# Implement RFM Analysis Using SQL

## What is RFM Analysis:

The “RFM” in RFM Analysis stands for recency, frequency and monetary value. RFM Analysis is a way to use data based on existing customer behaviour to predict how a new customer is likely to act in the future. An RFM model is built using 3 key factors:

* How recently a customer has transacted with a brand.
* How frequently they have engaged with a brand
* How much money they have spent on a brand’s products and services.

RFM analysis was born out of direct mail marketing, in a particular 1995 article by Tom Wansbeek and Jan Roelf Built titled ‘Optimal Selection for Direct Mail’, which was published in the journal Marketing Science. Their work helped confirm the **Pareto Principle** – the idea widely held among marketers that 80% of sales come from 20% of a brand’s customers.

## Benefits of RFM Analysis:

1,3,3,6,7,**8**,9,10,12,13,14

IQR: 12 – 3 = 9

RFM analysis enables marketers to increase revenue by targeting specific groups of existing customers (i.e. **customers segmentation)** [Understanding Customer Lifetime Value (CLV) | ActionIQ](https://www.actioniq.com/blog/what-is-customer-lifetime-value/) with a message and offers that are more likely to be relevant based on data about a particular set of behaviours. This leads to increased response rates, customer retention, customer satisfaction, and **customer lifetime value (CLTV).** [**https://www.actioniq.com/blog/what-is-customer-lifetime-value/**](https://www.actioniq.com/blog/what-is-customer-lifetime-value/)**.**

Each of these RFM metrics has been shown to be effective in predicting future customer behaviour and increasing revenue. Customers who have made a purchase in the recent past are more likely to do so again soon. And those who have spent the most are more likely to be big spenders going forward.

RFM analysis enables you to target customers with messages that best match their relationship with your brand. For example, you are likely to have more success suggesting big-ticket items to customers who spend frequently and in large amounts. On the other hand, you are more likely to grow the customer value of your relationships with consumers who makes purchases frequently, but only in small amounts, by rewarding them for their loyalty or offering referral promotions.

## How Does RFM Analysis Work:

Market research has traditionally concentrated on demographic and psychographic data, which marketers use to conduct customer segmentation. Those data points are then used to predict customer behaviour across much larger populations that share the same set of traits. However, these methods depend on data from a small sample of consumers.

With the advent of systems like [customer data platforms (CDPs)](https://www.actioniq.com/what-is-cdp/) that help gather, unify and synthesize customer behaviours, marketers have much more granular data about the habits of individual customers to inform segmentation. Rather than segmenting customers only using demographic and psychographic data, marketers can create segments based on the real-world behaviour of individuals, including purchase history across any channel (online or offline), browsing history, prior campaign responses and more. Unsurprisingly, this type of segmentation is called [behavioural segmentation](https://www.actioniq.com/blog/behavioral-segmentation-a-powerful-technique-for-modern-marketing-and-customer-experiences/).

And even a basic [CRM](https://www.actioniq.com/blog/whats-the-difference-between-a-cdp-and-a-crm-and-why/) system can perform rudimentary tracking of the three easily quantifiable characteristics that contribute to RFM analysis:

* **Recency value:** This refers to the amount of time since a customer’s last interaction with a brand, which can include their last purchase, a visit to a website, use of a mobile app, a “like” on social media and more. Recency is a key metric because customers who have interacted with your brand more recently are more likely to respond to new marketing efforts.
* **Frequency value:** This refers to the number of times a customer has made a purchase or otherwise interacted with your brand during a particular period of time. Frequency is a key metric because it shows how deeply a customer is engaged with your brand. Greater frequency indicates a higher degree of customer loyalty.
* **Monetary value:** This refers to the total amount a customer has spent purchasing products and services from your brand over a particular period of time. Monetary value is a key metric because the customers who have spent the most in the past are more likely to spend more in the future.

A computer screen shot of a computer code

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A screenshot of a computer

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## RFM Analysis for Customer Segmentation:

Rather than analysing the entire customer database, it’s better to segment customers by characteristics like age or geography and separate them into a customer group. By engaging them in a well-segmented marketing campaign, you can create a relevant, personalized offer for a high-value customer.

