggestions, traffic predictions, etc.), a small, non-intrusive icon will appear. Clicking on this icon will open a brief, user-friendly explanation of how AI is working behind the scenes.
2. **Data Usage Disclosure:** For each AI feature, there will be clear information about what user data is used and why. This will be presented in simple language, avoiding technical jargon.
3. **Interactive AI Tutorials:** AI-TUEI will include interactive tutorials that guide users through each AI feature, explaining its benefits and workings.
4. **Feedback Mechanism:** Users can provide feedback on AI features directly through AI-TUEI. This will help us understand user concerns and improve the system accordingly.

This solution aims to demystify AI for users, making it a less intimidating and more beneficial part of their experience with Google Maps.

Idea #2:

Project Title: AI-Interact: Interactive Learning and Trust-Building Interface

Product Chosen: Google Photos

Problem Statement: As AI becomes more integrated into Google Photos, it's essential to maintain user trust and clear up any misconceptions about AI's role and functionality. Users need to understand how AI is enhancing their experience and how their data is being used.

Solution: We propose AI-Interact, an interactive learning and trust-building interface integrated into Google Photos. This interface will educate users about AI features, how they work, and how they use user data, thereby promoting transparency and trust.

Features of AI-Interact:

AI Feature Walkthroughs: Whenever a user interacts with an AI-powered feature (like photo categorization, face recognition, etc.), an option for a walkthrough will appear. This walkthrough will explain in simple terms how the AI is working to enhance their experience.

Data Usage Breakdown: For each AI feature, there will be a clear breakdown of what user data is used, why it's used, and how it's protected. This will be presented in a user-friendly manner, avoiding technical jargon.

AI Learning Hub: AI-Interact will include a dedicated section where users can learn more about AI, how it's used in Google Photos, and how it's shaping the future of technology. This hub will feature articles, videos, and interactive content.

User Feedback Channel: Users can provide feedback on AI features directly through AI-Interact. This will help us understand user concerns, improve the system, and build a community around our product.

This solution aims to make AI a more accessible and understandable part of users' experience with Google Photos, fostering trust and engagement.

Idea #3:

Project Title: AI-Companion: User-Centric AI Education and Transparency Interface

Product Chosen: Google Assistant

Problem Statement: As AI becomes more integrated into Google Assistant, it's crucial to maintain user trust and clear up any misconceptions about AI's role and functionality. Users need to understand how AI is enhancing their experience and how their data is being used.

Solution: We propose AI-Companion, a user-centric AI education and transparency interface integrated into Google Assistant. This interface will educate users about AI features, how they work, and how they use user data, thereby promoting transparency and trust.

Features of AI-Companion:

AI Feature Explanations: Whenever a user interacts with an AI-powered feature (like voice recognition, personalized recommendations, etc.), an option for an explanation will appear. This explanation will describe in simple terms how the AI is working to enhance their experience.

Data Usage Insights: For each AI feature, there will be a clear insight into what user data is used, why it's used, and how it's protected. This will be presented in a user-friendly manner, avoiding technical jargon.

AI Learning Portal: AI-Companion will include a dedicated portal where users can learn more about AI, how it's used in Google Assistant, and how it's shaping the future of technology. This portal will feature articles, videos, and interactive content.

User Feedback Mechanism: Users can provide feedback on AI features directly through AI-Companion. This will help us understand user concerns, improve the system, and build a community around our product.

This solution aims to make AI a more accessible and understandable part of users' experience with Google Assistant, fostering trust and engagement.

Idea #4:

Project Title: AI-Insight: User Education and Trust Enhancement Interface

Product Chosen: Google Search

Problem Statement: As AI becomes more integrated into Google Search, it's crucial to maintain user trust and clear up any misconceptions about AI's role and functionality. Users need to understand how AI is enhancing their search experience and how their data is being used.

Solution: We propose AI-Insight, a user education and trust enhancement interface integrated into Google Search. This interface will educate users about AI features, how they work, and how they use user data, thereby promoting transparency and trust.

Features of AI-Insight:

AI Feature Demystification: Whenever a user interacts with an AI-powered feature (like personalized search results, voice search, etc.), an option for a

demystification will appear. This demystification will explain in simple terms how the AI is working to enhance their search experience.

Data Usage Clarity: For each AI feature, there will be a clear explanation of what user data is used, why it's used, and how it's protected. This will be presented in a user-friendly manner, avoiding technical jargon.

AI Learning Center: AI-Insight will include a dedicated center where users can learn more about AI, how it's used in Google Search, and how it's shaping the future of technology. This center will feature articles, videos, and interactive content.

User Feedback Channel: Users can provide feedback on AI features directly through AI-Insight. This will help us understand user concerns, improve the system, and build a community around our product.

This solution aims to make AI a more accessible and understandable part of users' experience with Google Search, fostering trust and engagement.