

Customer Journey Analytics

Training Material

Learning Outcomes

01 Understand Analytics Data Model and Ecosystem

Understand How to Read a Journey Discovery Analytics Dashboard

Understand the Filtering Rules

04 Understand the Performance Dashboard and How to Use It

Understand Metrics and How to Use It

06 Understand Data Lake Data Dictionary

7 Key Guideline / Note / Glossary



Kitewheel Target Audience

Primary

Journey Manager



Joanna, the Journey Manager

INTERESTED IN...

- Validate and challenge pre-defined notions of customer journey
- Design, measure and investigate use cases (or visions)
- ROI
- Impact on customer retention, acquisition, revenue

Configurer



Charles, the Configu

INTERESTED IN...

- Identifying data sources
- Designing logi
- Solution architecting logic and rules

Analyst



Alex, the Analyst

INTERESTED IN...

- Discover and investigate the Who, How, Why in order to:
 - Measure and increase effectiveness
 - Predict behavior
- Map journey performance against KPIs and benchmark

Secondary

Executive



Elias, the Executive

INTERESTED IN...

- Impact of Kitewheel
- ROI
- Impact on customer retention, acquisition, revenue
- Cost to Serve

Technical & Support



Tanner, the Tech & Support

INTERESTED IN...

- Enable tech environment - servers, database
- Handle security and internet facing services
- Support accounts and projects
- Production support and continuous operation

kitewheel

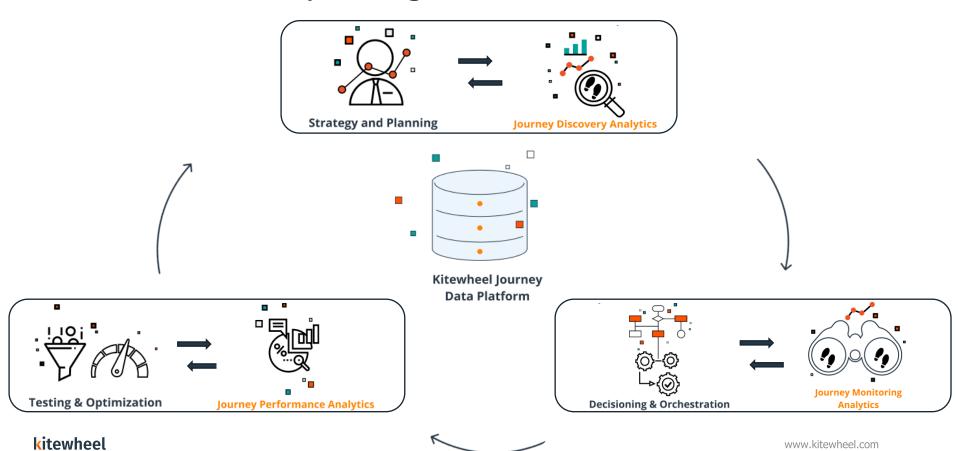


Kitewheel Analytic Ecosystem

Underlying Data Model

4-Pronged Approach and Associated Use Cases

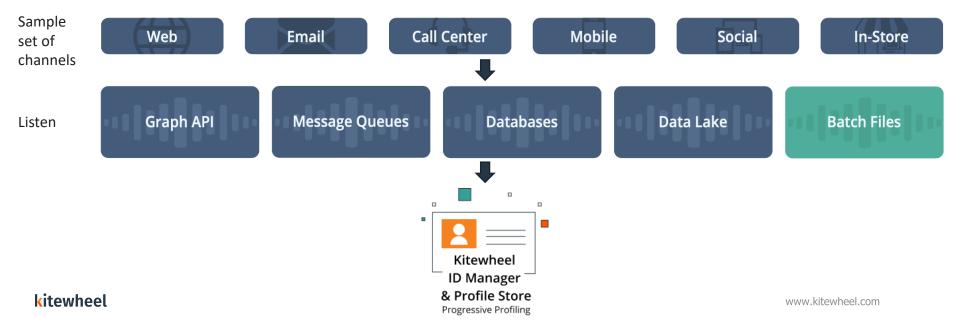
Kitewheel's Journey Management Process



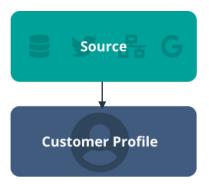
How Kitewheel Captures Data

Kitewheel ID Manager

 Kitewheel can connect, listen and capture various data points between channels whenever possible and feeds the data into Kitewheel ID Manager, whether from real-time data or from historical data load

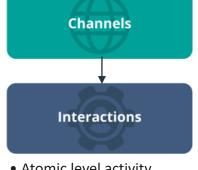


The Underlying Journey Data Model



- Progressive profiling
- Appended attributes
- Decision logic outputs
- Dynamic segmentation





- Atomic level activity
- Channel specific action
- Associated experience score
- Interaction context



- Individual behaviors
- One or more interactions
- Cross-channel
- Associated metrics and outcome values

Customer Journey Analytics

- Kitewheel then leverages the recorded data from the data model to support your production operations, journey insights, journey performance and data modeling in a 4-pronged approach:
 - Real-time metrics
 - Journey Discovery Analytics Dashboard
 - Performance Dashboard
 - Data Lake
- Each one supports unique use case and when analyzed together, the data can provide a robust view into how to optimize and create journey orchestrations.

