



GROWTH HACK 3:
HACK 2 EVALUATION & ALLIANCE PROPOSAL
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Hack 2 Overview

I targeted FM groups on Reddit and Facebook in Hack 2, sharing a [blog post](#) with a meme as an introduction of my brand to both platforms (see Appendix A). Here, the platforms served as the independent variable while the dependent variable was the total number of engagements (sum of link clicks, reactions and comments).

Below I discuss and evaluate the test results, but before doing so, I highlight a complication that arose during the testing phase:

My Facebook post was retracted from the group ([*FM Brotherhood*](#)) on the third day of testing for unknown reasons. As such, there is missing data in the form of reactions to the Facebook post. I bridge this gap using my knowledge of the last known number of reactions to the post: 8 reactions and 1 comment¹. Once the removal of the post was discovered, the Reddit test was immediately stopped to minimize the effect of time bias in the comparison to follow.

¹I am aware this might be a huge worry for *#evidencebased* but it is the best I can do under the current circumstance to run an actual test. I have no reason to prefer one platform to another, hence, no motivation to inflate the values for the Facebook post reported above.

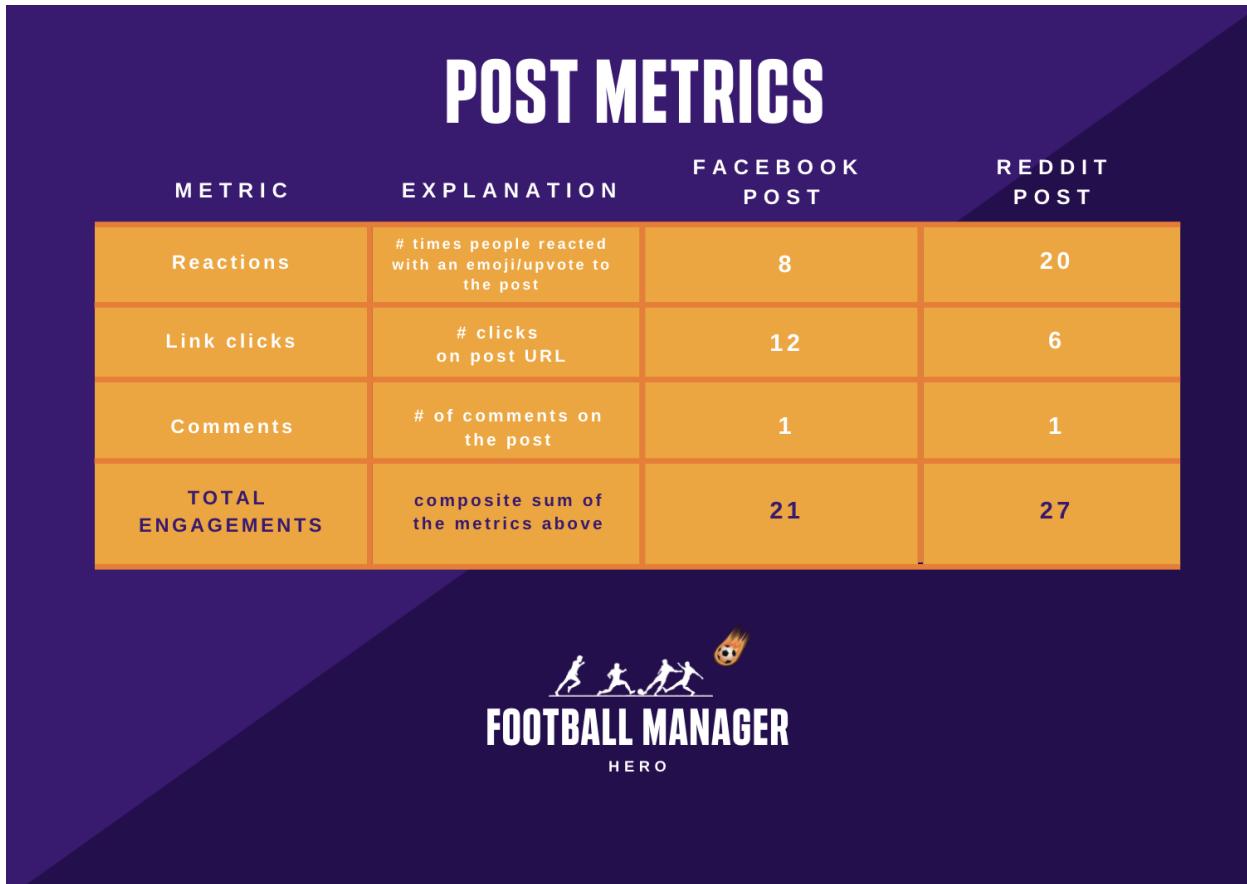
Results:

Figure 1: Results of the metrics tracked for the Growth Hack.

