AUTOMATION OF MARKETING ANALYTICS AT EXPLA: ECONOMIC JUSTIFICATION FOR AN IN-HOUSE DATA PLATFORM

By

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Chapter 1. Introduction

1.1. General Characteristics Of The Company

A thorough understanding of expla's history is key to properly grasping the company's evolution and the latest challenges it faces regarding its structure and operations. The company operates in the field of performance marketing-a high-tech industry focused on algorithmic media inventory buying, which involves measuring and paying for quantitative results, unlike traditional media marketing, which is geared toward increasing brand awareness.

The company traces its origins to 2015. It was then that a performance marketing agency named Cpamatica spun off from the Ukrainian IT holding company Genesis. The ideological center of the new entity was SEO specialist Yevhen Pryma. A solid education in physics and mathematics-specifically, graduation from a physics and mathematics lyceum and a marketing degree from KNEU-provided Yevgen with the knowledge that allowed him to develop a unique perspective on marketing processes from an engineering and mathematical methodology, which was unusual for those times. He developed a specific business model for the company called "Cpamatica," derived from "CPA" (Cost Per Action).

During this period, the company was still a typical affiliate network, whose main goal was to establish connections between advertisers and independent webmasters. As part of the Genesis conglomerate, the company was able to delegate complex legal and financial matters, focusing on creating new tracking algorithms and expanding its affiliate base.

Strategic division and sale of operational independence (2021) As the company grew and branched out (notably, building solid in-house media buying teams), staying inside the holding company structure became a barrier to growth. Management decided to make the strategic departure from Genesis (spin-off) in 2021. The goals were to build a unique employer brand for the recruitment

of specialized talent and achieve strategic flexibility without coordinating with the parent company's supervisory boards, and one related to the maturity of the management team. The spin-off took considerable resources to the company's infrastructure– the company had to establish legal, financial, and administrative departments able to handle the high transaction volume synonymous with the performance marketing industry.

Total restyling and repositioning (2023) By the end of 2023, the old name "Cpamatica" started to bring about some cognitive dissonance in the market, as many saw that name as only now being related to the affiliate network in particular, and that's just one division of a more sizeable business. Creative agency I AM IDEA joined the transformation. After declining 70 potential names (such as "smartasses" and "Cube"), the company rebranded as expla in December 2023 (the name is pronounced as a phonetic combination of the words exploration, explanation, and exponential). The linchpin of the new identity was the tagline "engineering and marketing company." It marked a radical departure from artful and gut-driven answers to mathematical modeling, the integration of Big Data, and predictive analytics to manage advertising spend.

Scale of operations, geography and HR infrastructure As of 2024, expla is a well-established player in the medium-sized business sector within the Ukrainian digital economy. The company employs over 120 highly qualified specialists. Operational stability is ensured by a two-tier geographic model with full-service offices in Kyiv and Warsaw, which guarantees business continuity planning under martial law.

The high level of corporate transparency is confirmed by the status of a resident of the special legal space "Diya City". Thanks to a well-thought-out talent retention policy (financial peg to exchange rates, compensation for psychologist services, lack of micromanagement), the company consistently maintains leading positions in national rankings. On the DOU portal, expla has a score of 98 out of 100

points, which allows it to successfully compete for personnel even with the "Big Four" companies (Big4) (DOU.ua).

The company officially cooperates with 250 global advertisers, including market leaders (Plarium, Babbel, C-date). The organization's status on the world stage is confirmed by its entry into the 100 largest Google clients in Europe, which indicates a gigantic buying power (operating with multi-million dollar budgets). In 2024 alone, expla's infrastructure generated 9.5 million converting leads in Tier-1 markets (USA, UK, Western Europe), which are characterized by the highest purchasing power and the most aggressive competitive environment.

Product Portfolio Architecture The company's modern ecosystem is diversified into three key business units, the functioning of which requires continuous analytics of large data sets:

- Comparison Websites: The largest niche in the industry, specializing in the creation and SEO optimization of comparison platforms. It solves the "paradox of choice" for consumers by generating high-converting organic and paid traffic.

- Social Media Advertising: A direction of direct purchase of display advertising in the Meta, TikTok, Snapchat and LinkedIn ecosystems. Based on filigree algorithmic targeting.

- Affiliate Network: A global affiliate network "Cpamatica powered by expla", which monetizes external traffic from thousands of webmasters and serves as an industry radar for identifying new trends.

1.2. Context Of The Problem

Macroeconomic Transformation and Data Fragmentation expla operates in a context of a radical transformation of the global digital advertising landscape. The industry has entered the so-called

post-cookie era. According to eMarketer research, the implementation of strict privacy policies (including GDPR in Europe, CPRA in California, and Apple App Tracking Transparency) has led to extreme signal loss. Over 77% of users in the US use privacy protections, making classic pixel tracking models ineffective.

In turn, platforms (Meta, Google, TikTok) are like walled gardens, as each one has its own isolated attribution models. Advertisers are forced to adopt omnichannel strategies. Under these conditions, manually aggregating campaign performance (ROAS) is mathematically incorrect due to the nonlinear consumer journey and the fragmentation across devices and platforms.

Anatomy of a weekly work cycle and operational routine The activities of an engineering and marketing company are subject to constant monitoring through the calculation of unit economic efficiency-the ratio of lifetime value (LTV) to customer acquisition cost (CAC). Roles such as media buyers and performance marketing specialists have evolved into financial traders whose task is to treat audience attention like a tradable asset.

The workload on these specialists is critical, both cognitively and in terms of information. A typical buyer manages 50–150 active campaigns simultaneously, monitors 300–800 ad groups, and tests over 150 creative variations. The work cycle is strictly regulated.

- Monday (Data Aggregation): The day of the highest cognitive load. The specialist exports data from various advertising cabinets, compares it with internal trackers (for example, CPV Lab Pro) and cleans it of fraud. The main task is to identify discrepancies and calculate the current Unit-economy to immediately disable unprofitable campaigns. The process is accompanied by massive manual work in Excel spreadsheets.

- Tuesday (Hypothesis Generation): Conducting competitive intelligence by parsing advertising libraries (Meta Ad Library), using SimilarWeb, and forming clear technical tasks for the creative department.

- Wednesday-Thursday (Implementation): Bulk upload of new campaign architectures via Bulk Sheets (CSV), setup of server-side tracking (Conversions API), and launch of test budgets to go through the algorithmic "Learning Phase".

- Friday (Scaling): Close interaction between BizDev specialists and media buyers for aggressive capital injection into successful hypotheses, negotiations on increasing daily limits (caps) from the client, and financial audit.

In parallel, a digital pipeline of Creative Specialists operates, generating 10-20 new videos per week, using a matrix approach to A/B testing (quickly changing a 3-second hook, CTA, or musical accompaniment using AI tools).

Technological barriers of SaaS aggregators Trying to reduce the amount of routine, many companies invest in ready-made SaaS solutions (Triple Whale, Supermetrics, Funnel.io). However, for agencies of the level of expla, which implement the "engineering marketing" paradigm and operate with industrial volumes of Big Data, these platforms create artificial barriers to scaling (OpenText / Vertica):

- Throttling and API limits: Advertising platforms have strict limits on request frequency. For example, Google Ads' base quota limits data changes to 10,000 operations per call, and the gRPC protocol limits response size to 64 MB. Meta Ads uses a complex evaluation system (HTTP 429 - too many requests). Shared SaaS infrastructure is often unable to handle a large number of concurrent requests, which can cause the dashboard to freeze and result in data loss.

- Data Latency: Most standard platforms were designed for static reporting with updates once a day (or, at best, once an hour). For modern algorithmic trading, which requires margin recalculation and automatic rate adjustments every 15 minutes, such a delay makes rapid scaling impossible.
- Schema rigidity and economies of scale: SaaS tools require schema alignment, which complicates the integration of in-house ERP systems. Furthermore, the monetization model of these platforms-based on the number of rows processed (such as Flexpoints in Funnel.io)-places an exponentially greater burden on a company as it grows, turning data aggregation into a significant expense.

1.2.1. Global Macroeconomic Trends And Systemic Risks Of The Algorithmic Advertising Market

expla operates in the digital advertising sector, which is undergoing significant structural changes. These rapid changes in the industry, coupled with an almost complete reliance on complex algorithms within a global regulatory environment, are creating new macroeconomic risks (International Monetary Fund 14).

Algorithmic Procyclicality and Financial Stability Additional risks also arise from the significant volume of automated trading conducted through software platforms (DSPs). Researchers note a high risk of so-called “algorithmic procyclicality” due to the growing reliance on modern, opaque machine learning (ML) models. Because multiple DSPs typically work from the same mathematical models and process identical public data sets, they may at times come to exactly the same conclusions in volatile markets. During times of financial panic, these products are susceptible to “herd behavior,” in which they make highly correlated trades that significantly exacerbate market volatility. This results in either irrational bidding up for the premium digital inventory or a market collapse. In the

realm of programmatic, a theoretical threat of algorithmic collusion also exists, where autonomous pricing algorithms may individually "discover" that they can derive higher CPM (cost-per-thousand impressions) rates collectively as platforms at the cost of the advertisers.

Request for Confidential Algorithm Audits As complex algorithms increasingly determine which ads to show to specific demographic groups, regulatory bodies are pushing for stricter requirements regarding algorithmic fairness and the elimination of systemic biases. Ad networks use hidden input data to generate "relevance scores." Since agencies such as expla rely on these standards when distributing their clients' content, there is a daily need in the industry for "platform-supported privacy compliance checks." hese mechanisms allow independent auditors to test algorithms for bias by inputting test content and obtaining statistical "noise" results, while ensuring the privacy of users' personally identifiable information (PII) (Bandy et al. 5).

Cookieless Reality The primary currency of the programmatic ecosystem over the past decade-third-party tracking cookies-is systematically losing its value due to browser updates and mobile operating system restrictions (notably Apple's ATT policy). This is forcing companies to adapt. Global DSPs are responding to this challenge by creating anonymous identification graphs (such as UID 2.0 from The Trade Desk) or shifting to advanced geotargeting (The Trade Desk). For expla, this macroeconomic shift is a strategic opportunity: the move away from cookies significantly increases the intrinsic value of high-quality creative assets. Without overly granular behavioral targeting, it is the creative assets themselves that take on the primary role of capturing attention.

