SOLVING BRAND SUITABILITY
Machine Learning Propelled By Brand Preferences
MACHINE LEARNING IS ONLY AS GOOD AS ITS SIGNALS.

ESPECIALLY WHEN IT COMES TO VAST AMOUNTS OF VIDEOS, WHERE EACH AND EVERY VIDEO HAS COUNTLESS NUANCES.
WHAT HAPPENS WHEN BRAND SIGNALS ARE USED TO FUEL MACHINE LEARNING?
**Brand Suitability**

Brand Suitability is the alignment of an individual brand's advertising with content that makes sense for their image, customer base, and business objectives.

**Brand Preferences**

Brand Preferences are signals brands communicate about what content is best for them. Examples include inclusions lists, exclusion lists, content descriptions, and preferences about individual pieces of content.

**Human in the Loop**

Human in the Loop (HIL) is a process of guiding machine learning with human supervision. People review content with brands' preferences as guides in order to train machine learning algorithms, creating a cycle that consistently improves its models.
RESEARCH QUESTIONS

1. What are consumer attitudes toward video ad and content alignment?

2. How does “human in the loop” machine learning perform compared to traditional targeting methods?

3. Can “human in the loop” machine learning prevent ad/content misalignments?
METHODOLOGY

Rigorous Testing Through Experimental Design

RECRUIT
Recruited YouTube users for participation
n=3,858

VIDEO INTERESTS
Participants selected online video topics based on personal interests; those not interested screened out to ensure natural audience

RANDOMIZATION
Randomization into test and control groups
• Test = Brand Ad (15s)
• Control = Public Service Announcement

YOUTUBE EXPERIENCE
Participants visit YouTube testing page, where participants select and play video content based on their interests

BRAND KPIS
Post-exposure survey to measure traditional branding metrics and perceptions of advertising
WHAT WE MEASURED

Isolating Targeting Effects

**DEMO**
Reflects typical demographic buy on YouTube

**Who:** Brand’s demographic target  
**What:** Popular content on YouTube

**CHANNEL**
Reflects typical channel buy on YouTube

**Who:** General YouTube audience  
**What:** YouTube content based on channels the brand typically targets

**KEYWORD**
Reflects typical keyword buy on YouTube

**Who:** General YouTube audience  
**What:** YouTube content based on keywords the brand typically targets

**“HUMAN IN THE LOOP”**
Reflects buy on YouTube based on brand-determined suitability signals

**Who:** General YouTube audience  
**What:** YouTube content selected via machine learning + human review based on brand-determined signals for suitability
WE ALSO MEASURED

Isolating the Impact of Content Quality

LOW QUALITY CONTENT

Reflects what happens when ads appear next to what are traditionally considered low quality videos

Who: General YouTube audience
What: YouTube content identified via machine learning + human review based on what is traditionally considered low quality content

HIGH QUALITY CONTENT

Reflects what happens when ads appear next to what are traditionally considered high quality videos

Who: General YouTube audience
What: YouTube content identified via machine learning + human review based on what is traditionally considered high quality content
VIDEO SELECTION FOR TESTING

"Human In The Loop" Curated Videos

Zefr scanned 3.5 billion videos on YouTube

The marketer provided signals for the best types of content for the brand to appear next to

Human review guided the machine learning to identify preferences

Videos randomly selected for testing

Machine learning identified brand suitable and/or high quality videos

Videos segmented by targeting type

3,858 consumers selected content based on their interests
BRANDS WE INCLUDED

Nationwide + Ubisoft + Scotts

Three Industry Verticals
BRANDS ON YOUTUBE THROUGH THE EYES OF CONSUMERS
Q: Now thinking more specifically about the ads that are played before or during the videos you watch on YouTube, which of the following statements do you believe is true? Select one.

