Smarten
Augmented Analytics

SnapShot Concept Manual

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Contents

1 Introduction

Smarten SnapShot monitors and captures insights for the anomalies observed in a time series data. Anomaly detection helps users identify observations from a time series data when a target variable deviates from normal behavior. It is crucial to be notified when an anomaly occurs and know the root causes for the deviation in performance of the target KPI.

Smarten SnapShot provides in-app and email alerts when an anomaly occurs in the target variable. It provides an overview of the anomaly observed over the last “n” periods along with explainable visualizations and interpretation of the anomaly in easy-to-understand language. It showcases the trends, volatility, and slice and dice analysis of the target variable by different context variables in the data.

Smarten SnapShot provides two options to monitor a target KPI:

SnapShot without Breakdown

Users can create and monitor SnapShot for a selected target KPI and analyze that target variable performance by performing slice and dice by related context variables in the data, for example, monitoring GrossSales with monthly frequency and analyzing anomaly insights using City and ProductCategory context variables.

SnapShot with Breakdown

Users can create and monitor SnapShot for a selected target KPI for multiple values of a variable in the data. For example, if you want to monitor prices for multiple Crypto currencies, you can take Price as a target KPI and CurrencyName as a breakdown column. The system monitors anomalies for each CurrencyName, e.g., Bitcoin, Dogcoin, etc., and generates alerts based on Price for each CurrencyName.

2 Popular User Cases

SnapShot can be helpful in many use cases, such as:

- Understand anomalies and Sales and what factors contribute to Sales fluctuations:
  Understand the fluctuations in daily, weekly, monthly, quarterly, or yearly sales and what factors, i.e., context variables, contribute to these fluctuations. For instance, your weekly sales are reduced by 5% as compared with the previous week’s sales, with major reduction contributed by city—Mumbai—and product category—Alcoholic drinks. This can be an essential detail in understanding the drop in sales behavior.
- Understand anomalies in raw material prices and factors causing the price fluctuations:
  Notice the volatility in your raw material prices for your manufacturing business over the last four months. If there is observable high volatility in the behavior of raw material prices, it is often suggestive of higher risk and helps the procurement department estimate the procurement cycle while minimizing the risks.
- Monitor Employee Attrition Trend:
  Comprehend the changing trend in the employee attrition rate over past months and assist HR and management in taking appropriate actions to retain employees by understanding the trending patterns.

- Monitor retail sales transaction volume and its anomalies:
  Monitor any sudden changes in the number of completed transactions for retail companies, and identify any unexpected surge in demand or possible fraud risk. In general, spikes in demand occur for a number of reasons, for example, changes in weather conditions, holiday shopping, etc. Anomaly SnapShot assists businesses in analyzing any sudden drop or rise in retail transactions and understanding its contributors and analyzing them in detail to either meet the demand or investigate possible fraud.

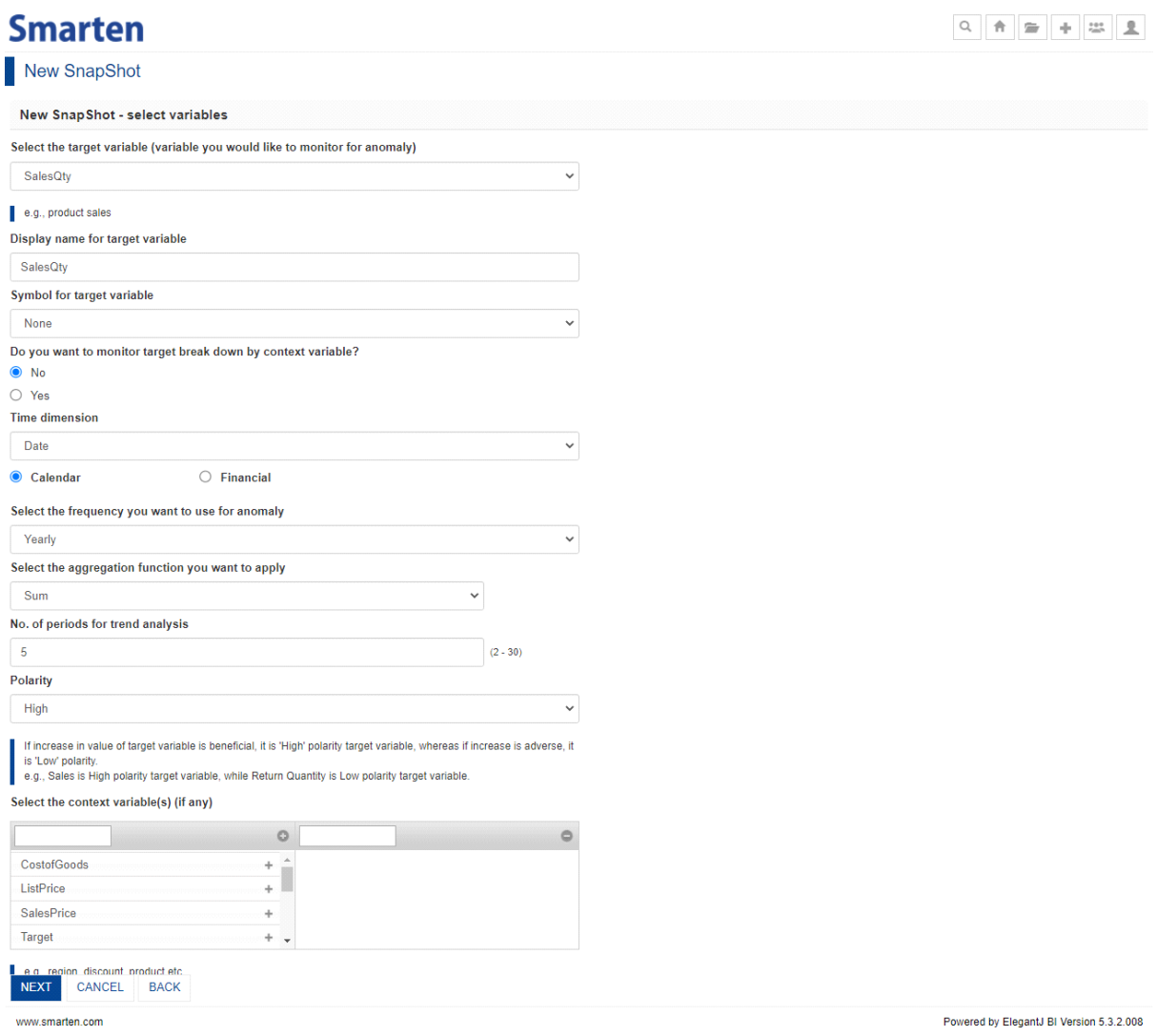
3 Create a SnapShot

Smarten provides a step-by-step wizard for creating a SnapShot. The following steps are involved to create a SnapShot object:

- Select dataset or cube
- Apply the data filters
- Select the target and other parameters for a SnapShot
- Analyze the SnapShot using data visualization and interpretation
- Configure alerts

3.1 Select Target and Other Parameters for a SnapShot

To create a SnapShot object, you need to choose the target KPI and other parameters, such as time dimension, the frequency you want to monitor for a target, the number of periods to analyze the anomaly, polarity, and context variables.