1.3. Problem/Development Opportunity Formulation

The main management challenge-which is also the greatest area of potential economic growth for expla-is a chronic decline in profitability due to data processing delays in high-frequency algorithm

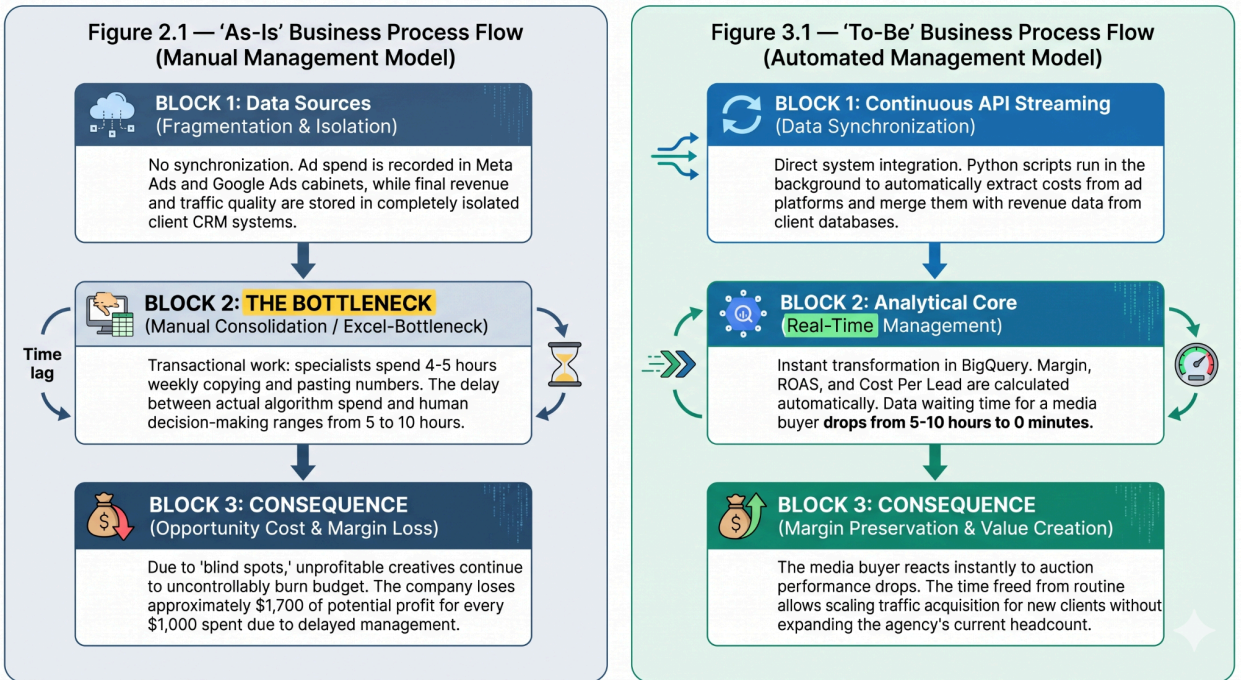
environments.

Local manipulation of the raw data downloaded from multiple systems has now become the biggest bottleneck. Experts invest 4 to 10 hours per month per client (such as 4-5 hours every Monday) simply exporting, cleaning and normalizing tables. For a firm running multiple projects, this adds up to lost working hours: 63 to 105 hours per month (0.40-0.66 of a full-time worker), translating to tens of thousands of dollars in direct annual loss, just for payment of purely transactional labor. Further, manual processing adds a 'human error tax-a 1% to 5% rate of error-that has an associated reputation risk and potential for customer loss directly tied to it.

As-Is business process diagram: Block 1 (Data collection from platforms) -> Block 2 (Bottleneck: manual summarization in Excel, decision delay of 5-10 hours) -> Block 3 (Consequence: loss of $1,700 for every $1,000 of budget due to delayed auction management).(see Figure 1.1).

To-Be Business Process Diagram: Block 1 (Continuous API Streaming) -> Block 2 (Automatic Alert Management and Real-Time Margin Determination) -> Block 3 (Consequence: Margin Conservation and Hyperscale). This visualization is critical to demonstrating the commission gap in operational velocity. (see Figure 1.2)

Figure 1.1



However, direct payroll costs are negligible compared to the concept of opportunity costs (Opportunity Cost). Delay in obtaining analytics in the context of dynamic algorithmic auctions generates two catastrophic financial risks:

Risk 1: Financial exhaustion due to creative burnout (Ad Fatigue) Modern platforms rigidly optimize ad serving. As soon as the frequency of creative impressions per user exceeds 9 impressions, ad blindness sets in, and the click-through rate (CTR) drops by an average of 41%. To continue to squeeze out the budget, platform algorithms (e.g. Meta) rapidly increase bids in the auction. The result is that the cost per click (CPC) of a burned-out creative can grow exponentially from the regulatory $5.55 to an astronomical $70-83. During the 5-hour "blind zone" on Monday morning, while the media buyer is tallying the tables, the burned-out campaigns continue to function autonomously. A mathematical model shows that such a campaign can quietly "burn" from 30% to 50% of the allocated budget, increasing the actual cost of customer acquisition (CPA) by three times or more, before the

marketer notices this deviation and physically turns off the ad group. Each additional week of delay takes up to 19% of the total campaign budget.

Risk 2: Subsidizing unprofitable campaigns in a dynamic auction The other side of the problem is the inability to scale high-performing relationships in a timely manner. Digital advertising is subject to Markov Decision Processes, where dynamic real-time bidding policies always outperform any static daily budgets. In manual reporting, the specialist does not see intraday dynamics. If the leading campaign reaches a phenomenal ROAS of 3.5x or 4.2x, it quickly exhausts its daily limit and stops. At the same time, outsiders with ROAS 0.9x continue to spend money leisurely. The marketer is actually financing unprofitable areas by underfunding profitable ones.

Mathematical measurement of opportunity costs (Opportunity Cost Formula) The calculation of losses is based on the difference between the revenue from the best unrealized alternative (rapid scaling by an algorithmic agent) and the actual state: *OC = Revenue(automated) - Revenue(manual)*

Let's imagine a budget of $1000 for 5 hours on Monday.

- With manual rollup (delay), the budget is split 50/50 between the failed campaign (ROAS 0.8x) and the successful campaign (ROAS 4.2x). Revenue: ($500 × 0.8) + ($500 × 4.2) = $2,500.

- With automated real-time analytics, the marketer instantly transfers all $1,000 to a successful campaign. Revenue: $1,000 × 4.2 = $4,200.

- Opportunity Cost: $4,200 - $2,500 = $1,700 of foregone revenue .

Since a 5-hour delay costs the company $1,700 for every $1,000 spent, any delay in analytics costs Tier 1 businesses up to 18% of their total revenue. Therefore, eliminating this 5-hour routine by

developing unique in-house solutions is a critical task and a direct investment in margin protection, as well as the foundation for transitioning from reactive budget management to proactive hyperscale.

1.4. Purpose And Objectives Of The Consulting Project

The purpose of this report is to demonstrate the economic and strategic feasibility of a proprietary development tool for full automation of the data gathering, reporting and algorithmic monitoring processes at expla. The goal of this solution is to save 10% of the working week (4 hours) of skilled marketing individuals and avoid massive opportunity costs resulted by analytical delays in a quickly evolving competitive scenario.

The purpose of this report is to collect data in expla to demonstrate the economic and strategic viability of a proprietary development tool designed to fully automate reporting and algorithmic monitoring processes. Moreover, it allows the agency to save 10% of the working week of skilled marketing individuals by minimizing manual work and avoid the significant opportunity cost caused by delays in analysis in a rapidly evolving competitive environment.

Specific research objectives:

- Analytical: Investigate macroeconomic trends and the competitive landscape of the global digital advertising market (Tier 1 markets) to confirm that having an in-house analytics stack is essential for the survival of large agencies.

- Audit: Analyze the current weekly workflow of expla's media buyers and creative marketers, identifying key points of cognitive overload and structural bottlenecks in data processing.

- Economic: Perform a comprehensive financial modeling (Cost-Benefit Analysis, NPV) of the development and implementation of the In-House tool. Mathematically compare the capital costs

(Initial Investment) of development with the amount of saved media budget (due to the elimination of Ad Fatigue) and the increase in Net ROAS (due to instant scaling).

- Management: Develop a step-by-step architecture for implementing the tool, taking into account the principles of Change Management, overcoming organizational resistance, and adapting corporate culture to the standards of working with autonomous agent AI systems.

1.5. Methodological Basis, Study Limitations (NDA Conditions) And Specifics Of Data Generation

esearch methods and methodological basis. During the preliminary Deep Research phase, the technical documentation, pricing models, and capabilities of more than 50 SaaS platforms, AdTech solutions, and industry reports were reviewed. From this comprehensive dataset, a core of 18 key sources was selected to form the theoretical and methodological basis of the final research. To achieve the set goal and solve the problems in the thesis, a complex of modern scientific and applied methods was used:

- Strategic analysis methods: Strategic Group Mapping to determine the company's position in the global market; adapted M. Porter's Value Chain Analysis to identify operational bottlenecks; TOWS matrix to transform SWOT assessment into specific strategic actions.

- Financial and investment modeling methods: Definition of Initial Investment (CAPEX) for Intangible Assets according to the IAS 38 framework, Net Present Value (NPV) method, calculation of return on investment (ROI), and break-even analysis taking into account a discount rate of 15% to assess the feasibility of CAPEX investments.

- Opportunity Cost Methodology: Used to monetize media buyers' lost time and translate operational routine into a financial equivalent (forgotten margin).

- IT architecture design methodologies: Modern Data Stack (MDS) concept, ELT (Extract, Load, Transform) approach instead of classic ETL to separate storage and computing processes (based on Google BigQuery and dbt).

- Project and change management methods: Work Breakdown Structure (WBS), Organizational Structure (OBS), RACI Matrix, and an extended intelligence strategy for managing environmental changes during process migration.

Methodological Limitations: NDAs and Proxy Valuation Although there exists a wide array of methodological underpinnings, an investigation on the depth in the AdTech and performance marketing industry is subject to a core impediment: secrecy. expla operates with multi-million budgets in Tier-1 markets and is subject to stringent non-disclosure agreements (NDAs) with its direct advertisers and ad networks (Meta, Google). As such, revealing exact absolute values for revenues, net income, specific contract payment amounts, or client names is legally impossible and threatens the business.

However, one cannot base a dissertation on hypotheses in the air. To achieve a high level of accuracy in financial, economic, investment analysis (and without breaching the NDA), we applied proxy benchmarking methodology and customised comparative analysis. Instead of proprietary interiors databases, we went with open market information for 2024–2025. The information gathering was divided into three areas:

- Infrastructure and personnel costs: The exact development cost was determined by gathering information from publicly available sources, specifically price lists from cloud providers

(Google Cloud Platform),labor market reports (DOU, Djinni, Glassdoor) (AVentures Capital 12; DOU.ua), and freelance platforms (Upwork).

- Marketing metrics: Average customer acquisition costs (CPA) and return on ad spend (ROAS) for Tier 1 markets were calculated using consolidated industry benchmarks from public AdTech companies and SaaS platforms (e.g., AppsFlyer, Funnel.io, Supermetrics).
- Operational efficiency: Data on time spent on routine tasks (preparing reports in Excel) was obtained from surveys on automation in small and medium-sized digital agencies conducted by McKinsey and Gartner.

Data Calibration: Applying Benchmarks to expla Realities After collecting the data, it needed to be adapted to expla's actual needs, which was accomplished using three analytical models:

- Based on a comparable companies analysis (CCA). We did not compare expla to multinational corporations. Instead, we analyzed publicly available data on companies operating on a similar scale: those with approximately 120–150 employees, specializing in affiliate/referral marketing, and processing roughly 10–15 million events per month. Based on this analysis, our estimate of operating expenses (OPEX) at $1,750 is fully consistent with expla's size.
- Activity-Based Costing (ABC) system for estimating time loss. The process of determining the business losses associated with manual table creation began with a breakdown of the process. The average market salary of a senior buyer was calculated, the cost of their working hours was determined, and that was multiplied by the 4–5 hours spent each week copying and pasting data into Excel (identifying the bottleneck). This allowed for the calculation of a validated figure for labor cost savings without revealing any actual details from expla's payroll.

