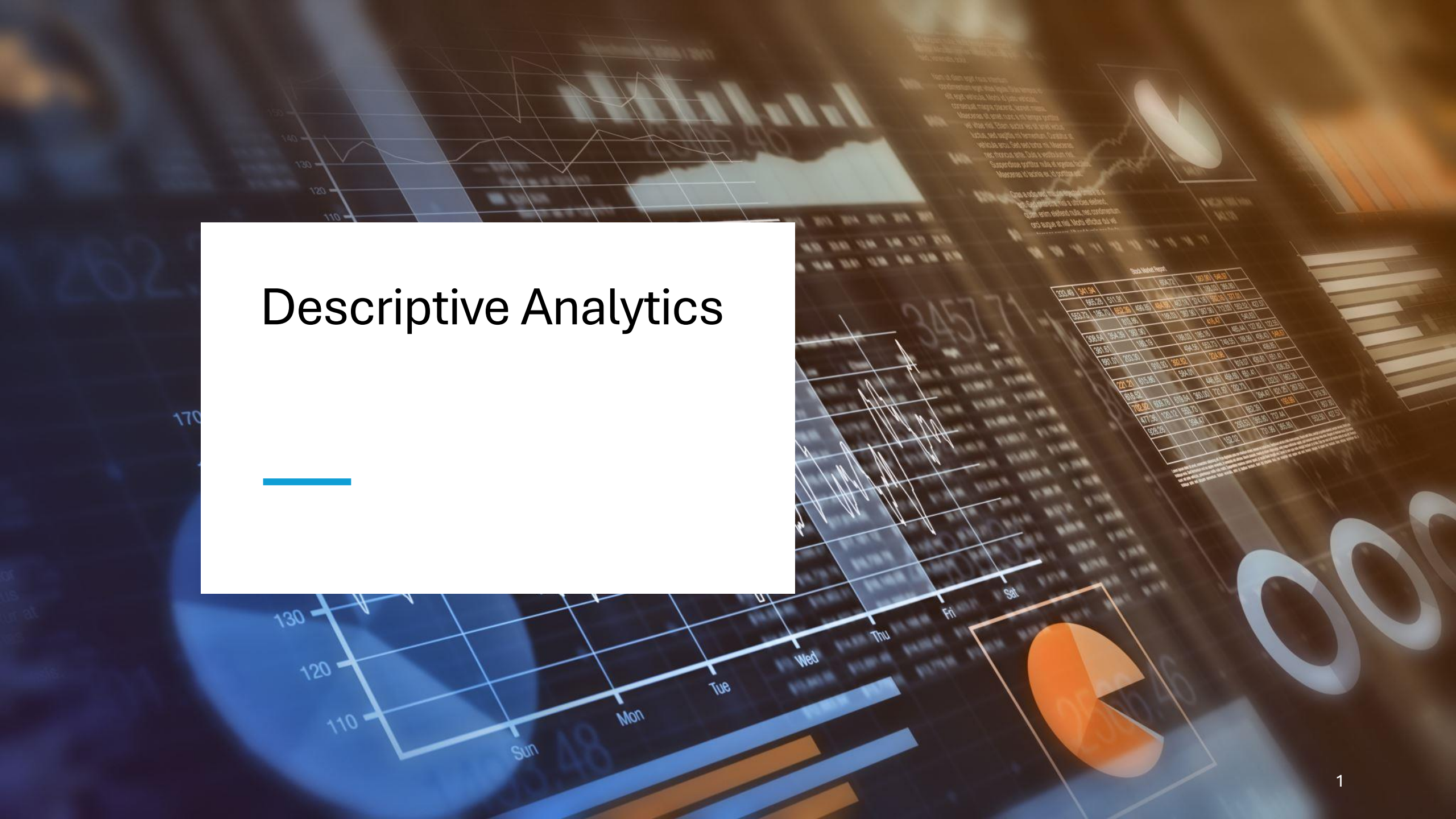
Descriptive Analytics



Outline

Descriptive Analytics

Why / When?

Techniques and Tools

Case Study

4 Types of Data Analytics

DESCRIPTIVE ANALYTICS

DIAGNOSTIC ANALYTICS

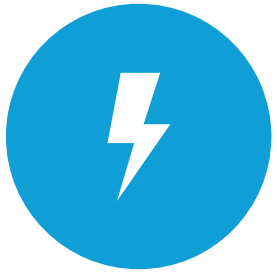
PREDICTIVE ANALYTICS

PRESCRIPTIVE ANALYTICS

Research Questions

WHAT HAS HAPPENED?

WHY DID IT HAPPEN?



WHAT WILL HAPPEN?

WHAT IS A DECISION?

What is Descriptive Analytics?

- What has happened?
- What actions are needed?
- What is the problem?

Why Descriptive Analytics?

When Descriptive Analytics?

- Customer understanding
- Return on social media initiatives
- Summarize report from Google Analytics
- Netflix Customer Analysis

Descriptive Analytics Process

When Descriptive is Analytics recommended?

ADVANTAGES

- Gives a precise performance picture.
- Does not require a deep knowledge of analysis or statistical methods.
- Lays the foundation for predictive & prescriptive analytics.
- Highlights gaps before they turn into problems.

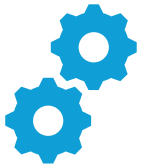
DISADVANTAGES

- Touches only the surface of the data.
- Insights do not point to “why” something happened.
- Insights cannot be used for making predictions.