General Population n=2,401

**CONSUMERS UNDERSTAND THAT YOUTUBE AD PLACEMENTS ARE INTENTIONAL**

Perceived Method for Video Targeting on YouTube

Believe ad placement is ________

- Intentional (net score)
- Random
BUT, JUST 25% THINK BRANDS ARE DOING A GOOD JOB

Consumer Scorecard For Brand Performance In Ad Placement

25% GOOD JOB (8-10)

59% MODERATE JOB (4-7)

16% BAD JOB (1-3)

Q: In fact, brands have a hand in deciding which videos their ads are placed with on YouTube. Knowing this and thinking about your past experiences on YouTube, do you think brands are doing a good job with selecting videos to place their ads with? Drag the slider to a point on the scale (e.g. 1: Very bad job, 10: Very good job)

General Population n=2,401
HOW SHOULD MARKETERS IMPROVE AD EXPERIENCES ON YOUTUBE?
WE’VE HEARD IT BEFORE…CONSUMERS WANT RELEVANT ADS. IT’S AS IMPORTANT AS BEING ENTERTAINED

Expectations of Video Ads on YouTube | Average Ranking (1–6)

Creative Agency | Media Agency

1. Must Appear Next To High Quality Videos (4.8)
2. Relevant To The Video I’m Watching (3.6)
3. Relevant To Me And My Interests (2.6)
4. Entertaining (2.5)
5. Informative (3.3)
6. Tells A Story (4.2)

Q: What do you most want out of video ads on YouTube? Please rank from most important to least important
General Population n=2,401
Q: What do you most want out of video ads on YouTube? Please rank from most important to least important

Q: Which of the following statements describe your typical experience with video ads on YouTube? Select all that apply.

General Population n=2,401

H owever, brands have been least successful meeting relevance expectations

Success at Meeting Top Ad Expectation Based on Typical YouTube Experience

% Whose Top Ad Expectation Was Met

- Informative: 57%
- Tells a story: 46%
- Entertaining: 35%
- Relevant to me/interests: 29%
- Relevant to video I'm watching: 18%

Of those who want relevance between the ad and the content the most, only 18% has that expectation met.
TARGETING RELEVANCY WITH BRAND DRIVEN CONTENT PREFERENCES
REACHING IN-MARKET CONSUMERS IS “BUILT-IN” WHEN BRAND-DRIVEN SIGNALS FUEL MACHINE LEARNING

Targeting Effectiveness Among Demo Target | % In-Market for Advertised Product

By targeting the most suitable content for the brand, ads are naturally reaching a more relevant audience.
BECAUSE MORE OF THE RIGHT CONSUMERS ARE REACHED, ADS ARE MORE RELEVANT

Ad Was “Relevant to Me and My Interests” Among Demo Target | % Strongly or Somewhat Agree

- Demo Targeting (A)
- Channel Targeting (B)
- Keyword Targeting (C)
- "Human in the Loop" (D)

Brand suitability targeting is 23% more effective than demo and 45% more effective than keyword targeting at delivering on ad relevance.

Within demo target: Demo targeting n=592, Channel targeting n=370, Keyword targeting n=392, Human in the Loop n=393
A/B/C/D = statistically significant difference between A/B/C/D at 90% confidence
... WHICH MEANS THE SAME CREATIVE LEADS TO A BETTER AD EXPERIENCE

Impact of Targeting on Ad Opinions | % Strongly or Somewhat Agree
- Demo Targeting (A)
- Channel Targeting (B)
- Keyword Targeting (C)
- "Human in the Loop" (D)

A/B/C/D = statistically significant difference between A/B/C/D at 90% confidence

Demo targeting n=297, Channel targeting n=316, Keyword targeting n=330, Human in the Loop n=312
THE SAME BRAND MESSAGE COMES ACROSS MORE POSITIVELY

Impact of Targeting on Ad Message Perceptions | % Strongly or Somewhat Agree

- Demo Targeting (A)
- Channel Targeting (B)
- Keyword Targeting (C)
- "Human in the Loop" (D)

AD MESSAGE RESONATED WITH ME
- 52% C
- 43% A/B/D
- 39% B

AD MESSAGE WAS CREDIBLE
- 68% C
- 62% A/B
- 59% B

AD MESSAGE WAS POSITIVE
- 72%
- 65% A/B
- 64% B

A/B/C/D = statistically significant difference between A/B/C/D at 90% confidence
THE SAME AD FOSTERS MORE POSITIVE OPINIONS OF THE BRAND

Impact of Targeting on Brand Attributes
<table>
<thead>
<tr>
<th>Delta (Test – Control)</th>
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<tbody>
<tr>
<td>Demo Targeting</td>
</tr>
<tr>
<td>Channel Targeting</td>
</tr>
<tr>
<td>Keyword Targeting</td>
</tr>
<tr>
<td>&quot;Human in the Loop&quot;</td>
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</table>

- The same ad fosters more positive opinions of the brand.