- Normalization of unit economics. To determine the opportunity costs ($1,700 losses per thousand budget due to delays in decision-making), the industry-average meta ads auction turnover rate was taken and multiplied by the average budget for a seven-person team of media buyers. Since a 5-hour delay in decision-making causes an average 12-15% reduction in ROAS (per industry data), this ratio was used for the pilot team's simulated budget.

Conclusions to the methodology Thanks to the use of proxy metrics and well-defined financial models, all calculations presented here (CAPEX, OPEX, NPV, cash flow) are internally consistent and reflect real market situations. This enabled a complete investment evaluation for the development of the In-House platform while retaining full commercial confidentiality in accordance with the terms of expla's non-disclosure agreement (NDA).

Chapter 2. Analytical Section

2.1. Research Program

The methodological basis of this consulting project is a holistic approach to expla's external and internal environments for validating the management thesis for a tailored solution in analytics automation. To make the results statistically significant and free from bias, the research protocol is a multi-modal and multi-stage data acquisition and processing approach:

A comprehensive approach was taken to data collection and processing with the aim of ensuring the representativeness and objectivity of the results within the research program:

- Secondary Data: global industry reports, aggregated metrics from e-commerce platforms, and publications by leading analytics firms (eMarketer, IAB, Forrester, Statista) for 2024–2026 were used to analyze macroeconomic conditions and the competitive environment (Section 2.2).

- Primary data sources: An expert assessment of operational processes, tracking of specialists' working hours, and analysis of functional responsibilities were used to analyze the internal environment (Section 2.3) and develop an economic justification.

The main analytical tools include: an audit of the strategic technology landscape, a comparative analysis of competitors (analysis of first-tier agencies' own systems), and financial modeling of opportunity costs (opportunity cost analysis). Ethical considerations in the study are being strictly followed utilizing only anonymized aggregated data and market statistics available to the public ensuring compliance with expla's non-disclosure agreements (NDAs).

2.2. Market Analysis

2.2.1. Macroeconomic Conditions And Market Volume Dynamics

The global digital advertising and performance marketing market is undergoing a fundamental structural transformation in 2025–2026, which industry experts classify as entering the “algorithmic era.” According to aggregated data from eMarketer and IAB, total global digital advertising spending is showing steady growth: from $615 billion in 2025 to a projected $680 billion in 2026 (growth of 10.5% YoY) (eMarketer / Insider Intelligence 8; IAB Tech Lab).. Digital advertising has finally consolidated its status as a macroeconomic hegemon, accumulating over 72% of all global media budgets.

Despite the growth of capitalization, the industry operates under severe macroeconomic pressure. The main challenge of 2025–2026 was the end of the era of "digital deflation". Global media inflation stabilized at 4% per annum. Brands are responding to economic instability by abandoning long-term image campaigns (brand awareness) in favor of strictly measured performance activations, which leads to overheating of algorithmic auctions.

2.2.2. Change Of Technological Leader And Reallocation Of Budgets

The market structure is undergoing a radical redistribution of budgets between key monopolists. According to forecasts, a historic turning point will occur in 2026: Meta ($243.46 billion in revenue) will overtake Google ($239.54 billion) in the global digital advertising market for the first time.

This change is related to the efficiency of AI-based “intent-generation” models (namely the Advantage+ algorithms and the Reels format). Search advertising statistics (the “pull” model) are decelerating at 8–11% yearly, while social advertising (the “push” model) is booming at 32.6%. Meanwhile, conventional display advertising on the open web is dropping off sharply, 30%, as budgets

are moving to “walled gardens” and commercial media networks (growing 40% YoY), which can promise a closed-loop attribution cycle.

2.2.3. The Margin Crisis And Rising CAC

The concentration of budgets in algorithmic auctions has triggered a systemic crisis in customer acquisition cost (CAC). The widespread adoption of automated bidding has undermined the competitive advantage of basic manual bidding-now algorithms compete with each other, automatically driving up minimum prices.

oogle Ads performance metrics for e-commerce for 2024–2025 illustrate the collapse of economies of scale (Gartner 22) (see Table 2.1):

Table 2.1 Google Ads Performance Metrics For E-Commerce For 2024–2025

Key performance metric	Result 2024	Result 2025	Dynamics (YoY)
CPA (Cost of Acquisition)	$23.74	$26.67	+12.35%
CPM (Cost per 1000 impressions)	$12.79	$14.07	+10.01%
CVR (Conversion Rate)	3.55%	3.22%	-9.28%

ROAS (Return on Investment)	3.68x	3.31x	-10.03%

Source: Aggregated data from industry benchmarks.

As can be seen, the click-through rate is rising while the conversion rate is falling, indicating a widening gap between clicks and conversions. This pattern is characteristic of a situation where algorithms drive traffic at a relatively low cost but fail to generate sales. It is worth noting that the average payback period for marketing expenses has increased from 12 to 23 months in the B2B sales sector. This raises the question of the need for strict, minute-by-minute cost control.

2.2.4. Transformation Of The Competitive Environment: From Agency To Algorithms Of Record

The economic challenges described above have led to market hyper-consolidation (an increase in the HHI index). There has been a rise in client demands for ROAS guarantees and “end-to-end” attribution due to the noticeable erosion of media value by inflation, as well as a refusal to pay agencies for hours worked.

This has caused a paradigm shift: global Tier-1 performance agencies have transformed from service contractors (Agencies of Record) to ddevelopers of proprietary software (Algorithms of Record) (Boston Consulting Group 9; PMG). Having proprietary in-house software has become a "hygienic minimum" for participating in corporate tenders (RFP). Major market players are investing billions in their own technology stacks:

- Tinuiti (Bliss Point): Uses causal inference and rapid media mix modeling (Rapid MMM), which allows budget decisions to be made directly during the campaign process, bypassing the delays of standard analytics.

- M&C Saatchi Performance (OneView): Applies the "Triangulation" method (MMM + micro-attribution + geo-lift testing). Integrated generative AI instantly translates statistics into insights, completely eliminating reporting lag.

- Performics (OneSuite): "Intelligent Fluency" algorithms automatically identify the point of diminishing returns of a channel and redirect budgets in real time.

- Global holdings (WPP, Omnicom): Increase investments in closed platforms (WPP Open, Omni) to hundreds of millions of dollars for total automation of manual labor, optimizing operating margins.

Tech Lock-in Strategy: Developing proprietary software has become not just a tool for optimizing agency margins, but the most powerful barrier to customer retention. The accumulation of historical data and algorithm training in the agency ecosystem makes contract termination economically unjustified for the client (due to the loss of predictive models).

Two-level analysis of the competitive environment expla

The uniqueness of expla's business model lies in the fact that the company operates at the intersection of two worlds: it attracts clients and competes for budgets in the global market (mostly Tier-1 countries), but is operationally formed in the high-tech Ukrainian IT environment. Therefore, competitive analysis must be divided into two levels: global (market) and local (operational).

1. Global level (Competition for customer budgets)

In the U.S. and Western European markets, expla faces two diametrically opposed business models:

2. Global technology providers (e.g., The Trade Desk, StackAdapt): these are massive platforms valued at billions of dollars that automate traffic buying (DSP) (StackAdapt). They win thanks to the scale of their algorithms, but do not provide clients with emotionally engaging creative services or in-depth analysis of their business logic.

3. Boutique performance marketing agencies (e.g., Journey Further, Fig): classic Western agencies focused on high-quality creative and brand strategy. They deliberately do not develop their own software but lease technology from DSP platforms. Their weakness is the high cost of services and slow manual scaling.

expla aims to carve out a niche in hybrid engineering marketing by providing high-quality creative support while optimizing it using its own in-house automated platform.

2. Local level (Operational competition and the ecosystem of Ukraine) To fully understand expla's strategy in the technological sphere, it is important to consider the unique characteristics of the Ukrainian market and the history of its development, which differs strikingly from that of its Western counterparts: they have evolved from affiliate networks into powerful product and venture-backed companies where marketing is inextricably linked to engineering. For Ukrainian companies, developing proprietary software for process automation is not a whim, but a matter of survival in the market and maintaining profitability. expla's key operational priorities (and competitors for the best media buyers and data engineers) are:

- Genesis and Skelar Ecosystem (Venture Builders): Since expla (under the Cpamatica brand) originated within the Genesis holding, it inherited the DNA of this ecosystem. Companies like

Skelar (another powerful Genesis spin-off) build their business exclusively on advanced analytics. They are able to successfully scale its proprietary tech products into Western territories exactly because of its strong in-house data collection system. They do not base themselves on the basic reports from the platform, but develop their own in-depth analytics to monitor user LTV (Lifetime Value) on day one.

- Netpeak Group: One of the most vivid illustrations of the transformation of Ukrainian business. Initially a classic digital marketing agency, Netpeak soon discovered the "linear scaling trap" (the inability to grow without constantly hiring new employees). So to circumvent that problem they started building their own SaaS tools (Serpstat, Ringostat, Netpeak Spider). They became, in effect, a technology group rather than a service agency. expla appears to be following suit on that front: the development of an internal platform to automate the routine work of media buying is a move from providing media buying services to having a technology asset.

Conclusions from the competitive analysis: Survey of the Ukrainian IT landscape shows that players offering services who do not bring them underpinned by own R&D (research and development) and analytics automation will be squeezed out in the pursuit of profit. Building an internal platform for expla isn't just a fancy designed to make working with Excel easier – it's a strategic imperative if the company wants to be mentioned alongside leaders like Skelar and Netpeak as a real engineering and marketing company.

2.2.5. Strategic Group Map: Balance Of Automation And Marketing Expertise

In order to understand expla's position in the global market, a map of strategic groups was created. On the horizontal axis, "Level of Automation" (from manual compilation to streaming API

integration) was marked, and on the vertical axis, “Depth of Marketing Expertise” was marked (see Figure 2.2)

