

22 April 2022

Customer Penetration Data Extract

Requirements and spec



Classification: Confidential



Our history assures best practice in privacy, security and the ethical use of data since 2002

We all have a responsibility to use data for good

Privacy

- We have built our business based on privacy by design principles since 2002
- Quantum has strict protocols around the receipt and storage of personal information
- All information is de-identified using an irreversible tokenisation process with no ability to re-identify individuals.

Security

- We are ISO27001 certified - internationally recognised for our ability to uphold best practice standards across information security
- We use 'bank grade' security to store and process our data
- Comply with 200+ security requirements from leading financial institutions and retailers
- All partner data is held in separate restricted environments
- All access to partner data is limited to essential staff only
- Security environment and processes regularly audited by our data partners.

Ethical use of data

Applies to all facets of our work, from the initiatives we take on, the information we use and how our solutions impact individuals, organisations and society.

Quantum believes in using data for progress, with great care and responsibility. As such please respect the confidence nature of this document.

We are proudly
ISO27001 Certified

An international
recognition that
security is core
to how we operate



What this means for our clients and partners

Best practice data governance

Greater assurance for stakeholders
through robust risk management
and security procedures

Our processes have been
tested and proven

Quantum named as a Leader in Customer Analytics

The Forrester Wave™: Customer Analytics Service Providers, Q3 2021 report



Quantum has become a major global data science and AI player. **Quantum epitomizes the successful productization of its analytical capabilities...**

Quantum is also a service provider **and attracts top data science talent** while fostering a culture of continuous learning...

Banks, retailers, and CPG **companies that are interested in achieving the next-best-experience vision should consider partnering with Quantum.**



Received the highest score possible in the following criteria:

Data wrangling

Personalization

Customer co-innovation

Proprietary customer data frameworks

Emerging analytics

Privacy and ethics

...and 12 more criteria



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Data request requirements (from Asda Commercial Transformation team)

Request to provide an ongoing weekly feed of key customer metrics at different levels of the product hierarchy over time.

Metrics

- Customer penetration
- Customer count
- Spend per customer
- Visits (baskets) per customer
- Average unit price

Groupings / filters / levels

- Promo week
- Product hierarchy:
 - Total
 - Category
 - Department
 - Merchandising category
 - Product Profile Group
 - Product (CIN) – ideally if possible

Time period coverage

- Rolling period reports:
 - 1 week
 - 12 week
- Historical coverage:
 - Ideally 104 weeks history
 - Otherwise, 64 weeks for trend over time and to enable calculate of YoY growth metrics

Data provision / transfer requirements

For the solution where Quantum builds the metrics and sends the extract to Asda

01

Structure and transfer mechanism

Initial data extract will cover all history required (i.e. up to 2 years). Subsequent weekly extracts will be an incremental load that includes data for only the latest 13 weeks (to improve transfer efficiency and reduce query run time, whilst accounting for customer activity rule changes).

Transfer process will follow the same mechanism as the current weekly segment data feed, where the data will be uploaded to Azure blob storage for Asda to pick up.

Table schema is detailed on next page.



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Timing / schedule

Data extract will be sent from Quantum to Asda on a weekly basis:

- Frequency: Weekly
- Transfer day/time SLA (TBC): Monday, 6am (GMT) or 7am (BST)

03

Asda requirements

Once Asda receives the data extract, they'll need to ingest it into their database / data lake to make it available for the Asda Commercial Transformation team. The team requires the data to be stored in an internal Asda data source for use.

Initial data extract needs to be ingested in full. Subsequent ongoing data extracts need to be stitched onto the full history, which will need to be maintained on the Asda side, as the ongoing feed will be an incremental feed of only the latest 13 weeks data.

Table schema/spec for customer metrics extract

Column name	Column type	Description	Primary Key	Nullable	Data Type
WEEK_END_DATE	Aggregation descriptor	The promo week end date (Friday) of the report.	Y	N	DATE
REPORT_PERIOD_WEEKS	Aggregation descriptor	The length of the report period in number of weeks. Values are {1, 12}.	Y	N	NUMBER
HIERARCHY_LEVEL	Aggregation descriptor	Product hierarchy level used in aggregation. Values are {TOTAL, CATEGORY, DEPARTMENT, MERCHANDISING_CATEGORY, PRODUCT_PROFILE_GROUP, PRODUCT}.	Y	N	TEXT
HIERARCHY_LEVEL_ID	Aggregation descriptor	ID of product hierarchy level.	Y	N	NUMBER
HIERARCHY_LEVEL_NAME	Aggregation descriptor	Name of product hierarchy level.	N	N	TEXT
CUSTOMER_PENETRATION	Customer metric	Percentage of customers who have transacted in the product hierarchy universe out of the total number of Asda customers overall, within the reporting period.	N	Y	FLOAT
CUSTOMER_COUNT	Customer metric	Number of customers who have transacted in the product hierarchy universe, within the reporting period.	N	Y	NUMBER
SPEND_PER_CUSTOMER	Customer metric	Total customer sales (incl. tax) for the product hierarchy universe over number of customers who have transacted in the product hierarchy universe, within the reporting period.	N	Y	FLOAT
VISITS_PER_CUSTOMER	Customer metric	Total customer baskets for the product hierarchy universe over number of customers who have transacted in the product hierarchy universe, within the reporting period.	N	Y	FLOAT
AVERAGE_UNIT_PRICE	Customer metric	Total customer sales (incl. tax) for the product hierarchy universe over total customer units (unmeasured quantity) purchased in the product hierarchy universe, within the reporting period.	N	Y	FLOAT

Example data table for customer metrics extract

WEEK_END_DATE	REPORT_PERIOD_WEEKS	HIERARCHY_LEVEL	HIERARCHY_LEVEL_ID	HIERARCHY_LEVEL_NAME	CUSTOMER_PENETRATION	CUSTOMER_COUNT	SPEND_PER_CUSTOMER	VISITS_PER_CUSTOMER	AVERAGE_UNIT_PRICE
2022-04-15	1	TOTAL	0		1.0	5000000	50.0	2.5	2.5
2022-04-15	12	CATEGORY	10	HOUSEHOLD & PET CARE	0.25	1250000	5.0	1.0	2.5
2022-04-08	1	DEPARTMENT	13	CLEANING & KITCHEN	0.20	1000000	5.0	1.0	2.5
2022-04-08	12	MERCHANDISING_CATEGORY	1309502	AIR FRESHNERS	0.01	50000	5.0	1.0	2.75
2022-04-01	1	PRODUCT_PROFILE_GROUP	130110	AIRCARE – ELECTRIC REFIL	0.001	5000	5.0	1.0	2.75
2022-04-01	12	PRODUCT	6056535	AIRWICK PLUGIN REFIL SATIN 2PK	0.0001	500	5.0	1.0	2.75



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