Kitewheel Journey Analytics Ecosystem

4-Pronged Approach

Metrics address use cases such as "How many times has my journey been executed?" and "How many events have I processed against my goal?"





Performance Dashboard address use cases such as "How is my journey performing against goals and KPIs?" and "What is the overlap between my journeys?"



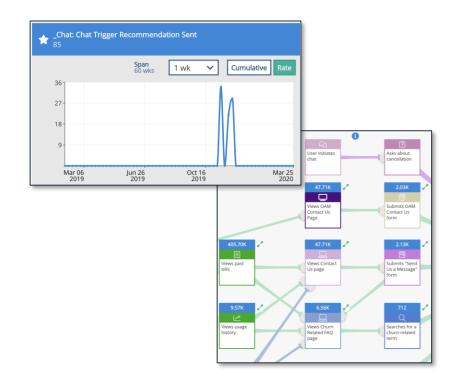


Journey Analytics address use cases such as "What were the most popular first and last steps?" and "What were the most commonly used channels?"

Data Lake augments an existing data warehouse and builds a richer set with journey data. It can be used to build and test predictive models using historical journey data.

Real-Time Metrics

- Use Case: Operations Support
 - How many times has my journey executed?
 - How many events have I processed against my goal?
- Description
 - Metrics provide real time monitoring of journey behavior. They show counts each time a journey or the component of a journey executes. This is essential for monitoring that the journey is live and understanding real-time volume fluctuations that can impact other channels.



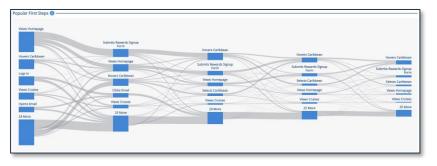
Journey Discovery Analytics

Use Case: Discovery Insights

- What were the most popular first and last steps?
- What were the most commonly used channels?

Description

 Journey Discovery Analytics provides an insights layer to understand what is happening to customers across various channels. These insights provide details as what paths most customers are following when they start and end their interactions with your brand. Additionally, there is a detailed view of cross channel overlap so you can understand how and where users are engaging.





Performance Dashboard

Use Case: Performance Reporting

- How is my journey performing against goals and KPIs?
- What is the overlap between my journeys?

Description

 Performance Dashboards provide a custom view into project goals and KPI's. This is designed to provide your team and stakeholders with a view of how your journeys are performing. The dashboards provide breakdowns into critical segments and can be used to dig deeper into the insights found from Journey Discovery.



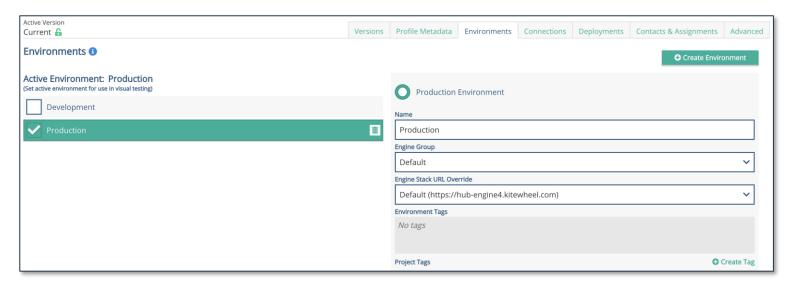


Data Lake

- Use Case: Analytics and Data Science
 - Augment an existing data warehouse with journey data to build a richer data set
 - Build and test predictive models using historical journey data
- Description
 - The Kitewheel Data Lake provides direct access to our analytically optimized data set. This data set, which supports both the Journey Discovery Analytics and the Performance Dashboards, contains customer profiles, detailed interaction and transaction data as well as high level performance data. This is an essential tool for deeper business insights and data science teams.
- This can be on-premise or hosted
- Journey data is typically exported on a nightly basis

Enabling Analytics

- Designate an environment as Production (via the Environments tab)
- Submit a Support ticket to Kitewheel Support to enable Journey Discovery Analytics Dashboard

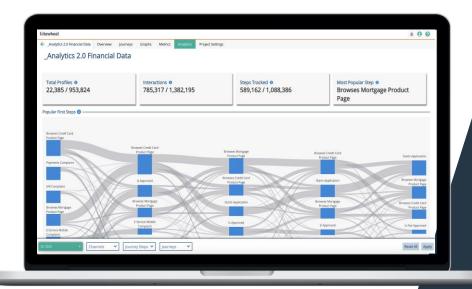




Journey Discovery Analytics

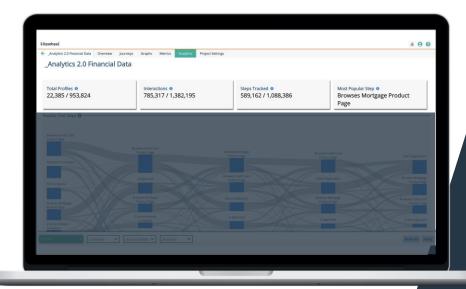
Dashboard Individual Components Filtering and Rules