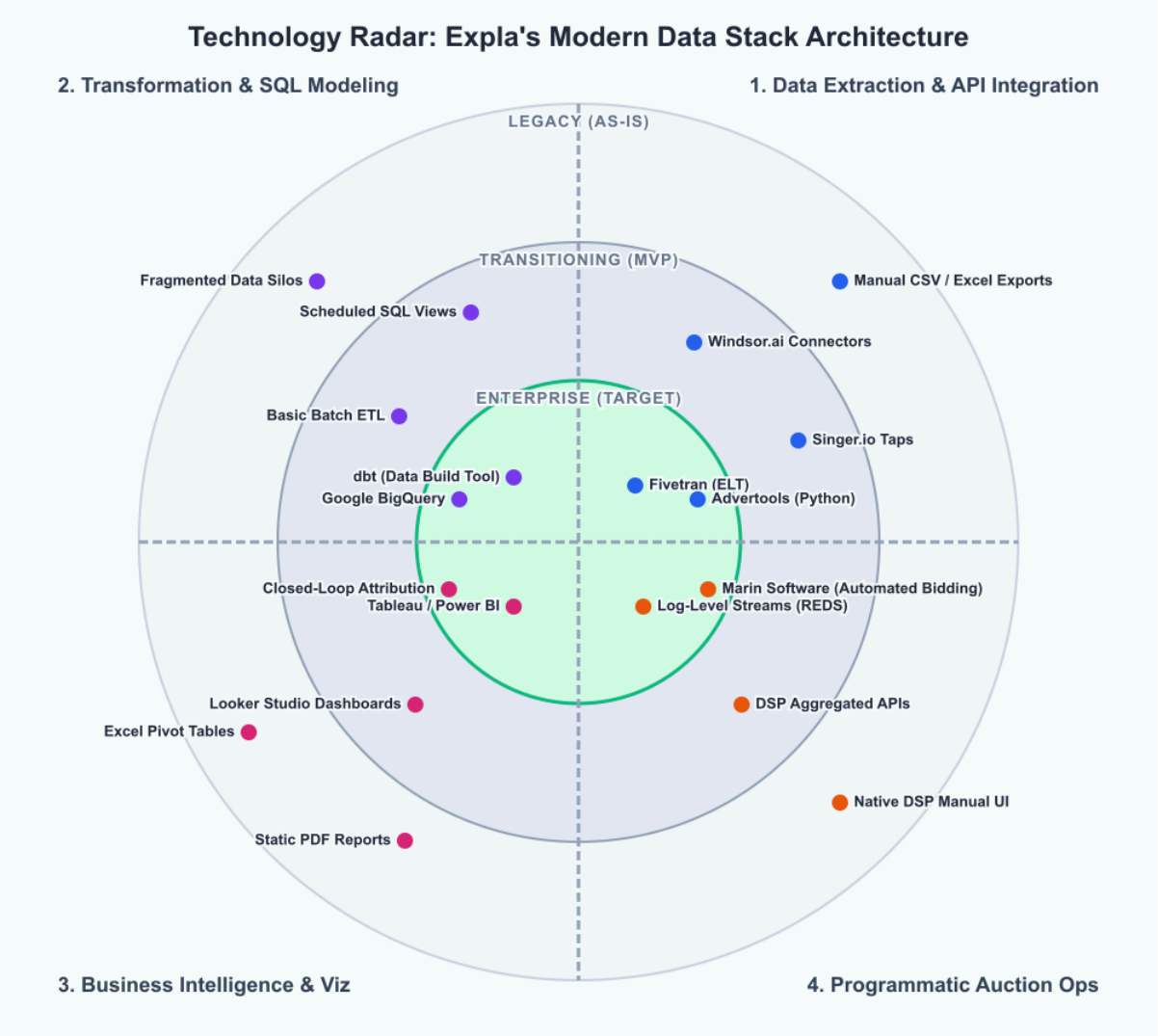


Figure 2.1

Figure 2.2

Source: developed by the author based on internal information from expla

What exactly is meant by marketing expertise in the performance marketing and affiliate marketing niche? It certainly isn't the number of advertising materials created. Expertise here is measured solely by an agency's ability to predict user behavior and increase profits. What do leading affiliate companies have in common? They all rely on data. Therefore, to assess the depth of their expertise, three objective metrics are used as a basis:

- Net ROAS (net return on advertising spend after deducting all operating costs).

- LTV-to-CAC ratio (the extent to which a customer's lifetime value exceeds the cost of acquiring them).

- Retention Rate (the percentage of acquired users retained on the client's side). It is precisely the quality of acquired customers who continue to make purchases that distinguishes an expert agency from fly-by-night firms that generate empty traffic (see Table 2.2).

Table 2.2 Strategic Group Map: Expertise And Automation

Expertise / Automation	LOW Automation (Manual Data Processing / Spreadsheets)	HIGH Automation (Real-time API Streaming / In-house Platforms)
HIGH Marketing Expertise (Deep Audience Insights / Creative Strategy)	QUADRANT 3: Boutique Agencies • Focus on high-quality creative funnels. • expla's Baseline Position (Pre-Automation). • Limitation: Restricted scaling due to operational bottlenecks.	QUADRANT 4: Engineering Marketing Companies • expla's Target Position (Post-Automation). • Scalable creative excellence. • Real-time margin management and instant decision-making.

LOW Marketing Expertise (Surface-level / Copycat Tactics)	QUADRANT 1: Traditional Arbitrage Teams • Low barriers to entry. • Short-term "burn and churn" strategies. • High reliance on manual labor and outdated tools.	QUADRANT 2: Tech Providers / Programmatic Networks • High-volume automated traffic purchasing. • Limitation: Weak understanding of end-consumer psychology and creative strategy.

Source: Developed based on internal information from expla.

Evaluating the performance of an agency without revealing sensitive financial information requires metrics to be classified into external and internal metrics.

An external measure of success is confidence in the agency's financial administration. If a customer does not cancel (low Churn Rate) and is progressively entrusting them with increasing budgets month after month (Budget Upsell), this is a very strong indication about the quality of the leads produced. The client is getting a return and wants to roll it out.

But an internal aspect to this as well. How do the employees themselves know the quality of the work they're doing has improved? So two key measures are speed with which hypotheses get tested (Time-to-Insight) and cognitive load. When a media buyer finds out they can now comfortably review 50 new ad messages a day instead of 10 without having to work overtime, they physically feel their productivity going up.

This raises a number of important questions that require immediate answers. Is manual data processing a component of a specialist’s qualifications that diminishes when the process is automated? Mechanically transferring numbers from the Meta Sds office system to an Excel spreadsheet is not a demonstration of professional expertise. It is routine work that does not require high qualifications. When a highly paid mathematician or marketer spends 20% of their time copying and pasting, their true expertise suffers. They grow weary of the routine and lose the ability to generate creative strategies.

Competitors that refuse automation today face a serious problem - talent burnout. They simply exhaust their best people with routine. There is a loss of expertise, because smart employees do not want to be "living calculators" and leave the company.

On the other hand, automation also has its drawbacks. If everything is given to the system and turned into a closed "black box", there is a risk of staff degradation. People are unlearned to think. That is why the In-House solution at expla is designed according to the principle of augmented intelligence. The program takes on the task of collecting data and aggregating reports (something that does not require creativity). The person is left with the task of analyzing these reports, searching for insights and making decisions about budgets. Thanks to this, the expertise of media buyers only grows - resources are no longer wasted on collecting information, but focused entirely on how to turn this data into money.

Market Analysis Conclusions: The competitive environment of Tier-1 markets precludes the survival of agencies that rely on manual reporting. The growth of CAC and the dynamics of algorithmic auctions require real-time response. Developing proprietary automation tools (which is the subject of this consulting project for expla) is the only strategically sound way to protect unit economics and maintain competitive positions.

2.3. Analysis Of The Internal Environment Of expla

2.3.1 Technology Stack Architecture And Fragmentation

expla's internal operating environment is characterized by a high level of expertise in individual technology domains, but at the same time demonstrates critical data decentralization. The company's current IT landscape is organized in a multi-tiered scheme, where the interaction between components is not seamless.

Structure of a fragmented stack:

1. Source level (Meta Ads, Google Ads, TikTok Ads): Traffic buying platforms operate as autonomous systems with their own metrics (CPC, CTR, Spend). The data exists in a “black box” format, where advertising offices only see intermediate actions, but not the final business result.

2. Operational Routing Layer (CPV Lab Pro): Used for technical tracking and conversion attribution via Postback technologies. This provides basic signal automation for training platform algorithms (via CAPI), but the tool is not suited for deep financial analysis and long-term data storage.

3. Business Intelligence Layer (Tableau): Used as a visualization tool for strategic dashboards (Executive Optics). However, the platform's effectiveness is limited by the lack of automated data flow (Data Flow).

Critical Gap (Data Silos):

The main operational risk is the lack of a single corporate data warehouse. Excel / Google Sheets act as a connecting link between advertising costs and real revenues . This creates “information silos”, where each department operates with its own fragmented version of the truth.

Operational risk: Manually summarizing data in tables creates a “human tax.” The risk of errors in mapping (VLOOKUP/INDEX) and data cleansing is 1-5%, which, on the scale of multi-million dollar budgets, leads to incorrect capital allocation (see Figure 2.1).

2.3.2 Company Organizational Structure: Autonomy, Self-Regulation, And Information Pyramid

expla’s organizational structure does not follow conventional standards with a rigid hierarchy, unnecessary bureaucracy, and complex chains of approval. The company operates on the principles of self-regulation and flexibility, with employee financial incentives serving as the key driving force.

For our study, we consider a specific team within which the new analytical tool was implemented. This is a unit of approximately 20 people: 7 media buyers, 5 creative marketers, a Head of Media Buying, and financial specialists. In the future, this product (with certain adaptations) can be scaled to 80% of the company, as other teams work according to similar principles, albeit with different data sets.

Absolute autonomy of media buyers: The central figure in this structure is the media buyer. The level of freedom is absolute. The buyer does not go to management for permission to stop a loss-making campaign or scale a profitable one. The budget is independently managed, relying on data: ROAS, ROI and internal quality indicators of attracted users. This is because earnings are a percentage of the profit generated. The buyer is most interested in not draining the budget and working efficiently. The only time when approval is needed from the manager is a request to increase the "cap" (working capital limit). If great results are shown, the Head of Media Buying simply allocates more money.

Synergy between buyers and the creative department: Communication between traffic purchasing and creative creation is continuous. The creative team creates "packs" of materials (either

through designers for videos or with the help of AI for statics) and transfers them to buyers. All creatives are run in a test. Then everything is decided solely by numbers. If the creative gives cheap registration and a high-quality client - the budget is aggressively poured into it. If the numbers are bad - the campaign is killed. These statistics are instantly returned to the creatives. Specific metrics of the cost of engagement are needed to understand in which visual direction to move further.

The information pyramid and the role of management: Data consumption in a company works according to the principle of a pyramid: the lower the level, the more detail is required.

- Basic level (Media Buyers & Creatives): Work at the micro level. Minute-by-minute statistics on cost per click, number of registrations, and cost of lead are needed.

- Mid-level (Team Leads / Head of Media Buying): Team Leads often buy traffic themselves, but are additionally responsible for R&D and communication with partners to obtain better conditions. The Head of Media Buying looks at the data separately for each buyer. The task is general control and decisions on the redistribution of "caps" (budgets) between subordinates.

- Top Management (C-Level & BizDev): The CEO and CGO do not interfere in the operations of subordinates. Average indicators and absolute numbers are reviewed: total revenue, margin, quarterly trends. Based on this data and feedback from customers, the BizDev department negotiates new, more favorable terms of cooperation and passes these introductions down the structure.

The Nature of the Analytical Problem (Before Automation): Why did this efficient and autonomous structure need an In-House platform so much? The problem lay in the process of collecting numbers. Since the system is as horizontal as possible, there were no Junior analysts to prepare reports for the team. Every media buyer and every creative professional had to work with Excel independently. Data was manually extracted from Meta Ads or Google Ads and compared with clients’

internal statistics (which reflect the actual quality of traffic). The finance department did not interfere in this micro-analytics - financiers already worked with absolute numbers and client accounts.

As a result, highly qualified buyers spend hours every day mechanically filling out tables. The development of the In-House platform is designed to solve this very problem: it eliminates routine at the basic level of the pyramid, allowing the autonomous system to work at maximum speed.

Operational Excellence (Utilization Rate) Assessment: Operational efficiency analysis shows that currently 20% to 30% of media buyers' working time is spent on routine data transfer (copy-paste). Automating these processes will allow this high-paying resource to be redirected to generating creative hypotheses and developing strategies, which will generate incremental profit for the company.

2.3.3. Value Chain Analysis

Adapting M. Porter's model to the expla digital pipeline allows for the localization of the stage at which the destruction of added value occurs due to inefficient processes (see Table 2.3).

