

What is Swarm AI?

Swarm AI™ technology is a powerful combination of human networking and AI algorithms designed to amplify the intelligence of human groups. From business forecasting to consumer insights, Swarm AI enables you to build an “Artificial Expert” that quickly provides more accurate and expressive intelligence than traditional methods.

Modeled after swarms in nature, which harness input from large populations and converge on optimal solutions with extreme efficiency, our Swarm AI technology builds real-time human networks, enabling us to amplify insights from consumer groups, business teams, or any other target population.

For business intelligence applications, the rapid insights produced by Swarm AI systems have been shown in published academic studies to be significantly more accurate and expressive than traditional methods.

These studies are available at unanimous.ai/publications.

Swarm AI™ Technology Accurately Predicts President Trump’s “100 Day” Approval

Summary

Tasked with providing predictive intelligence for readers of Modern Trader magazine, a group of American voters working as a Swarm AI system perfectly predicted President Trump’s Approval Rating at the end of his First 100 Days. This prediction, recorded nine days before Trump’s inauguration, exceeded even expert-level guidance by using Unanimous AI’s Swarm AI™ platform. This case study reviews the engagement with Modern Trader magazine and details the methodology used to achieve these results.

The Objective

In early January, weeks before Donald Trump took office, researchers at Unanimous AI were engaged by the editors of the investing magazine Modern Trader, a monthly print magazine aimed at professional investors, to generate forecasts for their 2017 Predictions Issue in a process we call Swarm Insight™.

Because Swarm AI technology has such a strong track record of predictive success, the client came to Unanimous AI seeking guidance concerning the president’s approval rating using the First 100 Days as a milestone. That metric has been historically linked to stock market performance, and a successful forecast would provide an undeniable strategic advantage for Modern Trader’s audience of financial service professionals.

The Modern Trader swarm was held in the first week of January and published in the 2017 Predictions issue of Modern Trader’s FUTURES magazine. The entire process from receipt of the target questions to delivery of forecast was less than two weeks.

The Approach

Forecasting a new President’s Approval Rating nearly four months in advance is by definition a complex, multi-variable problem, the sort of predictive challenge that would be difficult for any one person, even an expert, to undertake with any confidence.

The Unanimous Swarm AI platform generates unprecedented insights into hard-to-forecast events.



Swarm AI is a unique combination of real-time human inputs and artificial intelligence algorithms, enabling optimized predictions that are more accurate than either humans or algorithms can produce alone. Developed based on the methods used by biological swarms to amplify the intelligence of natural populations (i.e. flocks of birds, schools of fish, and swarms of bees), Swarm AI technology has been shown through numerous published studies to significantly amplify the predictive accuracy of human populations.

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In bringing this amplification of intelligence to humans, Unanimous often looks to bees for inspiration, as the hive is one of nature's most well-understood "brain of brains." For the Modern Trader project, Unanimous researchers modeled their approach on the behavior of "scout bees," which are dispatched to explore the surroundings and identify suitable locations for the hive. The notion here was to task a group of 80 American voters with researching and interpreting available data the way scout bees would consider potential hive sites. A sizable reward was offered to the highest performing individual in a survey to incentivize the group to seek out good information and bring it back to the swarm. Then the group would come together to form a Swarm AI system that amplified their intelligence to make a collective forecast Modern Trader could be confident in publishing in their Predictions 2017 issue.

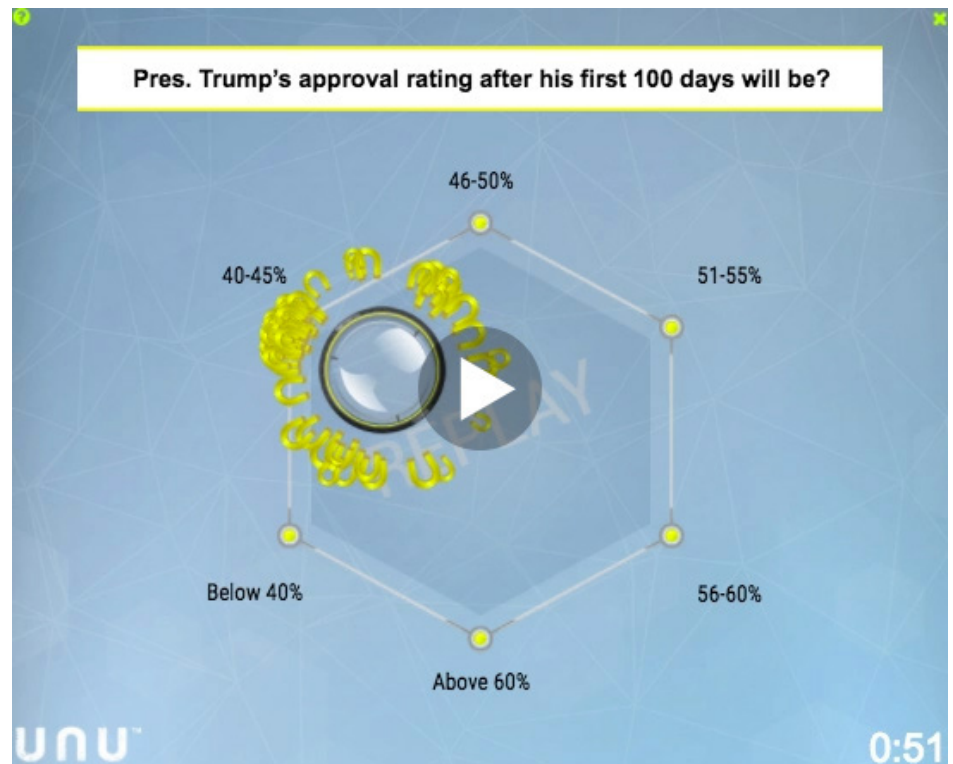
The intelligence compiled by the group would therefore combine user-sourced data and detailed historical information about Trump's precedents provided by Unanimous AI. These data points included statistics like the average approval rating for every president since 1938, Obama and Bush's high, low, and average approval ratings, and the average approval rating at the First 100 Days since 1953.

