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**GROWTH HACK 2:  
HACK 1 EVALUATION & SEO OPTIMIZATION PROPOSALS**

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**Note:**

HC and LO applications are discussed in Appendix J However, some are footnoted in the document to indicate sections of strong usage. These will be linked in the Appendix as well for easy reference.

**Hack 1 Overview**

I AB tested blog post titles on Twitter to determine which engaged users more:



Figure 1: AB Tested Control and Treatment Blog Post Titles

More specifically, I tested the following hypothesis<sup>1</sup>:

# AB TEST HYPOTHESIS

The Twitter post with a number in the image and description will result in a higher engagement rate than the post which excludes a number, because numbers attract more attention and thus engagement.

Here, the engagement rate:

$$\frac{\text{Retweets} + \text{Likes} + \text{Media Clicks} + \text{Link Clicks} + \text{Detail expands}}{\text{Impressions}}$$


Figure 2: AB Test Hypothesis with Formula for Engagement Rate

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<sup>1</sup>#hypothesisdevelopment

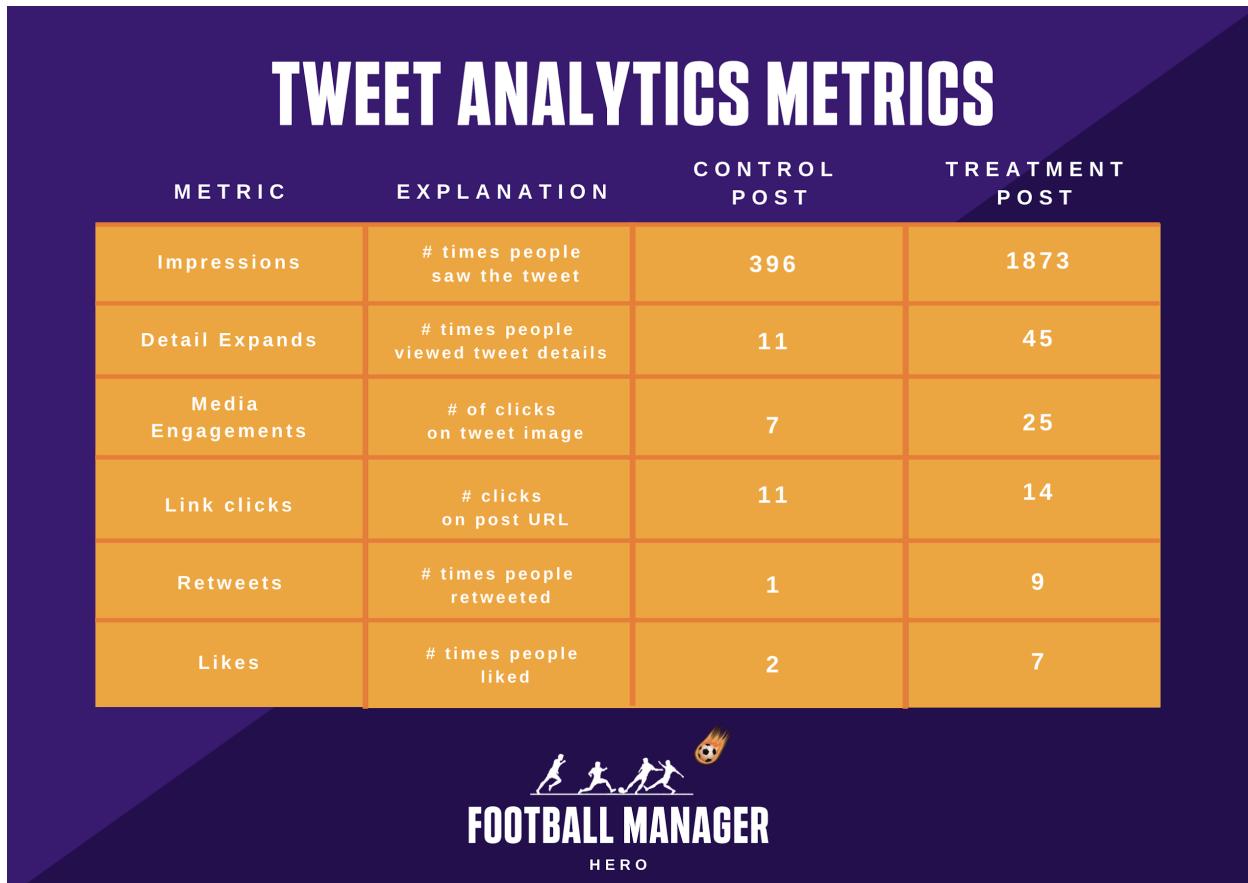
**Results**<sup>23</sup>

Figure 3: Results of the metrics tracked for the computation of the engagement rate.

<sup>2</sup> #metrics

<sup>3</sup>See Appendix A for justification of metrics chosen for tracking. Appendix B also shows images of the the actual results from Twitter



Figure 4: Computation of the Engagement Rate for both the Control and Treatment Post

From Fig4, we see that the control outperformed the treatment, falsifying my hypothesis and suggesting that for the control versus treatment post, more viewers engaged with the post relative to the total number of viewers. However, we must determine if this result is statistically significant:

### Statistical Significance Testing<sup>4</sup>

A chi-squared test was conducted with the following hypotheses:

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<sup>4</sup> Contrary to my proposal, I did not conduct a t-test due to a small sample (6 observations) and a non-normal distribution (see Appendix C). However, I proceeded with the Chi-squared test, given its strengths (see Appendix C)

# CHI-SQUARE TEST HYPOTHESES

**Null Hypothesis (H0)**  
There is no relationship between the engagement rate and the type of post (control vs. treatment). They are independent.

**Alternative Hypothesis (H1)**  
There is a relationship between the engagement rate and the type of post (control vs. treatment).