Techniques

Clean
Summarize
Report
Visualize

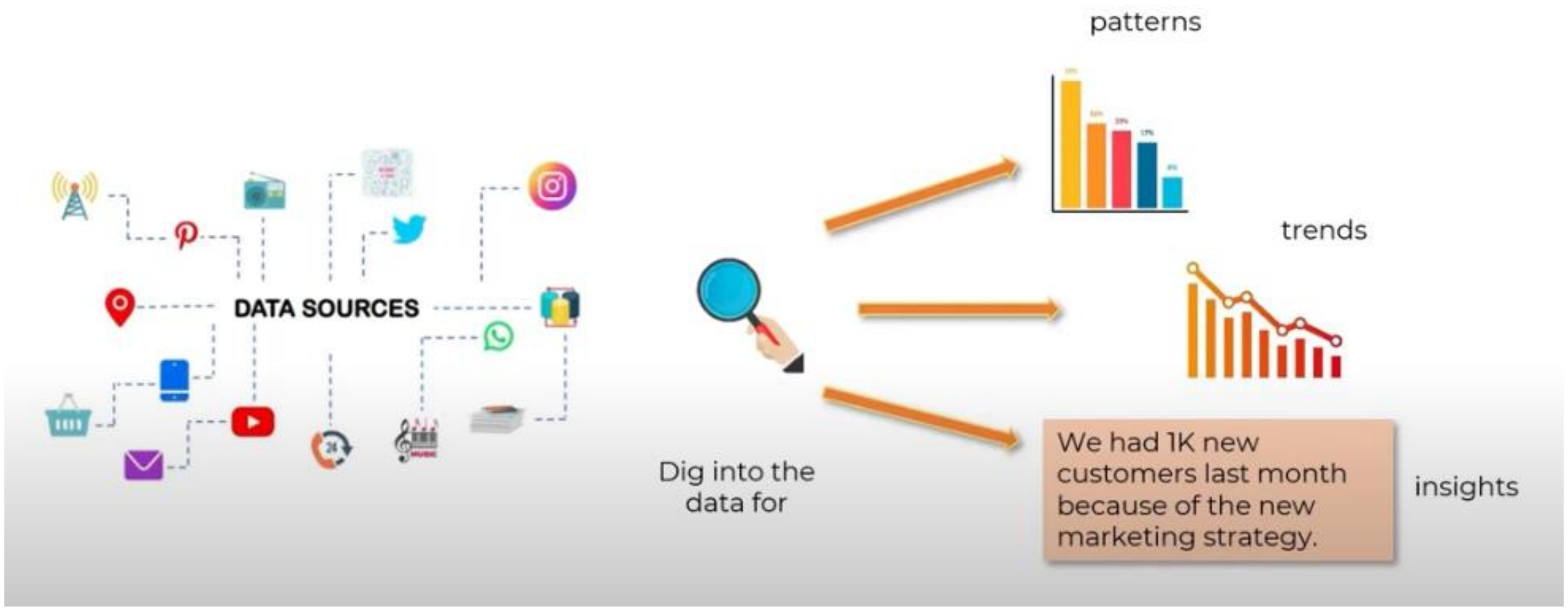
Data Discovery
Hypothesis Testing
Drill Down
Correlation



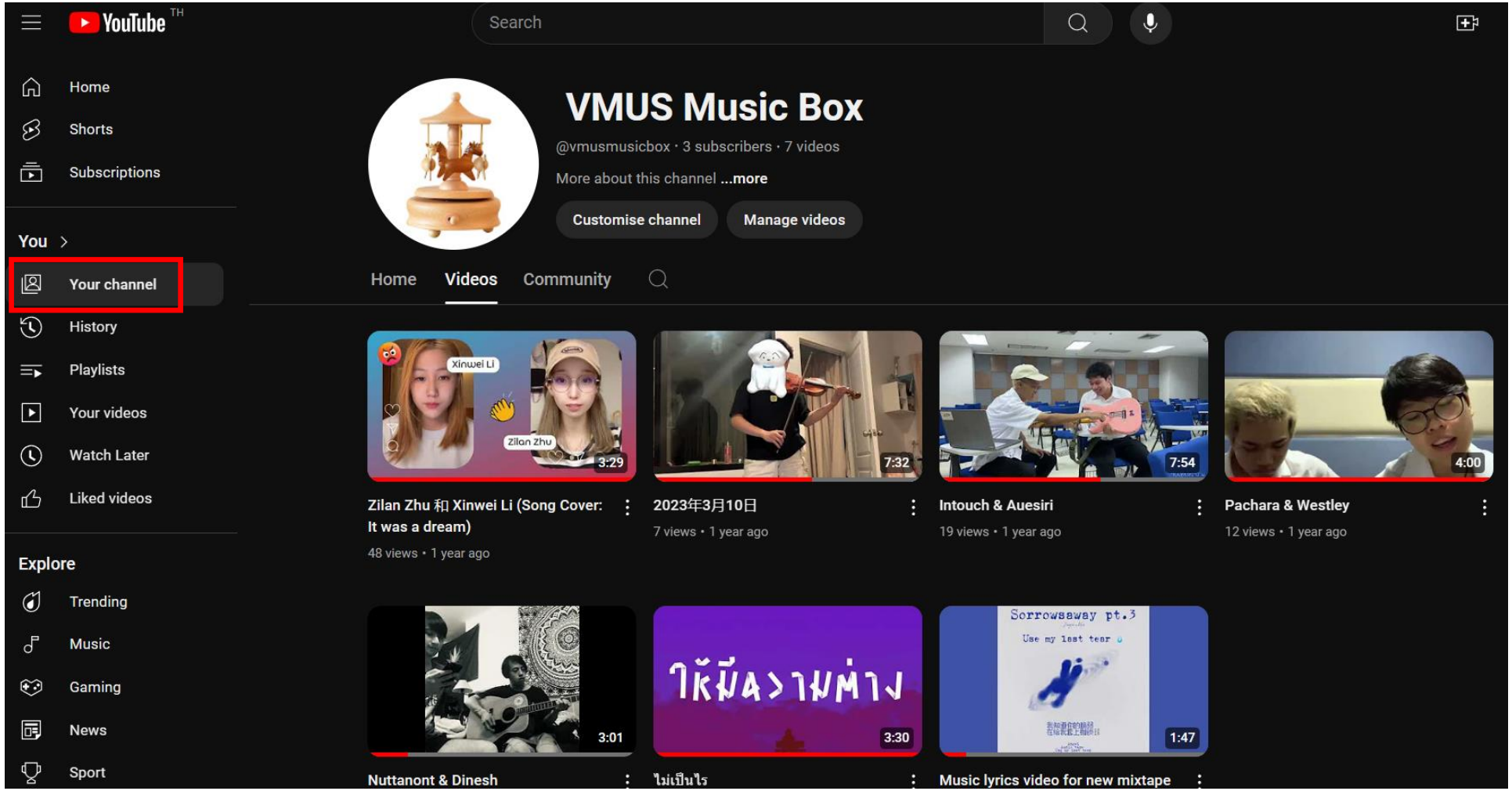
What will happen?