From Fig1, we see that the Reddit post had a higher number of engagements than the Facebook post. However, we must determine if this result is statistically significant:

Statistical Significance

CHI-SQUARE TEST HYPOTHESES

Null Hypothesis (H0)
There is no relationship between the social media platform and the total number of engagement. They are independent.

Alternative Hypothesis (H1)
There is a relationship between the social media platform and the total number of engagement.



Figure 2: Null and alternative hypotheses for the Chi-square test

As discussed in the proposal, the platforms were considered as the two different categories. Thus for the Reddit category the *Engaged* group corresponds to the total number of Reddit engagements while the *Not Engaged* group is the total number of Facebook engagements, and vice-versa for the Facebook category.

Using the Social Science Statistics' Chi-Square calculator, the following results were obtained:

The chi-square statistic is 1.5. The p-value is .220671. The result is not significant at $p < .05$.

This suggests that the total number of engagements does not (reliably) differ based on the platform posted on (Facebook vs. Reddit). More scientifically, we fail to reject the null hypothesis that there is no relationship between the platform and the number of engagements.

This result is not surprising given the closeness of the number of engagements in Fig1. For both groups, the number of engagements was close to the expected value as we see below in the cell chi-square values:

Results						
	Reddit	Facebook				Row Totals
Engaged	27 (24.00) [0.38]	21 (24.00) [0.38]				48
Didn't Engage	21 (24.00) [0.38]	27 (24.00) [0.38]				48
Column Totals	48	48				96 (Grand Total)

Figure 3: Contingency Table for the 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.

As a potential tiebreaker, we narrow into the two types of engagements: platform-specific engagements (reactions and shares) and the number of link clicks².

²This can be done with no concerns as narrowing into the different types of engagements does not violate the sample size requirements of the chi-square test. The conventional rule of thumb is that if all of the expected numbers (here, values in the bracket) are greater than 5, it is permissible to use the chi-square test (Camilli & Hopkins, 1978).

Looking at the former, Reddit more than doubled the number of engagements on Facebook (21 vs. 9) and the result is statistically significant:

Results						
	Reddit	Facebook				Row Totals
Reacted	21 (15.00) [2.40]	9 (15.00) [2.40]				30
Didn't React	9 (15.00) [2.40]	21 (15.00) [2.40]				30
Column Totals	30	30				60 (Grand Total)

The chi-square statistic is 9.6. The p -value is .001946. The result is significant at $p < .05$.

Figure 4: Contingency Table for the Chi-square Test (on the Number of Reactions) 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.

Hence we reject the null hypothesis in favour of the alternative hypothesis that the total number of reactions does differ based on the platform posted on, in favour of Reddit.

Conversely, looking at the number of clicks, Facebook was found to have a higher number of clicks and the difference is also statistically significant:

Results						
	Reddit	Facebook				Row Totals
Clicked	6 (9.00) [1.00]	12 (9.00) [1.00]				18
Didn't click	12 (9.00) [1.00]	6 (9.00) [1.00]				18
Column Totals	18	18				36 (Grand Total)

The chi-square statistic is 4. The p -value is .0455. The result is significant at $p < .05$.

Figure 5: Contingency Table for the Chi-square Test (on the Number of clicks) 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.

However, there is an important potential confounder: the location of the link to the blog post (see first point in Fig6). This makes me skeptical about the fairness of the test and thus the validity of the result.