Journey Discovery Analytics



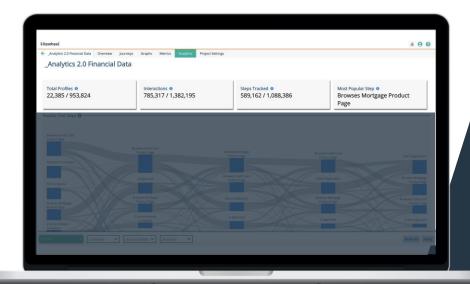
- Journey Discovery Analytics dashboard is designed to provide businesses an overview of the most popular behavioral flow of their customers
- Allows businesses to quickly discover critical paths and key points where customers are stalling
- Gives businesses the ability to see filter and drill down as far back as data is available
- Comprised of:
 - Dynamic Cards
 - Popular First and Last Steps
 - Heatmap
 - Most Popular Channels
 - Most Popular Steps
- Data is refreshed on a nightly basis

Dynamic Cards



- Known as Analytical Summary in documentation
- Dynamic Cards will always show the recorded data in the form of a fraction
 - Numerator represents the total number of profiles, interactions or steps tracked during a specified filter range
 - Denominator represents the total number profiles, interactions or steps recorded for the selected project

Dynamic Cards Cont'd



Total Profile

- Total count of customer profiles that have been recorded to date
- Useful for understanding the total aggregate customer profiles

Steps Tracked

- Total count of journey steps that have been recorded to date
- Useful for understanding how many touch points (journey steps) customers touch throughout time

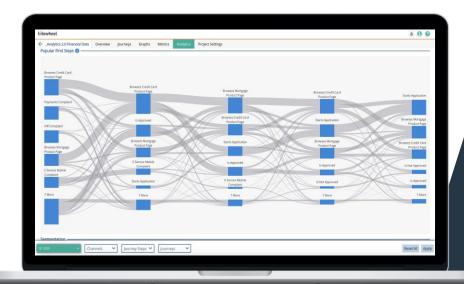
Interactions

- Total count of interactions that have been recorded to date
- Useful for understanding how many interactions happen with your business

Most Popular Steps

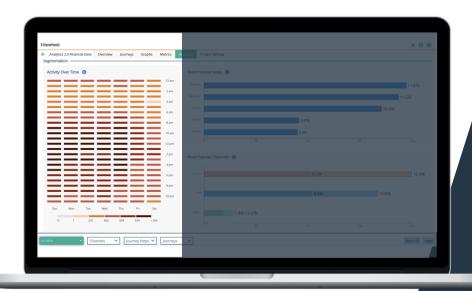
- Highlights the most popular journey steps that customers are landing on, out of all the recorded journey steps
 - This will never show Start and End journey steps as the most popular
- Useful for understanding which journey step tends to be the highest touchpoint

Popular First Steps



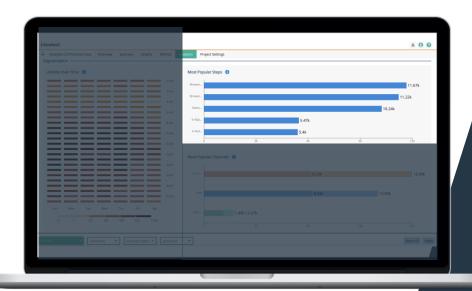
- AKA: Left Sankey
- Chronologically highlights the first five journey steps taken by each profile within the selected time range
- Profiles are aggregated into Sankey nodes, sized relative to each other to indicate popularity of a given step
- Useful for identifying high-level critical path and how customers are starting their experience with your business
- The same steps can be repeated throughout
 - This is typically an indication that customers are "stuck" in a particular section and not progressing

Activities over Time



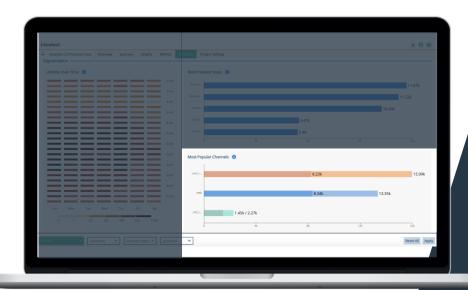
- Aka: Heatmap
- An aggregated interaction view by time and day
- Useful in understanding the timeframes in which customers are interacting with your brand the most
 - Provides insights into future journey and campaign planning
- Time is recorded and displayed in UTC

Most Popular Steps



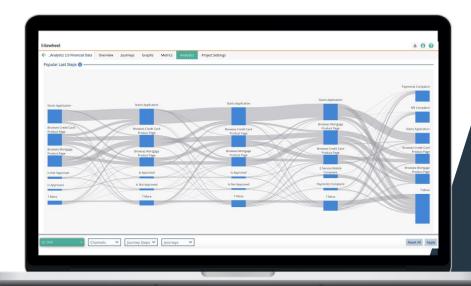
- Highlights the first 5 journey steps in sequential order, not time-based
- Useful for identifying highlevel journey steps customers have most recently taken