What is a decision?

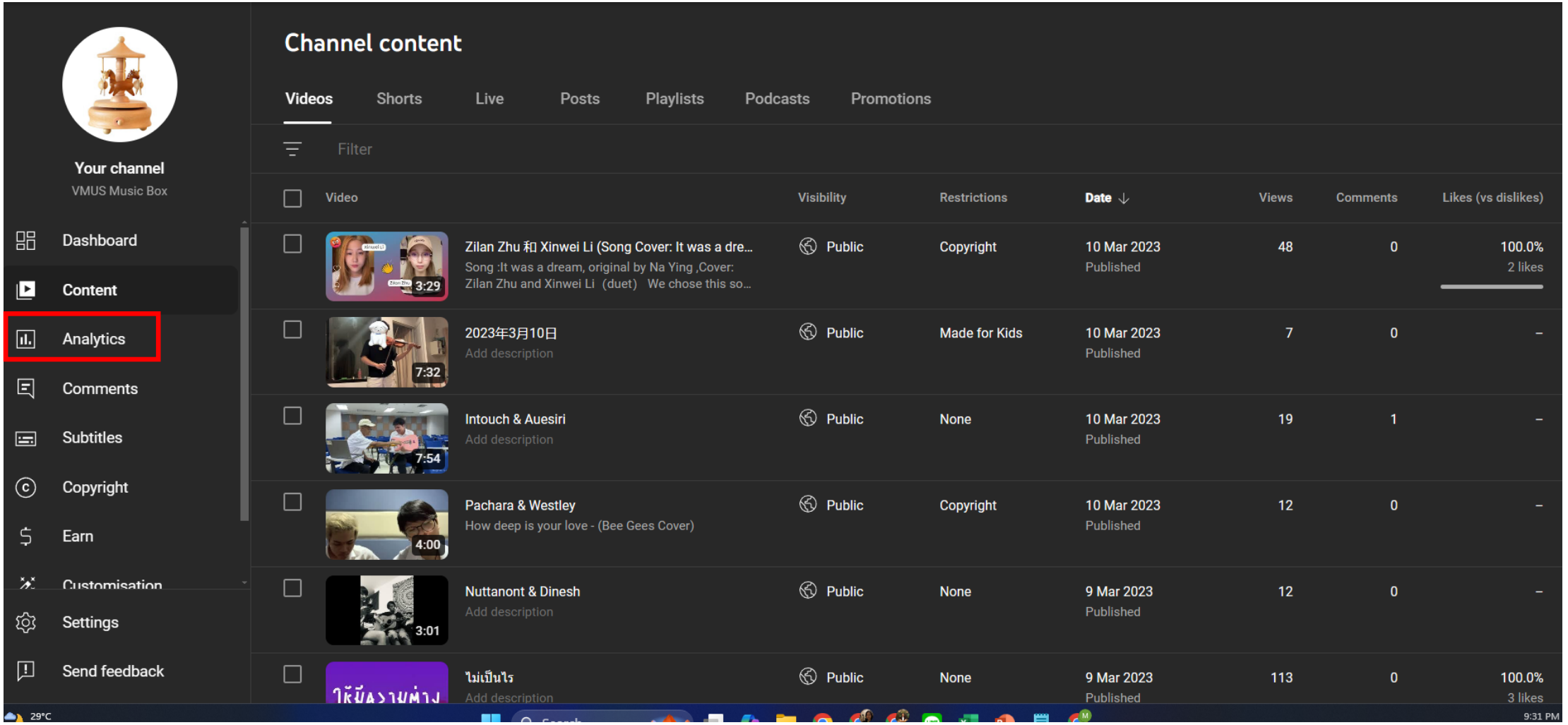
Techniques in Descriptive Analytics



Case 1


YouTube TH
Search
Home
Shorts
Subscriptions
You
Your channel
History
Playlists
Your videos
Watch Later
Liked videos
Explore
Trending
Music
Gaming
News
Sport
VMUS Music Box
@vmusmusicbox · 3 subscribers · 7 videos
More about this channel ...more
Customise channel
Manage videos
Home
Videos
Community
Xinwei Li
Zilan Zhu
3:29
Zilan Zhu 和 Xinwei Li (Song Cover: It was a dream)
48 views • 1 year ago
7:32
2023年3月10日
7 views • 1 year ago
7:54
Intouch & Auesiri
19 views • 1 year ago
4:00
Pachara & Westley
12 views • 1 year ago
3:01
Nuttanont & Dinesh
3:30
ไม่เป็นไร
Sorrowsaway pt.3
Use my last tear
1:47
Music lyrics video for new mixtape

Case 1 (Cont.)


