Testing Social Media Advertisements for Animal Advocacy

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Executive Summary

We used the Mercy For Animals social media outreach budget to systematically estimate the efficacy of different advertisements on different demographic groups. Based on the click-through rates (CTR: the percentage of impressions resulting in clicks on ads), we observe:

1. **Animal-based** advertisements are more than twice as effective as other types of advertisement, achieving a CTR over 3% compared to just 1.1-1.5% for environment, health, and social adverts.
2. **Females** and **older users** were more likely to click adverts compared to males and younger users, respectively.
3. Specific messages may outperform others within these broad themes. We find that **pigs** were the most effective animal advert (vs. cows, chickens, and fish), **climate change** was the most effective environment advert (vs. land use, water use, and deforestation), and **chronic disease** was the most effective health message (vs. obesity, pathogen contamination, and antibiotic contamination).

The findings can be used to inform social media strategy for Mercy For Animals and the broader animal protection movement.

1. Background

Research on the efficacy of different veg*n advocacy messages has proliferated in recent years, yet there are still significant gaps in our knowledge. Experimental evidence has tended to suggest that animal cruelty messages are more effective at reducing animal product consumption than health- or environment-based messages (Faunalytics, 2012; Humane League Labs, 2014; 2015). However, the details of these different impacts, as well as differential impact for different specific messages within these broad themes, remain relatively unexplored by researchers.

Moreover, many existing studies rely on participants self-reporting dietary change or intentions, and therefore are subject to response biases. In particular, social desirability bias which is known to be an issue in this area of research (Humane League Labs, 2018). Furthermore, some studies sacrifice ecological validity for experimental control, asking participants their preferences in settings which allow for tightly controlled messages, but may be too contrived to represent real consumer decision situations (Humane League Labs, 2018).

Social media testing represents an excellent opportunity to address these shortcomings of previous animal advocacy research. Unlike survey responses which can be contrived, whether somebody clicks an advert is a more **direct measure** of their interest in the message, and an outcome which is directly applicable to the aims of animal advocacy. Social media testing also allows researchers to **precisely define messages and audiences**, testing different approaches for different segments. This is a useful feature for testing animal advocacy messages, since some evidence suggests that younger people tend to be more receptive to ethical or environmental appeals, whereas older people tend to be more interested in health-based messages (Pribis, Pencak and Grajales, 2010).

Mercy For Animals has previously engaged in some form of social media testing, reporting on the features of posts which were most likely to be shared and viewed by many people (Rouk & DeFries, 2018). However, this was limited to optimising shares and impressions rather than engagement with a request, and was based on making content to be shared rather than paid advertisements. This research project will utilise Mercy For Animals' existing social media budget to investigate **which messages on paid adverts result in the most engagement for which audiences**.

2. Approach

2.1 Procedure

We compared the performance of four different Facebook ad campaigns relating to animals, health, the environment, and social norms. Each campaign had a budget of \$500, and targeted audiences across age/sex groups who were not existing supporters of Mercy For Animals directly or through their Facebook page. Therefore, **the audience represented a broad segment of society**, excluding MFA supporters.

2.2 Measures

Here, we compare several outcome measures:

1. **Reach.** The number of unique viewers exposed to the advertisement.
2. **Impressions.** The number of times an advertisement is viewed, including double viewings by the same individual.
3. **Clicks.** The number of times the advertisement was clicked.
4. **Results.** The number of times the advertisement lead to a successful outcome (in this case, signing up to an email list).

We also combine some of these outcome measures to get a picture of overall efficiency. This includes **click-through rate (CTR)**, defined as the percentage of impressions which result in clicks. Similarly, **conversion rate (CVR)** refers to the percentage of **clicks** that end up producing the desired **result**. CTR and CVR, therefore, are measures of ad effectiveness which can be applied across different audience sizes.

2.3 Materials

We tested 12 adverts related to 4 topics: animals (cow, pig, chicken, fish), environment (climate change, deforestation, water use), health (chronic disease, pathogens, antibiotics, obesity), and social (social norm). The full contents of the advertisements are shown in Appendix A.

3. Evaluating messages overall

In the first instance, we evaluated the performance of the ads overall.