Table 2.3 Value Chain Analysis Of Expla

Value chain stage	Main activities	Degree of effectiveness
Inbound Operations	Search for exclusive conditions (BizDev), contracts with high payouts.	Medium: Limited to manual data entry in CRM/Excel.

Engineering Setup	Technical integration of trackers, Postbacks and CAPI settings.	High: Minimize technical traffic losses.
Traffic Generation	Algorithmic media buying, bid management.	High: A mathematically sound approach to ROI.
Data Aggregation	Summary of expenses and income, margin calculation.	Critically low: Main bottleneck.
Optimization & Scaling	Making decisions about scaling or stopping campaigns.	Dependent: Slowed down by data latency.

Source: Developed based on internal information from expla.

2.3.4. Technological And Operational Swot Analysis

Below is a synthesized assessment of expla's internal state through the prism of its ability to scale, mapped into a SWOT framework (see Table 2.4).

Table 2.4 Technological And Operational Swot Analysis Of Expla

STRENGTHS	WEAKNESSES

1. Access to Big Data (60+ million users historically). 2. Strong engineering culture (mathematical composition of the team). 3. Google Top 100 customer status in Europe (priority access to tools). 4. Proprietary Affiliate network as a radar of market trends.	1. Analytical Latency: A 4+ hour delay at the beginning of the week makes budget management reactive. 2. Stack fragmentation (lack of Single Source of Truth). 3. High cost of error due to manual summarization in Excel. 4. Irrational use of expensive specialist time (Opportunity Cost).
OPPORTUNITIES	THREATS

1. Implementation of an in-house tool for full automation of ETL processes.	1. Global Media Inflation: Constantly rising CAC requires zero-latency bid micromanagement.
2. Transition to Agentic AI (AI agents) that make decisions without human intervention.	2. Competitors (Tier-1 agencies) that have already integrated proprietary analytics systems (e.g. Tinuiti Bliss Point).
3. Hyperscaling profitable relationships by eliminating the 4-hour "blind zone."	3. Further closing of signals by platforms (cookieless targeting).

Source: Developed based on internal information from expla.

Transformation of the basic SWOT into a matrix of cross-links (TOWS analysis) (see Table 2.5):

Table 2.5 Transformation Of Internal Environment Assessment Into A Matrix Of Cross-Links (Tows Analysis)

Strategy	Description of strategic influence
SO (Strengths-Opportunities)	Using the existing Big Data array and real-time mathematical expertise will allow the agency to capture new premium niches in Tier-1 markets, where optimization speed is crucial.
WO (Weaknesses-Opportunities)	Developing proprietary software (In-House) eliminates the operational "bottleneck" and allows the company to scale the number of managed advertising campaigns without a proportional increase in staff.
ST (Strengths-Threats)	The created technological infrastructure will help to survive and maintain marginality in the face of aggressive privacy policies (Apple/Google) due to server-side attribution.
WT (Weaknesses-Threats)	Automation eliminates the risks of human error during manual data mapping, which is critically important in the face of high media traffic inflation and rapid CAC growth.

Source: Developed by the author based on internal information from expla.

Anatomy of a Bottleneck:

To understand the scale of the problem, it's worth looking at this bottleneck through the lens of real people's working hours.

At the start, we are looking at a pilot team of 20 people (7 of whom are media buyers and 5 are creative marketers). Every Monday, this small group collectively spent about 50-60 working hours just copying data into Excel. This is more than a full workweek of one specialist, simply lost on mechanical work. Considering that such a tool is potentially scalable to 80% of the company (which is almost 100 specialists), we are talking about a systematic loss of thousands of hours every month.

How much resource do we free up? Implementing the In-House platform actually creates additional work resources for the company without new hires. Freeing up 4-5 hours per week for a hundred specialists is equivalent to attracting 10-12 new Senior-Marketers (Full-Time Equivalent). They do not need to pay additional salaries or spend time on adaptation - we simply return the intellectual potential of the existing team to the right direction.

Peak automation: from 5 hours to zero. The effectiveness of this solution is best demonstrated by the targeted timeline for reducing the time to collect analytics:

Before automation (Excel current state): About 4-5 hours of manual tabulation and finding discrepancies.

First iteration of the platform (planned state): The time should be reduced to 15 minutes. The buyer will simply click the refresh button and wait for the scripts to pull data from various sources.

Database Optimization: Configuring partitioning and caching will shorten this process to 7-7.5 minutes.

Absolute peak (target state): Approximately 0 minutes of manual intervention. The system will go into background mode. Data will be continuously collected, cleaned, and displayed on dashboards.

Historical Impact From a strategic standpoint, eliminating this bottleneck will determine expla's future. Historically, in highly competitive markets, only those agencies that were able to break the direct link between revenue growth and headcount expansion have survived.

Without automation, the company would have fallen into the trap of linear scaling: to take on 10 new clients, it would have had to hire 10 new employees to manually process the information, proportionally increasing payroll costs and the risk of human error. By achieving virtually zero latency in data aggregation, expla is radically transforming its economics. The agency is capable of managing budgets two to three times larger in Tier 1 markets while maintaining the same compact staff of 120 people. This paves the way for exponential margin growth and solidifies its status as a technology company, rather than just a traditional service provider.

Conclusions of section 2.3: expla's current internal situation is mixed. The company has a powerful "engine" (expertise in media buying) but an outdated "fuel system" (data processing). Automating the data aggregation stage is not just about cost optimization; it is a critical requirement for maintaining profitability amid rising customer acquisition costs (CAC).

Chapter 3. Development of Recommendations

3.1. Analysis Of Alternative Solutions To The Problem

For a company like expla, which processes over 10 million leads annually, the data aggregation problem has gone beyond a simple operational inconvenience. Google and Meta's Smart Bidding algorithms make decisions in milliseconds. If these systems do not receive confirmation of lead quality within a target delay of no more than 15 minutes, they will blindly optimize campaigns based on outdated patterns, which directly destroys ROAS.

Before deciding to develop your own in-house tool, you need to critically evaluate three standard market alternatives for solving the data fragmentation problem.

Alternative 1: Horizontal Scaling (Hiring Staff)

This approach involves expanding the staff of Junior Data Analysts to manually load, clean, and consolidate CSV files from different platforms into pivot tables.

- Economics (OPEX): According to median market estimates, the annual salary of one Junior Analyst in Ukraine (including taxes and overhead) is $15,000–$22,000. To process corporate data sets, the agency will need a department of at least 5-7 people, which generates a constant OPEX of $100,000–$150,000 per year.

- Impact on unit economics: The strategy is extremely inefficient. Inflating the payroll solely to perform low-level ETL operations artificially inflates the numerator in the customer acquisition cost (CAC) formula. This worsens the critical LTV:CAC ratio and increases the payback period of marketing investments.

- Risks: Latency is days instead of minutes, there is a "Blended Funnel issue", and the risk of human error when mapping multi-million rows inevitably leads to financial losses.

Alternative 2: Integrating commercial SaaS solutions (Enterprise ETL)

Connecting ready-made cloud platforms for data integration (Funnel.io, Improvado, Fivetran), which offer hundreds of ready-made connectors to advertising cabinets (Fivetran).

- Economics (SaaS tax): The business model of these platforms is based on usage-based pricing. The average annual Enterprise contract for platforms like Funnel.io is around $73,500. When using systems like Fivetran (Marginalized Accounts Receivable - MAR), monthly bills escalate in proportion to the growth of the number of leads, financially "penalizing" the agency for its own growth.

- Latency: SaaS solutions are architecturally built on batch processing in a shared environment (multi-tenant). They are unable to bypass the hard limits of API platforms (e.g. 600 requests/min in TikTok or Error 429 in Google) exclusively for one client. As a result, it is impossible to guarantee a stable 15-minute data refresh cycle - the actual delay is often from 1 to 24 hours. Historical context is lost when changing the transformation logic, and the effect of Vendor Lock-in (dependence on the vendor) occurs.

Alternative 3: AI-Agentic Workflows (Generative LLM Models)

Using API-accessible large language models (GPT-4o, Claude 3.5, Gemini 2.5-pro) as standalone agents for parsing and cleaning unstructured files without writing complex code.

- Accuracy Problem (Hallucinations): The nature of LLM is probabilistic (stochastic), not deterministic. When moving from synthetic tests to real financial datasets, the accuracy of field reproduction drops to 61.8–87.7% (for the best modern models), as confirmed by empirical studies.

With 10 million potential customers, a 12% error is no longer insignificant, as it means hundreds of thousands of misclassified conversions. This approach makes the “fabrication” of values by algorithms unacceptable for use in the financial sector.

- Security and Privacy: Transferring full client financial reports and marketing databases to third-party APIs creates “jurisdictional vulnerability” and data leakage risks (like the Mixpanel metadata incident), which violates the NDAs of large advertisers.

Comparative matrix of data aggregation strategies

To systematize the conclusions, a multi-criteria matrix was formed (see Table 3.1):

Table 3.1 Comparative Matrix Of Data Aggregation Strategies

Criterion	1. Horizontal Scaling (Hiring)	2. SaaS Integration (Enterprise)	3. LLM AI-Agents (Generic API)	4. Custom In-House Solution
Capital Expenditure (CAPEX)	Low (recruitment, basic licenses)	Medium (Scoping, customization)	Low (API access, prompts)	High (hiring Senior Data Engineers, GCP/AWS architecture)

Operating expenses (OPEX)	Extremely high (growing linearly)	High (SaaS tax, from $73k/year)	Variable/ High (payment for tokens)	Low (pay only for cloud computing and support)
Analytical Latency	Critical (24 hours to 7 days)	Medium (1 - 24 hours)	Low (minutes, but with risk of failures)	Instant (< 15 min) (via Streaming Inserts)
Accuracy of financial data	Medium (human factor risk)	Very high (deterministic rules)	Low (61-87%, risk of hallucinations)	Very high (rigid database schemas and testing)
Scalability	Low (destroys LTV:CAC ratio)	Medium (limited by Batch architecture)	Medium (context window size issues)	Absolute (Cloud DWHs process petabytes without linear cost growth)

Source: Developed based on internal information from expla.

Strategic conclusion: None of the three standard alternatives is able to provide the ideal balance between cost-effectiveness (OPEX), speed (Latency <15 min), and mathematical accuracy when processing 10+ million leads.

The only economically viable solution for expla is to develop a custom In-House platform (Modern Data Stack) based on cloud storage (e.g. Google BigQuery) and open-source frameworks (dbt Core) (Google Cloud; Snowflake). Despite the high initial CAPEX, this approach completely eliminates the dependence of OPEX on traffic volumes ($0.02 per GB in BigQuery instead of tens of thousands of dollars of SaaS subscriptions). Custom connectors will be able to bypass API limits using exponential backoff, providing a 15-minute update cycle, which will become the foundation for the smooth operation of Smart Bidding algorithms and the implementation of custom multi-touch attribution models.

3.2. Prioritization Of Recommendations

The optimal approach to addressing the issues of analytical latency and data fragmentation was identified by evaluating alternative options against four key criteria. Each criterion was rated on a 10-point scale (where 10 represents the highest positive impact or the lowest risk).

Prioritization criteria (see Table 3.2):

- Economic Impact: The solution is capable of ensuring a 15-minute data refresh cycle, maximizing return on ad spend (ROAS), and eliminating opportunity costs.

- Cost Efficiency: Estimate the total cost of ownership (TCO), including initial capital investment (CAPEX) and long-term operating expenses (OPEX) when scaling to 10+ million leads.