KEY POINTS & TAKEAWAYS

- The link to the blog post in the Reddit post was placed in the comment section, due to Reddit restricting the posting of a link and an image in the main post at the same time. This could realistically have affected the number of link clicks from Reddit as it takes viewers more effort to actually click the comment section open and then follow the link to the post.
- Unsurprisingly, the rate of interactions with the posts on both platforms was very high in the first two days and dropped afterwards, possibly because the posts were no longer on top of the group feeds. This highlights a unique strength of Twitter: the ability to bring an old post to the forefront of users' feed by retweeting it.
- The removal of my Facebook post also highlights another strength of Twitter: total ownership and control over your post (and experiment). On Twitter, no one has the power to remove or hide your tweet and you still have the opportunity to connect with a significant number of people.
- The change in strategy to a more comedic style seemed to have a really positive effect as the number of reactions I obtained is the highest I found so far for a post that promotes a content creator and/or their content.
- FM players have a very strange sense of humour 😂 I found that meme to be extremely dry. I'm not complaining though! 😅

Figure 6: Key Takeaways From Facebook and Reddit Testing

Taking this narrowed down scope into account might suggest that were it not for the location of the link in the Reddit post, it would have outperformed the Facebook post on both types of metrics (and, in extension, overall). However, this is purely hypothetical. Based on the data we have at hand, it is fair to say that there is no clear winner. To draw a conclusion, we would benefit from a fairer test and possibly a longer test period.

Taking a step back to the motivation for Growth Hack 2³, we evaluate the results in light of the results from the Twitter AB test in Growth Hack 1. For fairness, the same metrics are used⁴:

³As a justification for targeting FM groups on Twitter and Reddit, I hypothesized—in my proposal for the third growth hack—that targeting more specific FM-relevant audiences would be more effective in increasing content engagement and acquiring readers because such audiences already have an established interest in FM (Akande, 2021).

⁴The more successful Twitter post (the treatment post which drew the attention of an FM-related hub) was used as the basis for comparison.