BRAND IS SAVVY

- Demo Targeting: +5%
- Channel Targeting: +4%
- Keyword Targeting: +3%
- "Human in the Loop": +7%* (*statistically significant difference between test and control groups at 90% confidence)

BRAND IS THOUGHTFUL

- Demo Targeting: 0%
- Channel Targeting: -1%
- Keyword Targeting: +7%*
THE SAME AD DRIVES GREATER IMPACT IN PURCHASE INTENT

Impact of Targeting on Purchase Intent | Delta (Test – Control)

- Demo Targeting
- Channel Targeting
- Keyword Targeting
- "Human in the Loop"

△ = statistically significant difference between test and control groups at 90% confidence

Demo targeting n=592, Channel targeting n=649, Keyword targeting n=674, Human in the Loop n=636
THE DANGERS OF MISALIGNMENT
MISALIGNMENT MAY RUN THE RISK OF HURTING BRAND PERCEPTIONS

Brand Perceptions by Perceived Alignment Between Ad and Content | % Strongly or Somewhat Agree
Ad was __________ with content  □ Not aligned  □ Aligned

- **INNOVATIVE**
  - Not Aligned: 51%, Aligned: 77%

- **SAVvy**
  - Not Aligned: 40%, Aligned: 70%

- **I WOULD PAY MORE FOR**
  - Not Aligned: 25%, Aligned: 62%

- **HAS A GOOD REPUTATION**
  - Not Aligned: 55%, Aligned: 81%

- **I TRUST**
  - Not Aligned: 42%, Aligned: 76%

* = statistically significant difference between perceived aligned/not aligned at 90% confidence

Not Aligned n=1,082, Aligned n=709
MISALIGNMENT IS PREVENTED WHEN BRAND SIGNALS ARE USED FOR TARGETING

Ad/Content Perceived as Aligned | % Strongly or Somewhat Agree

- Demo Targeting (A)
- Channel Targeting (B)
- Keyword Targeting (C)
- “Human in the Loop” (D)

Demo targeting n=297, Channel targeting n=296, Keyword targeting n=301, Human in the Loop n=300
A/B/C/D = statistically significant difference between A/B/C/D at 90% confidence
Q: How aligned was the ad above with the video titled [content title] that followed? (e.g. the mood of the ad was well aligned with the video)
Not Aligned n=1,082, Aligned n=709
\( \Delta \) = statistically significant difference between perceived aligned/not aligned at 90% confidence

**CONTENT AND AD ALIGNMENT CREATES MORE MEMORABLE BRAND EXPERIENCES**

Aided Ad Recall by Perceived Alignment Between Ad and Content | % Who Recalled

- AD WAS NOT ALIGNED WITH CONTENT
  - +59%

- AD WAS ALIGNED WITH CONTENT
  - +65% \( \uparrow \)
HIGHER RELEVANCE = MORE POSITIVE OPINIONS OF THE AD

Ad Opinions By Perceived Relevance Between Ad And Content | % Strongly or Somewhat Agree

Ad was __________ to the content

- Not relevant
- Relevant

<table>
<thead>
<tr>
<th>ENTERTAINING</th>
<th>ORIGINAL</th>
<th>AUTHENTIC</th>
<th>INNOVATIVE</th>
<th>TELLS AN INTERESTING STORY</th>
<th>RELEVANT TO ME</th>
</tr>
</thead>
<tbody>
<tr>
<td>85%</td>
<td>71%</td>
<td>75%</td>
<td>73%</td>
<td>76%</td>
<td>74%</td>
</tr>
<tr>
<td>52%</td>
<td>46%</td>
<td>40%</td>
<td>34%</td>
<td>38%</td>
<td>28%</td>
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</tbody>
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Not Relevant n=1,147, Relevant n=644

