

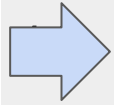


MARKET FLASH REPORT

Heike Reichert, March 2025

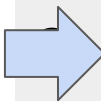
Content

- ➡ Market Flash Project - introduction and objectives
- ➡ Database definition - ERD
- ➡ Database Creation in Beekeeper studio with SQLite
- ➡ Tableau Dashboard - Usage and Logic
- ➡ Links to deliverables - Lucidchart, SQL code with screenshots, Tableau dashboard, video)
- ➡ Backup Slides



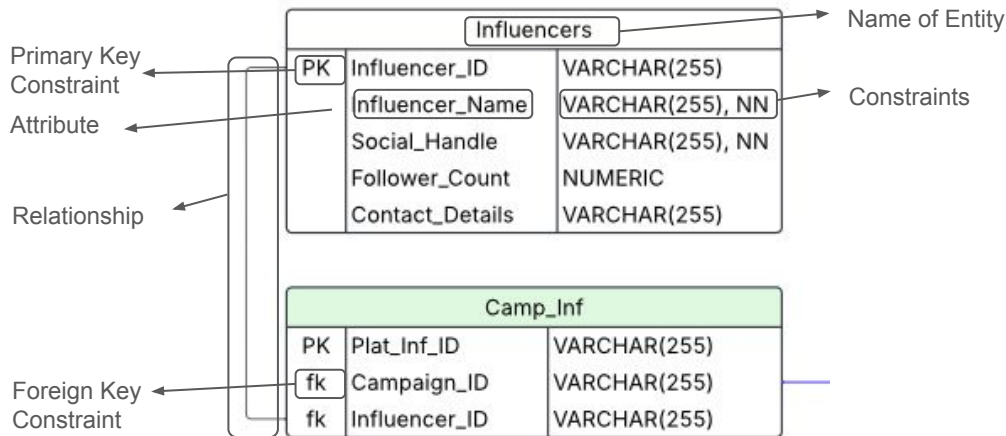
Market Flash Project

- Market Flash is a growing marketing startup
- Currently all data is in one spreadsheet which is not sufficient any more.
- Next Steps:
 - Designing a database: Functional Entity Relationship Diagram (ERD)
 - Creation of tables with mock data in Beekeeper Studio using SQLite
 - Creating a dashboard in Tableau



Database definition (ERD)

- Specification of Entities:



- Normalization

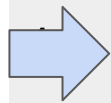
- No multiple values in one field
- Unique identifier
- Removal of transitive relationships
- Removal of redundancies

- Types of Relationship:

- 1:1
- 1:many

- Many to Many Relationships:

- Creation of an addition “linkage” entity
- Relationship 1: many
- Example: Camp_Inf: connecting Influencers and Campaigns
 - One influencer may be hired for **one or more** campaigns and one campaign may use **one or more** influencers.



Database Creation in Beekeeper Studio

- Utilizing functional ERD specification

```
--Create Table Influencers
CREATE TABLE Influencers(
    Influencer_ID VARCHAR(255) PRIMARY KEY,
    Influencer_Name VARCHAR(255) NOT NULL,
    Social_Handle VARCHAR(255) NOT NULL,
    Follower_Count NUMERIC,
    Contact_Details VARCHAR(255)
);
```

- Adding mock data

```
INSERT INTO Influencers
VALUES
('I01','Albert','Al@ffff',456,'Am Berge 20, Xstadt'),
('I02','Emil','El@ffff',12456,'Hellweg 2, Yvillage'),
('I03','Anna','An@hijkl',123456787,'anna@hier'),
('I04','David','Da@f5667',6788976665,'keine Angabe'),
('I05','Albert2','Al2@ffff',3,'db@here'),
('I06','AlbertEinstein','Ael@ffff',1456,'Am Berge 222, Xstadt'),
('I07','EmilunddieDetektive','Eldet@ffff',6712456,'Hellweg 222, Yvillage'),
('I08','Anna500','An500@hijkl',999123456787,'anna@hier'),
('I09','Davidr','Da@rf5667',886788976665,'keine Angabe'),
('I10','Albert25','Al25@ffff',63,'db@here')
;

Select * from Influencers;
```

Database Creation in Beekeeper Studio (cont.)