CREATE SNAPSHOT—SELECT TARGET AND OTHER PARAMETERS

The following table describes the parameters required to create a SnapShot object:

Parameter/Configuration	Description
Target KPI	It is the target variable/KPI that you want to monitor for a desired period of time, for example, GrossSales, Sales quantity.
Display name for target KPI	A display name for the selected target KPI, which will be used in SnapShot visualization and interpretation text.
Symbol for target KPI	A symbol or unit of the target KPI to indicate the target KPI value, for example, ₹, $, £, Kg, etc.
Monitor target breakdown by context variable	Specify the option whether you want to monitor the target without a breakdown or with a breakdown. Selecting the “No” option allows you to monitor the target without a breakdown. Selecting the “Yes” option allows you to monitor the target with a breakdown by specified context variable values.

Time Dimension	Specify a time dimension column based on which you want to monitor the target KPI.
Frequency for anomaly	Specify the frequency of the time period you want to use to monitor the target. It provides frequency options, such as Yearly, Quarterly, Monthly, Weekly, Daily, Hourly, and by minutes. For example, select “Monthly” as the frequency if you want to monitor your GrossSales on a monthly basis.
Aggregation function	Specify the aggregation operation for how you want to aggregate your target values based on the selected frequency. It supports aggregation operations, such as sum, average, count, minimum, maximum, least recent, most recent, first, and last. For example, If you want to monitor monthly average GrossSales, you can select the “Average” aggregation operation.
Number of periods for analysis	Specify the number of periods for which you want to analyze target values. For example, If you want to monitor GrossSales with a monthly frequency and want to analyze last 12 months of data, you can specify value 12 for this parameter.
Polarity	Specify the polarity of the target KPI. Polarity is used to determine whether a high value or a low value is better for a target KPI. For example, Profit Target KPI has high polarity, as a higher value is better. Discount target KPI has low polarity, as a lower value is better. You can specify polarity of the target based on its nature. The system uses target polarity when it shows a green or red indicator for the target value when compared to the previous period.
Context variables	Select context variables based on which you want to further slice and dice your target KPI and find out the reasons for an anomaly. For example, selecting ”City” and “Product” as context variables will show which cities and products contribute the most to GrossSales and which ones less. This enables a more granular level of analysis.

3.2 Analyze the SnapShot

Once the SnapShot is created, you can analyze the target KPI with various visualizations and easy-to-understand interpretation with various views, such as Overview, Comparison, Contribution, and Volatility. It provides details about the overall trend observed in anomaly detection over a selected number of periods, comparative study of changes observed among the last two time periods, i.e., current and previous time periods, an analysis of the contextual anomalies and their contributions, and Volatility in anomaly behavior observed over a period of time. This constitutes a thoroughgoing evaluation of the anomalies detected along with key insights based upon time dimension and contexts chosen.

3.2.1 SnapShot without a Breakdown

This section provides details about the SnapShot without a breakdown and how you can analyze it and find out the insights and reasons for anomalies.

3.2.1.1 Snapshot Overview

This screen provides a brief overview of the anomaly insights based upon the preselected parameters, target, and context variables. It obtains a comparative analysis of how the target KPI varies over the current and previous time periods, which context variables (if any) contribute to the corresponding variation, an overall trend over a chosen time frame, determines the number of anomalies observed over a period of time, and also shows the holistic view of the significant and nonsignificant contributors in the selected time frame, which helps you to easily identify the key players for your selected target as well as how volatile the behavior of the target KPI has been. All this information is explained in easy-to-grasp language supplemented with visualizations to pictorially analyze the trend and behavior of a target KPI.

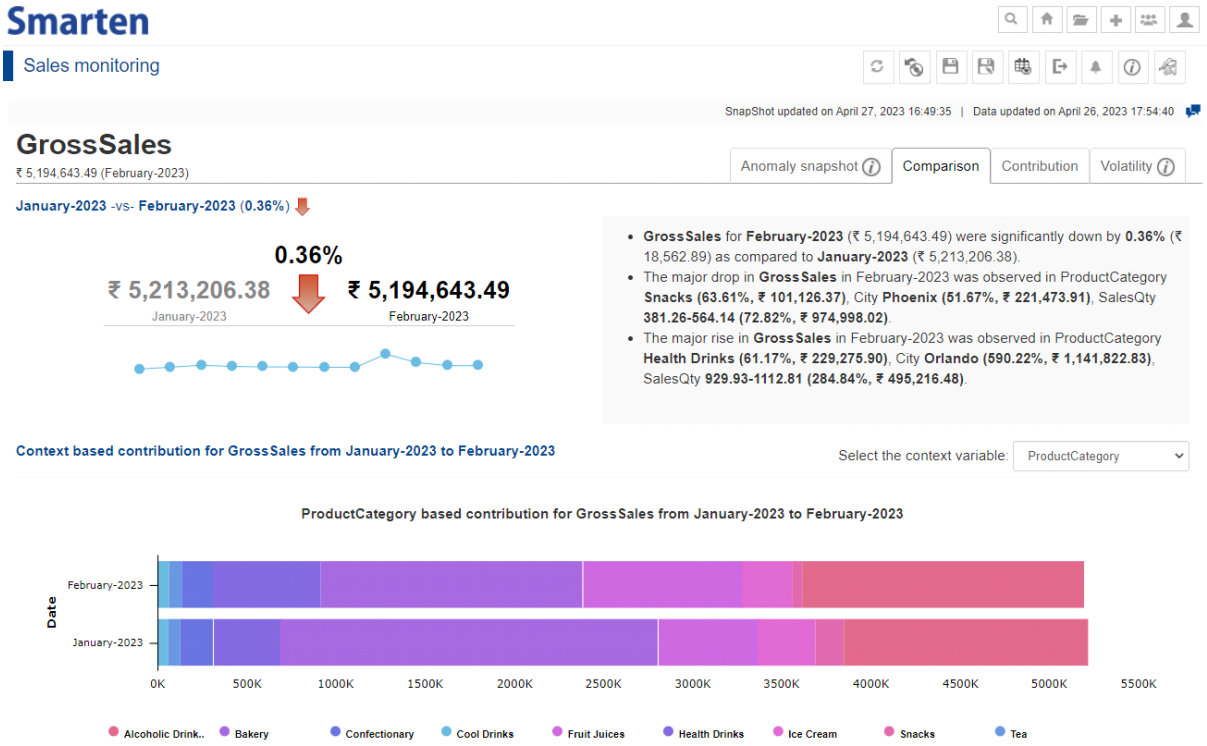
SNAPSHOT WITHOUT BREAKDOWN—OVERVIEW SCREEN

For instance, considering the aforementioned use case of detecting Sales Anomalies based upon product name, discount percentage, and city, you can obtain insights as described in the above screen.

