SMILE

N	Stage	Core Purpose	Recommended Tool	Pricing / Access Type	Use / Relevance
1	Data Extraction	Collect raw social data from multiple platforms via APIs or scraping.	Meta Graph API	Free (requires developer account)	Accesses structured post and engagement data from Facebook and Instagram.
			YouTube Data API	Free (requires API key)	Gathers video metrics such as views, likes, and comments.
			TikTok API	Free (limited public endpoints)	Collects creator and engagement data.
			CrowdTangle	Free (academic/research access only)	Tracks public Facebook and Instagram content.
			Zapier	Free trial / Paid plans	Automates repetitive data pulls and transfers.
			Twint	Free (open-source)	Scrapes X/Twitter posts without API access.
			Google Takeout	Free	Exports personal social data for analysis practice.
			Netlytic	Free (limited queries) / Paid academic plan	Simplifies small-scale extraction and analysis for teaching.
2	Data Cleaning & Integration	Prepare and standardize extracted data for analysis.	Excel	Free via Office 365 EDU / Paid license	Used for cleaning, sorting, and formatting datasets.
			Power Query	Free (included with Excel/Power BI)	Automates transformations and cleaning workflows.
			Python (Pandas, NumPy)	Free (open-source)	Handles large-scale data manipulation and integration.
			R (Tidyverse)	Free (open-source)	Enables reproducible cleaning workflows.
			Google BigQuery	Free up to 10GB / Paid for scale	Stores and queries structured data efficiently.
			SQL (MySQL / PostgreSQL)	Free (open-source)	Manages relational data for consistent integration.

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3	Text & Sentiment Analysis	Interpret audience tone, keywords, and themes.	MonkeyLearn	Free tier (limited) / Paid Pro plan	Conducts sentiment and topic classification.
			MeaningCloud	Free API tier / Paid plans	Performs emotion, intent, and entity recognition.
			NVivo	Paid academic license	Enables qualitative text coding and thematic analysis.
			Voyant Tools	Free (web-based)	Provides simple text and frequency visualization.
			Python (NLTK)	Free (open-source)	Performs linguistic analysis and sentiment modeling.
			Python (spaCy)	Free (open-source)	Handles advanced text parsing and entity extraction.
			Python (TextBlob)	Free (open-source)	Conducts polarity and subjectivity scoring.
			Brandwatch	Paid enterprise	Enterprise-level social listening and analytics.
			Talkwalker	Paid enterprise	Monitors sentiment and trends across multiple platforms.
			Meltwater	Paid enterprise	Offers media intelligence and influencer insights.
4	Network & Influence Mapping	Analyze relationships and information flow between users.	Gephi	Free (open-source)	Visualizes and analyzes social network connections.
			NodeXL	Free Basic / Paid Pro	Creates network maps directly in Excel.
			Python (NetworkX)	Free (open-source)	Builds and analyzes network structures programmatically.
5	Statistical / Predictive Modelling	Identify patterns and forecast outcomes.	Excel (Regression Tools)	Free with Office EDU / Paid license	Performs linear regression and trend modeling.
			Python (Scikit-learn)	Free (open-source)	Builds machine-learning models and predictive analysis.
			R (Caret)	Free (open-source)	Provides predictive modeling and validation.
			R (ggplot2)	Free (open-source)	Creates visualizations and statistical graphics.

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6	Data Visualization & Dashboards	Translate findings into interactive visuals.	Power BI	Free Desktop / Paid Pro (cloud sharing)	Builds interactive dashboards integrating multiple datasets.
			Tableau	Free Public / Paid Desktop	Creates professional, narrative-driven dashboards.
			Google Data Studio (Looker Studio)	Free	Cloud-based interactive dashboards and reports.
			Excel Dashboards	Free with Office EDU / Paid license	Basic dashboarding for entry-level users.
			Plotly	Free (open-source)	Builds interactive web-ready charts.
			Matplotlib	Free (open-source)	Produces static, publication-quality plots.
7	Automation & Workflow Integration	Connect data pipelines and automate refresh cycles.	Zapier	Free trial / Paid plans	Links multiple tools and automates data refreshes.
			Power Automate	Free with Microsoft EDU / Paid Pro	Automates workflows within Microsoft ecosystem.
			Google Drive API	Free	Connects Google Drive data to analytics tools.
			Google Sheets API	Free	Enables dynamic sheet updates and automation.
			Notion	Free basic / Paid team plan	Documents workflows and collaborative planning.
			Airtable	Free starter / Paid advanced features	Combines spreadsheet flexibility with automation.
8	Reporting & Storytelling	Communicate insights visually and narratively.	PowerPoint (with Power BI embeds)	Free with Office EDU / Paid license	Integrates visuals and insights for executive reporting.
			Canva	Free version / Paid Pro	Designs visually engaging report summaries.
			Adobe Express	Free limited / Paid full	Creates branded visuals for analytics storytelling.
			Notion	Free personal / Paid collaborative	Serves as analytics documentation hub.
			Google Sites	Free	Publishes interactive analytics reports and portfolios.