The Forecast

One straightforward - but not simple - question lay at the heart of Modern Trader's request for Unanimous's Swarm AI technology: "What will President Trump's job approval rating be after his initial 100 days in office, as measured by Gallup?"

The participants responded to this question individually in a survey before the swarm. Capturing the individual predictions allows us to examine individual behaviors within the group using Swarm Insight™ tools, and compare traditional techniques such as averaging or using the most frequently selected answer to the swarm's output.

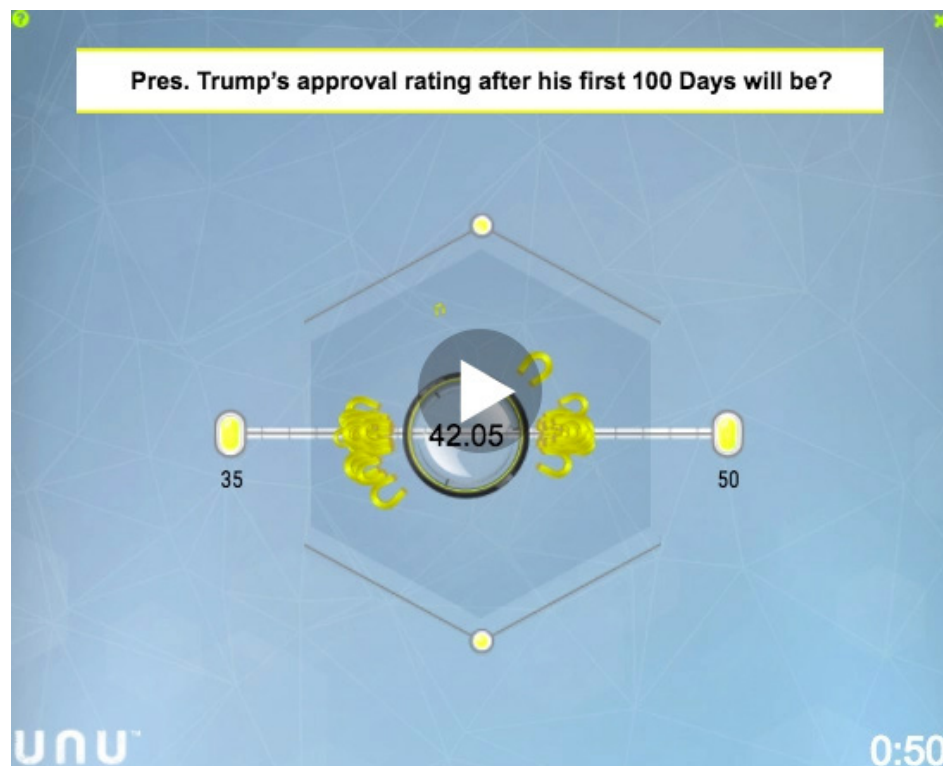
After completing the survey, participants logged into Unanimous's cloud-based Swarm AI platform. The swarm was reminded of some of the basic information they were presented in the survey and was then asked to respond to two questions. The first had them predict "Pres. Trump's approval rating after his first 100 days" by selecting among six ranges: Below 40%, 40-45%, 46-50%, 51-55%, 56-60%, Above 60%.



Tasked with offering insight into a complex, multivariable problem, Unanimous AI delivered perfect accuracy guidance.

The swarm forecast "40-45%" and was then asked to "narrow it down" by identifying a specific number on a number line anchored at 35% and 50% (the range was extended 5% in each way to enable the swarm to correct itself if it felt the previous boundaries were too limiting). At each stage, Unanimous recorded granular data about the behavior of the individual participants and the collective swarm.

The swarm predicted President Trump's approval rating at 100 days would be 42% and reported a collective confidence in that forecast of 79%.