It reveals a significant drop in the GrossSales price for the period January 2023 to February 2023 with the major contributors for this drop being cityPhoenix, Sales Qty—(381–564) and Snacks being the product category. Also observed is that one anomaly was identified over the last 12 months and an overall increasing trend in GrossSales over the past 12 months. It also shows that in the last 12 months total sales were 64,390,305 of Rs in which significant contributions came from Product Alcoholic Drinks with an overall 31.7% contribution and City Seattle with 15.03% to the sales. The summary indicates that the GrossSales price has been low over the last 12 months.

3.2.1.2 Comparison with Previous Period

This screen focuses on the details regarding variations in target KPIs observed in the current and immediate previous period. It further specifies about variability in the target KPI based upon each selected context variable and how each context variable value contributed to overall variation in the target KPI.



The following **ProductCategory(s)** reveals a **significant** increasing or decreasing trend in contribution for January-2023 to February-2023 for **GrossSales**:

↓	**Snacks** reveals a **63.61%** decrease from January-2023 to February-2023, and this trend contributed to **1.11%**, **₹ 57,850.62** of GrossSales in February-2023 as compared to **3.05%**, **₹ 158,976.99** in January-2023.
↑	**Health Drinks** reveals a **61.17%** increase from January-2023 to February-2023, and this trend contributed to **11.63%**, **₹ 604,099.49** of GrossSales in February-2023 as compared to **7.19%**, **₹ 374,823.58** in January-2023.
↑	**Fruit Juices** reveals a **59.02%** increase from January-2023 to February-2023, and this trend contributed to **17.24%**, **₹ 895,401.06** of GrossSales in February-2023 as compared to **10.80%**, **₹ 563,060.19** in January-2023.
↓	**Bakery** reveals a **30.71%** decrease from January-2023 to February-2023, and this trend contributed to **28.24%**, **₹ 1,467,212.76** of GrossSales in February-2023 as compared to **40.62%**, **₹ 2,117,471.73** in January-2023.
↑	**Alcoholic Drinks** reveals a **15.50%** increase from January-2023 to February-2023, and this trend contributed to **30.44%**, **₹ 1,581,118.01** of GrossSales in February-2023 as compared to **26.26%**, **₹ 1,368,947.25** in January-2023.
↓	**Ice Cream** reveals a **12.46%** decrease from January-2023 to February-2023, and this trend contributed to **5.35%**, **₹ 278,052.57** of GrossSales in February-2023 as compared to **6.09%**, **₹ 317,628.06** in January-2023.
↑	**Tea** reveals a **6.34%** increase from January-2023 to February-2023, and this trend contributed to **1.40%**, **₹ 72,936.02** of GrossSales in February-2023 as compared to **1.32%**, **₹ 68,589.06** in January-2023.
↓	**Confectionary** reveals a **4.56%** decrease from January-2023 to February-2023, and this trend contributed to **3.38%**, **₹ 175,832.99** of GrossSales in February-2023 as compared to **3.53%**, **₹ 184,232.68** in January-2023.
↑	**Cool Drinks** reveals a **4.48%** increase from January-2023 to February-2023, and this trend contributed to **1.20%**, **₹ 62,139.98** of GrossSales in February-2023 as compared to **1.14%**, **₹ 59,476.84** in January-2023.

GrossSales by ProductCategory contribution

	January-2023		February-2023		Change (January-2023 to February-2023)		
ProductCategory	GrossSales (%)	GrossSales (₹)	GrossSales (%)	GrossSales (₹)	GrossSales (%)	GrossSales (₹)	Change indicator
Snacks	3.05	158,976.99	1.11	57,850.62	63.61	101,126.37	↓
Health Drinks	7.19	374,823.58	11.63	604,099.49	61.17	229,275.90	↑
Fruit Juices	10.80	563,060.19	17.24	895,401.06	59.02	332,340.87	↑
Bakery	40.62	2,117,471.73	28.24	1,467,212.76	30.71	650,258.97	↓
Alcoholic Drinks	26.26	1,368,947.25	30.44	1,581,118.01	15.50	212,170.75	↑
Ice Cream	6.09	317,628.06	5.35	278,052.57	12.46	39,575.49	↓
Tea	1.32	68,589.06	1.40	72,936.02	6.34	4,346.96	↑
Confectionary	3.53	184,232.68	3.38	175,832.99	4.56	8,399.69	↓
Cool Drinks	1.14	59,476.84	1.20	62,139.98	4.48	2,663.15	↑

SNAPSHOT WITHOUT BREAKDOWN—COMPARISON WITH PREVIOUS PERIOD

For instance, taking into account the variation in Sales price from January 2023 to February 2023, it can be determined that a drop in GrossSales occurred. Further, this section provides users with the option to choose the context variable they want to analyze in depth to understand this drop in Sales behavior.

3.2.1.3 Contribution

This section presents an analysis of the overall contributions made by the context variables toward the target KPI in the last 12 months. It also identifies the significant combinations of context variables that have contributed to the overall outcome.

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Sales monitoring

SnapShot updated on April 27, 2023 16:49:35 | Data updated on April 26, 2023 17:54:40

GrossSales

₹ 5,194,643.49 (February-2023)

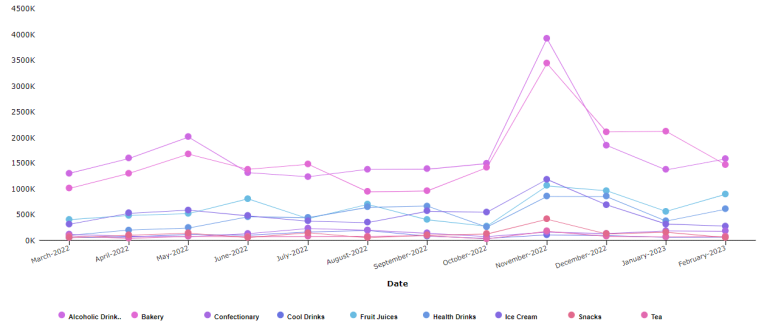
Anomaly snapshot | Comparison | Contribution | Volatility

GrossSales contributions over last 12 months

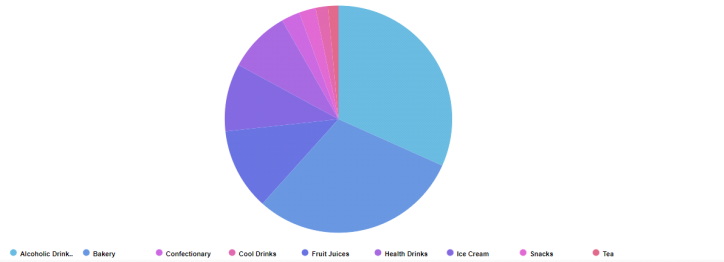
- An overall of **GrossSales** over last 12 months- **₹ 64,390,305.66**.
- ProductCategory **Alcoholic Drinks (31.70%, ₹ 20,411,254.58)**, City **Seattle (15.03%, ₹ 9,678,661.27)**, SalesQty **25249.44-29308.68 (36.84%, ₹ 23,721,025.25)** significantly contributed to GrossSales in last 12 months.
- ProductCategory **Tea (1.48%, ₹ 951,749.73)**, City **Dayton (5.12%, ₹ 3,294,925.23)**, SalesQty **29308.69-37427.17 (10.70%, ₹ 6,887,722.10)** did not significantly contribute to GrossSales in last 12 months.