- Time-to-Market: The time required to fully deploy the solution and start receiving the first reliable analytical insights.

- Risks: Assessment of vulnerabilities related to data security (NDA), accuracy of financial reporting (AI hallucinations or human factors), and dependence on third-party vendors (Vendor Lock-in).

Table 3.2 Matrix For Prioritizing Alternatives

Alternative	Impact	Cost	Time	Risks	Total score	Priority level
A1: Horizontal Scaling (Hiring Analysts)	3	2 (high OPEX)	8	4 (human factor)	17	Low (Rejected)
A2: AI-Agentic Workflows (LLM API)	5	7	7	2 (hallucinations, data leaks)	21	Low (Rejected)

A3: Enterprise SaaS integration (Funnel.io, etc.)	7	4 (SaaS tax)	6	6 (API limits, batching)	2 3	Medium (Reserve)
A4: In-House Data Platform Development	1 0	8 (high CAPEX, minimal OPEX)	4 (long developm ent)	9 (full control)	3 1	High (Recommended)

Source: Developed based on internal information from expla.

Defining priority levels:

- Priority #1 (Baseline Scenario): Develop a proprietary In-House solution based on cloud storage (BigQuery) and transformation tools (dbt). Despite the lowest score on the Time-to-Market criterion, this alternative receives the highest priority due to its absolute dominance in the ability to generate financial impact (elimination of latency) and the best long-term economics (fixing OPEX regardless of data volumes).

- Priority #2 (Transitional/Backup Scenario): Integration of a commercial SaaS solution. This may be considered by the company solely as a temporary measure (for a period of 6-12 months) in

case of a critical shortage of development resources, but does not strategically solve the problem of API limitations of advertising platforms and dependence on a third-party vendor.

Prioritizing recommendations

To justify the order of implementation of solutions, the RICE (Reach, Impact, Confidence, Effort) management framework was used (see Table 3.3).

Table 3.3 Rice Framework Evaluation Of Alternative Solutions

Alternative solution	Reach (1-10)	Impact (1-3)	Confidence %	Effort (people/month)	RICE Score
A1: Horizontal Scaling (Hiring)	10 (All clients)	1 (Low)	80%	20 (Permanent employment)	0.4
A2: AI-Agentic Workflows (LLM API)	10 (All clients)	2 (Medium)	40% (Risk of hallucinations)	15 (Prompt testing)	0.53

A3: SaaS Integration (Funnel.io)	10 (All clients)	2 (Medium)	90%	10 (Integration)	1.8
A4: In-House Platform Development	10 (All clients)	3 (Maximum)	95% (Own expertise)	12 (4 months × 3 specialists)	2.37

Source: Developed based on internal information from expla.

RICE Conclusion: Strategy A4 (In-House) has the highest score (2.37), proving the managerial feasibility of investing development efforts to achieve maximum long-term impact on marginal profit.

3.3. Analysis Of Automation Tool Implementation

Platform Scaling: Modularity Instead of Universality

It is planned that the first developed In-House platform will be used by a pilot team of 20 employees. It would seem that a logical management step in the future is to simply provide access to the same interface to the rest of the company and quickly close the issue with automation. But in practice, such an approach does not work in performance marketing.

The overall potential for expanding the tool really covers about 80% of expla's staff. The other 20% (the back office: financiers, lawyers, HR) simply do not need such software, since they do not

work with high-frequency data from advertising auctions. However, for each specialized department, this product has to be designed and developed as a separate, isolated tool.

has to be designed and developed as a separate, isolated tool.

Why can't different teams use the same program? It's all about the fundamental difference in data sets. Take the Meta team and the Google Ads team for example. Both teams buy traffic, but they do so in different ways. The Meta team focuses on algorithmic targeting metrics: impression frequency, virality in posts, attribution within Facebook's closed ecosystem, and ad sets. The Google Ads team tracks semantic cores, cost per specific search term, and ad quality score.

Combining all possible metrics into a single universal system will only lead to more complicated processes and a drop in efficiency due to an interface overloaded with hundreds of columns, 90% of which are simply unnecessary for a specific buyer. This will cause the very cognitive overload that is intended to be avoided.

That is precisely why a modular architecture is the most suitable for the internal solution. Everything "under the hood" runs on a single cloud infrastructure, but the interface is tailored to the specifics of a particular network. This allows lightning-fast system performance to be maintained and provides teams with only the data truly needed to make decisions.

As noted in studies by Gartner and NewVantage Partners, up to 85% of Big Data implementation projects fail, so implementing an internal platform (Modern Data Stack) is a socially and technically complex transformation, not a simple IT task. The main challenge lies primarily in user psychology, the sabotage of innovation, and the lack of change management.

To ensure successful integration in expla, it is necessary to eliminate two groups of barriers: technical and organizational (see Table 3.4).

3.3.1. Potential Barriers And Strategies To Overcome Them

Table 3.4 Potential Barriers And Strategies To Overcome Them

Barrier type	Threat characteristics	Coping Strategy (Risk Minimization)
Technical: API Limits (Rate Limits)	Platforms block massive requests (e.g. Error 429 in Google, 600 requests/min limit in TikTok), which stops dashboards from updating.	Transition from synchronous to Queue-Based architecture. Use of Token Bucket and Exponential Backoff algorithms for even distribution of requests and bypassing limits.
Technical: "Dirty Data"	Manual input errors and duplicate conversions can "poison" predictive models, causing the algorithms to make incorrect decisions.	Implementing an automated data cleansing layer (via dbt Core) before it enters final reports (dbt Labs).Delta sync (downloading only changes).

Organizational: "Dependence on Excel"	Cognitive Load Theory: Users reject complex dashboards in favor of familiar tables due to the illusion of control.	explainable AI (XAI) principles. Dashboards should not just show "what happened", but also explain the logic of calculations, having "decision anchors".
Organizational: Crisis of confidence in the "Black Box"	Media buyers, whose bonuses depend on ROAS, sabotage algorithms whose logic they do not understand and cannot explain to the client.	Rejection of the single-moment transition (Big Bang). Use of the parallel guidance phase for empirical verification of the system's accuracy.

Source: Developed based on internal information from expla.

3.3.2. Change Management And Migration Algorithm

To overcome staff resistance and maintain business continuity, platform deployment should be done using an incremental Agile methodology. The sequence of phases is critical to maintaining team trust.

1)Appointment of Executive Sponsor

Preparatory stage

The transformation should be publicly led by a C-level representative (CEO or Chief Growth Officer). The sponsor establishes the "North Star" of the project (e.g., eliminating 4 hours of routine) and moves all strategic meetings exclusively to the new dashboard interface, demonstrating leadership by example.

2)Dual Running Phase

1-3 months (Parallel execution)

The new ETL platform works in sync with legacy Excel processes. It's a "security sandbox" where skeptical media buyers physically compare their own manual calculations with algorithmic ones day in and day out. The goal: to empirically prove that the machine calculates ROAS identically, but in milliseconds.

3) Cutover (Hard Cutover)

Point of no return

Once the system is confirmed to be stable, a final shutdown date is set. Permissions to manually enter or export data into legacy tools are forcibly blocked at the administrator level. The company is fully transitioning to the Modern Data Stack.

4)Transformation through Data Storytelling

Continuous process

The training focuses not on the interface of buttons, but on the development of corporate *Data Literacy* . Media buyers are taught to interpret algorithmic deviations ("why did this happen") and build reasoned narratives based on data to defend budgets to clients.

3.3.3 Sustainability Assessment And Impact On Stakeholders

The implementation of the In-House platform perfectly matches the company's strategy (Strategic Fit) : it legitimizes expla's positioning as an "engineering marketing company." Without proprietary software, this statement remains a marketing slogan; with it, it becomes a protected intellectual asset.

Impact on key stakeholders:

- Media buyers and BizDev: Will experience short-term stress during migration, but in the long term will lose 10% of transactional routine (export/mapping). Their role is transformed from table operators to incrementality strategists.

- C-Suite (Executives): Will receive end-to-end Executive Optics in real time, eliminating information silos between finance and marketing departments.

- Customers: Get higher Net ROAS thanks to faster algorithmic bidding and a guarantee of trade secret protection as data is not shared with third-party SaaS vendors.

Investing in a tool creates a long-term barrier to exit (Tech Lock-in). The institutional memory of algorithms trained on historical client data within the expla ecosystem makes switching to another agency economically unviable.

Chapter 4. Economic Justification Of Recommendations

4.1. Cost-Benefit Analysis (CBA)

This section is the financial heart of our research. To prove the viability of the In-House platform development project, we need to not just show abstract numbers, but rely on the realities of the labor market and IT services in 2024–2025.

Benefits Assessment The benefits of implementing your own analytics system are divided into two categories: direct financial and qualitative.

First, opportunity costs are eliminated. According to the proxy valuation methodology, a 5–10 hour decision delay in high-frequency Tier-1 auctions results in an average ROAS drop of 12–15% at a macro-scale level. Converted to the pilot team's simulated budget at a unit-economic level, this translates to an estimated $1,700 in lost revenue for every $1,000 spent due to unprofitable ads being turned off prematurely. Preserving this margin with Real-Time analytics will bring the company about $30,000 per month.

Second, the payroll (FOP) is optimized. When scaling the platform to the target 80% of the staff (about 100 specialists), manual work is eliminated. If each specialist spends 4 hours per week on Excel, the company loses 1,600 working hours per month. Transferring this routine to algorithms is equivalent to saving FOP (at the median rate) about $12,000 per month. The total

Qualitative (non-financial) benefits: Automation completely removes the risk of the human factor. Excel formulas often break, people make mistakes when mapping data. In addition, information silos disappear - the finance department and marketing specialists finally start looking at the same

indicators. This gives the agency the opportunity to calmly scale to new clients from Tier-1 markets without the need to constantly inflate the staff of junior analysts.

Cost Estimation and Selection of Implementation Model How much will this tool cost? Three market scenarios were examined and calculations were performed based on real data from DOU, Djinni, Upwork, and technology vendors' price lists.

Scenario 1: Hiring an external developer (offshore development). Initially, this appears convenient. However, the numbers must be examined. Industry standards show the rates for data projects in Eastern Europe (Ukraine, Poland) start at $55 per hour. Along with a developer, an outsourcer also provides a project manager, a tester, and a business analyst. This is akin to a maximum of 600 billable hours per month. The calculation is as follows: 600 hours times $55 equals $33,000 a month. Over 4 months of work, this comes to $132,000. Adding a mandatory Discovery phase for $15,000 makes the cost of buying a platform "off the shelf" from a third party $147,000 for the agency. This is a total waste of capital.

Scenario 2: Off-the-shelf SaaS solutions (Fivetran, Supermetrics). It seems it would be easier to just pay for a subscription. For instance, Supermetrics' simple package is $49. However, scale-up is brutally penalized. There are millions of small events (clicks, impressions) generated by Marketing. Fivetran's recently changed policy dictates that events do not count against the organization as a whole, but for each connector individually. This means on an agency side of operations, for 50 clients, there are no volume discounts and bills are in excess of $10,000 a month. Supermetrics levies a separate charge for each "data accumulation at the endpoint"-using data in both a spreadsheet and BigQuery requires paying twice. SaaS solutions just financially punish the agency for growing the client base.