Your channel
VMUS Music Box
Dashboard
Content
Analytics
Comments
Subtitles
Copyright
Earn
Customisation
Settings
Send feedback
Channel content
Videos
Shorts
Live
Posts
Playlists
Podcasts
Promotions
Filter
Video
Visibility
Restrictions
Date
Views
Comments
Likes (vs dislikes)
Zilan Zhu 和 Xinwei Li (Song Cover: It was a dre...
Song :It was a dream, original by Na Ying ,Cover: Zilan Zhu and Xinwei Li （duet） We chose this so...
Public
Copyright
10 Mar 2023
Published
48
0
100.0%
2 likes
2023年3月10日
Add description
Public
Made for Kids
10 Mar 2023
Published
7
0
–
Intouch & Auesiri
Add description
Public
None
10 Mar 2023
Published
19
1
–
Pachara & Westley
How deep is your love - (Bee Gees Cover)
Public
Copyright
10 Mar 2023
Published
12
0
–
Nuttanont & Dinesh
Add description
Public
None
9 Mar 2023
Published
12
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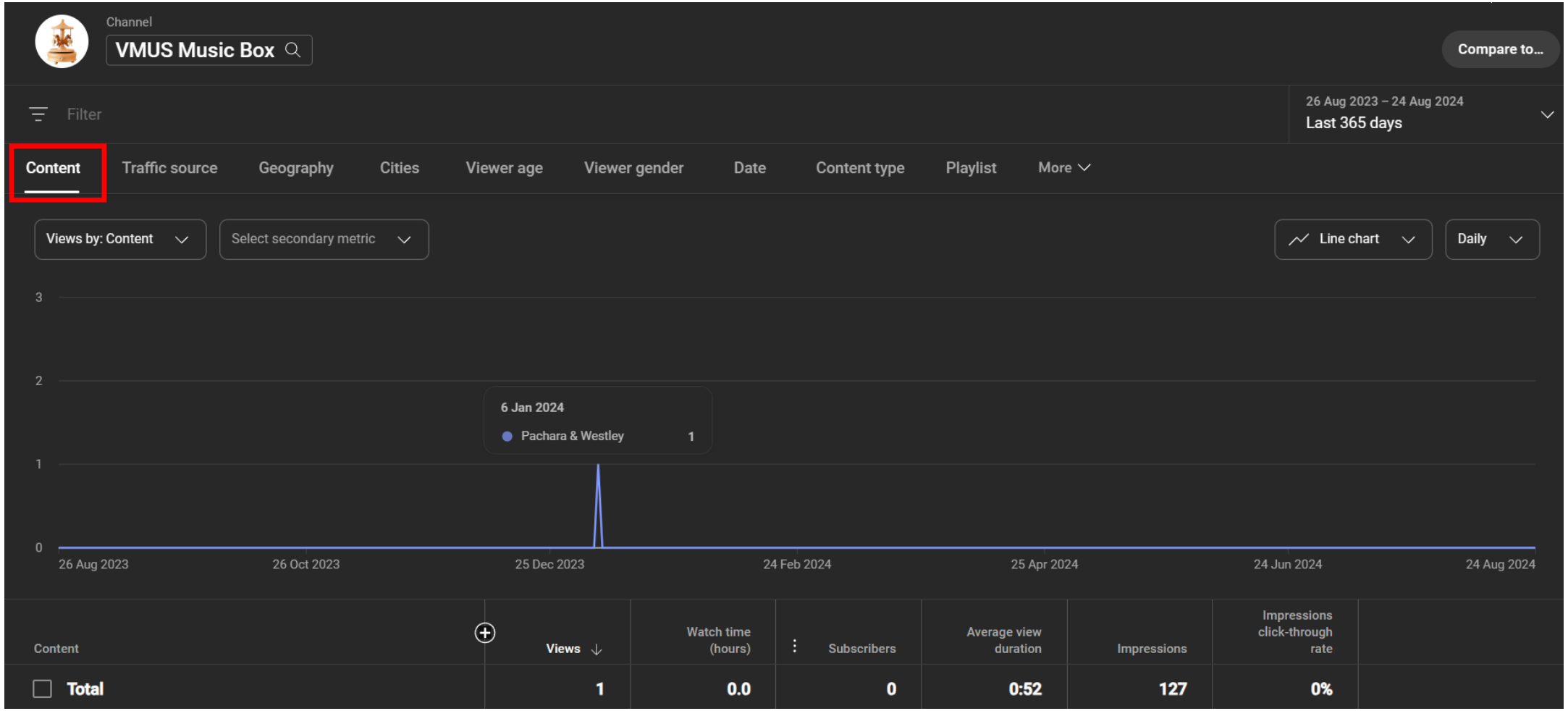
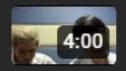
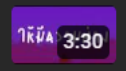
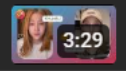
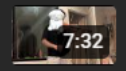
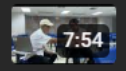
–
ไม่เป็นไร
Add description
Public
None
9 Mar 2023
Published
113
0
100.0%
3 likes
3:29
7:32
7:54
4:00
3:01
29°C
9:31 PM

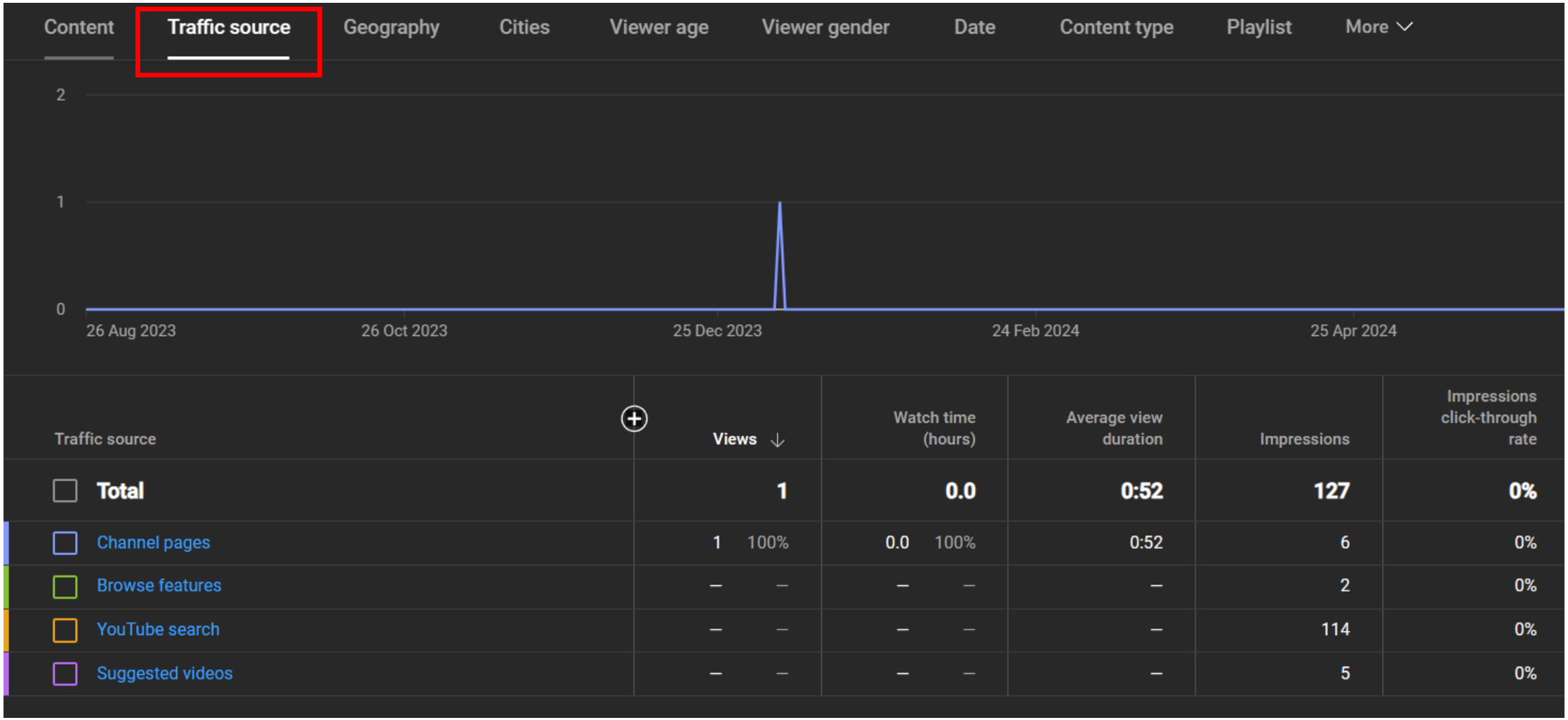
Case 1 (Cont.)