GrossSales trend based upon ProductCategory - last 12 months

Select the context variable: ProductCategory



GrossSales contributions based upon ProductCategory - last 12 months



- **Alcoholic Drinks (31.70%, ₹ 20,411,254.58)**, **Bakery (29.94%, ₹ 19,280,807.92)** significantly contributed to the **GrossSales** over last 12 months, with **Alcoholic Drinks** making the most significant contribution.

GrossSales by ProductCategory over last 12 months

Search ProductCategory | Page 1 of 1

ProductCategory	Contribution(%)	GrossSales(₹.)	Trend
Alcoholic Drinks	31.70	20,411,254.58	
Bakery	29.94	19,280,807.92	
Fruit Juices	11.64	7,493,017.12	
Ice Cream	9.63	6,203,843.25	
Health Drinks	8.83	5,687,065.90	
Confectionary	2.63	1,694,696.06	
Snacks	2.37	1,525,996.14	
Cool Drinks	1.77	1,141,874.97	
Tea	1.48	951,749.73	

High Contribution | Medium Contribution | Low Contribution

GrossSales by important combinations of context variables:

ProductCategory - City -

- **GrossSales by ProductCategory - City - SalesQty combination:**

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ProductCategory	City	SalesQty	Contribution(%)	GrossSales(₹.)	Trend
Bakery	Lakeland	21190.19-25249.43	2.98	1,915,774.71	
Alcoholic Drinks	Seattle	21190.19-25249.43	2.28	1,469,331.78	
Bakery	Conway	25249.44-29308.68	2.25	1,448,504.57	
Bakery	Seattle	21190.19-25249.43	2.15	1,387,332.48	
Alcoholic Drinks	Redmond	21190.19-25249.43	2.05	1,317,358.34	
Bakery	Orlando	21190.19-25249.43	1.80	1,158,011.54	
Alcoholic Drinks	Conway	21190.19-25249.43	1.79	1,150,443.46	
Alcoholic Drinks	Orlando	25249.44-29308.68	1.72	1,107,476.78	
Alcoholic Drinks	Scottsdale	21190.19-25249.43	1.71	1,099,386.53	
Bakery	Lakeland	25249.44-29308.68	1.60	1,031,720.09	

High Contribution | Medium Contribution | Low Contribution

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SNAPSHOT WITHOUT BREAKDOWN—CONTRIBUTION SCREEN

The screen above details which context variables and corresponding values significantly contributed to Sales over the last 12 months. The line chart shows how contributions of each value of the context variable (product category in this case) varied in the last 12 months. Furthermore, you can analyze context-based contributions in detail with a pie chart describing the context variable's values distribution to aid the interpretation by choosing the required context variable from the drop-down.

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Sales monitoring

SnapShot updated on April 27, 2023 16:49:35 | Data updated on April 26, 2023 17:54:40

GrossSales

₹ 5,194,643.49 (February-2023)

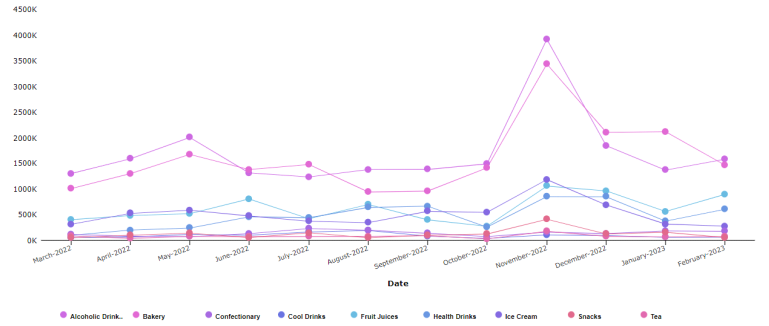
Anomaly snapshot | Comparison | Contribution | Volatility

GrossSales contributions over last 12 months

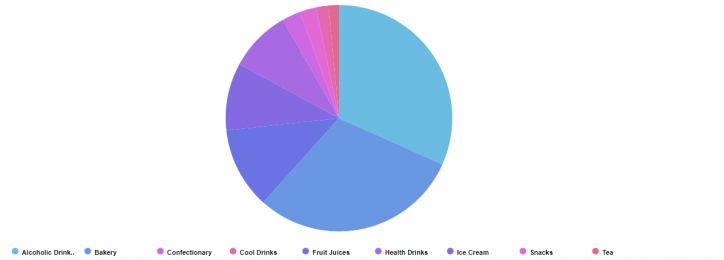
- An overall of **GrossSales** over last 12 months- **₹ 64,390,305.66**.
- ProductCategory **Alcoholic Drinks (31.70%, ₹ 20,411,254.58)**, City **Seattle (15.03%, ₹ 9,678,661.27)**, SalesQty **25249.44-29308.68 (36.84%, ₹ 23,721,025.25)** significantly contributed to GrossSales in last 12 months.
- ProductCategory **Tea (1.48%, ₹ 951,749.73)**, City **Dayton (5.12%, ₹ 3,294,925.23)**, SalesQty **29308.69-37427.17 (10.70%, ₹ 6,887,722.10)** did not significantly contribute to GrossSales in last 12 months.

GrossSales trend based upon ProductCategory - last 12 months

Select the context variable: ProductCategory



GrossSales contributions based upon ProductCategory - last 12 months



- **Alcoholic Drinks (31.70%, ₹ 20,411,254.58)**, **Bakery (29.94%, ₹ 19,280,807.92)** significantly contributed to the **GrossSales** over last 12 months, with **Alcoholic Drinks** making the most significant contribution.