*Figure 6:* Null and alternative hypotheses for the Chi-square test

Using Python<sup>5</sup>, the following results for the test were obtained:

```
Statistical Significance Results
-----
p-value=0.0342 , significance level=0.05,  $\chi^2 = 4.485$ 

At 0.05 level of significance, we reject the null hypothesis and accept the alternate hypothesis:
"There is a relationship between the engagement rate and the type of post (control vs. treatment)."
```

This suggests the engagement rate differs depending on the type of title.

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<sup>5</sup>A link to the code is provided in Appendix D

From the contingency table below, we note that the control post ‘*engaged*’ more users than expected (32 vs. 23.04), clearly outperforming the treatment. This corroborates the higher engagement rate in Fig4 and drives the chi-squared test conclusion.

Results						
	Control Test	Variant Test				Row Totals
Engaged	32 (23.04) [3.49]	100 (108.96) [0.74]				132
Didn't Engage	364 (372.96) [0.22]	1773 (1764.04) [0.05]				2137
<b>Column Totals</b>	<b>396</b>	<b>1873</b>				<b>2269 (Grand Total)</b>

*Figure 7:* Contingency Table for Chi-square Test showing the observed cell totals, (the expected cell totals) and [the chi-square statistic for each cell]. A positive chi-square value means that the observed value is higher than the expected value, while a negative value means the observed cases are less than the expected number of cases. A cell chi-square value less than or close to 1.0 indicates the number of observed cases being approximately equal to the number of expected cases

### Practical Significance Testing

I also conducted practical significance tests<sup>6</sup> to determine if the difference in engagement rates is actually meaningful:

#### Practical Significance Results

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Degrees of Freedom = 1.0

Cramer's V = 0.0445

Cohen's h = 0.11

Using the rule of thumb for Cramer's V (see Appendix E), we note that 0.0445 indicates a very weak association between the engagement rate and post type. Similarly, Cohen's h<sup>7</sup> suggests a

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<sup>6</sup> This was done in the same Python code used to implement the Chi-squared test. A link is provided in Appendix D

<sup>7</sup> Cohen's h is a statistic for determining the magnitude of the difference between two proportions (Wikipedia, 2020)

minute difference in the engagement rates. Jointly, these indicate that the control's better performance is not very important.

The contradiction between practical and statistical significance makes sense given the large sample of 2269 people, which makes it more likely to find a statistically significant difference, despite a tiny effect size (Armstrong, 2019)<sup>8</sup>.

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<sup>8</sup> #significance:

Zooming into the actual posts' activity, we find interesting insights:



## KEY INSIGHTS

- Despite the control having a higher engagement rate, the treatment had more meaningful interactions: 9 retweets, 7 likes & 14 link clicks, and 7 Medium claps (vs. 1, 2, 11 & 0 respectively)
- The treatment had over x4 more impressions and x3 engagements than the control, most likely due to the higher retweets.
- The higher retweets of the treatment could have done more harm than good to the engagement rate. By retweeters with largely FM-unrelated follower bases propagating the content, the tweet might have been viewed by less relevant audiences, who dilute the engagement rate by contributing to impressions but not engaging.
- The test wasn't independent: I had friends retweet the treatment post and message me asking if I was trying to push content given they had seen the same post (the control) the previous week.
- A few users retweeted both posts indicating there was control-treatment contamination. The exact degree is difficult to determine.
- The treatment post reached a clear member of a relevant target audience: an FM content creator (see *Appendix F*).
- The content creator is a hub in an FM-related network with a size of 305 nodes (at the time of checking), sharing content which a number of nodes engage with. By retweeting my post, he enabled me to reach at least two of his followers (deduced from my post likes, see *Appendix F*), both of which are also FM-related accounts.

Especially important to note is the treatment post reaching a member of a relevant audience: *Football Manager DNA* (herein DNA). DNA is a medium-sized FM content creator and a hub in a small-world network<sup>9</sup> of 305 smaller content creators (< 50 followers) and FM content consumers. He serves as a disseminator of FM-related content within his network, posting majorly about his career and retweeting management advice (my brand's value proposition), which his followers, all FM-related accounts, often engage with. Hence, my management advice content is consistent with what he shares, serving as his primary motivation for retweeting. Also, since his followers engage with such content, they are *Challenge Seekers* (my target audience). By DNA retweeting, my tweet found its way into his network, increasing the chances of it being viewed by members of a relevant audience (including my target audience). This resulted in at least two of his followers engaging with (liking) my content (see Appendix F)<sup>10</sup>.

