20 YEARS RPE ORIGIN

USING AI TO ANALYZE Email Marketing Data

Driving Conversions with AI-Powered Insights

When it comes to analyzing email marketing data, most marketers take a quick pass at their most basic analytics — open rates, click rates, conversion rates, and unsubscribes. That surface-level glance at metrics may be due to time constraints, or perhaps a lack of skills and knowledge in data analysis, or a belief that the basic analytics are good enough.

But what if you wanted a deeper dive into your data and a better assessment of how your email marketing campaigns are truly performing? That deeper dive could help validate your assumptions, improve conversion rates, set a baseline for testing, and much more.

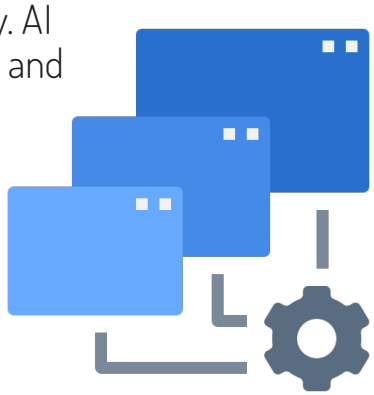
Digging into your cross-channel data can help you understand who your customers are, what they're interested in, what motivates them to convert, and how they've engaged with your emails in the past month, quarter, or year. Then, you can leverage that data to better connect with your customers and transform their email experience.

Enterprise companies have all the data they need to gather those types of insights, but they often don't have the time or the resources to do so. If your company has a data science team, you're a few steps ahead and can lean on their analytics experience to highlight key insights and build out customer profiles from available data. But it still takes time to analyze the data, generate insights, and validate them.

What if you need those insights now to make decisions about your next marketing campaign? That's where AI can be a game changer for email marketers, with the usual caveats that it's important to choose the right tool, invest the time to train it, use caution with any proprietary data, and ensure there's always a human reviewing what AI creates.

Automated insight generation

Whether you have a data science team or not, you can use AI models to process an extensive amount of data and generate insights quickly. AI tools can identify patterns, anomalies, and causations in your data — and can deliver that report by end of day instead of two weeks from now.



Need to add an additional parameter to your analysis? No big deal. AI can add that extra parameter and update your reports quickly. Using AI greatly reduces both the time and cost of analyzing email marketing data.

Analyzing engagement metrics is a great place to start with using AI. In fact, it's where we recommend people start, especially if they're using AI tools for the first time for analytics work. But what if you want to go beyond the basic analytics and start including behavioral signals in your data analysis?

Behavioral signals can help you better understand:


Who your customers are


What type of content resonates with them


When they are most likely to engage


What subject lines spark an open for them


How they interact with your various marketing channels

Once you start evaluating engagement data plus behavioral signals, you've exponentially increased the complexity of analyzing your data. Even the smartest data whiz on your team will need extra time to analyze that data and provide a complete picture of your customer, but using the right AI tools and prompts can drastically reduce that time and let the human brains on your team review the data and decide how to act on it.

Using AI to analyze your email performance and your customer's habits can help you identify any gaps and better refine your strategies. When you feed AI your customer data and any existing customer personas, it can:

- **Review** your customer personas for any missing attributes or missing personas
- **Generate** a strategy to target those personas using content that will convert
- **Evaluate** your existing content and match it or refine it for existing personas
- **Determine** what content, subject lines, and send times resonate with your customer
- **Identify** strategies that will convert across multiple personas

With those deeper insights available, you can start testing them against your current campaigns to see what happens in real life. Then, feed that data back into your AI tool and continue to refine the strategy.

Using AI for enhanced personalization

Once you're consistently using AI to evaluate your email marketing data and create a set of customer behavior profiles, you can leverage that data for enhanced personalization.

That might include:

- Determining the best send time for higher open rates
- Matching each person with the right subject line and content for better engagement
- Customizing the offer that's most likely to convert for different segments
- Going deeper with product recommendations

Every email marketer aims for a 1:1 marketing approach, and AI can help get you there. With deeper insights into who's buying and when and why, you can create the content your subscribers want to see and deliver it when they want it.

Predicting campaign performance using AI

The real power of AI for marketing analytics comes in answering the question, "What if ....?" It's a question that email marketers have been asking themselves since the beginning of email marketing. What if we sent four emails per week instead of three? What if we targeted an even better offer to a smaller segment of customers? What if we created a loyalty program?

So, how do you get started with the "what if" analysis of your data? The first step is to get specific about the question you're asking so you know what parameters to include. Of course, AI can help you refine the question and determine the parameters as well if you're stuck on that part.

Some examples of predictive analytics question include:

- Using historical data from Q3 last year, forecast the likely success of this year's planned email sends in Q3 using total revenue as the primary metric for success.
- Based on customer engagement data over the past two years, what would happen to our email open rates and total revenue attributed to email if we sent one more email per week?
- Analyze customer engagement in the past six months and identify the contacts who are most likely to unsubscribe in the next 30 days. Using that list of customers, identify what content is most likely to keep them engaged and on the list.