GrossSales by ProductCategory over last 12 months

Search ProductCategory | Page 1 of 1

ProductCategory	Contribution(%)	GrossSales(₹.)	Trend
Alcoholic Drinks	31.70	20,411,254.58	
Bakery	29.94	19,280,807.92	
Fruit Juices	11.64	7,493,017.12	
Ice Cream	9.63	6,203,843.25	
Health Drinks	8.83	5,687,065.90	
Confectionary	2.63	1,694,696.06	
Snacks	2.37	1,525,996.14	
Cool Drinks	1.77	1,141,874.97	
Tea	1.48	951,749.73	

High Contribution | Medium Contribution | Low Contribution

GrossSales by important combinations of context variables:

ProductCategory - City -

- **GrossSales by ProductCategory - City - SalesQty combination:**

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ProductCategory	City	SalesQty	Contribution(%)	GrossSales(₹.)	Trend
Bakery	Lakeland	21190.19-25249.43	2.98	1,915,774.71	
Alcoholic Drinks	Seattle	21190.19-25249.43	2.28	1,469,331.78	
Bakery	Conway	25249.44-29308.68	2.25	1,448,504.57	
Bakery	Seattle	21190.19-25249.43	2.15	1,387,332.48	
Alcoholic Drinks	Redmond	21190.19-25249.43	2.05	1,317,368.34	
Bakery	Orlando	21190.19-25249.43	1.80	1,158,011.54	
Alcoholic Drinks	Conway	21190.19-25249.43	1.79	1,150,443.46	
Alcoholic Drinks	Orlando	25249.44-29308.68	1.72	1,107,476.78	
Alcoholic Drinks	Scottsdale	21190.19-25249.43	1.71	1,099,386.53	
Bakery	Lakeland	25249.44-29308.68	1.60	1,031,720.09	

High Contribution | Medium Contribution | Low Contribution

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SNAPSHOT WITHOUT BREAKDOWN—CONTEXT-BASED INSIGHT ON TREND ANALYSIS

This section indicates how much each product contributed to Sales over the past 12 months along with the Spark-line plot indicating product-wise changes in Sales variations over the past 12 months in a tabular format.

It shows the contribution of the important context variables on Sales for the last 12 months. For instance, it was noticed that Cookies had high sales in the city of Ahmadabad with a discount percentage ranging between 10% and 20%, which contributed highly to Sales. This is an important insight, and one can further investigate these rising sales of cookies with corresponding combinations to estimate future sales trends. A user is also able to change and choose an appropriate combination of the context variables from the drop-down and see its combination contribution in the target KPI. The contributions are color codes, so the significant and nonsignificant contributors can be observed with ease.

3.2.1.4 Volatility

Volatility is the measure of the rate of fluctuation in the target KPI over a period of time. Volatility is quantitatively measured by the volatility index.

High volatility index indicates more fluctuations in the target KPI over a given period of time.

Low volatility index indicates fewer fluctuations in the target KPI over a given period of time.

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Sales monitoring

SnapShot updated on April 27, 2023 16:49:35 | Data updated on April 26, 2023 17:54:40

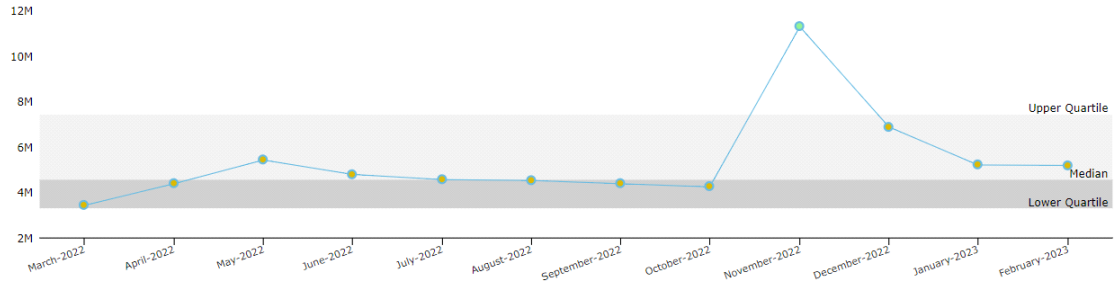
GrossSales

₹ 5,194,643.49 (February-2023)

Anomaly snapshot | Comparison | Contribution | Volatility

34.64

Low Volatility



Low volatility index - **34.64** was observed for **GrossSales** over the last 12 months.

Context based volatility in GrossSales over last 12 months

ProductCategory

The following ProductCategory values reveal **high** volatility over the last **12 months**:

- Bakery (80.1)
- Alcoholic Drinks (74.43)

The following ProductCategory values reveal **low** volatility over the last **12 months**:

- Tea (4.48)
- Cool Drinks (5.81)
- Confectionary (7.05)

Volatility Index by ProductCategory - last 12 months

Search ProductCategory | Page 1 of 1

ProductCategory	Volatility Index
Bakery	80.1
Alcoholic Drinks	74.43
Fruit Juices	31.57
Ice Cream	26.14
Health Drinks	22.27
Snacks	8.76
Confectionary	7.05
Cool Drinks	5.81
Tea	4.48

● High Volatility ● Medium Volatility ● Low Volatility

Volatility Index by important combinations of context variables:

ProductCategory - City -

- **ProductCategory - City - SalesQty**

The following combination values reveal significant **high** volatility over the last **12 months**:

- Alcoholic Drinks, Orlando, 21190.19-25249.43 (140.67)
- Alcoholic Drinks, Redmond, 21190.19-25249.43 (109.44)
- Bakery, Springdale, 25249.44-29308.68 (93.32)

The following combination values reveal significant **low** volatility over the last **12 months**:

- Alcoholic Drinks, Cleveland, 29308.69-37427.17 (0.0)
- Alcoholic Drinks, Cleveland, 37427.18-61782.63 (0.0)
- Alcoholic Drinks, Conway, 29308.69-37427.17 (0.0)

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ProductCategory	City	SalesQty	Volatility Index
Alcoholic Drinks	Orlando	21190.19-25249.43	140.67
Alcoholic Drinks	Redmond	21190.19-25249.43	109.44
Bakery	Springdale	25249.44-29308.68	93.32
Bakery	Conway	21190.19-25249.43	89.58
Bakery	Seattle	21190.19-25249.43	89.25
Bakery	Seattle	25249.44-29308.68	87.65
Alcoholic Drinks	Conway	21190.19-25249.43	84.99
Alcoholic Drinks	Seattle	21190.19-25249.43	80.81
Alcoholic Drinks	Lakeland	21190.19-25249.43	67.67
Alcoholic Drinks	Scottsdale	21190.19-25249.43	64.46