Most Popular Channels



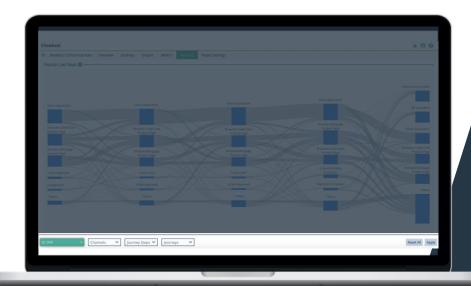
- Highlight channel overlaps
 - Lists distinct profiles in each channel
 - Darker shading signals profiles who have interactions in other channels
 - Clicking on the darker portion will demonstrate where the channel overlap occurs
 - A single profile is counted once for every additional channel they engage in. So, a single user could be counted once for every channel. Meaning, the total of all the profiles in the additional channels can be greater than the initial overlap.
- Useful for understanding channel(s) interaction

Popular Last Steps



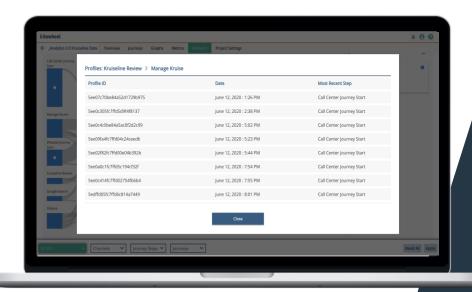
- AKA: Right Sankey
- Chronologically highlights the last five journey steps taken by each profile within the selected time range
- Profiles are aggregated into Sankey nodes, sized relative to each other to indicate popularity of a given step
- Useful for identifying high-level critical path and how customers are ending their experience with your business
- The same steps can be repeated throughout
 - This is typically an indication that customers are "stuck" in a particular section and not progressing

Filtering



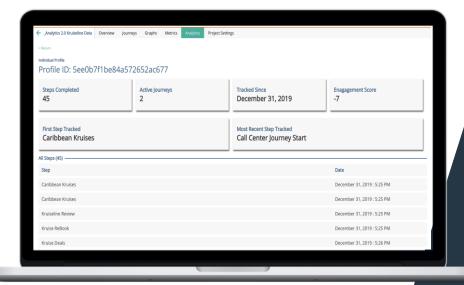
- Aka: Global Filtering
- Analytics filter
 - When applied, the filter settings can impact all modules on the Journey Discovery Analytics dashboard
- Filter by:
 - Date
 - Channel
 - Journey Steps
 - Journey

15 Random Profiles



- To select an individual profile to view, you can click on the link between 2 journey steps within the sankey and click on View Profile text link
 - This will pull up the 15 random profile pop-up
- 15 random profiles pop-up
 - A random selection of profiles who have completed journey step A to journey step B
 - Displays the Profile ID (KWID)
 - Date: last tracked date
 - Most recent step: last tracked step
- This pop up will not display any other known identifiers for data privacy reasons

Individual Profile View



- A snapshot of an individual's activities
- Active Journeys is tracked based off of the Journey Start Step
- Tracked Since card records the first time the profile is recorded (e.g., when the individual has completed an interaction and/or journey step)
- Engagement Score is a total of all interactions engagement scoring
- All Steps is listed in order of the first recorded timestamp to last recorded timestamp