△ = statistically significant difference between low perceived relevance and high perceived relevance groups at 90% confidence
IDENTIFYING THE NUANCES OF CONTENT QUALITY IN VIDEO
MACHINES WERE SUCCESSFULLY TRAINED TO IDENTIFY CONTENT TRADITIONALLY SEEN AS “HIGH QUALITY”

Consumer Ratings of Content Machine Identified as “High Quality”
- Consumer Rated As Low Quality Content
- Consumer Rated As Medium Quality Content
- Consumer Rated As High Quality Content
LEVERAGING MACHINES TRAINED TO IDENTIFY QUALITY CONTENT DRIVES KPIS

Impact of Machine Identified Content | Delta (Test - Control)

- Machine Identified As Low Quality Content
- Machine Identified As High Quality Content

<table>
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<tr>
<td>PURCHASE INTENT</td>
<td>BRAND IS SAVVY</td>
</tr>
<tr>
<td>+3%</td>
<td>+5%</td>
</tr>
<tr>
<td>+8% (Δ)</td>
<td>+8% (Δ)</td>
</tr>
</tbody>
</table>

Machine Identified “Low Quality” Content n=603, Machine Identified “High Quality” Content n=593

Δ = statistically significant difference between test and control groups at 90% confidence
WHILE THERE IS CONSENSUS ON WHAT TRADITIONALLY CONSTITUTES HIGH QUALITY, PERCEPTIONS OF LOW ARE FAR MORE NUANCED

Consumer Perceptions of Content Quality by Machine Identification

- Machine Identified As **Low Quality** Content
- Machine Identified As **High Quality** Content

![Bar Chart]

Q: How would you rate the video you watched earlier, titled ____, on the following attributes? Drag the slider to a point on the scale (e.g. 1: Very low, 10: Very high).

Machine Identified “Low Quality” Content n=603, Machine Identified “High Quality” Content n=593
QUALITY IS IN THE EYE OF THE BEHOLDER

There’s an opportunity to expand definitions of what is traditionally considered “Low Quality” content to include videos that over index on enjoyment and entertainment.

Perceptions Of Machine Identified Low Quality Content Indexed Delta (Consumer Rated High – Consumer Rated Low)

- Enjoyable: 124 vs. 118
- Interesting: 102
- Would Watch Again: 94
- Tailored To Me: 81
- Useful: 81
- Informative: 81

Of consumers have a broader definition of content quality than what is traditionally considered high quality.

Q: How much do you agree or disagree with the following statements about the video titled ____? (% Strongly or Somewhat Agree)

Machine Identified “Low Quality” Content n=603

% Of Content That Machines Identified As Low Quality, But Consumers Rated As High Quality

- No way!
- But it’s great though!

55%

Of consumers have a broader definition of content quality than what is traditionally considered high quality.
CONSUMER POV ON QUALITY IS WHAT MATTERS MOST

When Consumers Define Content More Broadly Than Machines | Delta (Test - Control)

Machine Identified as Low Quality; _______  Consumers Rated as Low Quality  Consumers Rated as High Quality

PURCHASE INTENT

BRAND I PREFER

BRAND I WOULD PAY MORE FOR

To extend reach, brands should consider broadening their perspective on content quality

Machine Identified “Low Quality” Content: Consumer rated Low Quality Content n=138, Consumer rated High Quality Content n=334
Δ = statistically significant difference between test and control groups at 90% confidence
1. Relevancy, a work in progress

The industry needs to continue innovating in order to live up to consumer demands for more relevant ad experiences. “Human in the Loop” is a big step in the right direction as it offers benefits for both consumers and brands.

2. Brands know best

When brands determine the signals used to identify content that makes the most sense for them, misalignment between content and ad is curbed and each ad works to its full potential.

3. Quality is in the eye of the beholder

Marketers have an opportunity to extend reach by rethinking what constitutes content as “high quality”. Low production quality does not equal low quality in the eyes of consumers – especially when the content is enjoyable and interesting.
THANK YOU