- Checking database functionality
 - joins

```
/* 8. Advertisements - campaign - platforms - clients - employees */
select *
from Campaigns c
left join camp_plat cp on c.Campaign_ID = cp.campaign_ID
left join Platforms p on cp.platform_id = p.Platform_ID
left join Advertisements a on a.Platform_ID = p.Platform_ID
left join clients cl on cl.client_id = c.Client_ID
left join employees e on e.employee_id = c.Employee_ID
;
```

- Available Entities:

ENTITIES 12

- > Advertisements
- > Camp_Inf
- > Camp_Plat
- > Campaigns
- > Clients
- > Contents
- > Departments
- > Employees
- > Influencers
- > Metrics
- > Payments
- > Platforms

Campaign_ID	Campaign_Name	Start Date	End Date	Budget	Client_ID	Platform_ID	Employee_ID	Client Name	Platform Name	URL
001	Campaign1	2023-01-01	2023-01-01	2500000	01	01	0100	MyCo	MyCo	https://www.myco.com
002	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
003	Campaign1	2023-01-01	2023-01-01	2500000	01	01	0100	MyCo	MyCo	https://www.myco.com
004	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
005	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
006	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
007	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
008	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
009	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
010	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
011	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
012	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
013	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
014	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
015	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
016	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
017	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
018	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
019	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
020	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
021	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
022	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
023	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
024	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
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027	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
028	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
029	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com
030	Campaign1	2023-01-01	2023-01-01	1500000	01	01	0100	MyCo	MyCo	https://www.myco.com

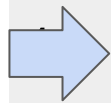


Tableau Dashboard - Usage and Logic

- Individual Visualizations are ordered from left to right and top to down
- Main KPIs at the top for a quick reference and quick decision making
 - can be selected at right side in filter and legend area to filter visualizations for more detailed information
- Time analysis of Views, Clicks, Likes and Conversions to easily detect any mismatch in behaviour
- Engagement comparison over Time to track whether engagement is increasing, stable, or declining.
- Main metrics by Location to identify any high-performing regions or market expansion opportunities
- Platform analysis to track main metrics per channel
 - Identifies high-performing platforms where more budget should be spent.
 - Shows where different audience segments engage the most.
 - Reveals which platforms drive the most conversions vs. just engagement.
- Demographic analysis
 - Identifies the best-performing audience segments for future campaigns.
 - Optimizes Ad Spend by Audience
- Most Active Days
 - Helps determine the best days to launch, boost, or adjust campaigns.
 - Different age groups and demographics may engage more on specific days.
- Filters, parameters and color legends on the right side for easy access
 - Same colors for visualizations



Market Flash Analysis

Conversions

510K

Total Clicks

2.607K

Total Likes

5.049K

Total Views

50,40M

Total Expense

\$ 24.893K

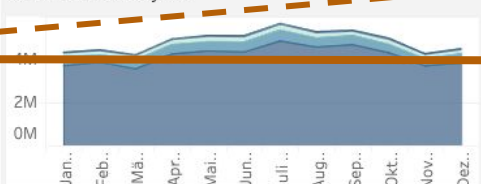
Avg. Cost/Click

\$ 20,7

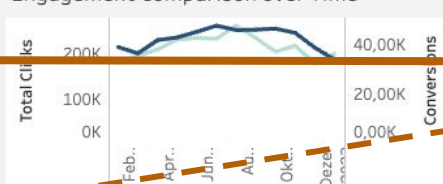
Avg. Cost/Convers.

\$ 17,39

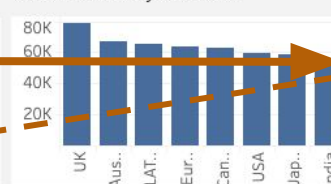
Auc - Time Analysis



Engagement Comparison over Time



Conversions by Location



Color Legends

Metrics for Time Analysis

- Conversions
- Total Clicks
- Total Likes
- Total Views

Engagement

- Conversi...
- Total Clic...

Heatmap

5.822 16.454

Platform

- TikTok
- Facebook
- YouTube
- Email
- Instagr...