Filtering

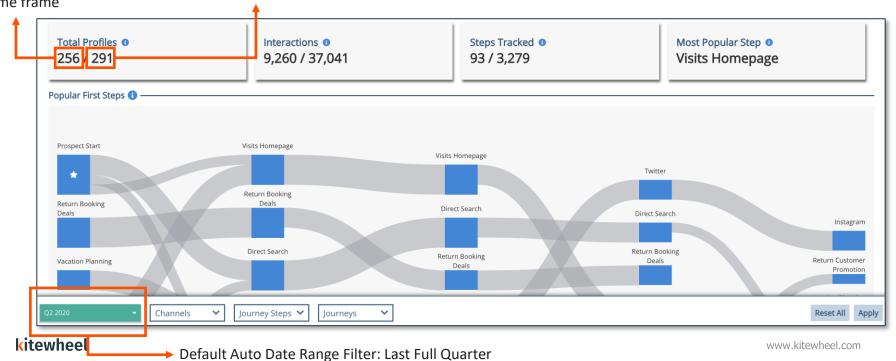
Default Setting / View

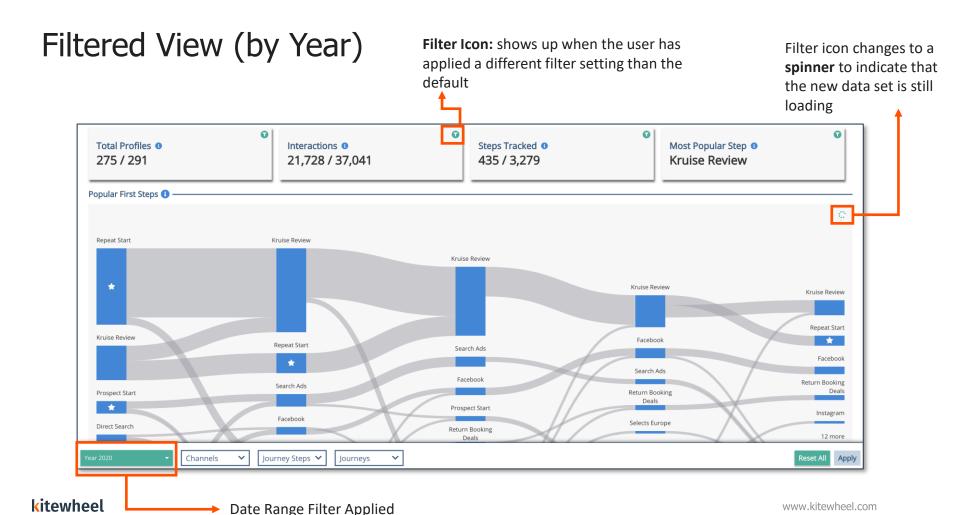
- Data displayed will be auto-filtered to show data from the Last Full Quarter
 - All Journey Steps and Channels will be selected
 - Journeys will be deselected
- Dynamic Cards
 - Data will be shown as a fraction (numerator / denominator)
 - Example for Total Profiles:
 - Denominator: total profiles in the collection (across the organization)
 - As an example, project A could have 100 profiles, project B could have 20 profiles. but because both projects are under Organization X, then the denominator shown in project A would say "120" and not "100"
 - Numerator: de-duped list of profiles tied to journey steps and interactions during a set time frame
 - As an example, if the total profiles loaded is 100,000 but only 30,000 profiles have ever taken a journey step or interactions, then no matter the date range filter, the numerator will always show no more than 30,000

Default View

Numerator: de-duped list of profiles tied to journey steps and/or interactions during a set time frame

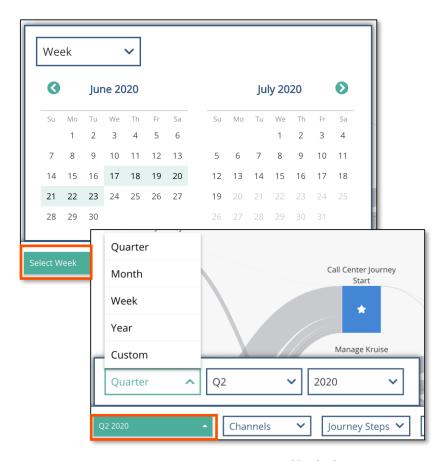
Denominator: total profiles in the collection (across the same organization)





Date

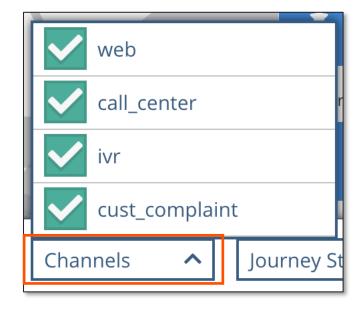
- Date filtering by Week:
 - Selects 7 days from the starting date you have clicked.
 E.g., Clicking on 11th of May 2020 would select the seven days data from Monday 11th May 00:00:00 AM through Sunday 17th May Sunday to 11:59:59pm Saturday inclusive. Each day starts and ends at midnight UTC.
- "Quarter" is defined as JFM (Q1), AMJ (Q2), JAS (Q3), OND (Q4)
- · Date filtering is inclusive
 - E.g., if date selected is Jan 12 Feb 19 then the data from Jan 12 and Feb 19 would be counted when populating the page
- Custom date filtering is "From" and "To" so selecting a single day would only work if you type in that date in the field
- Date would still be stored as UTC time
- Filtering by Date would impact all components on the Dashboard



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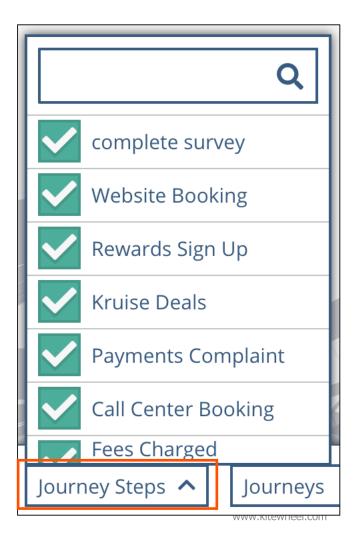
Channels

- Channel Name will be pulled from the Hub and not from the data
- Filter by Channel will be filtering on the following components on the Dashboard:
 - Interactions Card
 - Activities over Time
 - Most Popular Channels
 - Profiles*
 - Since channels are tied to interactions which is ultimately tied to a Profile
- · By default, all channels are selected