● High Volatility ● Medium Volatility ● Low Volatility

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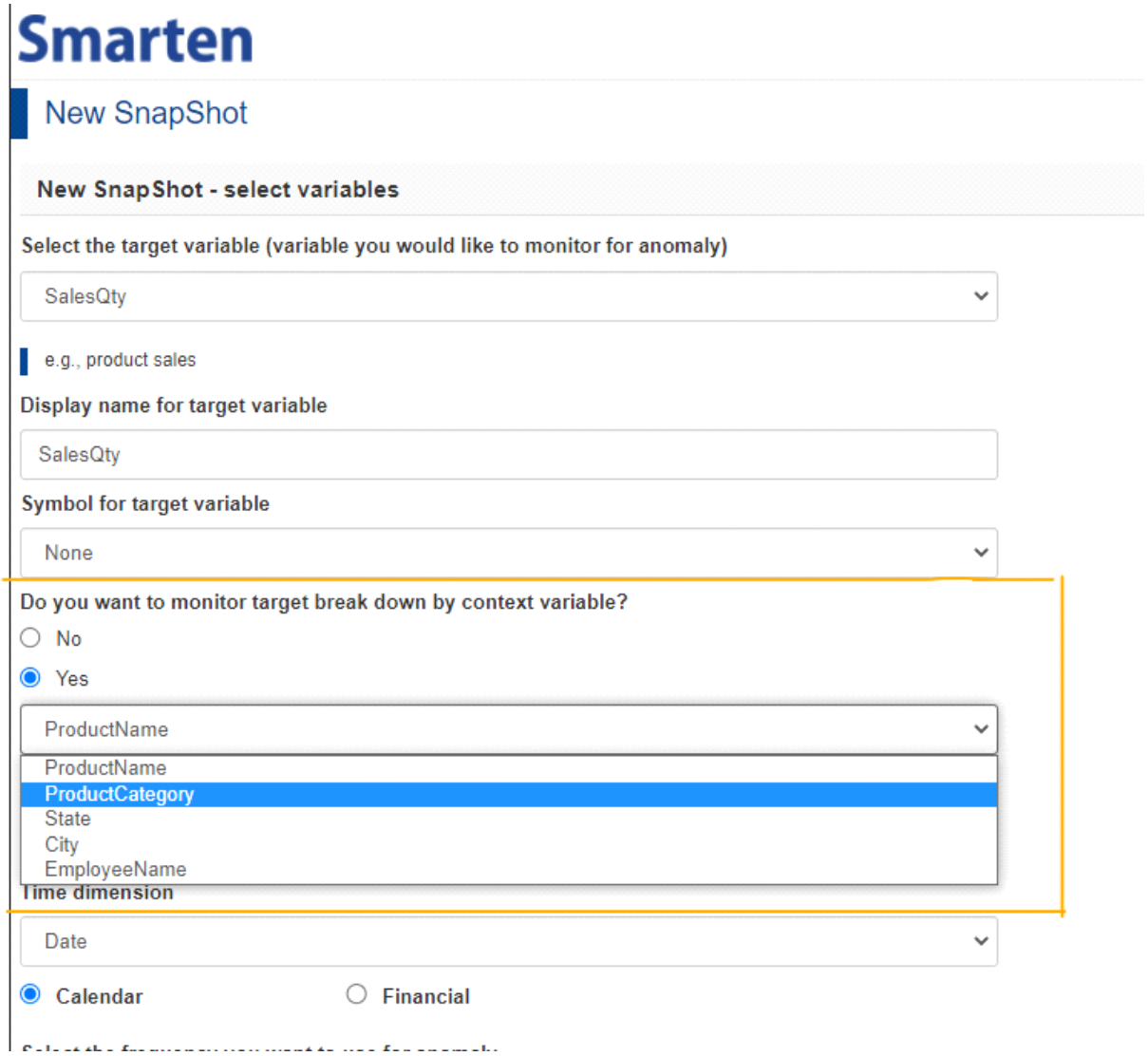
SNAPSHOT WITHOUT BREAKDOWN—VOLATILITY SCREEN

This section outlines how volatile Sales behavior has been over a period of time and what were the contributing factors as well as which combinations of context variable values were crucial for high volatility of the Sales price.

3.2.2 SnapShot with Breakdown

Users can create and monitor SnapShot for the selected target KPI with a breakdown column based on selected frequency. To create a SnapShot with breakdown, perform all steps as you do in the normal flow except one. Just select “Yes” in the SnapShot configuration screen, and select the context variable you want to use to break down your target as given below:

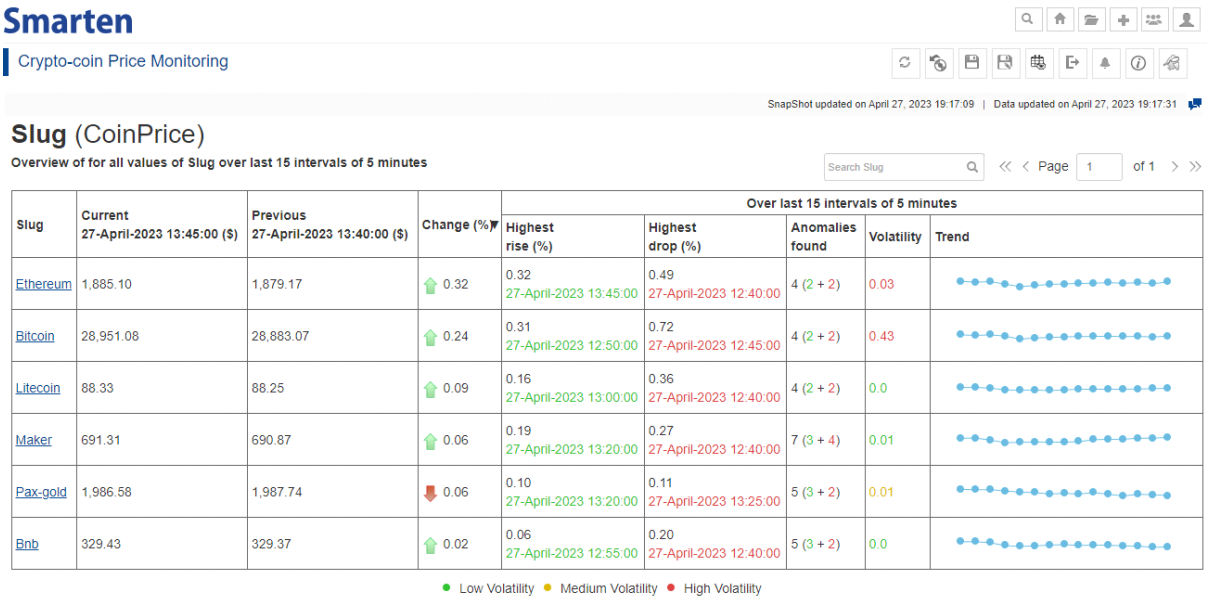


CREATE SNAPSHOT WITH BREAKDOWN

This section provides details about the SnapShot with a breakdown and how you can analyze it and find out the insights and reasons for anomalies.