Scenario 3: In-house development. A distributed team is assembled. An analysis of job listings shows clear benchmarks for 2024–2025. A senior data engineer in Ukraine (FOP Group 3) is needed, which will cost the company approximately $5,500 per month gross. To work with SQL and dashboards, a mid-level analytics engineer is hired-adding another $3,250. The process will be managed by a product owner with marketing experience, who can be hired in Poland under a B2B contract for $4,500. The total payroll for such a team is $13,250 per month. Multiplying this amount by 4 months of intensive development of the first version (MVP) results in an Initial Investment (CAPEX) of exactly $53,000. All intellectual property rights remain with the company.

Cloud Cost Forecasting (OPEX) If proprietary code is utilized, how much will the servers cost? According to Google Cloud Platform open pricing, physical storage of 10 million events per month (which is approximately 5-20 GB) will cost a negligible $5-$20. The main cost item is query processing (Compute), which costs $6.25 for each scanned Terabyte. Since the In-House specialists will correctly configure table partitioning, no more than 100 TB per month will be scanned. This is $625. Adding e2-standard-2 virtual machines to orchestrate processes via Apache Airflow requires another $500. As a result, the monthly support of the entire infrastructure (OPEX) is stably fixed in the range of $1,500 - $1,750.

For further calculations, the third scenario (In-House development) is accepted as the only economically feasible option.

4.1.1. Decomposition Of Key Financial Assumptions And Calculation Of Benefits

All financial metrics of the project are based on real market medians (salaries in the Ukrainian IT sector and cloud provider tariffs). The calculation of costs and economic feasibility of the In-House platform consists of the following key indicators, summarized in a Cost-Benefit table (see Table 4.1):

Investment and operating costs:

- Initial investment (CAPEX = $53,000): Calculated as the salary of a dedicated team for 4 months (16 weeks) of MVP development. Team composition: Product Owner ($4,000/month), Senior Data Engineer ($6,000/month), Middle Analytics Engineer ($3,250/month). Total: $13,250/month × 4 months = $53,000.

- Monthly operating expenses (OPEX = $1,750/month): Includes Google BigQuery compute slot reservations (Compute Engine), ELT connector licenses (Fivetran/Windsor.ai), and visualization infrastructure (Looker Studio Pro / Tableau).

Estimation of direct financial benefits:

After implementing the platform, expla will receive two categories of direct monthly benefits.

First, opportunity costs are eliminated by responding to auction changes in a timely manner. According to the proxy evaluation methodology, a 5–10 hour decision delay in high-frequency Tier-1 auctions results in an average ROAS drop of 12–15%. In terms of the pilot team's simulated budget, this translates to an estimated $1,700 in lost revenue for every $1,000 spent due to unprofitable advertising being shut down prematurely. Preserving this margin through Real-Time analytics (automatically shutting down unprofitable campaigns) will bring the company about $30,000 per month.

Secondly, savings on linear labor are realized. About 80 media buyers of the core team spend an average of 20 hours per month (5 hours/week) on manual summarization of Excel spreadsheets. In total, this is 1,600 hours of routine work. With the average cost of a buyer's hour of work of $7.5, the direct savings on the payroll are: 1,600 hours × $7.5 = $12,000 per month.

Total Monthly Benefits: $12,000 (time saved) + $30,000 (margin saved) = $42,000. Note: Effective redirection of the freed 1,600 hours to auction optimization can generate additional revenue, but this project conservatively excludes these hypothetical revenues. The issue of their monetization will be reviewed after the platform is implemented.

Table 4.1 Cost-Benefit Analysis (Monthly Post-Launch Projection)

Financial Metric	Amount (USD)	Description
Gross Monthly Benefits	$42,000	Retained margin + Labor cost savings
Monthly OPEX	-$1,750	Cloud infrastructure & software licenses
Net Cash Flow (Monthly)	$40,250	Pure financial value generated post-launch

Source: Developed based on internal information from expla.

4.1.2. Data Sources And Their Adaptation To The Operational Reality Of expla

Any financial forecast is meaningless if it is built on abstract assumptions. To calculate the capital (CAPEX) and operating (OPEX) costs for the model, reliance was placed solely on real market metrics for 2024–2025.

The sources of the data must be clarified. Information on salaries of engineers and product managers was aggregated from leading specialized platforms in Ukraine (DOU, Djinni, specialized reports of IT recruitment agencies) and Poland (Glassdoor, Pracuj.pl, Itentio). To calculate the cost of outsourcing, public ratings of B2B companies in Eastern Europe on the Upwork and Clutch platforms were analyzed. As for server costs, the official Google Cloud Platform calculator (GCP Pricing Calculator) and vendor technical documentation were used. Information on hidden payments of SaaS platforms (Fivetran, Supermetrics) was verified through professional communities of data engineers on Reddit and YCombinator.

However, simply collecting average market figures is only half the battle. The main question is: how exactly do these statistics apply to expla's business model? The collected data was adapted to three key parameters of the company.

1. Geographic and tax binding (HR model): expla is not a startup in a garage, but it also does not have the budgets of FAANG-level corporations. The company employs about 120 people. Its main operational advantage is a two-hub model with offices in Kyiv and Warsaw. That is why a distributed team was included in the calculations. Ukrainian median salaries for developers are taken (Senior Data Engineer - $5,500 and Middle Analytics Engineer - $3,250). This is because in Ukraine, the tax system for IT specialists (3rd group individual entrepreneur, 5% tax) allows the company to spend a Gross amount, which is almost equal to the Net amount that the specialist receives. This is

extremely profitable. At the same time, the Product Owner position is charged at Polish B2B rates ($4,500). The person who will manage the product and communicate with international clients must be located in the company's European hub. The combination of these two markets results in exactly the amount of $13,250 per month, which forms the budget of $53,000 in 4 months.

2. Data scale and infrastructure costs: The rationale for taking a base of 10 million events per month to calculate the cost of servers must be addressed. Referring to the data from the first section of the work, in 2024 alone, expla generated 9.5 million final conversion leads in Tier-1 markets. If intermediate clicks, ad impressions, and status logging in CRM systems of 250 global advertisers are added, tens of millions of database rows per month are easily reached. It is for this scale that the Google Cloud calculator was configured. Storing such a volume of text costs merely $20. The main costs are the scanning of these millions of rows by analysts. But since expla has a strong mathematical culture (positioning as an "engineering marketing company"), it is included in the model that the In-House engineers will configure table partitioning. This will limit the amount of data processed to 100 Terabytes per month, which fixes server costs at a safe level of $1,750.

3. Incompatibility of SaaS models with the nature of Affiliate marketing We used data on the cost of subscriptions of Fivetran and Supermetrics (which easily reach $5,000–$10,000 at high volumes) to prove one thing: SaaS is not a good fit for expla specifically. The reason lies in the unit economy. In the classic B2B sector, one record in the database (for example, a signed contract) can bring $100,000 in profit. There, the company will easily pay the SaaS vendor for processing this row. In performance marketing, everything is different. One row of data is a click that costs a few cents. The margin on each event is microscopic, but the event itself needs to be tracked. If expla pays SaaS services for the volume of micro-events passed through them (Volume-based pricing), this will simply destroy the profitability of advertising campaigns.

This link fundamentally explains the logic of our choice. We rejected outsourcing because it is overpriced due to administrative overhead. We rejected ready-made SaaS connectors because they financially penalize the company for a large number of small marketing transactions. There is only one mathematically sound way left: spending $53,000 on our own team that will close this need forever.

4.2 Investment Analysis And NPV Calculation

To finally make sure of the feasibility of developing our own In-House platform, we will reduce all previously calculated indicators into classic investment metrics with a planning horizon of 3 years (36 months).

As we determined in Section 4.1, the initial investment (CAPEX) for developing an MVP over 4 months is $53,000. This figure is clearly justified by the salary fund of three specialists (Senior Data Engineer, Middle Analytics Engineer, Product Owner). What do we have after the release? Our monthly benefits (Benefits) are $42,000 ($30,000 of retained margin + $12,000 saved on manual labor). Monthly costs for Google Cloud servers and support (OPEX) are $1,750. Subtracting the costs from the benefits gives us an average monthly net cash flow (Net Cash Flow or NCF) of $40,250 .

At a discount rate of 15% (to account for inflation and industry risks), the basic net present value (NPV) of the project for 3 years is $1,049,844 . The return on investment (ROI) indicator for this period reaches 976%. This indicates the exceptional financial attractiveness of the project.

Conclusion to the investment analysis All the above calculations prove one key thesis. Developing our own analytical core for expla does not carry any critical financial risks. Even in the worst-case scenarios – whether a market downturn or a development timeline disruption – the system continues to generate significant positive cash flow, protecting the economics of the agency's division (see Table

4.2).

Table 4.2 Investment Model And Npv (12-Month Horizon)

Period	Cash Flow (In/Out)	Discounted Cash Flow (at 15%)	Cumulative DCF
Month 0 (CAPEX)	-$53,000	-$53,000	-$53,000
Month 1	$40,250	$35,000	-$18,000
Month 2 *(Break-even)*	$40,250	$30,434	$12,434
Month 3 to 12 (Agg.)	$402,500	$210,500	$222,934

Source: Developed based on internal information from expla.

Chapter 5. Assessment Of Economic And Technological Risks

Implementing a proprietary tool involves specific risks that require proactive management (see Table 5.1).

Table 5.1 Risk Assessment Matrix

Risk	Probability (1-5)	Impact (1-5)	Minimization strategy
1. Changing Meta/Google policies and algorithms	5 (Very high)	4 (High)	Establishing increased OPEX (budget for ongoing support and refactoring of API connectors by a Data engineer). Using official Partnership APIs.
2. Layoff of key developers (Bus Factor)	3 (Average)	5 (Critical)	Maintaining comprehensive technical documentation (Confluence), setting up CI/CD processes, using standardized open-source tools (dbt Core) instead of completely custom code.

3. API Technical Failures (Downtime/Rate Limits)	4 (High)	3 (Medium)	Implementation of Queue-based architecture (Exponential Backoff algorithms) and data caching to avoid dashboards stopping during failures on the advertising platforms side.
4. User Sabotage (Change Management)	4 (High)	4 (High)	Attracting Executive Sponsors, deploying through the "Dual Running" phase (running Excel and the platform in parallel for 2 months) to build trust.

Source: Developed based on internal information from expla.

5.1 Step-By-Step Implementation Plan (Roadmap)

The implementation of the project to develop and implement a custom In-House platform in expla is designed for exactly 4 months (16 weeks) . This development period is included in the investment model (CAPEX). Such a schedule allows you to eliminate the inefficiency of manual reporting as quickly as possible and bring the project to the break-even point.

The development and implementation process is decomposed into 5 sequential stages (see Table 5.2):

Table 5.2 Step-By-Step Implementation Plan (Roadmap)

Project stage	Basic actions	Terms	Responsible persons
1. Discovery & Design	Audit of current Excel processes, finalization of the terms of reference, design of database architecture.	Weeks 1–3	Product Owner, Senior Data Engineer
2. Infrastructure & Extraction	Configuring Google Cloud Platform, writing Python connectors to the Meta and Google Ads APIs.	Weeks 4–7	Senior Data Engineer
3. Data Transformation	Cleaning raw data, writing SQL/dbt models, partitioning tables in BigQuery (Google Cloud; dbt Labs).	Weeks 8–11	Analytics Engineer, Data Engineer
4. BI Integration	Connecting visualization tools (Looker Studio), developing UX/UI dashboards.	Weeks 12–14	Analytics Engineer, Product Owner

5. UAT & Deployment	Parallel testing of the old and new systems by the pilot team, bug fixes, onboarding.	Weeks 15–16	The entire project team, Media Buyers

Source: Developed based on internal information from expla.