Channel
VMUS Music Box
Compare to...
Filter
26 Aug 2023 – 24 Aug 2024
Last 365 days
Content
Traffic source
Geography
Cities
Viewer age
Viewer gender
Date
Content type
Playlist
More
Views by: Content
Select secondary metric
Line chart
Daily
3
2
1
0
6 Jan 2024
Pachara & Westley 1
26 Aug 2023
26 Oct 2023
25 Dec 2023
24 Feb 2024
25 Apr 2024
24 Jun 2024
24 Aug 2024
Content
Views
Watch time (hours)
Subscribers
Average view duration
Impressions
Impressions click-through rate
Total
1
0.0
0
0:52
127
0%

Case 1 (Cont.)

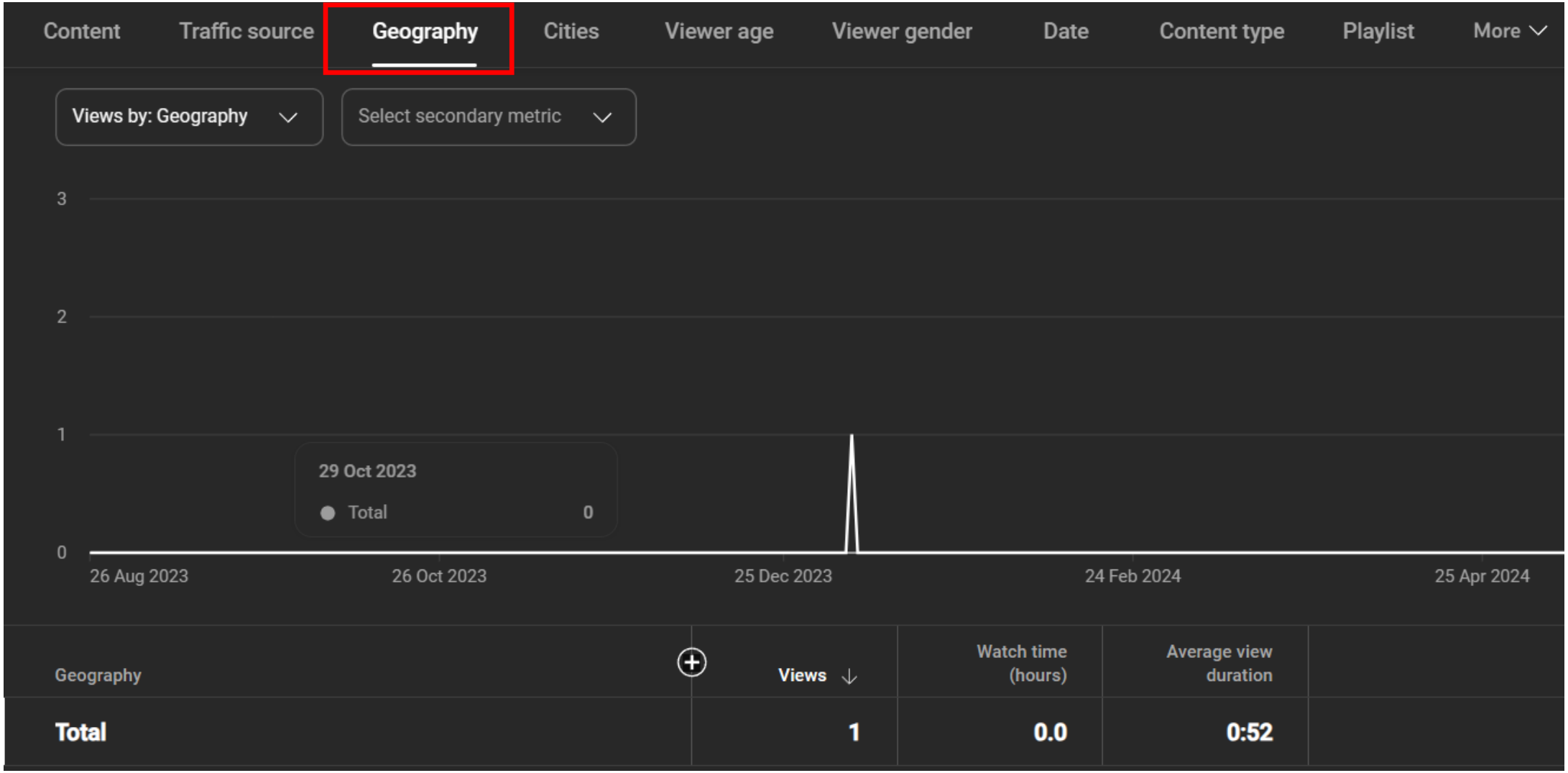
Content	Views	Watch time (hours)	Subscribers	Average view duration	Impressions	Impressions click-through rate
Total	**1**	**0.0**	**0**	**0:52**	**127**	**0%**
 Pachara & Westley	1 100%	0.0 100%	0 0%	0:52	11	0%
 ไม่เป็นไร	– –	– –	– –	–	5	0%
 Music lyrics video for new mixtape by Junjie Ma& Zhuo...	– –	– –	– –	–	38	0%
 Zilan Zhu 和 Xinwei Li (Song Cover: It was a dream)	– –	– –	– –	–	54	0%
 2023年3月10日	– –	– –	– –	–	1	0%
 Nuttanont & Dinesh	– –	– –	– –	–	15	0%
 Intouch & Auesiri	– –	– –	– –	–	3	0%