### **Key Takeaways From Hack 1**

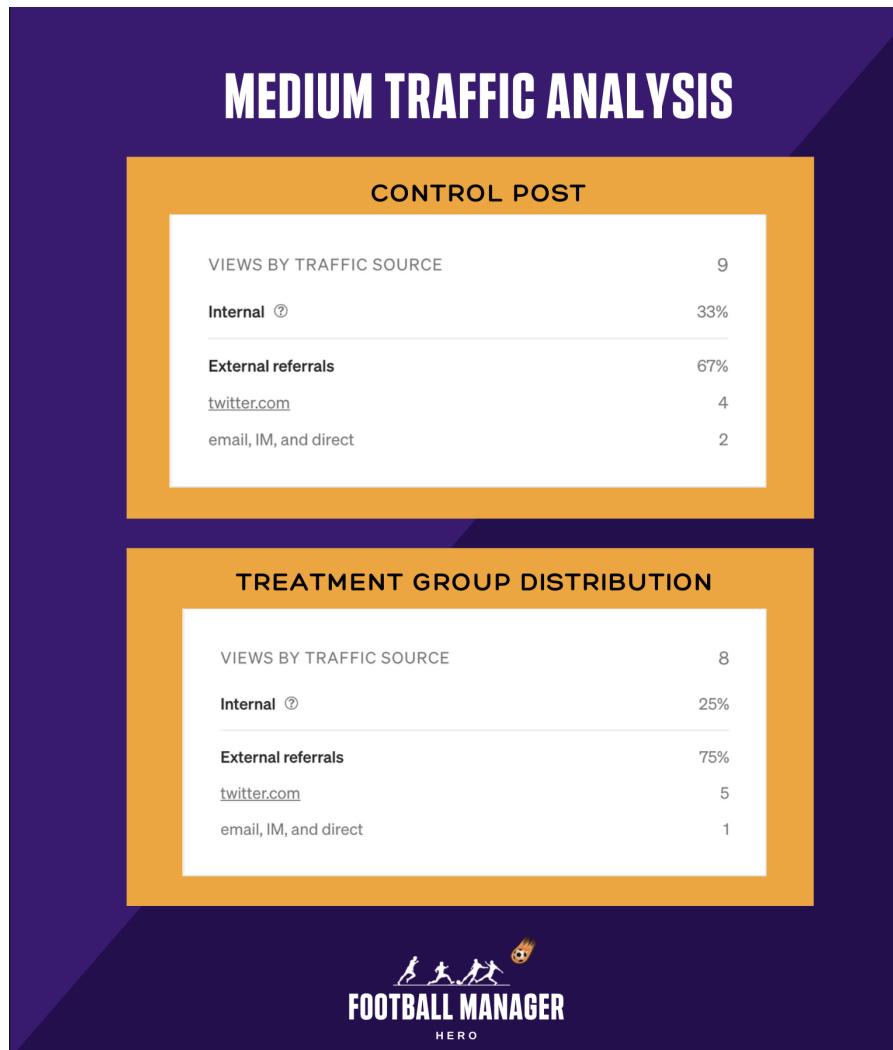
- There is indeed interest in my brand content

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<sup>9</sup>A small-world network has two key characteristics: a short average distance between any two nodes and an above-average level of clustering typically appearing as groups of interconnected nodes (McAllister & Wilkins, 2020).

<sup>10</sup>#propagate

- Most of my traffic came from Twitter, making me very reliant on Twitter traction for customer acquisition and brand relevance.



*Figure 8: Medium Traffic Analysis for Control and Treatment Posts. Internal sources correspond to views from Medium distribution (e.g. homepage, app, emails) while External sources refer to traffic outside of Medium's circulation.*

- The Twitter audience is very diluted resulting in my content mostly propagating to non-members of my target audience. When the content did find its way to an FM-related audience, we saw more (in absolute terms) meaningful interactions (e.g. likes) from members of that audience (see Appendix F).

The above suggests that it might be worthwhile looking for other sources of traffic to my blog to reduce reliance on Twitter for traction. Furthermore, targeting FM audiences specifically might be more effective for achieving my goals of increasing content engagement and acquiring readers as such audiences already have an established interest in FM<sup>11</sup>.

Hence, I look into FM-related groups on Facebook and Reddit as a way to achieve both these goals:

### **Growth Hack 2 Discussion**

After identifying two groups with my target audience members: '[\*FM Brotherhood\*](#)' and '[\*r/footballmanager is back!\*](#)' on Facebook and Reddit respectively, for penetration<sup>12</sup>, I analyzed posts in both groups to inform my content promotion strategy based on what was previously successful. A similar pattern emerged across both platforms: posts with memes were the most

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<sup>11</sup> #iteration

<sup>12</sup> See Appendix G for group selection criteria

successful in engaging my target audience, followed by posts with intriguing occurrences. Posts that simply promoted a channel without were the least successful (see Appendix H).

This motivated a crucial decision on my brand personality:

As evidenced in my initial proposal, I intended my brand to be professional in its interactions with readers to convey expertise and class. However, given the type of posts that are shown to succeed, I decided to pivot to a (FM-relevant) comedic and intriguing personality. I do not foresee any negative consequences as the inclusion of such traits need not alter the level of expertise perceived by readers. By incorporating humour and intrigue, I am more likely to connect with my target audience as these traits will be expressed in ways that relate to *Challenge Seekers'* FM experience and elicit certain emotions such as shock, happiness, etc<sup>1314</sup>.

Building from this, my growth hack involves promoting my content with an FM-relevant meme on both the Facebook and Reddit group. This follows from research that humour is an effective communication tool, that increases customer engagement, especially when embedded in images. Moreover, humorous content is reported to facilitate different forms of sharing (Ge & Gretzel, 2017). The hack's end goal is to determine which platform results in higher engagement from my target audience, thus suggesting the main platform to invest my time and effort in.

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<sup>13</sup> #brandConnection

<sup>14</sup> #audience

**Implementation:****A/B TEST DETAILS**

- Content-promoting post with meme included will be posted on Wednesday, 17th March at 8:00 am
- The post will be posted on both Facebook and Reddit
- Test period on both platforms: 1 week.

Wednesday, 8:00 am PST is selected as the post time because it is reportedly the best time to post in my subreddit based on past posts' success according to Later for Reddit (see Appendix I) and also included in the period reported to be the best for posting on Facebook (see Arens, 2020)



STRENGTHS	LIMITATIONS
<ul style="list-style-type: none"> <li>• Both groups on Facebook and Reddit contain a large number of members, most of whom are members of a relevant audience for my content.</li> <li>• Low cost (read: free)</li> <li>• Sharing of content is really easy thus allowing content to become viral.</li> <li>• Only one difference between A/B test variants (social media platform) to minimize confounds.</li> <li>• The test is run concurrently resolving issues with time bias.</li> <li>• Lower chance for control-treatment contamination as was the case with Growth Hack 1, as we are testing on two different platforms. It, however, is still possible seeing as an individual could very possibly be a member of both groups.</li> </ul>	<ul style="list-style-type: none"> <li>• Strong assumption that the distribution of online users and active users is not different for both platform.</li> <li>• Does not take into account the number of impressions (as the Twitter AB test did), thus not fully conveying how engaging the content was to all viewers of the post.</li> <li>• Short testing period. However, this is fine given a chi-squared test is being utilized for statistical significance testing.</li> <li>• No way to guarantee content stays top of the group in the long run, possibly leading to a bias in engagement in the earlier days.</li> </ul>



Here, the social media platform is the independent variable and as a measure of user interest, I use the composite sum of the bit.ly link clicks, likes/upvotes, shares, and comments as my dependent variable.