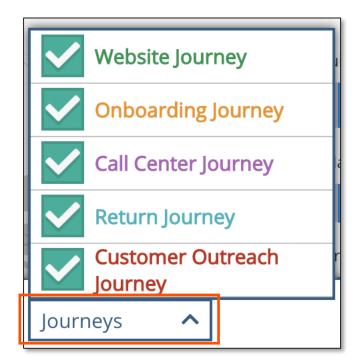
Journey Steps

- All the journey steps would be included in the drop down
 - The journey step names will be pulled from the Hub and not from the data
 - User can filter on journey steps that have no records in the database
 - Search functionality will only allow you search within the journey step drop down list
- Filter by Journey Steps will impact the following components on the Dashboard:
 - Total Profiles card*
 - Steps Tracked card
 - Most Popular Step card
 - Popular First and Last Step Sankey
 - Most Popular Steps chart
- By default, all journey steps are selected



Journey

- Filtering by Journey is highlighting a journey within the Popular First and Last Step sankey
 - The journey is compared to the Journey Map(with journey steps) created
- The names of the journeys are pulled from the Hub and not from the Data
- There will be 5 distinct colors to distinguish between Journey 1 - 5
 - Journey colors is green at the bottom (first)
 - Journey 6+ will repeat those same colors
 - However, hovering over journey step node will pull up a tooltip to indicate which journey the journey step belongs to
- A journey is counted when a profile has hit the Journey Start Step (e.g., website journey start)





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Analytics Filtering

• Inclusion trumps exclusion when it comes to Profiles

Example:

- Person A did an interaction in the Web Channel
- Then Person A performed a journey step #1
- Client filters out Web channel but keeps Journey Step #1 in the Sankey view
 - Effectively removing Person A from the Web Channel
 - But Person A will still be included in the Profile card because the client is including Journey Step #1 in the filter setting
- User can over constraint the filtering data set
- Granularity of data is by day



Exercise

Sample Use Case

Recorded Customer Data for Last Full Quarter

Consumer	Journey Steps	Interactions	Channels	Journey & Associated Journey Steps
A	JS1	I1	C1	J1 - JS1 & JS3
В	JS2	12	C2	J2 - JS2 & JS3
С	JS2, JS3	13, 14	C3, C4	J2 - JS2 & JS3
D	JS4, JS5	12, 15	C2, C5	J3 - JS4 & JS5

Default View

Default View

Query

Date	Channels	Journey Steps	Journeys
Last Quarter	C1, C2, C3, C4, C5	JS1, JS2, JS3, JS4, JS5	None

Data Returned

Total Profiles	Interactions	Steps Tracked
4/4	6/6	6/6

Consumer	Journey Steps	Interactions	Channels	Journey & Associated Journey Steps
Α	JS1	11	C1	Returned but Hidden
В	JS2	12	C2	Returned but Hidden
С	JS2, JS3	13, 14	C3, C4	Returned but Hidden
D	JS4, JS5	12, 15	C2, C5	Returned but Hidden

Removing Journey Step #1

Query

Date	Channels	Journey Steps	Journeys
Last Quarter	C1, C2, C3, C4, C5	JS1 , JS2, JS3, JS4, JS5	None

Data Returned

Total Profiles	Interactions (Total)	Steps Tracked (Total)
4/4	6/6	5/6

Consumer	Journey Steps	Interactions	Channels	Journey & Associated Journey Steps
A	JS1	11	C1	Returned but Hidden
В	JS2	12	C2	Returned but Hidden
С	JS2, JS3	13, 14	C3, C4	Returned but Hidden
D	JS4, JS5	12, 15	C2, C5	Returned but Hidden

Removing Journey Step #1 and Channel #1

Query			
Date	Channels	Journey Steps	Journeys
Last Quarter	C1 , C2, C3, C4, C5	JS1 , JS2, JS3, JS4, JS5	None

Data Returned

Query

Total Profiles	Interactions	Steps Tracked	
3/4	5/6	5/6	

Consumer	Journey Steps	Interactions	Channels	Journey & Associated Journey Steps
A	JS1	11	C1	Returned but Hidden
В	JS2	12	C2	Returned but Hidden
С	JS2, JS3	13, 14	C3, C4	Returned but Hidden
D	JS4, JS5	12, 15	C2, C5	Returned but Hidden

Select Journey #2, Remove Journey Step #2 and Remove Channel #3

Query									
Date		Channels			Journey Steps		Journe	ourneys	
Last Quarter		C1, C2, C3 , C4, C5			JS1, JS2 , JS3, J	S4, JS5		J2	
Data Returned									
Total Profiles			Interaction	ons			Steps Track	ed	
4/4			5/6			4/6			
Consumer	Journe	y Steps		Interactions		Channels			Journey & Journey Steps
A	JS1			11		C1			J1 - JS1 & JS3
В	JS2	12		12		C2			J2 - JS2 & JS3
С	JS2 , JS3	B 13, 14			€3, C4			J2 - JS2 & JS3	
D	JS4, JS	5		12, 15		C2, C5			J3 – JS4 & JS5