As shown, the advertisements with **images of animals achieved the lowest reach and impressions**, even given the same budget. It may be that people are more likely to avoid these images, causing fewer people to interact with the posts and therefore less second-hand exposure to audience members' friends.

Despite this, the **images of animals also achieved the highest number of clicks and results**, with approximately double the number of clicks compared to the next-most-clicked link despite the lower reach.

The **animal advertisement had the highest CTR**, with about 3.0% of those who saw the animal advert clicking on it, compared to just 1.1%-1.4% of those who saw the other adverts. **The animal advertisement also had the highest conversion rate**, with about 58% of those who clicked also signing up to the mailing list, compared to just 39%-42% of those who clicked on the other adverts.

Together, these results show that the **animal campaign was far superior** to the other campaign amongst this audience. Despite having a lower reach and fewer

impressions, this campaign still achieved the best results due to a far higher CTR, and a somewhat higher CVR.

4. Promising messages & demographic groups

We also investigated the effectiveness of the different messages across different demographic groups. For these analyses, although the advertisement sets received the same budget, the specific advertisements within the sets were shown in different quantities to different groups due to Facebook advertising's automatic prioritisation of high-performing ads. Therefore, we only report here the CTR, which is therefore comparable across advert sets despite different audience sizes.

The technical analysis here was performed using multiple linear regression. The dependent variable was CTR, and predictor variables included **age**, **gender**, and dummy variables for **advertisement sets** relative to the reference set (social ads). This method can identify demographic features and advertisement sets which were associated with a higher CTR.

As shown in the regression table, these variables accounted for 28% of the variance in CTR, suggesting that they had a **significant effect** on advertisement success. As shown, factors associated with higher CTRs included being **female**, **older**, and seeing advertisements depicting **animals**.

$F(5,114)=10.321, p<0.001$ $R^2=0.312, \text{Adj } R^2=0.281$		
Variable	Std. β	p
Constant		0.114
Gender*	0.261	0.001
Age*	0.191	0.016
Animals*	0.476	0.001
Environment	0.015	0.911
Health	0.029	0.837

* indicates the variable is a significant predictor of CTR at $p<0.05$

We can represent this more intuitively in a graph. In this graph, we see the **advert topics** represented in the **bar outline colours**, and **age** and **gender** represented as the **colour of the solid bars**. Younger groups are represented in lighter colours, older groups in darker colours, and males and females are represented in blue or red respectively.

Click-through rate for each campaign/group

We can see a relatively high density of darker colours and reds towards the top of the graph, indicating that **older groups and female groups are amongst the most likely to click ads**, while younger people and males are amongst the least likely. We can also see that animal-related adverts tended to be concentrated towards the top

of the graph, indicating that **animal adverts were the most effective** across most groups. In combination, the ad set with the highest clickthrough rate by far was animal adverts shown to **females over the age of 60** - more than 7% of these cases resulted in an ad click, compared to an overall average of about 1.5%.

5. Detailed ad content

In this section, we grouped all of the ads together, and compared CTRs between specific groups across all other conditions. The main purpose was to compare the more detailed ad content within the categories of animal, environment, health, or social messages. We first verify and demonstrate this approach by showing the age- and gender-based differences in CTR shown above.

As shown, we can demonstrate the higher CTRs for **females** and **older people**. Using ANOVAs, we determined that these differences were statistically significant for gender ($F(1,118)=8.597$, $p=0.004$, $\eta^2=0.068$) but not for age groups ($F(4,115)=1.431$, $p=0.228$, $\eta^2=0.047$).

Below, we show the click rate by each ad set, and by the specific content of each ad.

Within each set of advertisements, we can see that the **pig** was the best-performing animal message, **climate change** was the best-performing environmental message, and **chronic disease** was the best-performing health message.

ANOVAs demonstrated a significant difference based on advertisement set ($F(3,116)=10.114$, $p<0.001$, $\eta^2=0.207$), and specific advertisement content ($F(11,108)=4.188$, $p<0.001$, $\eta^2=0.299$).

6. Conclusion

Overall, these analyses suggest that social media adverts for animal protection should **prioritize an animal message** over health, environment, or social messages, and should **favour targeting females and older users**. We hope these findings will be useful for the broader animal protection movement.

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Appendices

Appendix A: Advertisements tested

ANIMALS: Cow

Mercy For Animals ✓
Sponsored · 🌐

...