## Measurement & Evaluation

I select a composite metric that takes my goals of customer acquisition and engagement into account:

### METRIC TO TRACK

KPI	JUSTIFICATION	TEST	JUSTIFICATION	APPROACH	FLAW
<b>Number of Engagements</b>  Link clicks + Likes + Shares + Comments	Directly measures if the post was interesting enough to make people engage with it both in-app and out of app (through the link to the blog post)	Chi-square Test	A categorical variable can be developed essentially corresponding to the whether an individual engaged with a Reddit post or a Facebook post. For example, the number that did not engage with a Reddit post will be equals to the total sample size minus the total number of engagements on a Reddit post. This is equivalent to the number of engagements with the Facebook post. This results in a trivial case of testing if the proportion of total engagements across both platforms is 50:50.	<ul style="list-style-type: none"> <li>For both the Reddit post and the Facebook post determine the total number of engagements from bit.ly and the platform. This will serve as the value for 'Engaged' for that group</li> <li>Use the value for engaged for the alternative group as the value of 'Not engaged' for both groups</li> <li>Run chi-square test on counts from both groups</li> </ul>	<ul style="list-style-type: none"> <li>Does not take into account the number of people who looked at the post and so the total number of engagements might not be an objective measure of engagement rate.</li> <li>The result of this designed chi-squared test is essentially solely determined by the absolute number of engagements for both platforms, which building on the point above, might not be reflective of the true engagement rate on the platform.</li> <li>There is a chance of contamination between both groups (albeit small I presume) thus potentially violating one of the conditions for the chi-squared test.</li> </ul>

WORD COUNT: 854 words (excluding figure captions, title headings and citations)

## References

Nielsen, J. (2010). *Show numbers as numerals when writing for online readers*. Nielsen

Norman Group.

<https://www.nngroup.com/articles/web-writing-show-numbers-as-numerals/>

Tousley, S. (2020, June 30). *7 social media experiments that grew our traffic by 241%*.

Buffer Resources. <https://buffer.com/resources/social-media-experiments/>

Armstrong, R. A. (2019, April 17). *Is there a large sample size problem?* Wiley Online Library.

<https://onlinelibrary.wiley.com/doi/full/10.1111/opo.12618>

Wikipedia. (2020, October 13). *Cohen's H*. Wikipedia, the free encyclopedia. Retrieved February

28, 2021, from [https://en.wikipedia.org/wiki/Cohen%27s\\_h#Calculation](https://en.wikipedia.org/wiki/Cohen%27s_h#Calculation)

McAllister, E., & Wilkins, J. F. (2020). *Network Analysis*.

[https://course-resources.minerva.kgi.edu/uploaded\\_files/mke/00194835-4581/network-a  
nalysis--1-.pdf](https://course-resources.minerva.kgi.edu/uploaded_files/mke/00194835-4581/network-analysis--1-.pdf)

Ge, J., & Gretzel, U. (2017). The role of humour in driving customer engagement. In

Information and communication technologies in tourism 2017 (pp. 461-474).

Springer, Cham.

Arens, E. (2020, August 3). The best times to post on social media in 2020. Sprout

Social.

<https://sproutsocial.com/insights/best-times-to-post-on-social-media/#fb-times>

## Appendix A

### *Justification of Metrics Chosen for Tracking*

#### **Chosen Metrics**

Metrics believed to indicate direct engagement and allocation of attentional resources to the content of my post (and in extension my post title) were chosen for tracking:

- **Retweets:** This metric indicates that readers found the content of the tweet interesting and beneficial enough to share with their followers. The assumption is that they must have read it to believe it was worth sharing.
- **Likes:** This metric indicates a positive perception to the content of the post. Something about the tweet such as the purpose, title, description, or image, must have caught their attention for them to think positively about the tweet.
- **Media clicks:** The image included in both the treatment and the control post is the same (except for the number in the treatment), and the distribution of online users in both periods is assumed to be the same. Hence, an increased proportion in the media clicks is attributed to the inclusion of a number and indicates that the number in conjunction with the design and post title caught users attention and signalled value to them.

- **Link clicks:** This is the most objective measure of interest in the content discussed in the post. It indicates users found the content discussed in the post valuable enough to leave the site and actually take a look at the Medium post.
- **Detail expands:** This indicates users wanted to read more of the tweet, suggesting that the short excerpt that came up was interesting enough to convince them to view the entire content of the tweet.

### **Excluded Metrics:**

- **Profile clicks:** This has no direct bearing on the content of my tweet but instead points to interest in my account, which for the most part has nothing to do with my Football Manager blog.
- **Hashtag clicks:** This points to interest in the Football Manager game (as all hashtags were FM-related) rather than my posted content specifically.

## Appendix B

### *Results from Twitter*

#### Control Post

Tweet:

Pinned Tweet

Korede  
 @\_KoredeA

So you've selected a small club to manage on Football Manager and you're wondering what next? This post briefly outlines the initial steps you absolutely must take to be a successful lower-league manager.