Filter

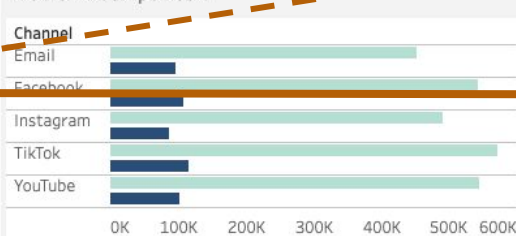
Metrics

Conversions

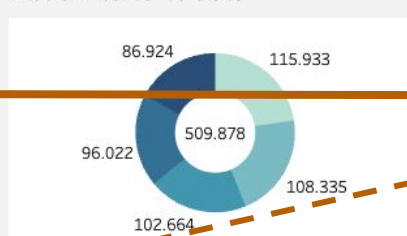
Demographic choice

Gender

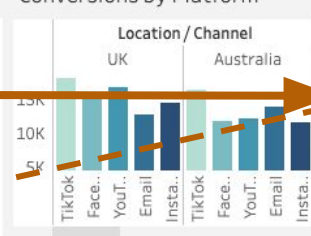
Platform Comparison



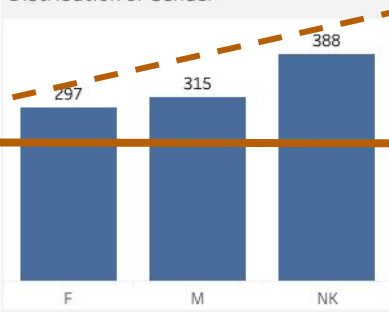
Platform vs. Conversions



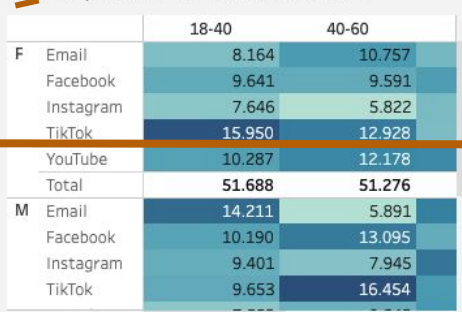
Conversions by Platform



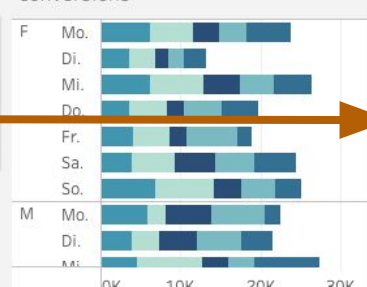
Distribution of Gender

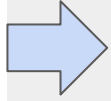


Heatmap for Platform and Conversions



Most Active Days by Gender - Conversions





Links to deliverables

- SQL code with screenshots

<https://docs.google.com/document/d/1Gni5Mp2Jew4QvwfDKkycXp90986aXYCBg7ZAx4Agsq4/edit?usp=sharing>

- Tableau Public:

https://public.tableau.com/views/MarketFlash_17424097216220/Dashboard1?:language=de-DE&:sid=07F5136462294646A85B7A861AAF970F-0:0&:redirect=auth&:display_count=n&:origin=viz_share_link

- Lucidchart

https://lucid.app/lucidchart/6f564b13-5d9a-491d-8f4f-94a1411883ca/edit?viewport_loc=-389%2C-1065%2C2689%2C1364%2CrJ81TqOTb5TR&invitationId=inv_fd524a2e-ac65-40a8-86f6-d14e3e118e7e

- Video

<https://www.loom.com/share/0b9f8865155b4b68b5312f583d9cc08b?sid=b6ef99d5-54c5-4261-9763-76c2cb38cd2c>



THANK YOU!