Case 1 (Cont.)

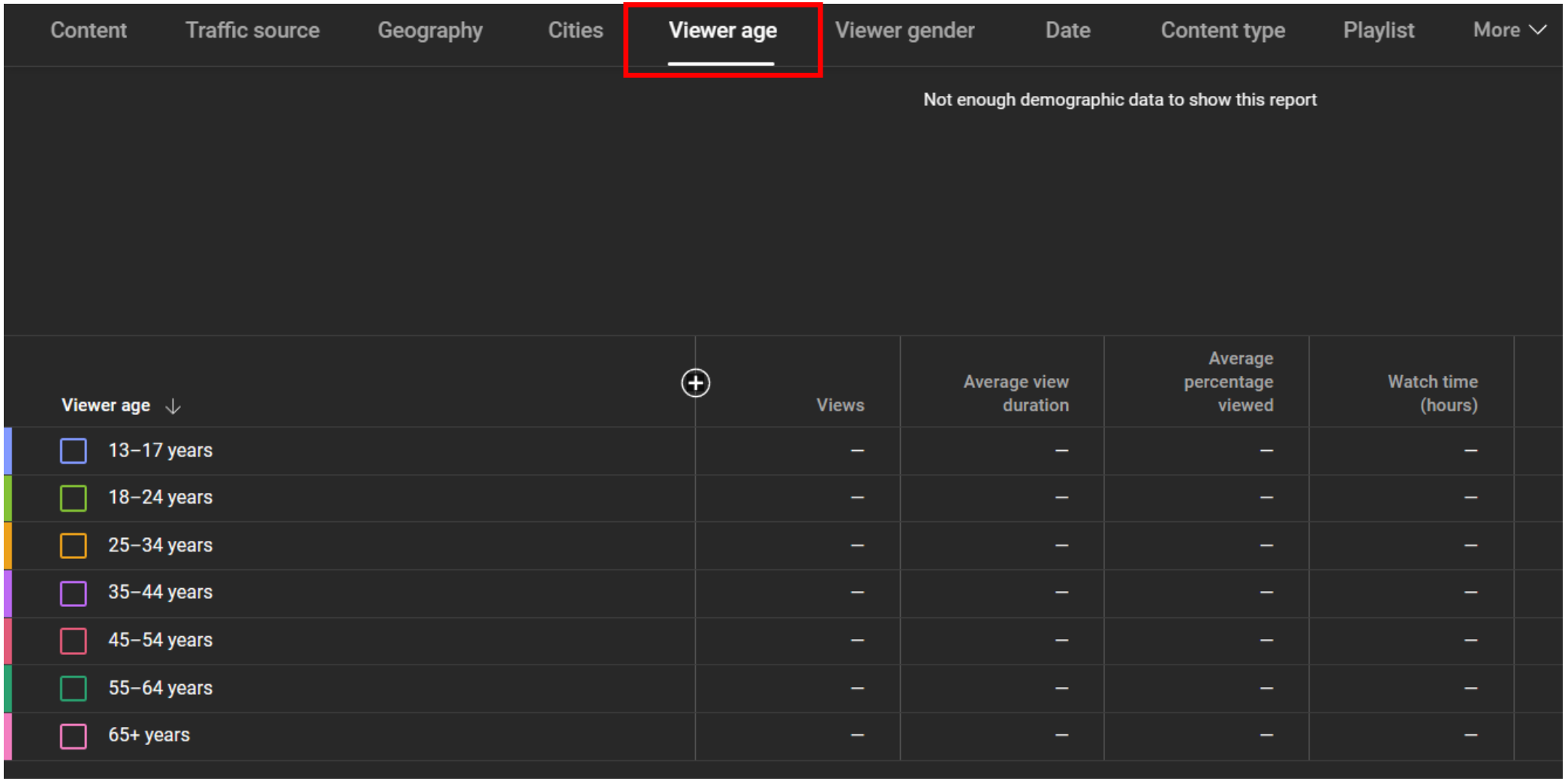


Traffic source	Views	Watch time (hours)	Average view duration	Impressions	Impressions click-through rate
Total	**1**	**0.0**	**0:52**	**127**	**0%**
Channel pages	1 100%	0.0 100%	0:52	6	0%
Browse features	– –	– –	–	2	0%
YouTube search	– –	– –	–	114	0%
Suggested videos	– –	– –	–	5	0%