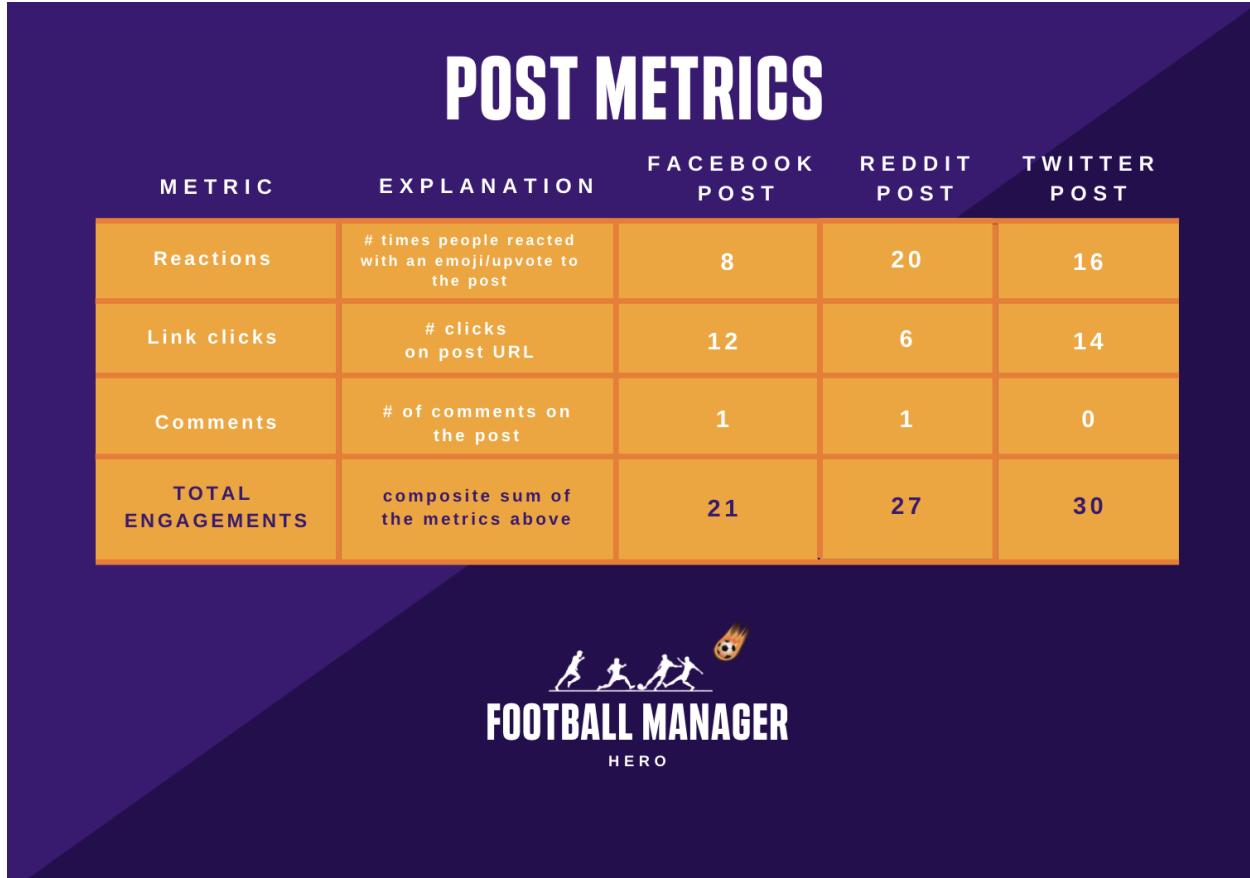


Figure 7: Results of the metrics tracked for Different Growth Hack.

Results						
	Reddit	Facebook	Twitter			Row Totals
Engaged	27 (26.00) [0.04]	21 (26.00) [0.96]	30 (26.00) [0.62]			78
Didn't Engage	51 (52.00) [0.02]	57 (52.00) [0.48]	48 (52.00) [0.31]			156
Column Totals	78	78	78			234 (Grand Total)

The chi-square statistic is 2.4231. The *p*-value is .297739. The result is *not* significant at *p* < .05.

The Twitter post outperformed the Reddit and Facebook posts in terms of total number of engagements, however, the result is not statistically significant. It is also important to note that these were run across different time periods. The Twitter post also had the advantage of running

for longer and being retweeted daily thus increasing the chances of engagement across the longer testing period (see Appendix B)⁵.

A New Approach to Content Promotion on Twitter

The unique strengths and weaknesses of Twitter versus Reddit and Facebook groups, and the key learnings from Fig6 suggests that it might be beneficial approaching Twitter again with a new strategy.

My initial Twitter post had a professional promotional strategy compared to the more entertaining and comedic style implemented on Reddit and Facebook. It might be interesting to see the sort of impact a change in promotional style could have on engagement with my content on Twitter. Additionally, from the Reddit and Facebook tests we saw that there was a lot more initial interest in the post when it was targeted at a relevant audience (unlike in my unspecific Twitter targeting), however, this only lasted for the first few days before the posts were moved down the feed. This suggests two things: specificity (in targeting) does have an impact⁶ and Twitter's ability to sustain content at the top of the feed through retweeting is very valuable.

Combining these learning, a new strategy to content promotion on Twitter might be:

1. *More intentionality in connecting with members of FM-relevant audiences.* This can be achieved by following FM content creators and retweeting their content in a hope to

⁵ **#metrics:** I accurately calculated the total number of engagements for Growth Hack 2, conducting a statistical significance test to determine if the result was significant and interpreting the results in terms of my growth goal of engagement and user acquisition. For Growth Hack 3, I proposed a reasonable metric that serves as a proxy for my growth goal of user engagement. The components of this metric are easily measurable through the Twitter platform.

⁶ Although this wasn't found to be statistically significant it does not rule out the chance of there being an actual effect. Moreover, confounding variables were indicated in the different tests, these could have influenced the results of the statistical significance test.

evoke reciprocation (making them feel they owe a retweet) as outlined in Cialdini (2005).

Such content creators are likely to have members of my target audience in their follower base. Hence, by retweeting my content, they propagate it to members of my target audience.

2. *Creating more mysterious, surprising or comedic content (especially in the promotion of my content) to connect with my audience.* This follows from my findings in the last growth hack of these being more effective at drawing user interest.

With this new strategy, I essentially get the best of both worlds: increase my chances of connecting with specific members of my audience while also increasing the chances of connecting with sparsely connected FM players not embedded in specific networks on Twitter through retweets. In addition, I benefit from the ability to retweet my content daily and also enjoy control over my post as it cannot be deleted as was the case with the Facebook post⁷.