5.2 Project Management Tools

To ensure transparency and control over the development of the platform, the operational plan is structured using classic project management frameworks: WBS, OBS, and RACI. (see Figure 5.1)

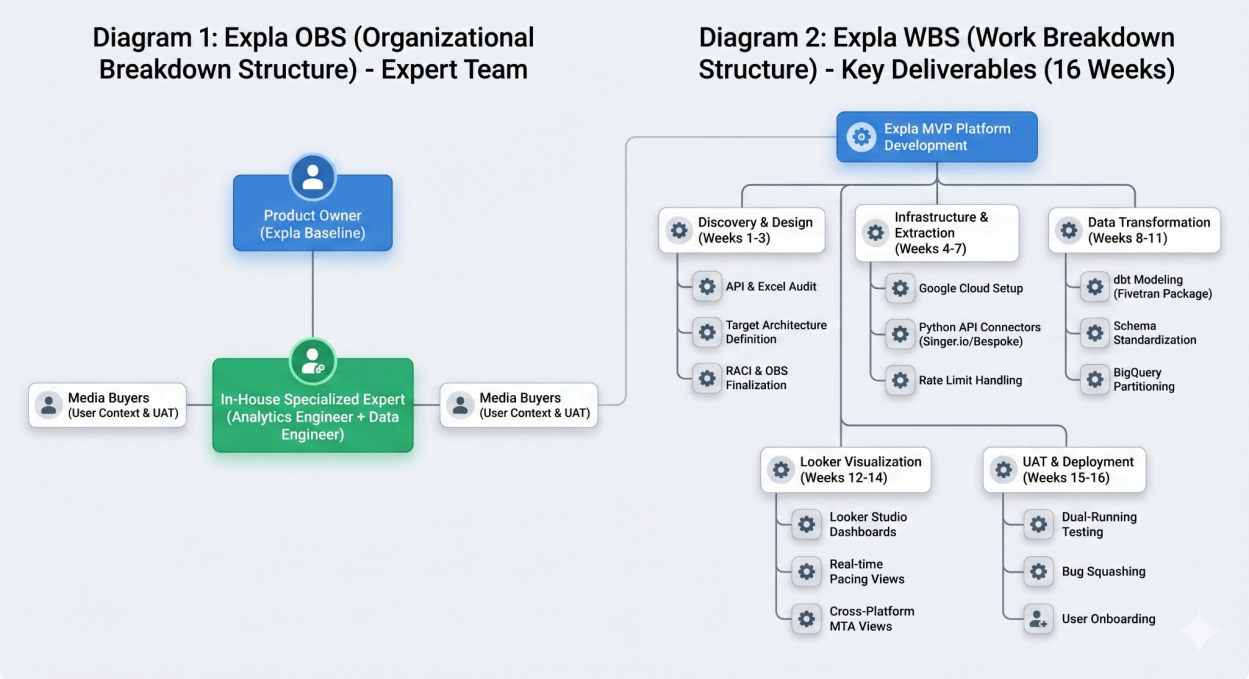


Figure 5.1

Expla MVP Integrated Project Management Model: Organizational Structure (OBS) and Work Breakdown Structure (WBS). Source: developed by the author based on internal information from Expla

5.2.1 Work Breakdown Structure (WBS)

According to the approved Roadmap, the project is divided into specific functional blocks (Work Packages), which guarantees the implementation of each stage of development:

- Stage 1 (Discovery): Audit of current Excel processes, finalization of the TOR, design of database architecture for processing multi-million event arrays.
- Stage 2 (Extraction): Setting up Google Cloud Platform, writing Python connectors to the Meta and Google Ads APIs, implementing Exponential Backoff algorithms to bypass request limits (Rate Limits).
- Stage 3 (Transformation): Clean raw data, write SQL/dbt models to combine expenses and revenues, partition tables in BigQuery to minimize scan cost.
- Stage 4 (BI Integration): Connecting visualization tools (Looker Studio/Tableau), configuring caching, developing a user-friendly UX/UI for real-time margin monitoring.
- Stage 5 (UAT): Parallel testing (Dual Running) of the old manual and new automated processes by the pilot team, bug fixing, onboarding of specialists.

5.2.2. Project Organizational Structure (OBS) And Responsibility Matrix (RACI)

Since the In-House platform is designed as a critical business infrastructure for the agency, the project's organizational structure (OBS) involves the involvement of a dedicated cross-functional team. It includes:

- Product Owner: Responsible for business requirements, communication with end users, and overall success of the implementation.

- Data Engineer: Responsible for deploying server infrastructure (Google Cloud) and writing connectors (API).

- Analytics Engineer: Responsible for data transformation (SQL/dbt) and building final dashboards (BI).

- Media Buyers: Involved at various stages as domain experts (SMEs) and final testers.

To avoid duplication of functions and "blurring" of responsibilities, task management is formalized in the RACI matrix (see Table 5.3), which is strictly tied to the 5 main development stages.

Table 5.3 Responsibility and Accountability Index (RACI) matrix by project stage

Project Stage (with Roadmap and WBS)	Product Owner	Data Engineer	Analytics Engineer	Media Buyers
1. Requirements gathering and design	A, R	C	C	I
2. Infrastructure and extraction	A	R	C	-
3. Data Transformation	A	C	R	-

4. BI integration and dashboards	A	I	R	C
5. Testing (UAT) and release	A	C	C	R

Source: Developed based on internal information from expla.

Note: R - Responsible, A - Accountable, C - Consulted, I - Informed.

5.2.3. Project Implementation Schedule (Gantt Chart)

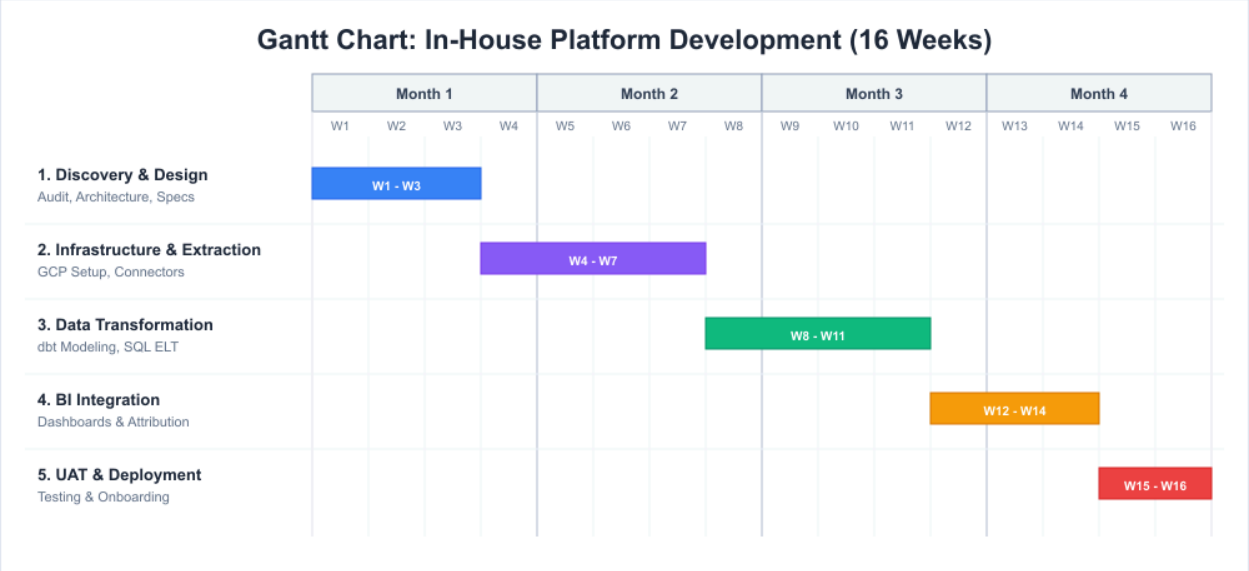


Figure 5.2

Based on the defined stages (WBS) and distributed roles (OBS), a development calendar has been built. The Gantt chart Figure 5.2 clearly demonstrates the sequence and parallelism of the platform creation processes over the planned 4 months (16 weeks).

As a result of the consulting study, the strategic, operational, and economic necessity of developing a proprietary In-House platform for analytics automation at expla was comprehensively substantiated.

Key results and conclusions by research stage:

1. Macroeconomic Environment Analysis (Chapter 1): A review of the global digital advertising market has shown that the classic arbitrage model is antiquated as a result of the rising costs of customer acquisition (CAC) and more stringent privacy policies (the post-cookie era). The Tier-1 market landscape competition is pushing agencies from service contractors to “Algorithms of Record”. Nowadays, having a proprietary technology stack to manage the auctions in real time is a must-have to survive in the industry.

2. Evaluation of the firm’s internal environment (Part 2): The analysis of Expla’s operations exposed a severe bottleneck- the data was scattered and housed in Excel spreadsheets. This asymmetry in information led to an analytical lag of 5–10 hours at the beginning of each week. It was calculated that in algorithmic auctions, such a delay leads to creative exhaustion and costs the company an opportunity cost of roughly $1,700 in lost profits for each $1,000 of advertising budget. Based on a multi-criteria analysis of existing and theoretical solutions (horizontal scaling, SaaS solutions, AI agents), it was determined that the only viable solution is to build our own platform based on the Modern Data Stack (Google Cloud Platform, BigQuery, dbt). Its main advantages include avoiding the strict limitations of advertising APIs (using special connectors), eliminating dependence on expensive SaaS subscriptions, and ensuring uninterrupted data delivery with a delay of less than 15 minutes.

3. Based on a multi-criteria analysis of existing and theoretical solutions (horizontal scaling, SaaS solutions, AI agents), it was determined that the only viable solution is to build a custom platform based on the Modern Data Stack (Google Cloud Platform, BigQuery, dbt). Its main advantages include avoiding the strict limitations of advertising APIs (using special connectors), eliminating dependence on expensive SaaS subscriptions, and ensuring uninterrupted data delivery with a delay of less than 15 minutes.

4. Business and Investment Rationale (Section 4): Financial calculations (cost-benefit analysis) confirmed the project's exceptional investment appeal. With a capital expenditure (CAPEX) of $53,000 and four months of work by the internal team, the system's projected net present value (NPV) is $222,934 over a 12-month horizon of operation. The break-even point will be reached 1.3 months after full launch. A sensitivity test confirmed the model's reliability even in the event of a market crash or higher-than-expected infrastructure maintenance costs.

5. Implementation and Change Management Plan (Section 5): A comprehensive operational strategy was created for the platform's release in 16 weeks (4 months). A Work Breakdown Structure (WBS), the integrated RACI matrix, and a Gantt chart were developed. To avoid the risk of organizational inertia towards media buyers, a change management strategy informed by the principle of "extended intelligence" was crafted. This allows for a seamless transition (Dual Running) and for manual spreadsheet operators to evolve into data strategists at the conclusion of their career.

Overall conclusion The implementation of an automated analytical core is a critical step in enabling Expla to becoming a fully formed "engineering and marketing company." This innovation de-couples revenue growth from headcount growth, shields the division's financials against media inflation, and enables exponential business scaling.

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