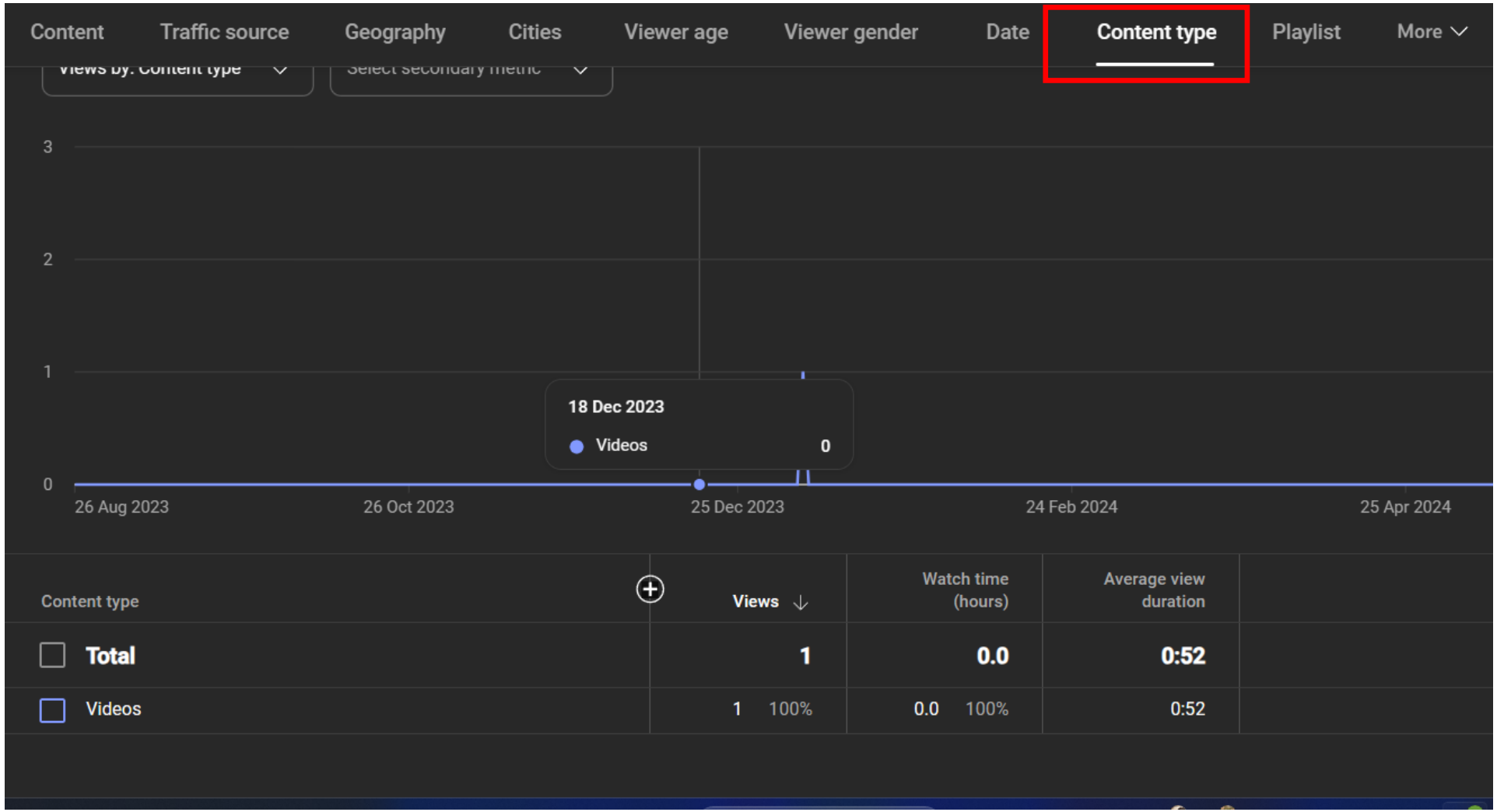
Case 1 (Cont.)


Content
Traffic source
Geography
Cities
Viewer age
Viewer gender
Date
Content type
Playlist
More
Views by: Geography
Select secondary metric
3
2
1
0
29 Oct 2023
Total 0
26 Aug 2023
26 Oct 2023
25 Dec 2023
24 Feb 2024
25 Apr 2024
Geography
Views
Watch time (hours)
Average view duration
Total
1
0.0
0:52

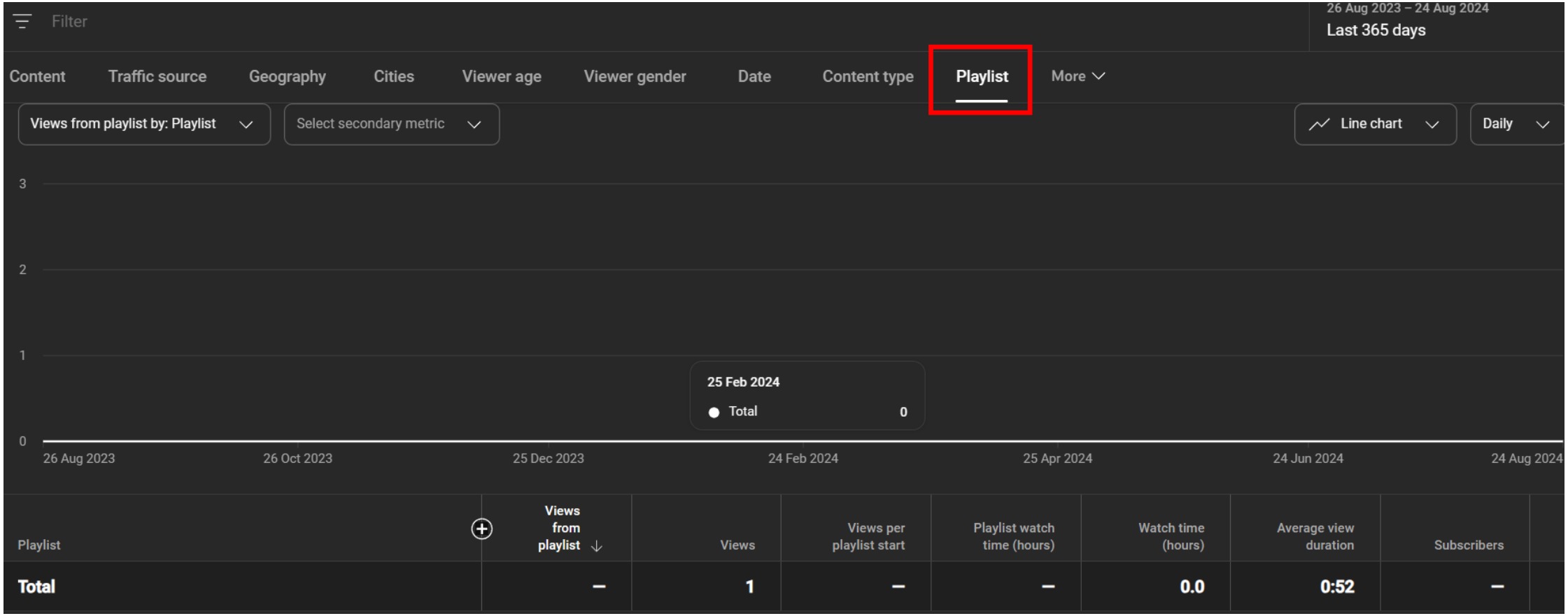
Case 1 (Cont.)