Growth Hack 3 Discussion

A great first step to build more intentional and meaningful relationships on Twitter is to leverage the connection I made with *Football Manager DNA* in my 2nd growth hack through some sort of collaboration. An initial positive sign is that he regularly shares content similar to mine with his network. This suggests an initial fit with regards to the type of content he promotes, which should not come across as inconsistent with his brand to his Twitter followers were we to partner.

⁷ **#iteration:** I leveraged my learning from the Twitter AB test and the Reddit and Facebook posts to develop a new strategy to promote my content on Twitter. This involved evaluating the previous tests in terms of the advantages and disadvantages identified and brainstorming how these learning could be incorporated in future tests.

However, I conduct a more thorough evaluation of the potential benefits and strengths of both parties in the event of an alliance formation:



STRENGTHS FM DNA CAN CONTRIBUTE

- A larger and more established relevant follower base on Twitter.
- A different channel to exploit and draw users in from: Youtube. He appears to have at least 40 dedicated viewers on his channel.
- Skills in video editing and design
- A generally good reputation across platforms
- Connections to other content promoters who often help broadcast his content.
- A different type of content: video rather than text
- Contribute to SEO optimization and increasing backlinks.

STRENGTHS FM HERO CAN CONTRIBUTE

- Exposure on different platforms: Reddit and Facebook. FM DNA is currently only on Youtube & Twitter.
- Contribute to SEO optimization and increasing backlinks to FM DNA's channel
- Provides FM DNA with a chance to contribute to the type of content he very readily promotes.
- Skills in copywriting and visual design
- A different type of content: text rather than videos
- A large group of friends (aka my army), who are always willing to retweet, share and promote content in any way, thus increasing the chances of propagating to people who are actually really interested in the content.

For FM DNA, an alliance majorly serves as a way to introduce his brand to new audiences and avenues such as Reddit and Facebook (thus increasing the chances of more Youtube subscribers). There's also the added benefit of increasing backlinks to his channel and contributing to creating the type of content he shares. DNA also seems to have a strong interest in promoting other brands as he regularly has tweets (such as the below) on his profile:

Football Manager DNA @ManagerDna · Mar 5
Here are some FM21 Youtubers with under 50 subs that i like to watch. Go check them and out and Sub if you like what u see.

Chris HFM - youtube.com/channel/UC5lL...

AndrewPlaysFM - youtube.com/channel/UCyIXh...

VeggieHotDug - youtube.com/channel/UCxyCp...

xMurph14 - youtube.com/channel/UCVH4O...

1 6 8

Football Manager DNA @ManagerDna · Mar 5
4 more tomorrow.... would of done 1 post but couldnt fit them all in. Lets grow together.