Kruiseline

A demo of Kruiseline data with Filtering



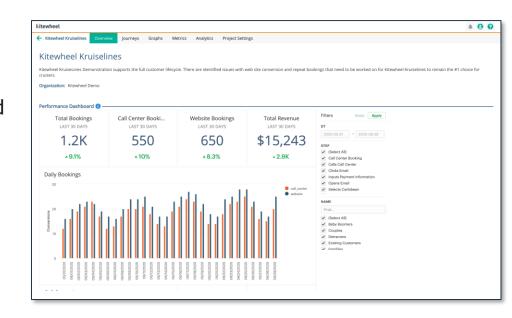
Performance Dashboard

Basics

Performance Dashboard

Overview

- Performance Dashboards provide a custom view into project goals and KPI's
- Designed to provide a view of how your journeys are performing and can show breakdowns into critical segments and comparisons of various journeys as needed
- Ability to mix and match the building blocks you will need to present ad hoc analysis and is tied to your analytics database (Redshift) to provide near real-time data
- Embed into a project overview tab
 - 1 performance dashboard per project
- Journey data is exported for a customizable dashboard build on a nightly basis
 - Frequency can be increased if needed



Report Examples and Sharing

Performance Dashboard is a custom-built report but there are some common report designs that are used in projects

- Sunburst charts
- Lead reports
- Churn reports
- Pre- and Post on user activities
- Interactions over time

Sharing

 Sharing a Performance Dashboard is currently limited to users of Mode (ie., Kitewheel and Client Partners)

Data Dictionary (Data Lake and Performance Dashboard)

How Your Journey Data will be Exported into a Queryable DB

https://kitewheel.atlassian.net/l/c/qHsfZPP2

Table	Description	Extract Type
interactions	Records all interactions with the identifiers the interactions are created with and context (with object ID)	Incremental
journey_steps	Records all journey steps with the identifiers the journey steps are created with and context (with object ID)	Incremental
profiles	Identifiers, attributes and list of journey steps and interactions. The created at and last updated at timestamps.	Full
identifier_map	Identifier map of all identifiers types to the currently merged KWID	Full



Metrics

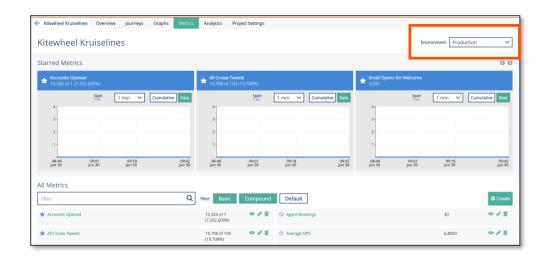
Overview

Metrics

- Metrics gives the business a real-time count of how a journey is performing
 - Can be associated to a journey
 - Must be associated to a graph in order for the metric counter to record data
- How metrics are counted
 - Basic increments a counter whenever a node has been run
 - Compound performs a calculation that returns a percentage or decimal based on your defined numerator and denominator
 - Default appear automatically on all listener graphs to display the count of listeners starts and listener completes

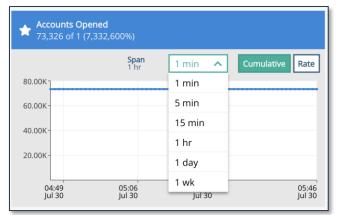
Explanations of the Metrics Dashboard

- Kitewheel provides a Metric Dashboard as a way to help businesses monitor journey orchestration in real-time
- Businesses are allowed to star / favorite up to 4 key metrics
- Metrics count can be broken out by environment (Production vs UAT as an example)



Explanations of the Metrics Chart

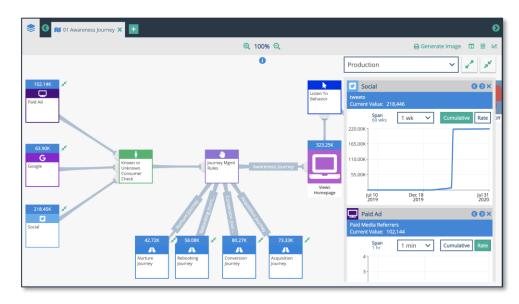
- The metric chart has 2 views:
 - Cumulative
 - Total count of the metric (e.g., count throughout time)
 - Rate
 - Count of that metric in a specific time span (e.g., how many metrics you are adding in that minute)
- The interval can be a span of 1 minute up to 1 week
 - This means that each dot on the line will either be data by the 1 minute or 5 minutes mark, etc.





The Use of Metrics on Journey and Graphs

- Metrics can be added to each journey step node in both journey maps and graphs
- Metrics are useful for finding the number of times a step has been run and serves as a way to keep track of any potential stallage in real-time





Data Lake

Data Dictionary

Data Lake

https://kitewheel.atlassian.net/l/c/qHsfZPP2

- Data Lake data is a nightly export of all captured journey data
- Below is a snapshot of the data that will appear in the data lake

Table	Description	Extract Type
interactions	Records all interactions with the identifiers the interactions are created with and context (with object ID)	Incremental
journey_steps	Records all journey steps with the identifiers the journey steps are created with and context (with object ID)	Incremental
profiles	Identifiers, attributes and list of journey steps and interactions. The created at and last updated at timestamps.	Full
identifier_map	Identifier map of all identifiers types to the currently merged KWID	Full