Content
Traffic source
Geography
Cities
Viewer age
Viewer gender
Date
Content type
Playlist
More
Not enough demographic data to show this report
Viewer age
Views
Average view duration
Average percentage viewed
Watch time (hours)
13–17 years
18–24 years
25–34 years
35–44 years
45–54 years
55–64 years
65+ years

Case 1 (Cont.)

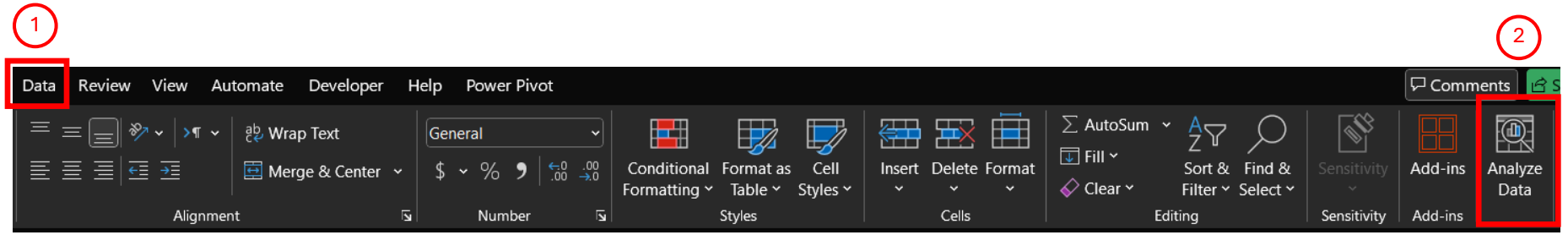

Content
Traffic source
Geography
Cities
Viewer age
Viewer gender
Date
Content type
Playlist
More
3
2
1
0
18 Dec 2023
Videos 0
26 Aug 2023
26 Oct 2023
25 Dec 2023
24 Feb 2024
25 Apr 2024
Content type
Views
Watch time (hours)
Average view duration
Total 1 0.0 0:52
Videos 1 100% 0.0 100% 0:52

Case 1 (Cont.)



Playlist	Views from playlist	Views	Views per playlist start	Playlist watch time (hours)	Watch time (hours)	Average view duration	Subscribers
Total	–	**1**	–	–	**0.0**	**0:52**	–

Case 2



Passenger	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked		PassengerId			Pclass	
892	0	3	Kelly, Mr. J	male	34.5	0	0	330911	7.8292		Q						
893	1	3	Wilkes, Mr	female	47	1	0	363272	7		S		Mean	1100.5		Mean	2.26555
894	0	2	Myles, Mr.	male	62	0	0	240276	9.6875		Q		Standard E	5.909033		Standard E	0.041176
895	0	3	Wirz, Mr. A	male	27	0	0	315154	8.6625		S		Median	1100.5		Median	3
896	1	3	Hirvonen, I	female	22	1	1	3101298	12.2875		S		Mode	#N/A		Mode	3
897	0	3	Svensson,	male	14	0	0	7538	9.225		S		Standard D	120.8105		Standard D	0.841838
898	1	3	Connolly, M	female	30	0	0	330972	7.6292		Q		Sample Va	14595.17		Sample Va	0.70869
899	0	2	Caldwell, M	male	26	1	1	248738	29		S		Kurtosis	-1.2		Kurtosis	-1.38267
900	1	3	Abrahim, M	female	18	0	0	2657	7.2292		C		Skewness	-3.42E-17		Skewness	-0.53417
901	0	3	Davies, Mr	male	21	2	0	A/4 48871	24.15		S		Range	417		Range	2
902	0	3	Ilieff, Mr. Y	male		0	0	349220	7.8958		S		Minimum	892		Minimum	1
903	0	1	Jones, Mr.	male	46	0	0	694	26		S		Maximum	1309		Maximum	3
904	1	1	Snyder, Mr	female	23	1	0	21228	82.2667	B45	S		Sum	460009		Sum	947
905	0	2	Howard, M	male	63	1	0	24065	26		S		Count	418		Count	418
906	1	1	Chaffee, M	female	47	1	0	W.E.P. 57	61.175	E31	S		Largest(1)	1309		Largest(1)	3
907	1	2	del Carlo, M	female	24	1	0	SC/PARIS	27.7208		C		Smallest(1	892		Smallest(1	1
908	0	2	Keane, Mr	male	35	0	0	233734	12.35		Q		Confidence	11.6152		Confidence	0.080938
909	0	3	Assaf, Mr.	male	21	0	0	2692	7.225		C						
910	1	3	Ilmakanga	female	27	1	0	STON/O2.	7.925		S						
911	1	3	Assaf Khal	female	45	0	0	2696	7.225		C						
912	0	1	Rothschild,	male	55	1	0	PC 17603	59.4		C						
913	0	3	Olsen, Mas	male	9	0	1	C 17368	3.1708		S						
914	1	1	Flegenheim	female		0	0	PC 17598	31.6833		S						
915	0	1	Williams, M	male	21	0	1	PC 17597	61.3792		C						
916	1	1	Ryerson, M	female	48	1	3	PC 17608	262.375	B57 B59 B	C						
917	0	3	Robins, Mr	male	50	1	0	A/5. 3337	14.5		S						

References

- https://www.selecthub.com/business-intelligence/predictive-descriptive-prescriptive-analytics/#What_Are_Descriptive_Analytics
- https://www.youtube.com/watch?v=vdIldcU8XMU