Backup Slides

Influencers		
PK	Influencer_ID	VARCHAR(255)
	Influencer_Name	VARCHAR(255), NN
	Social_Handle	VARCHAR(255), NN
	Follower_Count	NUMERIC
	Contact_Details	VARCHAR(255)

Camp_Inf		
PK	Plat_Inf_ID	VARCHAR(255)
fk	Campaign_ID	VARCHAR(255)
fk	Influencer_ID	VARCHAR(255)

Clients		
PK	Client_ID	VARCHAR(255)
	Client_Name	VARCHAR(255), NN
	Address	VARCHAR(255), NN
	Email	VARCHAR(255), NN
	Phone	VARCHAR(255), NN
	Contact_Details	VARCHAR(255), NN
	Industry	VARCHAR(255)
	Contact_Start_Date	DATE
	Contact_End_Date	DATE

Contents		
PK	Content_ID	VARCHAR(255)
	Title	VARCHAR(255)
	Description	VARCHAR(255)
	Media_Type	VARCHAR(255)
	Creation_Date	DATE
fk	Campaign_ID	VARCHAR(255)

Payments		
PK	Payment_ID	VARCHAR(255)
	Date	DATE
	Amount	FLOAT, NN
	Payment_Type	VARCHAR(255)
	Payment_Details	VARCHAR(255)
fk	Campaign_ID	VARCHAR(255)

Campaigns		
PK	Campaign_ID	VARCHAR(255)
	Campaign_Name	VARCHAR(255), NN
	Start_Date	DATE
	End_Date	DATE
	Budget	FLOAT
fk	Client_ID	VARCHAR(255)
fk	Platform_ID	VARCHAR(255)
fk	Employee_ID	VARCHAR(255)

Metrics		
PK	Metric_ID	VARCHAR(255)
	Audience	VARCHAR(255)
	Location	VARCHAR(255)
	Impressions	NUMERIC
	Clicks	NUMERIC
	Engagement	NUMERIC
	Conversion_Rate	FLOAT
fk	Campaign_ID	VARCHAR(255)

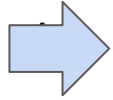
Camp_Platform		
PK	Camp_Platform	VARCHAR(255)
fk	Campaign_ID	VARCHAR(255)
fk	Platform_ID	VARCHAR(255)

Advertisements		
PK	Ad_ID	VARCHAR(255)
	Ad_Name	VARCHAR(255), NN
	Type	VARCHAR(255)
	Duration	FLOAT
	Budget	FLOAT
fk	Campaign_ID	VARCHAR(255)
fk	Platform_ID	VARCHAR(255)

Employees		
PK	Employee_ID	VARCHAR(255)
	Employee_Name	VARCHAR(255), NN
	Role	VARCHAR(255)
	Contact_info	VARCHAR(255)
	Employee_Since	DATE
fk	Supervisor_ID	VARCHAR(255)
fk	Department_ID	VARCHAR(255)

Departments		
PK	Department_ID	VARCHAR(255)
	Department	VARCHAR(255), NN

Platforms		
PK	Platform_ID	VARCHAR(255)
	Platform_Name	VARCHAR(255), NN
	URL	VARCHAR(255), NN
	Contact_Person	VARCHAR(255), NN
	Contact_Phone	VARCHAR(255), NN
	Contact_Email	VARCHAR(255), NN



Insights with Tableau

- Overall, Views, Likes, Clicks and Conversions show a simultaneous behaviour
 - From January to December 2023 both, Clicks and Conversions show an increase with a peak in June/July and a decline in the 2nd half of the year
 - The conversion rate at the end of 2023 is below the start value in January 2023, the Clicks also show a negative trend
 - Clicks and Conversion rates in UK are highest, in India lowest
- Platform analysis:
 - No real performance outliers for the 5 available platforms Facebook, YouTube, TikTok, Instagram and email in total, though different behaviours in the locations which are compensated for total
 - Tik Tok has the most Clicks and Conversions, followed by Facebook and Youtube in total
 - Email still has a quite high performance rate
 - Instagram has the lowest performance overall and for the most locations
-

Insights with Tableau (cont.)

- Age groups of 18-40, 40-60 and 60+ are almost equally distributed, age group of 13-19 years is represented less
 - The age group 18-40 have the highest Conversion and Click rate, the conversion rate declines with highest age groups
- Male and female users are almost equally distributed, but the rate of unknown gender is very high due to insufficient data.
 - Males and Females both prefer TikTok with regard to Clicks and Conversions, the different age groups do not show a consistent preference and also diverge for Clicks and Conversions
 - Instagram is the preferred platform for Conversions for seniors in the age group of 60+
- Highest activity for conversion is shown on Wednesdays, lowest on Tuesdays