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HandlingRetail Analytics ofMerchandizing&SalesKPI's on Cloud

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Abstract

Retail Merchandizing & Sales KPI's are usually ran on huge data in order to perform heavy aggregations and generate KPI's or reports. We need to make sure Data from ALL Merchandizing area is ingested and the Complex calculations are performed on top of it. Since these runs on massive Sales data & Complex queries it will be challenging to Process Complete Data for previous years and Perform Analytics on Regular Datawarehouse Tools.2nd Challenge because of complexity we were Not including complete Landscape of all areas and hence we would not get 360-degreeview of an Transaction.

So, it can be handled on BigDataArchitecture in order to Process in stipulated time and take decisions.

Keywords:

Sales, Merchandizing, KPI's, Cost of Goods sold, Inventory, Shrinkage, BigData

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1. Introduction

What are KPIs in retail?

KPIs — aka "key performance indicators" are the most important metrics in your business. These are numbers that you must regularly monitor so you can determine if your business is on the right track.

Sales metrics and KPIs

Sales are the lifeblood of any retail business, so it's critical that you keep a close eye on them. Consider the following KPIs:

1. Sales per square foot

This metric **pertains** to the amount of sales you generate per square footage of sales space in your store. You can calculate your sales per square foot using the following formula:

net sales / amount of sales space

2. Conversion rate

The conversionn rate is the proportion of store visits to the number of shoppers who made a purchase. To calculate it, use the formula:

number of sales / total number of visitors

Why measure your retail conversion rate?
Your conversion rate tells you how good you are at turning lookers into buyers. Driving store visits is great, but traffic alone won't add much to your bottom line if your visitors don't convert.

4-5. Gross and net profit
Your gross profit tells you how much you made after deducting the costs of creating and selling the product. Calculate it using the formula:

sales revenues – cost of goods sold

Your net profit tells you how much you made after deducting your cost of goods along with all other business expenses — including administrative costs, operating expenses, etc. To find it, use the equation:

all revenues – all expenses

Why measure gross and net profit?
Your gross and net profit will indicate whether or not you're actually putting money in your pocket. Generating sales and revenue is good, but at the end of the day, you need to make money out of those sales. Tracking these KPIs will help you make smarter decisions in various aspects of your business. For instance, if your gross profit is on the low side, then you may want to look into product sourcing and determine if there's a way to lower your cost of goods.
Not netting enough profit? Perhaps you should find ways to lower your operating expenses.

How do you improve your gross and net profit?
You can try several profit-increasing strategies in your business. Here are some quick ideas:

- Streamline your operations to reduce expenses
- Raise your prices
- Increase your average order value
- Implement savvier purchasing practices
- Optimize your vendor relationships

6. Average transaction value
This metric tells you how much shoppers spend on your store on average. To find it, use the formula:

total revenue / number of transactions

Why measure your average transaction value?
This metric gives you a general idea of how much people are spending. A high dollar amount could mean that shoppers are purchasing your more expensive products or they're buying larger quantities.
You could derive some insights and action steps from this KPI. For instance, having a low average dollar per transaction could indicate that you need to rethink your pricing. Or, it could mean that you have to implement new sales tactics such as upsells, bundles, or other offers to get shoppers to spend more.

How to increase your average order value
The key to upselling or cross-selling success is doing it correctly and at the right time and place. If you upsell a product that's irrelevant or if you're selling in such a way that you're coming off as pushy, then you'll not only fail to convert the customer, but you might even lose the original sale.
The #1 rule here is to always provide value. Yes, getting someone to upgrade their purchase or to buy an additional item will benefit you, but the deal must also be advantageous to the customer.

7. Online sales relative to brick-and-mortar locations
This is new metric that benefits omnichannel retailers — i.e.,
To measure it, you need to look at your ecommerce analytics and see how much traffic or revenues are generated from locations where you have a brick-and-mortar presence.

Why measure the impact of physical retail on digital?
Consumers today are increasingly using multiple channels to shop, so you need to get a handle on how your physical presence influences your ecommerce sales. These days, crediting sales to a single channel isn't enough, when people are interacting with your brand in many different ways and places.

8. Year over year growth
If your business growing? How better off are you compared to your previous years in business? To figure this out, calculate your year over year revenue growth with the following equation:

(current period revenue – prior period revenue) / prior period revenue x 100

Why measure YOY growth?
Continuous improvement is a goal you want to strive for, and the best way to track your progress is to measure your current results against the previous period. This will help you track how your business doing so you can react accordingly.