Check it out!  
[bit.ly/3u17ZQD](https://bit.ly/3u17ZQD)

#footballmanager #FM20 #FM21



INITIAL STEPS YOU  
ABSOLUTELY  
MUST TAKE TO BE A  
SUCCESSFUL  
LOWER-LEAGUE TEAM

FOOTBALL MANAGER  
HERO

ALT

12:40 PM · Feb 15, 2021 · Twitter Web App

## Control Tweet Results:

Impressions	396
times people saw this Tweet on Twitter	
Total engagements	41
times people interacted with this Tweet	
Link clicks	11
clicks on a URL or Card in this Tweet	
Detail expands	11
times people viewed the details about this Tweet	
Media engagements	7
number of clicks on your media counted across videos, vines, gifs, and images	
Profile clicks	6
number of clicks on your name, @handle, or profile photo	
Hashtag clicks	3
clicks on the hashtag(s) in this Tweet	
Likes	2
times people liked this Tweet	
Retweets	1
times people retweeted this Tweet	

**Treatment Post:**

Tweet:

Pinned Tweet

Korede  
 @\_KoredeA

So you've selected a small club to manage on Football Manager and you're wondering what next? This post briefly outlines 3 initial steps you absolutely must take to be a successful lower-league manager.

Check it out!  
[bit.ly/3qHXWxV](https://bit.ly/3qHXWxV)

#footballmanager #FM20 #FM21

3 INITIAL STEPS YOU  
ABSOLUTELY MUST TAKE TO BE A  
SUCCESSFUL LOWER-LEAGUE  
MANAGER

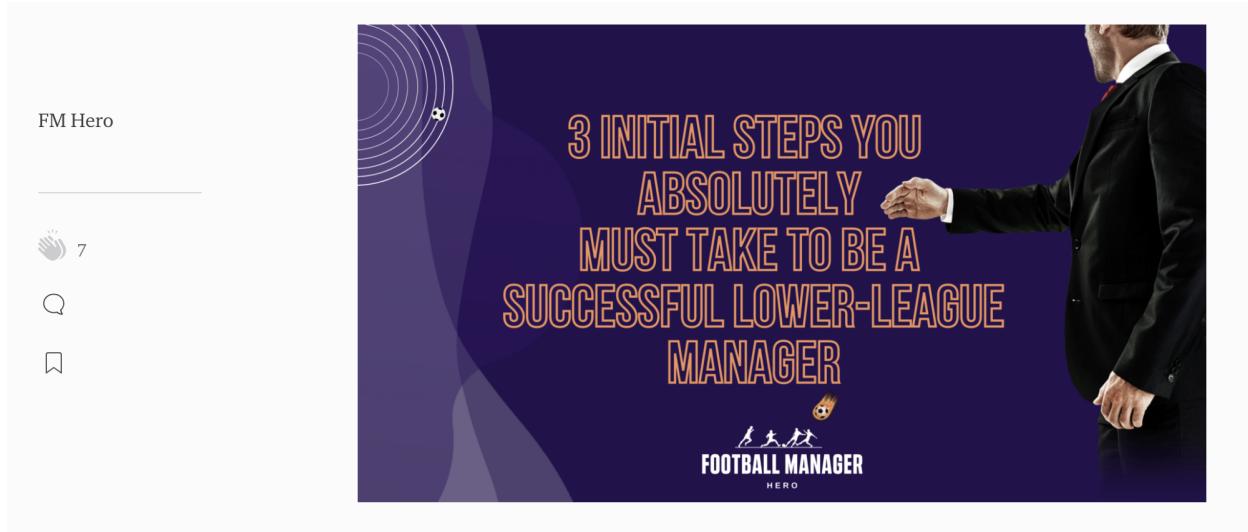
FOOTBALL MANAGER  
HERO

12:40 PM · Feb 21, 2021 · Twitter Web App

Treatment Tweet Results:

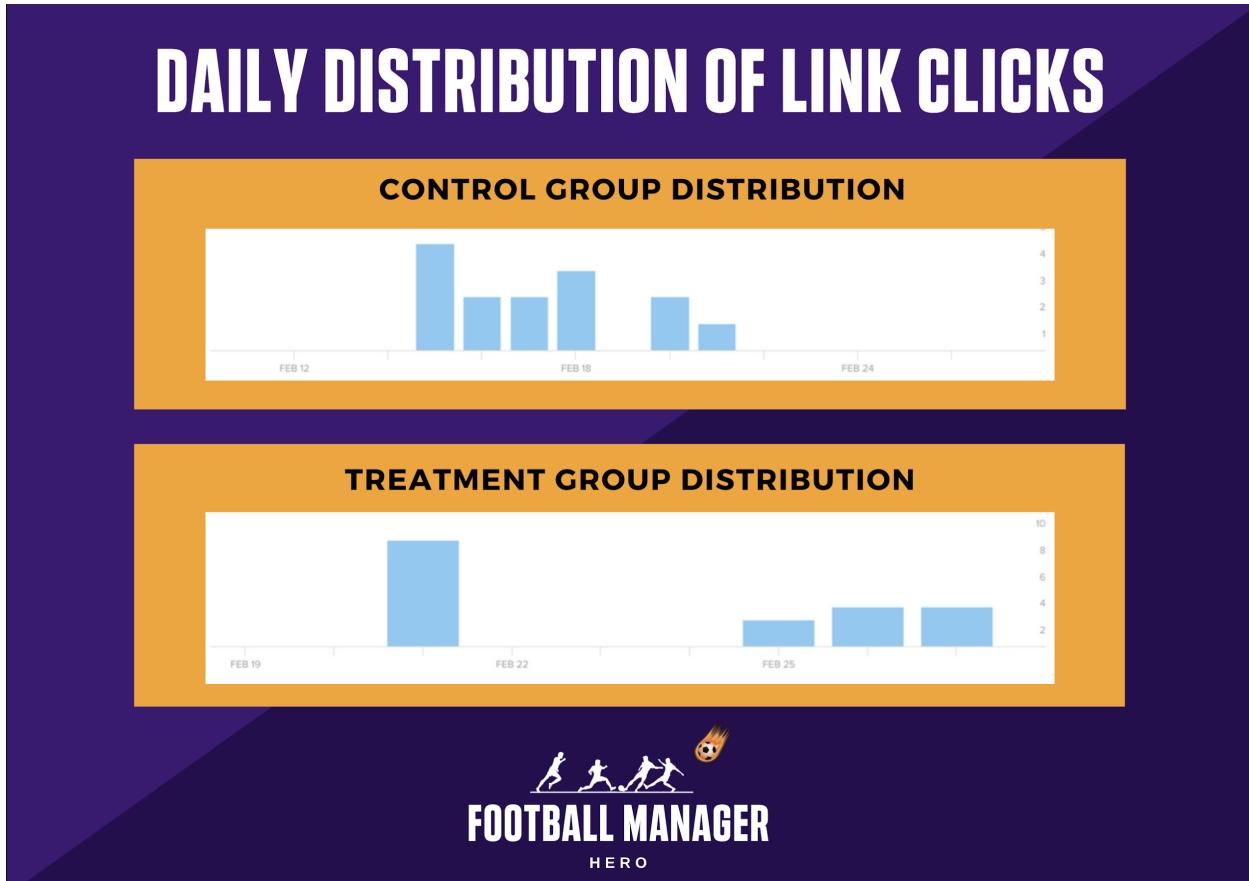
X <b>Tweet Analytics</b>	
Impressions	1,873
times people saw this Tweet on Twitter	
<hr/>	
Total engagements	115
times people interacted with this Tweet	
<hr/>	
Detail expands	45
times people viewed the details about this Tweet	
<hr/>	
Media engagements	25
number of clicks on your media counted across videos, vines, gifs, and images	
<hr/>	
Link clicks	14
clicks on a URL or Card in this Tweet	
<hr/>	
Profile clicks	12
number of clicks on your name, @handle, or profile photo	
<hr/>	
Retweets	9
times people retweeted this Tweet	
<hr/>	
Likes	7
times people liked this Tweet	
<hr/>	
Hashtag clicks	3
clicks on the hashtag(s) in this Tweet	