Predictive analytics can be done using the tactics such as Holt-Winters/ETS, ARIMA, Gaussian Process Regression (GPR) or other ML forecasting models designed to predict several data trajectories weighted by how likely they are to occur and define similarities between data points. It works well with smaller datasets, but it requires some intense

calculations like:

$$f(x) \times GP(m(x), k(x, x \times)) \text{ and } y \times N(0, K + \times 2I).$$ Right?

Leaning on AI to do that analysis is a much quicker answer for most email marketers. You can ask your AI tool, "Please analyze this data set using GPR and predict the next three months of engagement data for Campaign X. In addition, show me the best times to send the campaign based on available subscriber data."

Strategic use of AI can help you forecast the potential success of upcoming campaigns based on historical data, monitor campaign performance in real time so you can make quick adjustments, monitor product levels so you can pivot before something goes out of stock, and generate feedback reports automatically. Used well, it's an incredibly powerful extension of your team.

Data imputation and interpolation

Imputation is a big word that sounds a little scary, but it's the process of back-filling missing data based on statistical factors. Missing data can hurt both your brain and the bottom line, so data scientists spend hours evaluating and re-evaluating data to infer what should have happened to fill in that missing data.

Most commonly, they're using k-Nearest Neighbor (k-NN) calculations to identify look-alike neighbors of the missing data. It's a lot of math that must be validated and re-validated several times to improve confidence that the data is correct.

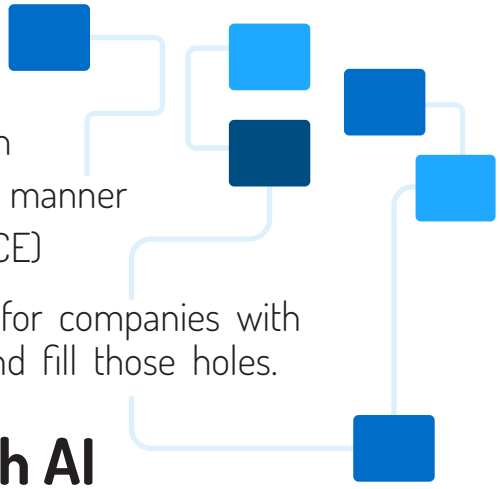
What's that calculation look like?

$$d(x, xx) = \sqrt{(x\ (xx - xxx)^2)}, \quad \text{for } j = 1 \text{ to } d, \text{ of course.}$$

If you don't have a team of data scientists and the time to create look-alikes and validate the data, AI can help. Even if you do have a team of data scientists, AI can help. It can impute, or synthesize, incomplete or missing data using intelligent estimations — and it can do it much faster than your data team.

To solve data imputation and interpolation challenges, AI can:

- Identify the Nearest Neighbor(s) efficiently
- Re-analyze to produce higher confidence levels
- Quickly ingest new data sets to improve the estimation
- Summarize and present the findings in a report-ready manner
- Perform Multiple Imputation by Chained Equations (MICE)



This is one of the places that AI can really help, especially for companies with holes in their data and not enough human resources try and fill those holes.

Improving operational efficiency with AI

We're all working much leaner these days, thanks to budget constraints and concerns about what will happen next in the market. Enterprise marketing teams are expected to do more with less yet still finish projects faster. Key resources are stretched thin, and everyone is struggling to keep up.

Leveraging AI for data analysis can reduce the human workload needed for routine analysis, which frees up data scientists for higher-level tasks. It's about supplementing your data team, not replacing them with AI. You still need the human brains to ask the big questions and guide the process, but AI can make a huge impact on operational efficiency when implemented well.

A deep AI integration can augment your analytics team and make the data team more available for ad-hoc requests and broader strategy discussions related to data. However, it's important to ensure the data team still owns the process, the vendor relationship, and oversight of AI outputs.

Final thoughts

The joy of manual calculation is still there if you truly want to do things long form. However, traditional data analysis is changing, and many enterprise companies are leveraging AI for new insights on their email marketing data, which leads to better results for their email marketing campaigns. Using AI makes automated data processing quicker and more affordable while also allowing for deeper analysis and better predictions. All of that translates to more actionable data and highly personalized communications, which has a positive impact on the customer journey.

About RPE Origin

We are the industry's only vendor-agnostic, email-centric agency serving enterprise companies throughout their digital journey. We aim to be an indispensable partner for enterprise and agency clients who rely on email for success. Whether you need help choosing a new ESP, enhancing automated B2C or B2B customer journeys, or connecting data points across your tech stack, we help you move from simple to sophisticated to drive more revenue through email marketing.

Our team lives email every day, and that includes both email marketing and maximizing the connective tissue across all digital channels. With our customized approach and flexible services, we can do everything from one piece of the puzzle to the entire picture.

Need help with using AI to analyze email marketing data?

Contact our team to get the conversation started.