Kitewheel ID Manager

Read / Write for Sandbox Read Only for Production

Direct Access to Kitewheel ID Manager

- Kitewheel ID Manager uses a document database Mongo
- This is not like a SQL database collections of documents which do not need to be the same format
- Request Access for Support as per usual
- Read Only Access for Production
- Read/Write Access for Non-Production
- VPN is required for access
- Get a Mongo Client Compass is recommended for Mac & Windows
- Mongo documentation

Kitewheel ID Manager – Database Structure

- Each Org has a database called <Org-Id>-KDM
- Each Org has a collection called <Org-Id>-profiles
- Each project has collections:
 - <Org-Id>-journeySteps[-sandbox]
 - <Org-Id>-interactions
- Non-production environments use the "-sandbox" appendix

Kitewheel ID Manager – Querying

- Querying Profiles interactions and journey steps
 - Finding a specific profile

```
• { identifiers : { idType : "email", identifier :
  "me@me.com" } }
```

- Counting interactions, journey steps, attribution sets, etc.
- Deleting / dropping collections (if you have permission)
 - The profiles for an org
 - The journey steps or interactions for a project
- This is safe as the KDM will automatically recreate the collections



Key Information

Deletion / Change Rules and How It Impacts Data Recorded

Guidelines

Changes

- When the name of a journey step/interaction is changed in the hub, the name stored in the Mode DB is not changed, so when matching between Hub and Mode DB, Journey Step/Interaction ID would be the best to use
- Example:



```
Display ISON
 771 "journeySteps": [
 772
           "timestamp": "2020-06-12T14:34:32.205Z",
           "journevStepTypeId": "2325162052584211960".
           "journeyStepTypeText": "Conversion Journey Start"
 776
 777
 778
           "timestamp": "2020-06-12T14:34:32.252Z",
           "journeyStepTypeId": "2325162052584211960",
           "journeyStepTypeText": "Conversion Journey Start"
 780
 781
 782
 783
           "timestamp": "2020-06-12T14:34:32.335Z".
           "journeyStepTypeId": "2325162052584211960",
           "journeyStepTypeText": "Conversion Journey Start"
 786
 787
 788
           "timestamp": "2020-03-04T14:07:11.000Z",
 789
           "journevStepTypeId": "2327444942080706065".
           "journeyStepTypeText": "Is Not Approved"
                                                       Close
```

Guidelines

Deletions

Activities by an User	Impacts on Channels	Impacts on Journey Steps	Impacts on Journeys	Impacts on Identifiers	Impacts on Interactions
Deletes	Hard Delete	Soft Delete	Hard Delete but Start / End Journey Steps are Soft Deletes	Soft Delete	Soft Delete
Creates with the same name	Data will not be restored; data will be tied to a new Channel ID	Data will be restored; data will be tied to the old Journey Step ID	Data will be restored; data will be tied to the old Journey ID via the Start / End Journey Step ID	Data will be restored; data will be tied to the old Identifiers ID	Data will be restored; data will be tied to the old Interactions ID
Filters journey discovery analytics	Data shown in sankey will always be current •e.g., the current data that is tied to the new channel ID	Data shown in sankey will be new and old combined •e.g., the data from old Journey Step ID + new recorded data	Data shown in sankey will be new and old combined •e.g., the data from old Journey Step ID + new recorded data	Data shown for the profile will be new and old combined •e.g., the data from old Identifiers ID + new recorded data	Data shown for the interactions and heat map will be new and old combined •e.g., the data from old Interaction ID + new recorded data

kitewheel

Glossary

Profile

- A Profile is defined as all the attributes associated to a customer
 - Unique identifiers of a customer (e.g., customer ID, account ID, email address)
 - · Interactions and associated context
 - Journey Steps and associated context
 - Attributes (e.g., demographic information)

Interactions

• Atomic level activity that is channel specific (e.g., form click on web)

Journey Steps

- Defined by the business
- Typically captures critical business touchpoints
 - In an eCommerce, critical business touchpoints can be Category SKU, Product SKU, Cart and Checkout, etc.

Journeys

- · A full customer experience with your brand
- This can be split into multiple journeys and a customer can be in any one of the journeys

Attributes

 Non-unique descriptive metadata tied to a Profile (e.g., first name and last name)

Journey Step Outcome Metrics

- Tied to a journey step
- Part of the journey measurement framework to help businesses track key KPIs

KDM

• The underlying journey data model from Kitewheel

Kitewheel ID Manager

- Synchronizes and merges seamlessly the various identities from diverse systems
- Uses the find, create and collapse methodology

Glossary Cont'd

- Journey Discovery Analytics Dashboard (aka: JDA)
 - The analytics tab within a specific project; designed to provide businesses an overview of the most popular behavioral flow of their customers

Data Lake

- Essential tool for deeper business insights and data science teams
- A storage repository that holds a vast amount of raw data in its native format until it is needed

Redshift

- Queryable database
- Kitewheel extracts journey data into this database for BI tools to connect to

BI

- Business intelligence tools (e.g., Power BI, Tableau)
- 3rd party analytic tools that can be connected to Kitewheel if needed

Process Flow