For example, if you find that you're falling behind and your business isn't performing as well as the previous year, then you can strive to change that.

How to improve your YOY growth

The first step to improving this is to figure out *why* you're not growing at your ideal rate. If your growth has stalled, then drill down on the reason behind it. Is it the market? Are you failing to keep up with the latest trends? Is a competitor eating up market share?

Whatever the case, figure out the reason and then take the necessary steps to improve.

Inventory metrics and KPIs

Getting your inventory levels "just right" is a tricky task, but it's completely doable with the help of the metrics below.

9. Stock turn

Also known as inventory turnover, this metric pertains to the number of times stock is sold through or used in a given time period. Calculate it using the formula:

cost of goods sold / average inventory

Why measure stock turn?

Stock turn is a critical metric for determining your optimal inventory levels. If your stock turn is too low, then it means you're not selling out of inventory fast enough, and you risk carrying slow or dead stock. However, if your stock turn is too fast (i.e., you're selling out of the product 4 or more times a year), then it could mean that you're not stocking up enough, and customers are continually dealing with out of stocks.

10. GMROI

Gross Margin Return on Investment (GMROI) measures your profit return on the funds invested in stock. It answers the question, "For every dollar invested in inventory, how many dollars did I get back?"

The formula for GMROI is:

gross profit / average inventory

12. Shrinkage

Shrinkage pertains to a loss of inventory that isn't caused by actual sales. The common causes of shrinkage are employee theft, shoplifting, administrative errors, and supplier fraud. To calculate it, use the formula:

ending inventory value – physically counted inventory value

Why measure shrinkage?

The last thing you want is to lose product or money to things like theft or admin errors. Tracking shrinkage keeps you vigilant and helps ensure that nothing shady is going on in your business.

How to reduce shrinkage

The right way to deal with shrinkage depends on what's causing it. If it's consumer theft, then you need to work on beefing up store security. Dealing with employee theft? Work on hiring the people and setting up procedures to prevent inside jobs from happening. Tightening up your processes also works for admin errors and vendor fraud.

14. **Customer retention**

You've worked hard to get new customers, so it's only right that you figure out whether or not you're keeping them. There are a number of ways to find your customer retention rate, but here's a relatively simple formula from Inc.com:

((CE-CN)/CS)) x 100

CE = number of customers at the end of period
CN = number of new customers acquired during period
CS = number of customers at start of period

Why measure customer retention?

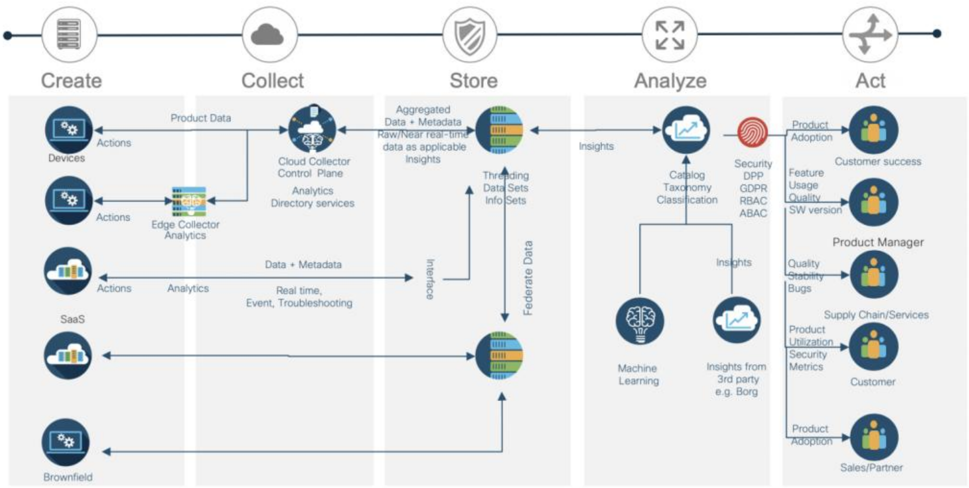
Your customer retention rate tells you the amount of customers that return to your store. This metric is an excellent gauge for customer service, product performance, and loyalty.

How to improve customer retention

Getting people to come back boils down to how well you manage your customer relationships. Doing that can mean various things including:

- Tracking customer purchases and offering personalized recommendations
- Developing meaningful relationships through amazing customer service as well as community-building efforts like classes, events, or online groups
- Implementing a killer loyalty program to encourage shoppers to keep coming back

4. Conclusion



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