Medium Claps:



## Appendix C

*Chi-squared Test & T-test*



*Figure 5: Non-normal Distribution of daily link clicks for control and treatment post*

*Strengths and Weaknesses of the Chi-squared Test for Statistical Significance*

# CHI-SQUARED TEST

## STRENGTHS

- Robust with respect to the distribution of the data.
- Does not require equality of variances among the study groups or homoscedasticity in the data.
- The calculations provide considerable information about how each of the groups performed in the study.
- Can be implemented when the sample sizes of the study groups are unequal

## WEAKNESSES

- Sample size requirements
- Difficulty of interpretation when there are large numbers of categories (20 or more) in the independent or dependent variables
- Requires independence of study groups

McHugh (2015)



## Appendix D

[Link to gist containing Python code for statistical and practical significance](#)

## Appendix E

*Rule of Thumb for Cramer's V and Cohen's h*

### Cramer's V

<i>df*</i>	<i>small</i>	<i>medium</i>	<i>large</i>
1	.10	.30	.50
2	.07	.21	.35
3	.06	.17	.29
4	.05	.15	.25
5	.04	.13	.22

Zaiontz, C. (n.d.). *Effect sizes for Cramer's V*. Real Statistics Using Excel.

<https://www.real-statistics.com/chi-square-and-f-distributions/effect-size-chi-square/>

### Cohen's h

$h = 0.2$  is a "small" difference,  $h = 0.5$  is a "medium" difference, and  $h = 0.8$  is a "large" difference (Wikipedia, 2020).

## Appendix F

*FM-Network Related Hub and Follower*

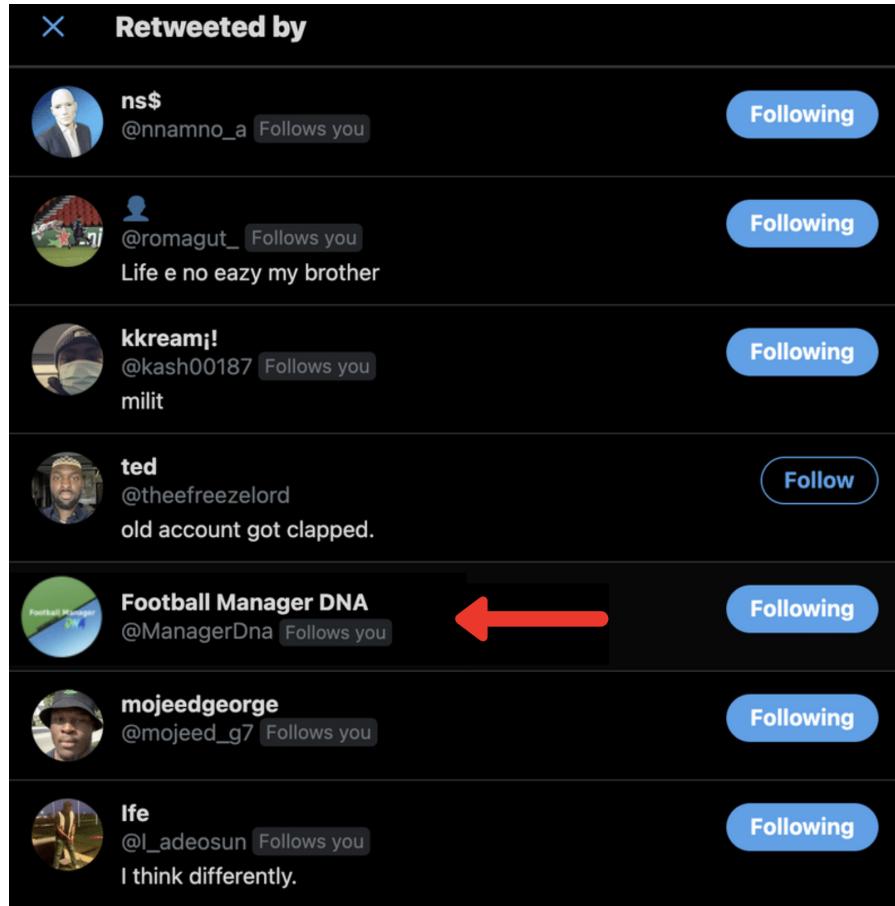


Image showing an FM-content creator (as indicated by red line) who retweeted my treatment

post and followed me (I followed back of course). We also see an account (directly above

*Football Manager DNA*) reached through propagation of my tweet via one of my followers.