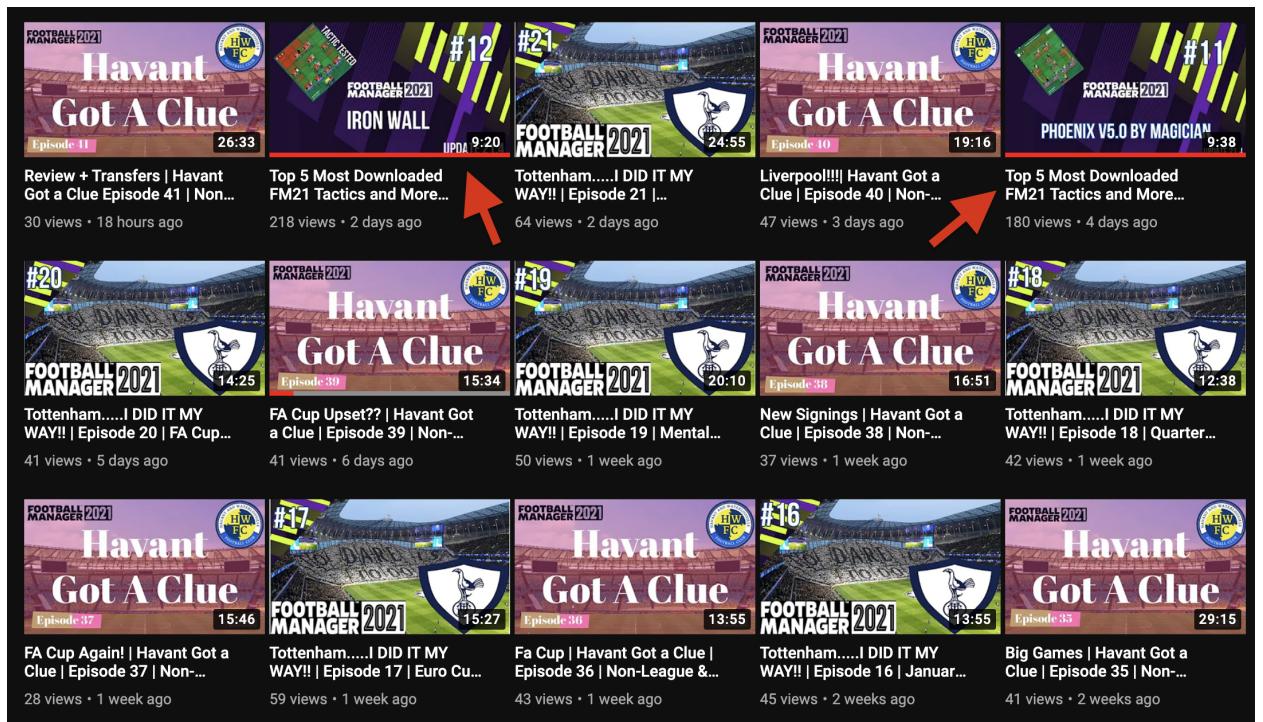
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Thus, he might be open to growing together through a collaboration.

For FM Hero, the major benefit of an alliance/collaboration is increased visibility and entrance into an FM-related network by leveraging DNA's larger network. This serves as a great way to acquire relevant users to the blog.

Asides consistency in shared content, it is also important to consider other facets of brand fit:

- **Brand Personality:** After analysing FM DNA's [Twitter](#) and [Youtube](#), he appears to have a very helpful and supportive persona (as you might expect from the above post) as well as an adventurous side. He often posts videos where he tries [unconventional tactics](#) (e.g. strikerless) on his teams (one being a lower league team!). This adventurous side—manifested through trying tactics people normal would not—is congruent with the personality of *Challenge Seekers* as outlined in my brand proposal. In line with my hypothesis that *Seekers seek* adventure, his videos on unconventional tactics have had the most views and likes so far on his channel:



- **Messaging:** His messaging (here referring to his Youtube videos) often comes off as positive and excitement-filled and this energy tends to channel to his viewers based on their comments.

Following this evaluation, FM DNA appears to be a good fit not just in terms of the content he develops and promotes, but also in terms of his brand personality. His adventurous brand personality fits well with my decision to pivot to a more comedic and/or adventurous personality in the last growth hack. However, his style of messaging does appear to be different from mine (which is typically more playful and interactive). Nonetheless, the type of message (adventurous content) he conveys should adequately align his brand with mine.

Overall, I anticipate consumers perceiving a collaboration as a good fit and evaluating the partnership positively, drawing users and engagement for both parties.

Considering potential disadvantages, the only one I could foresee could be tarnished image due to a poor perception of one of the brands by members of the target audience. However, to the best of my knowledge (based on post reactions and comments), I have a pretty good brand perception among the few people that have engaged with my brand. Similarly, *FM DNA* appears to have a really good reputation: very few dislikes on his Youtube videos and a decent amount of positive reactions on his Twitter page⁸:

⁸ **#alliances:** I pointed out the strengths and potential disadvantages of an alliance with FM DNA, narrowing into the specific strengths for both brands to determine which strengths could be combined to create an alliance which is greater than the sum of its parts. I also provided justifications for why FM DNA might be interested in an alliance and evaluated his brand against mine in terms of brand fit to conclude on if an alliance would be beneficial.

Gaming Infinity 2 days ago
Hello my friend
Thank you for sharingA big like posed👍 3
Have a good day and see you soon

Agent JDB3 2 days ago
James Ward-Prowse's stats look great! I would always try to min-max the stats on my characters on sports games like these lol full watched bro!!

Meli Playful 2 days ago
My 👍 is yours.