3.2.2.1 SnapShot Overview

On SnapShot with a breakdown overview page, Smarten provides a breakdown of the target KPI for the selected breakdown context variable. For each context variable value, it provides details about the current period value, the previous period value, change in percentage, highest rises and drops, total anomalies, volatility index, and trends in an interactive manner.



Slug	Current 27-April-2023 13:45:00 ($)	Previous 27-April-2023 13:40:00 ($)	Change (%)	Over last 15 intervals of 5 minutes				
				Highest rise (%)	Highest drop (%)	Anomalies found	Volatility	Trend
Ethereum	1,885.10	1,879.17	0.32	0.32 27-April-2023 13:45:00	0.49 27-April-2023 12:40:00	4 (2 + 2)	0.03	
Bitcoin	28,951.08	28,883.07	0.24	0.31 27-April-2023 12:50:00	0.72 27-April-2023 12:45:00	4 (2 + 2)	0.43	
Litecoin	88.33	88.25	0.09	0.16 27-April-2023 13:00:00	0.36 27-April-2023 12:40:00	4 (2 + 2)	0.0	
Maker	691.31	690.87	0.06	0.19 27-April-2023 13:20:00	0.27 27-April-2023 12:40:00	7 (3 + 4)	0.01	
Pax-gold	1,986.58	1,987.74	0.06	0.10 27-April-2023 13:20:00	0.11 27-April-2023 13:25:00	5 (3 + 2)	0.01	
Bnb	329.43	329.37	0.02	0.06 27-April-2023 12:55:00	0.20 27-April-2023 12:40:00	5 (3 + 2)	0.0	

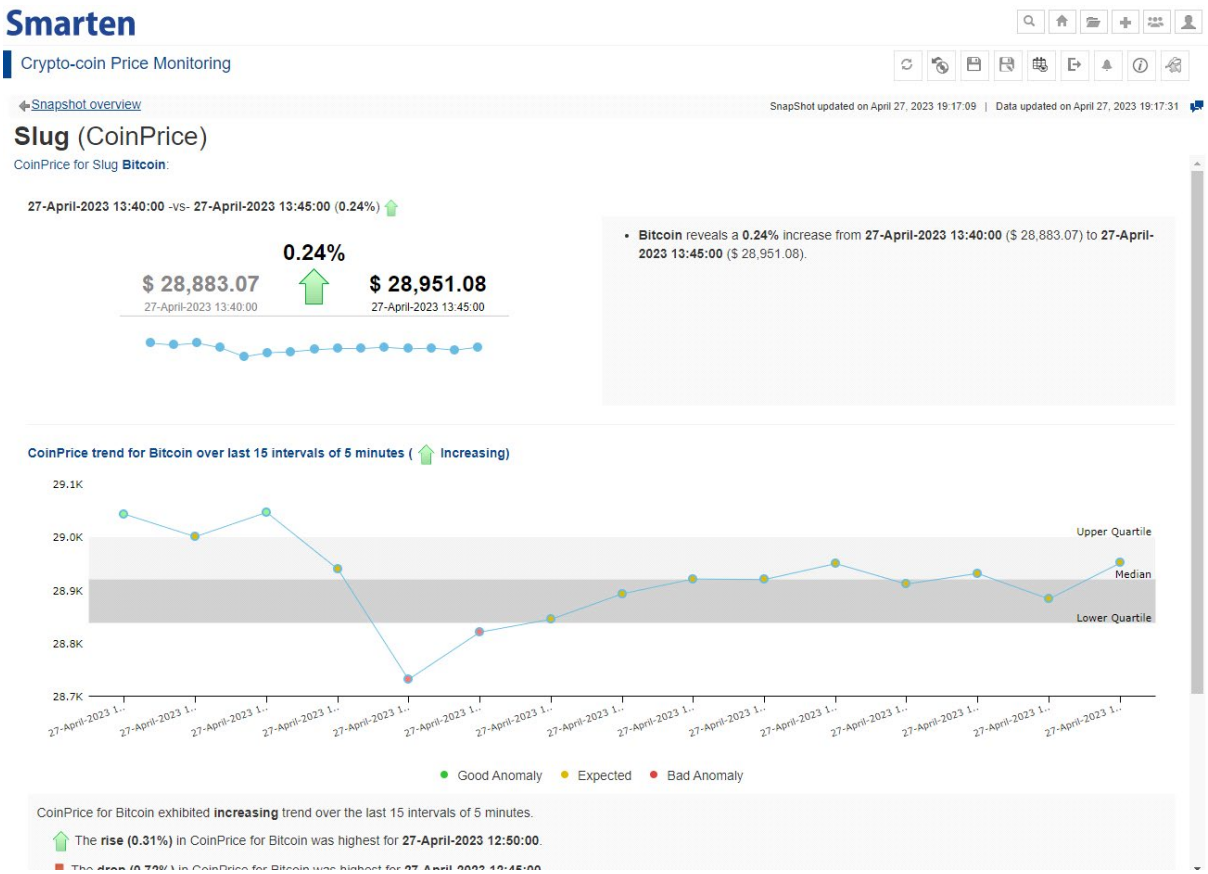
SNAPSHOT WITH BREAKDOWN—OVERVIEW SCREEN

For example, if we take a “crypto currency monitoring” use case where the data is real time, i.e., it is updated every five minutes, the SnapShot will automatically be updated as the new value arrives in the source dataset.

Clicking on each of the headers allows you to sort the table, and other much valuable information is also available at a glance, such as the highest change appears to be in the “Ethereum” price in the last five minutes, while the least amount of change was observed in the “BnB” coin. Except for “Pax-gold,” all other coins have risen in price. We are also able to see how many anomalies are detected for each coin. So, the highest anomalies are detected in the “Maker” coin, but the highest volatile coin is “Bitcoin.”

3.2.2.2 Detailed Analysis of Individual Context Variable Value

From the table, a user may want to dig a bit deeper for a particular value to know more about it. To do that, a user simply needs to click on the name of that value. Here, let’s click on the “Bitcoin” to know more.



SNAPSHOT WITH BREAKDOWN—INDIVIDUAL VALUE DETAILS SCREEN

A separate page for “Bitcoin” opens up, which shows the different figures in more detail and with the appropriate interpretation.

> Note:
> SnapShot with a breakdown option does not support selection of other context variables for analyzing contributions and other insights.

4 Alerts and Notifications

4.1 Alerts

In Smarten SnapShot, a user can configure alerts with desired threshold conditions to be notified when the target KPI breaches a given threshold condition. Users can receive notifications by email or in-app notifications, and they can take appropriate action at the right time. By this alert mechanism, users don’t need to review and monitor the reports and SnapShot summary on a daily basis. This feature allows exception alerts whenever any abrupt change is generated in your target KPI. You can also configure multiple recipient users to receive notifications.