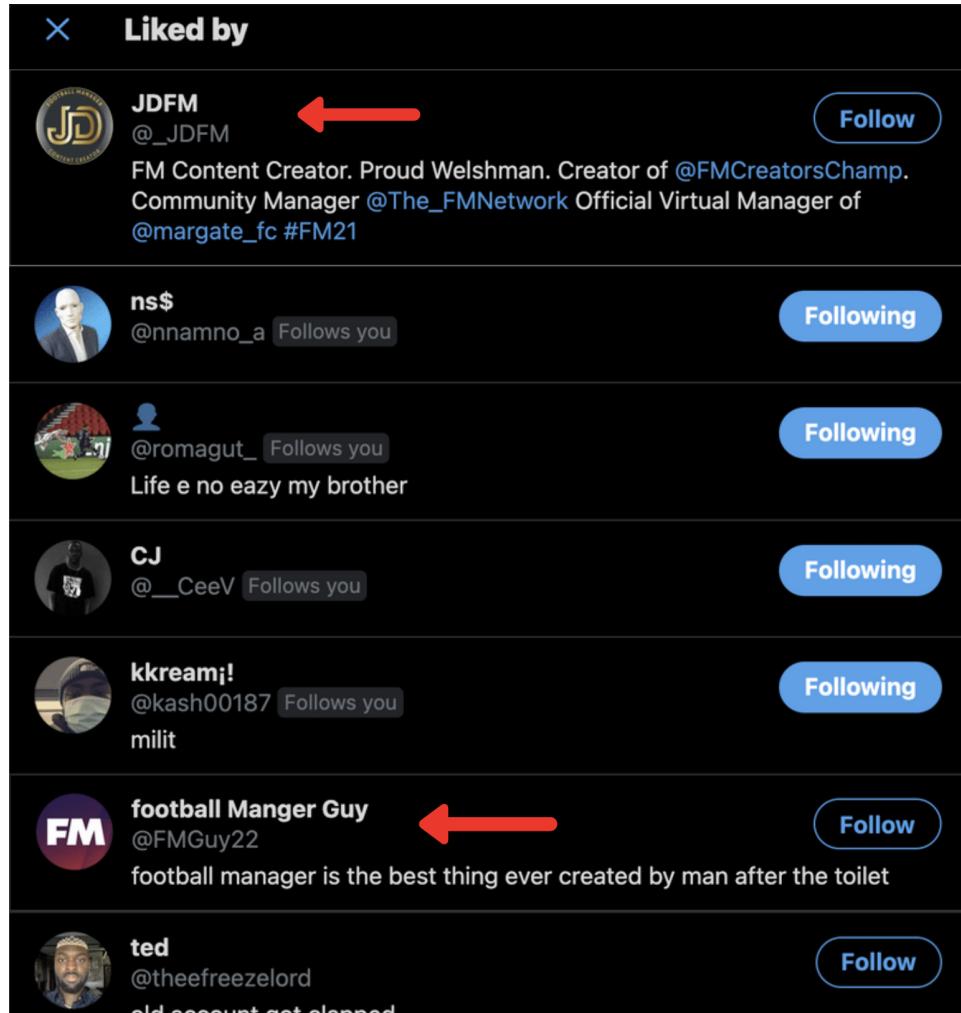


Image showing followers of *Football Manager DNA* (as indicated by the red lines) that liked my post.

**JDFM**  
 @\_JDFM

	Followers you know	Followers	Following
	<b>Eric Laurie</b> @EricLaurie Performance Analyst & Academy Coach @Molde_FK • UEFA B . Performance Analysis Diploma @UnitedCoaches • MSc Football Management • 🇺🇸		<b>Follow</b>
	<b>FmDale</b> @FmDale1 The Twitter home for FMDale! Taking you on a journey through Professional Football Management! Except online, on FM21 aaaand in a Shed! ⚽⚽⚽		<b>Follow</b>
	<b>Football Manager DNA</b> @ManagerDna Follows you Trying to be a Football Manager Content Creator My channel - <a href="https://youtube.com/channel/UCUaTG...">youtube.com/channel/UCUaTG...</a>		<b>Following</b>

Image showing that *JDFM* from the image above follows *Football Manager DNA*. This suggests that he likely came across my post through the retweet by *Football Manager DNA*.

**football Manger Guy**  
 @FMGuy22

	Followers you know	Followers	Following
	<b>Football Manager DNA</b> @ManagerDna Follows you Trying to be a Football Manager Content Creator My channel - <a href="https://youtube.com/channel/UCUaTG...">youtube.com/channel/UCUaTG...</a>		<b>Following</b>

Image showing that *football Manager Guy* from the image above follows *Football Manager DNA*. This suggests that he likely came across my post through the retweet by *Football Manager DNA*.