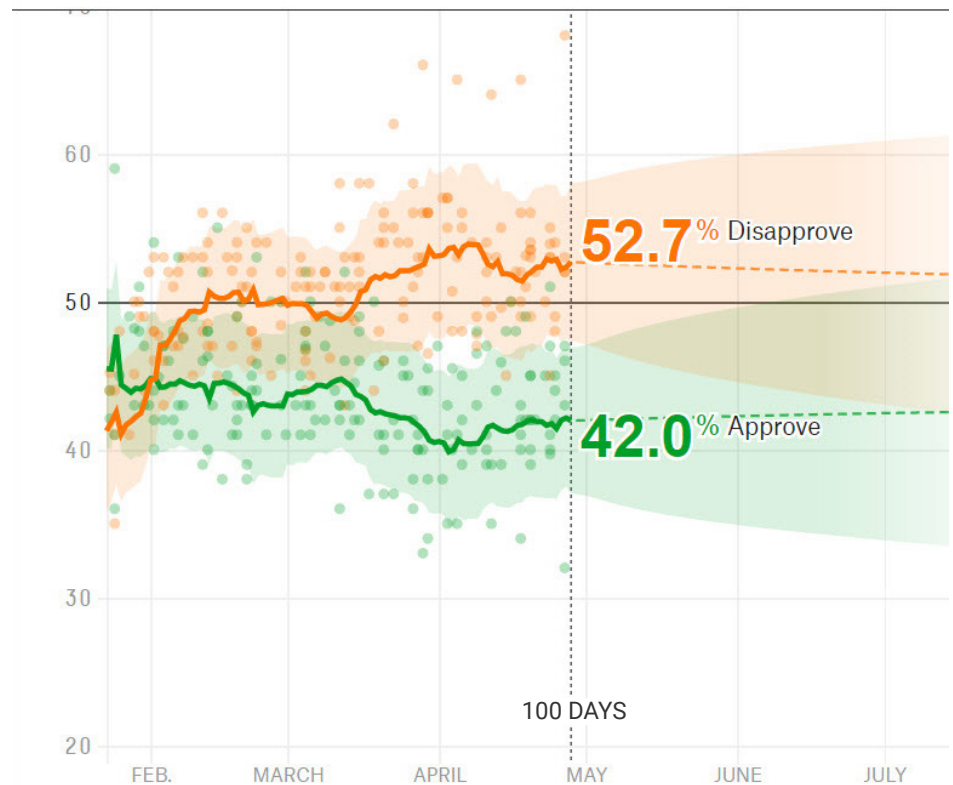
The Result

A perfect prediction. Tasked with offering insight into a complex, multivariable problem, Unanimous AI delivered perfect accuracy guidance.

On the 100th day of the Trump presidency, Gallup reported the president's approval rating to be 42%. FiveThirtyEight's "Poll of Polls" showed the same exact number.

...crowds are wise, but swarming can turn groups of average people into a virtual "super-expert."

FiveThirtyEight



Courtesy of FiveThirtyEight

Two data points stand out in determining the importance of this prediction.

First, Trump's 42% approval rating at the end of his First 100 Days represents an historically atypical number. As shown in the graphs below from FiveThirtyEight, the 100 Day approval ratings for the last three men to hold the Oval Office occupied a tight range between 57% and 60%, and no president in history had an approval rating even close to Donald Trump's. In short, there was no historical precedent for 42%, and the Swarm AI's forecast cannot be considered an average-based or safe choice.

Second, the Swarm AI significantly outperformed the individuals who composed the group, demonstrating a clear amplification of intelligence. While the swarm's forecast was perfectly accurate, the average of the individual forecasts recorded in the survey was 46%. This suggests that crowds are wise, but swarming can turn groups of average people into a virtual "super-expert."

Conclusion

Modern Trader engaged Unanimous AI to help them solve a complicated forecasting problem, where even solid insight would provide their readers

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— *Modern Trader Magazine.*

with a distinct advantage over their competition. In a project that lasted less than two weeks from engagement to completion, Swarm AI technology delivered an historically atypical prediction that turned out to be perfectly accurate.

As a result, the client received and published the information nearly four months before the 100 Days milestone, giving them a strategic advantage they couldn’t have achieved without Unanimous AI’s Swarm AI platform.

“Modern Trader magazine has been separating signals from the noise for professional traders and active investors since 1972. Every business day we receive forward-looking market commentary, analysis and predictions from everyone from talking heads to Wall Street’s most prominent analysts and hedge fund managers contributing their insights to our publications. So we know everything that we need to know about the algorithms, art and science of financial forecasting... or thought we did! Unanimous AI has earned our full attention and respect. It is more than a credible prediction platform. We have been tracking the forecasting accuracy of their Swarm AI platform for well over a year and are very impressed.”

— **Jeff Joseph**, CCO & Publisher, *Modern Trader Magazine*

Employing Swarm AI technology to amplify the intelligence of a group — be it a group of American voters as with Modern Trader, or an internal business team — can help generate uniquely deep, actionable insights, and solve complex problems.