Don Mysterion Gaming Experience 2 days ago
Amazing Game Play. Left a massive Like.

N7 SOLDIER 2 days ago
First. 😊 🎉

What Type of Alliance?

Based on the difference in platforms currently operating on and the medium of messaging (video vs. text), a collaboration (where we both maintain our unique identities) with cross-promotion and content placement seems ideal.

A reasonable way to introduce the collaboration is through guest presentations. This is indeed a perfect opportunity as the next post in my series addresses tactics and formations, a topic which FM DNA has clearly been experimenting with on his channel! I envision a two-part series on tactics and formations on my blog, with the first post discussing more stable and conventional tactics that FM players could implement in their small teams. FM DNA could then feature as a

guest writer on the second post and address unconventional tactics for small teams and their respective pros and cons. To complement this post, we could jointly create an unconventional tactics video on his YouTube channel as I have also had my fair share of strange but effective formations.

Growth Hack 3 Discussion:

As discussed above, in my next growth hack, I invite FM DNA to write a blog post on my Medium channel related to unorthodox tactics for lower league teams. This aligns perfectly with his YouTube content as he has tried various unorthodox tactics with small teams on his channel.

Building on the positive reactions on the unorthodox formations on DNA's channel and the unique adventure-seeking trait of members of my target audience, I anticipate Challenge Seekers being drawn to the posts and videos as it targets a relevant aspect of their identity: their desire to try new things fast to achieve quick success. It also has the added advantage of portraying my brand as adventurous to members of my target audience, especially newcomers, which can be the basis for them subscribing to my blog.

Aside from the actual content resulting in associating my brand with adventure and exploration, there is another mediating source in the brand anchoring effect, which could be especially prominent in FM DNA's network. Studies by Esch et. al (2009) found that high awareness brands typically serve as anchors for consumers when forming impressions about co-branded entities (including brand personality characteristics as well as specific brand-related attributes) and this results in spillover effect for both partner brands (with varying degrees for each) (Simonin & Ruth, 1998).

Hence, given individuals are likely more aware of FM DNA than FM Hero, we can expect DNA's dominant trait of adventure to become associated with the collaboration and as a consequence, reinforce the image of my brand as an adventurous one in the semantic network of members of my target audience. This association should result in increased attraction of members of my target audience to my content⁹¹⁰¹¹.

Hack Design

To ensure the blog post is consistent with my brand image, I will provide guidelines for writing which I will suggest he adhere to. I will also review and edit the post before it is published, checking in with him to ensure changes made are fine with him. When fine tuning the post, I will especially try to incorporate comedic or surprising aspects in the post (for example, screenshots of the success he has had with the tactics he is writing about) to ensure that the article draws and sustains users' interest. Again, this follows from evidence on my audience's interests and preferences with regards to the content they interact with.

Here, the previous Twitter post which FM DNA did not engage with will be utilized as the control post. Hence, I try to control for as many confounding factors a possible

⁹#underlyingPsych: The effect of brand anchoring on consumers' perception of a brand alliance and the relevant brand partners was leveraged as a means to build a connection of adventure (via FM DNA) with my brand in the mind of members of the target audience. This serves as proof of one of the values of the alliance and for why the alliance can serve as a source of future engagement and user acquisition for my brand.

¹⁰#brandconnection: I highlighted my growth goals of user acquisition and engagement throughout the paper and pointed out how an alliance with FM DNA (through the chosen content for joint development) would connect with members of my target audience by virtue of appealing to an aspect of their identity.

¹¹#audience: I kept in consideration my learning from the last growth hack on what sort of content members of my target audience like to engage with and used this to refine my new Twittter strategy as well as any post that FM DNA will be creating in the future. This ensures that the content developed resonates with the users.