Most farmed cows in the U.S. live at factory farms, where they suffer mistreatment and painful physical abuse.

FORM ON FACEBOOK

Cows Suffer at Factory Farms

SIGN UP

ANIMALS: Fish

Mercy For Animals ✓
Sponsored · 🌐

...

Most farmed fish in the U.S. live at factory farms, where they suffer mistreatment and painful physical abuse.

FORM ON FACEBOOK

Fish Suffer at Factory Farms

SIGN UP

ANIMALS: Pig

Mercy For Animals ✓
Sponsored · 🌐

...

Most farmed pigs in the U.S. live at factory farms, where they suffer mistreatment and painful physical abuse.

FORM ON FACEBOOK

Pigs Suffer at Factory Farms

SIGN UP

ANIMALS: Chicken

Mercy For Animals ✓
Sponsored · 🌐

...

Most farmed chickens in the U.S. live at factory farms, where they suffer mistreatment and painful physical abuse.

FORM ON FACEBOOK

Chickens Suffer at Factory Farms

SIGN UP

HEALTH: Pathogens

Mercy For Animals ✓
Sponsored · 🌐

...

Studies show that meat and other animal products are major carriers of Salmonella, Campylobacter, and E. coli.

**EXPLORE THE BENEFITS
OF A PLANT-BASED LIFESTYLE.**

**MERCY FOR
ANIMALS**

FORM ON FACEBOOK
**Meat Is Often Infected With
Pathogens**

[SIGN UP](#)

HEALTH: Antibiotics

Mercy For Animals ✓
Sponsored · 🌐

...

Because of antibiotic misuse in farming, animal products are often contaminated with antibiotic-resistant pathogens.

**EXPLORE THE BENEFITS
OF A PLANT-BASED LIFESTYLE.**

**MERCY FOR
ANIMALS**

FORM ON FACEBOOK
**Meat Is Often Infected With
Pathogens**

[SIGN UP](#)

HEALTH: Chronic disease

Mercy For Animals ✓
Sponsored · 🌐

...

Studies show that red and processed meat increase the risk of heart disease and cancer.

**EXPLORE THE BENEFITS
OF A PLANT-BASED LIFESTYLE.**

**MERCY FOR
ANIMALS**

FORM ON FACEBOOK
**Meat Raises Risks of Chronic
Disease**

[SIGN UP](#)

HEALTH: Obesity

Mercy For Animals ✓
Sponsored · 🌐

...

Studies show that high meat consumption is associated with increased BMI, waist circumference, and obesity rates.

**EXPLORE THE BENEFITS
OF A PLANT-BASED LIFESTYLE.**

**MERCY FOR
ANIMALS**

FORM ON FACEBOOK
Meat Is Associated With Obesity

[SIGN UP](#)

ENVIRONMENT: Wastes water

Mercy For Animals ✓
Sponsored · 🌐

...

Animal agriculture is a major drain on fresh water worldwide, directly contributing to water shortages.

EXPLORE THE BENEFITS
OF A PLANT-BASED LIFESTYLE.

FORM ON FACEBOOK
Animal Farming Wastes Water

SIGN UP

ENVIRONMENT: Climate change

Mercy For Animals ✓
Sponsored · 🌐

...

Animal agriculture is a major source of greenhouse gas emissions worldwide, directly contributing to climate change.

EXPLORE THE BENEFITS
OF A PLANT-BASED LIFESTYLE.

FORM ON FACEBOOK
Animal Farming Causes Climate Change

SIGN UP

ENVIRONMENT: Deforestation

Mercy For Animals ✓
Sponsored · 🌐

...

Animal agriculture is a major cause of land-use change worldwide, directly contributing to deforestation and habitat destruction.

EXPLORE THE BENEFITS
OF A PLANT-BASED LIFESTYLE.

FORM ON FACEBOOK
Animal Farming Drives Deforestation

SIGN UP

SOCIAL: Social norm

Mercy For Animals ✓
Sponsored · 🌐

...

As more people switch to meat and dairy alternatives, plant-based diets are more popular than ever before in the US.

EXPLORE THE BENEFITS
OF A PLANT-BASED LIFESTYLE.

FORM ON FACEBOOK
More and More People Now Eat Plant-Based

SIGN UP