

## Deploying Gemini for Google Cloud for visual data extraction



Solution overview

# **DeepSights™:** An Al-driven insights management solution

DeepSights is an award-winning, Al-powered insights management solution from market leader Market Logic, built to transform data into actionable insights for consumer-focused businesses. Designed to unlock the value of proprietary knowledge, it allows users to ask natural language questions and receive answers from a range of reports, studies, and documents — making insights more accessible and actionable across the organization.

#### The challenge

Handling unstructured data within reports, especially visual information, has long been a challenge for businesses. Key insights in research and market data are often conveyed through charts, tables, and infographics, which are overlooked or misinterpreted by traditional text-only processing methods.

As a result, a wealth of information crucial for informed decision-making remained untapped and underutilized.



To better illustrate the challenge, the two images depict how data in visual formats is processed with standard extraction technology in DeepSights. The first image shows a typical market research report page, including data presented in chart form. The image below demonstrates how this data is extracted using standard text extraction technology.

#### Sports consumption among actives

Compared to 2019, more online shoppers are using their smartphones to buy sporting goods (+9 pp), while the use of a Laptop / Computer has decreased (-9 pp). More than two-thirds of these smartphone shoppers are below the age of 45.

Fig. 14 – Devices used by online shoppers "Which device have you already used for purchasing sporting goods online?"; Online shoppers among actives: n = 1,912





"Please indicate your age."; Smartphone users: n = 1,102; Laptop / Computer users: n = 1,322



Online shopping on smartphones is becoming more common

Among those consumers who purchase sporting goods mainly online, an increasing share are shopping on their smartphones (+9 pp vs. 2019). 03

Mobile shopping is especially relevant for the younger age profile, with more than two-thirds of smartphone shoppers below the age of 45.

Although the majority of online shoppers still shop on their Laptops / Computers, their share has decreased relative to the overall sample (-9 pp vs. 2019).

Notes: 1) Multiple answers possible.

#### Fig. 1: Example of a typical page including visuals and charts and results of standard text extracting technology

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Fig. 14 - Devices used by online shoppers "Which device have you already used for purchasing sporting goods online?";

Online shoppers among actives: n = 1,912

Fig. 15 - Age distribution of computer/laptop and smartphone shoppers in 2021 "Please indicate your age."; Smartphone users: n = 1,102; Laptop/Computer users: n = 1,322

Online shopping on smartphones is becoming more common

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device

Among those consumers who purchase sporting goods mainly online, an increasing share are shopping on their smartphones (+9 pp vs. 2019).

Mobile shopping is especially relevant for the younger age profile, with more than two-thirds of smartphone shoppers below the age of 45.

Laptop/ Smart- Computer phone

Tablet

Smart speaker

Other device

| Laptop / Computer shoppers | Smartphone shoppers

Although the majority of online shoppers still shop on their Laptops/Computers, their share has decreased relative to the overall sample (-9 pp vs. 2019).

Fig. 2: Example of results of standard text extracting technology from Fig. 1

## How Gemini changes the game

With the advent of Vision Language Models (VLMs), a new approach emerged for understanding visuals beyond traditional OCR or text scraping. **After extensive testing of state-of-the-art models, including GPT-4 and Claude, we adopted Gemini 1.5 Flash** for DeepSights, which we found to deliver the superior trade-off solution in terms of quality, speed, and cost.

Key differentiating aspects of the Geminibased solution include:

• Gemini's ability to turn off content filters, allowing faithful and verbatim extraction of business content from trusted source pages.

This ensures that no critical details are lost during extraction, maintaining the integrity of the original data.

- Use of Chain-of-Thought (COT) multistep extraction prompts to sequentially perform extraction steps from visual to Markdown. This means that complex visual elements are broken down stepby-step, making the extraction more accurate and understandable for users.
- A long output window of 8k tokens, supporting the full COT response even with complex pages to verbalize. This allows the model to handle large and detailed documents without losing important information.

### 🔶 Gemini for Google Cloud

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Laptop/Compu	uter 78	69		
Smartphone	49	58		
Tablet	20	20		
Smart speaker	4	5		
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Fig. 3: Example of results with visual extraction technology from Fig. 1

#### Impact

The implementation of Gemini's visual extraction capabilities has been a game changer for DeepSights users. The enhanced ability to process information means that all the valuable insights contained within charts, tables, and other visuals are now accessible to stakeholders across the business.

By integrating visual extraction into DeepSights, insights are far more comprehensive. The nuance captured from graphical elements leads to deeper understanding and actionable results.

<ul> <li>which devices have been used by online shoppers to purchase the line 2021, online shoppers utilized various devices to purchase sporting primary devices reported were:</li> <li>Smartphones: There was a notable increase in the use of smat online shopping, with a rise of 9 percentage points compared trend is particularly significant among younger consumers, as thirds of smartphone shoppers were below the age of 45.</li> <li>Laptops/Computers: Despite the increase in smartphone usa online shoppers using laptops or computers decreased by 9 points relative to the overall sample from 2019. This indicates is consumer behavior towards mobile shopping.</li> <li>The data indicates that while laptops and computers remain popular shopping, smartphones are becoming increasingly dominant, espective of the overall sample from 2019. This indicates the shopping.</li> </ul>	ng goods. The rtphones for to 2019. This more than two- ge, the share of percentage a shift in ar for online	Sources () Answer generated using the following 1 materia [01] Sports Retail Study 2022 Mar 01, 2022 • Primary report Manage sources		
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Fig. 5: DeepSights answer with visual extraction



## **About Market Logic**

Market Logic is a market leading SaaS provider of insights management solutions. Our award-winning Al-enabled insights management platform DeepSights<sup>™</sup> allows insights teams to equip business decision-makers with trusted insights at scale and speed. Since 2006, we've helped hundreds of consumer-focused brands across the globe to transform into insights-driven businesses. Market leaders such as Unilever, Vodafone, and Tesco are driving innovation and making smarter market moves with the support of Market Logic.

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