## Appendix G

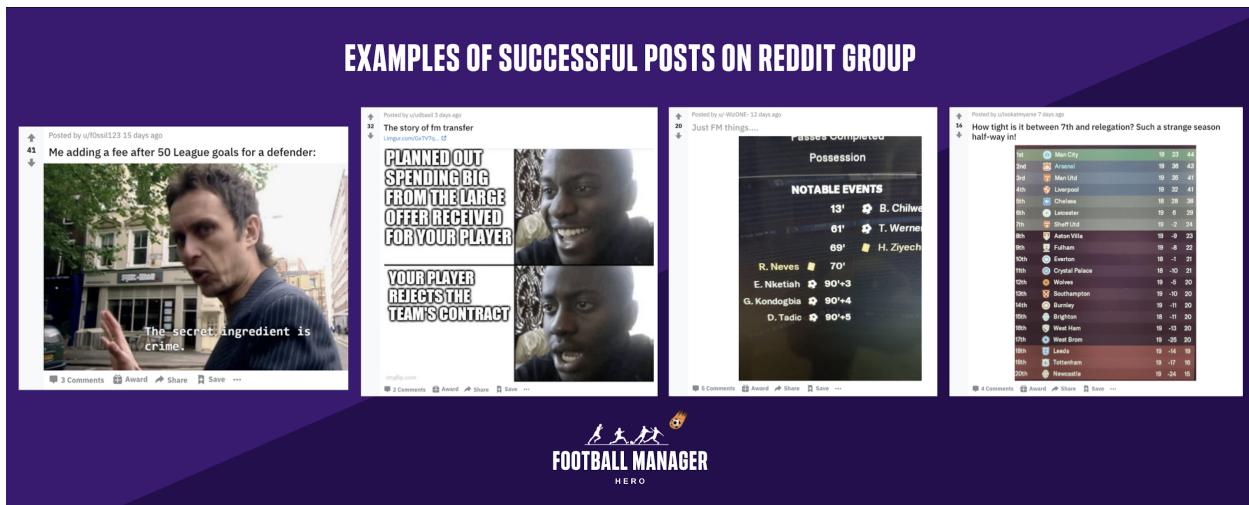
### *Criteria for Facebook and Reddit Group Selection*

- The group should not be for a specific content producer. This increases the chance of the sharing of my promotional content being limited as I am essentially profiting from someone else's follower base.
- A reasonably large number of members
- A decent (and comparable) level of activity in both groups
  - This was indicated by the number of people online and the recency of posts
- Total number of members should be roughly the same across both platforms
  - A significant difference could result in one group having significantly more members to engage with my content and so bias my results
- The same type of content can be posted in both groups
  - Some groups restrict the type of content you can post. If you do post such content, they delete the post or ban you.

## Appendix H

### Sample posts from Reddit and Facebook

#### Reddit:



## Facebook:

I apologise in advance if this comes off as inappropriate. This was the only meme I saw and it helps highlight the trend that memes were most engaged with, followed by intriguing or shocking occurrences.



## Appendix I

### *Screenshot of Later for Reddit Subreddit Analysis*

The screenshot shows the 'Subreddit Top Post Analysis' section of the Later for Reddit interface. On the left, there's a sidebar with links for 'New Post', 'Discover Subreddits', 'Top Post Analysis', 'Sign In with Reddit', and 'Dark Mode: Off'. The main area has a title 'Subreddit Top Post Analysis' and a 'How it works' section explaining the tool's purpose. Below that is a 'Parameters' section with fields for 'Subreddit' (set to 'footballmanager'), 'Vote Threshold' (set to '2'), and 'Period' (set to 'Month'). A note states: 'Select a minimum vote value for a submission to be included in the calculation. [More information](#)' and 'Year-long analysis produces more consistent results, but may not represent shorter-term trends'. A large blue button labeled 'Analyse Subreddit Traffic' is at the bottom of this section. Below this is a 'Results' section with tabs for 'Best Time' (selected) and 'Title Word Analysis'. It displays the message 'Analysed 35 posts from /r/footballmanager in the past month with over 2 points.' Under 'Best Posting Times', three boxes show the most active posting times: 'Wednesday at 8:04 am', 'Friday at 3:31 am', and 'Sunday at 8:29 am', each with a 'Click here to schedule a post' link.

[Site and result link](#)

## Appendix J

### *LO and HC Applications*

- **#hypothesisdevelopment:** I created a testable and evidence-based hypothesis for my AB test, leveraging the measurable metrics of Twitter to improve specificity and testability of the hypothesis. Clear and relevant hypotheses were also specified for my chi-squared test.
- **#testability:** I leveraged accessible Twitter post metrics to create a testable hypothesis, explicitly utilizing words like ‘higher’ to allow for easy falsifiability. I also made changes to the testing material to allow for easy testing of the proposed mechanism: numbers increasing attention (via Twitter reported engagement metrics). This involved making changes to the posts and post titles to isolate any possible difference in the test results to

the inclusion of a number:



- **#metrics:** I accurately calculated the engagement rate metric for Growth Hack 1, justifying all components included in the composite metric in Appendix A. I then utilized the computed results to evaluate my test hypothesis, interpreting the results in terms of my growth goal of engagement. For Growth Hack 2, I indicated and motivated my growth goals of acquisition and engagement, and developed a composite metric that combines these two goals together. The components of this metric are easily measurable across the platforms.

- **#significance:** I accurately calculated and distinguished between tests for statistical (chi-squared test) and practical significance (cramer's v and cohen's h), interpreting the results in the context of my AB test results. I also explained why the difference in the statistical and practical significance is was not surprising: the test had a large sample size.
- **#brandConnection:** I motivated my growth goals of acquisition and engagement, noting that engagement of my target audience across platforms seemed to be motivated by humorous and intriguing content. This motivated my decision to adapt my brand personality and my communication style in my content to be more humorous to better connect and appeal to my target audience.
- **#iteration:** After noting an overreliance on Twitter for traffic and a diluted Twitter audience, I decided to expand to new channels and target more specific audiences as a more efficient growth strategy. Likewise, after noticing what sort of content thrives with my target audience, and evaluating my brand and my content in light of this, I decided to adapt my brand personality and communication style to better appeal to my target audience.
- **#audience:** Noting the dispersal of my target audience on Twitter, I identified other social media channels that my target audience were more active and engaged on and adapt my social media promotional strategy to those channels. I also identified based on past posts across different platforms, what sort of posts Challenge Seekers were receptive to, and

adapted my brand personality and brand promotional strategy. This motivated my decision to include an FM-relevant meme to better catch the attention of members of my target audience in my next growth hack.

- **#interventionalstudy:** I described the design of my AB test, indicating the independent and dependent variables. I also discussed the limitations and strengths of the A/B given the platforms and test metrics being utilized.