TEST DETAILS

- Edited and revised post by FM DNA will be posted at 9:00 am on Wednesday, the same day and time the control was posted.
- Retweeted each day at 9:00 am for one week
- Test period on both platforms: 1 week.
- FM DNA will be encouraged to regularly share the post with his network to increase the number of views and reads and increase the chance of the content reaching new members of our target audience through retweets.
- The post will be shared with a shocking tactic as the image to build mystery and shock in viewers of the post and as a result draw readers in



<p>STRENGTHS</p> <ul style="list-style-type: none"> Twitter has a large userbase and members of the target audience are present on the platform. Hashtags can be used to connect with members of the target audience (this will be carried out as it was implemented in the control post) Low cost (read: free) Sharing of content is really easy thus allowing content to become viral. People are generally very active on Twitter (see point 5 in Limitations) 	<p>LIMITATIONS</p> <ul style="list-style-type: none"> Test is not run concurrently. The control post and treatment post were run across two different time periods. This could introduce potential bias in the results. I, however, try to control for other factors and time (e.g. time of day and day of the week as much as possible). Strong assumption that the distribution of online users is not different between the testing period for the control group and that of the treatment. This seems like a plausible assumption given that Twitter is considered a daily usage app with 46% of users logging in daily and 71% accessing Twitter at least weekly.
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Measurement & Evaluation

Given that my overarching goal is customer acquisition, I select an acquisition metric to track over time. The same acquisition metrics that were implemented in the control test are also selected for monitoring here so the two tests can be compared fairly:

METRIC TO TRACK					
KPI	JUSTIFICATION	TEST	JUSTIFICATION	APPROACH	FLAW
Number of Engagements Link clicks + Likes + Retweets + 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 the control post or the treatment post. For example, the number that did not engage with the control will be equals to the total sample size minus the total number of engagements from the control post . This is equivalent to the number of engagements with the treatment. This results in a trivial case of testing if the proportion of total engagements across both posts is 50:50.	<ul style="list-style-type: none"> Using Twitter's tweet analytics, determine the total number of engagements from bit.ly and the platform. This will serve as the value for 'Engaged' for the treatment group Use the value for engaged for the alternative group as the value of 'Not engaged' for both groups Run chi-square test on counts from both groups 	<ul style="list-style-type: none"> There is a chance of contamination between both groups thus potentially violating one of the conditions for the chi-squared test.

References

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Appendix A



Posted by u/FM_Hero 2 days ago



Transfers in the Lower Leagues are Overrated. Click my post in the comments to see what to do instead!

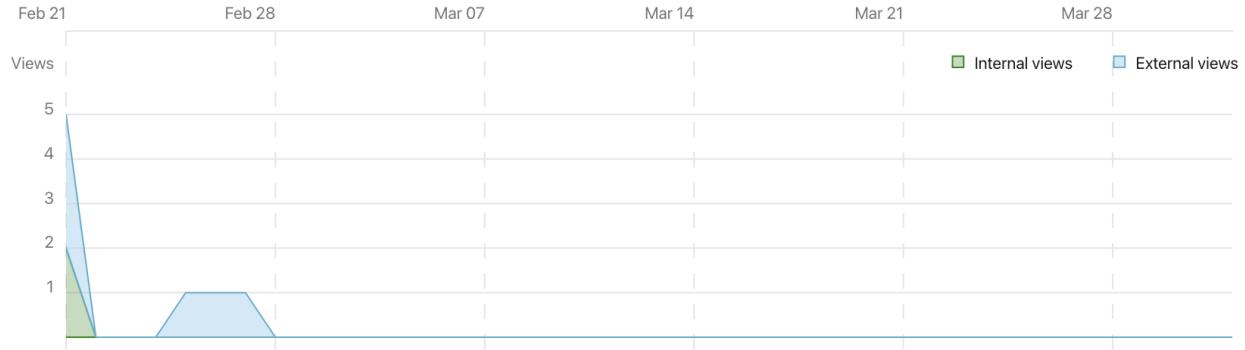


2 Comments Share Save ...

Reddit Blog Post With Meme. The link to the blog post was included in the comments due to Reddit restricting the posting of images and links in the main post at the same time.

Unfortunately, the Facebook post was deleted before I could get a screenshot of it

Appendix B



Distribution of Twitter Post Link Clicks Across the Testing Period. We see that the link clicks were distributed across the testing period, although most of the clicks occurred on the first day. This differs from the Facebook and Reddit posts which seem to have stagnated by the third day (although this cannot be concluded with certainty for the Facebook post). The Reddit post did not gain any more interactions after the third day despite the test being left to run.

Note: The Reddit test was left to run, but the results after the first three days were not factored in to minimize time bias when comparing with the Facebook post!