Users can create more than one alert on the SnapShot and manage them as per their requirements. They can edit, delete, or activate/inactivate alerts through the Manage Alerts section.

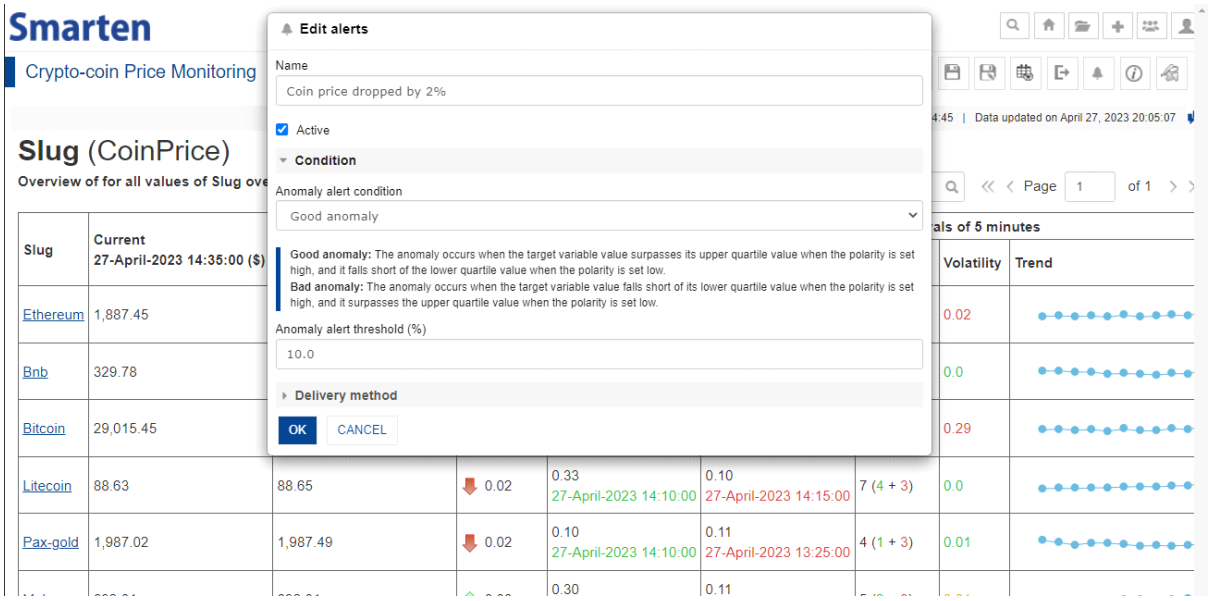
Users need to specify the following parameters while creating an alert:

Anomaly alert condition—Users can specify an anomaly alert condition whether they want an alert on a good anomaly, a bad anomaly, or both.

Anomaly alert threshold—Users can specify an alert threshold in percentage. When this threshold is breached, the system will send an alert notification.

Delivery method—Users can specify alert notification delivery mode whether it is by email or in-app or both.

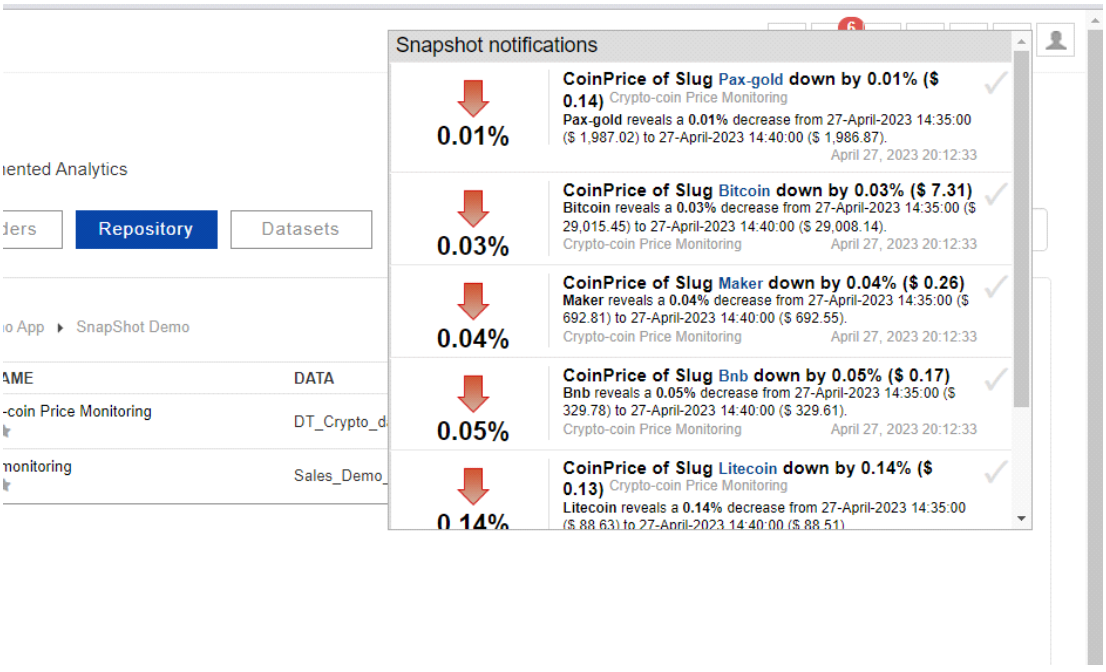
Recipients—Users can specify recipient users to whom an alert notification should be sent.



SNAPSHOT—CREATE NEW ALERT

4.2 Snapshot Notifications

Smarten SnapShot generates alert notification as per the criteria specified in the alert configuration. Users can get in-app notification or by email as per the configuration. Notification provides a brief summary of the target KPI with a rise and fall percentage. Users can click on the notification and open a detailed SnapShot view for further analysis.



SNAPSHOT—ALERT NOTIFICATION

> Note:
> The Smarten web app provides in-app notifications from the web interface, and the Smarten mobile app supports push notifications for SnapShot alerts.

5 SnapShot Refresh Configuration

Users can configure SnapShot refresh settings. Based on configuration, the system refreshes the SnapShot from the latest data and checks for anomaly alerts. If any alert condition arises, it generates the notifications. For SnapShot objects created from a cache cube/dataset, two options are available for refreshing the SnapShot:

Refresh SnapShot on cube/dataset rebuild—By default, this option is selected, and the system automatically refreshes the SnapShot object after rebuilding a dataset or a cube.

Custom—Users can select the required frequency to refresh the SnapShot object. Smarten provides refresh frequency from yearly up to by minutes.

For a SnapShot object created from a real-time cube/dataset, only the “Custom” option is available.

6 Product and Support Information

Find more information about Smarten and its features at www.smarten.com
Support: support@smarten.com
Sales: sales@smarten.com
Feedback & Suggestions: support@smarten.com
Support & Knowledgebase Portal: support.smarten.com