Computing RFM for real-world applications typically requires special analytical expertise or advanced math skills. And, like any model, RFM models can vary in complexity from simple to sophisticated. RFM segmentation begins by ranking customers in each of the three categories: recency score, frequency score and monetary score. Typically, this is done on a scale of 1 to 10. A 10 indicates the top 10% in each category (i.e., the most recent to transact, the most frequent to transact and those who purchased the most), a 9 the next 10% and so forth. By using a RFM scoring system such as this you can construct an effective marketing strategy by creating customer RFM segments, including:

* **Your best customers:** These are the customers who earn top scores in every category. They’re loyal, willing to spend generously, and likely to make another purchase soon. Such customers are primed to respond well to loyalty programs. They’re more likely to be interested in new products you launch. And because they’re committed to your brand and its products, it probably makes less business sense to offer them discount pricing. Instead, increase CLTV by suggesting big-ticket items and recommending products based on past purchases.
* **Your big spenders:** This customer segment is based on only one of the three metrics: customers with top scores for monetary value. Typically, marketers target this segment with luxury offers, higher subscription tiers and value-add cross-/upsells that increase average order value. Again, it probably makes sense not to shrink margins by offering discounts.
* **Your loyal customers:** This is another customer segment that takes into consideration only one of the three metrics: customers with top scores for frequency. Despite making purchases often, they aren’t necessarily your biggest spenders, so consider rewarding them with free shipping or similar offers. Advocacy programs and reviews can also be effective ways to engage these customers.
* **Your faithful customers:** Customers who score high for frequency but low in monetary value tend to respond best to product recommendations based on past purchases, as well as incentives tied to spending thresholds (e.g., a gift for transactions above the brand’s average order value).
* **Your at-risk customers:** Customers who have been in your top tier in the past (best, big spenders and/or loyal) but who now score low for recency and frequency present a special opportunity. Marketers should consider targeting them with messages aimed at retention, such as discount pricing, exclusive offers and new product launches. With the help of your CDP, you can even create specific [customer journeys](https://www.actioniq.com/blog/what-is-a-customer-journey/) aimed at re-engaging and retaining at-risk customers.

## Steps of RFM Analysis:

The steps below provide a high-level overview of how an RFM Analysis and segmentation is executed.

**Step 1: Build RFM Model**

* To build an RFM model, you need to assign a recency score, frequency score and monetary score to each unique customer. The raw data, which can be collected from a customer database from previous transactions, is then compiled in a spreadsheet or database.

**Step 2: Divide the Customer Segment**

* Next, divide the RFM database into tiered groups for each of the three values of the RFM score. Tier designation is based on the greatest to the least. For example, tier one for monetary value is assigned to the high spenders and tier five is assigned to the lowest spenders.

**Step 3: Select the Targeted Customer Group(s)**

* The third step involves the selection of the segmented customer group with high customer value. Organizing the RFM segment, you can begin to assign titles to segments of interest, such as your best customers, biggest spenders, faithful customers and at-risk customers.

**Step 4: Craft a Personalized Marketing Strategy**

* Finally, craft a unique marketing strategy designed for each RFM segment focused on their behavioural patterns. Utilizing the RFM Analysis, marketers can effectively communicate their messaging to customers in a way aligned with customer behavior.

## Why RFM is Effective for Small and Medium-sized businesses.

For startups and smaller retailers with limited marketing resources, RFM analysis can be a particularly effective tool because of its:

* **Simplicity:** RFM analysis does not, on its own, require complex tools or sophisticated analytical capabilities. The principles are easy to understand, and the results are easy to interpret and act on.
* **Affordability:** In many cases, it’s possible for marketing professionals without advanced statistical or analytical training to perform RFM customer segmentation with only a standard spreadsheet.
* **Effectiveness in direct marketing:** RFM analysis, which grew out of database marketing and direct mail marketing, has been shown to be effective with relatively inexpensive digital direct marketing strategies that smaller brands can afford, such as an email marketing campaign.

## Scaling RFM to the Enterprise

That said, as a business scales, you will **also need technology that scales with the complexity and volume of interactions across all your channels**, regions and more. With advanced RFM, you can create more authentic experiences at scale, using a range of customer traits as inputs to your model and going beyond scores and segments to achieve one-to-one personalization.

The most advanced enterprise-class CDPs serve as an engine for creating these types of RFM-driven experiences. They empower business users to orchestrate campaigns and journeys quickly and seamlessly leverage the full breadth and depth of all your customer data across any and all channels.

## The limits of RFM Analysis: What to avoid:

While RFM segmentation is powerful, it does have limits. When performed manually, **it’s prone to human error**. RFM analysis is also **based on just a few behavioral traits**, lacking the power of the advanced predictive analytics now available.

Some businesses may use RFM analysis as an excuse to bombard high-ranking customers with messages and thus reduce response rates on campaigns that could otherwise be highly effective. On the other hand, it can cause marketers to neglect customers with low rankings even though many of them may be worth cultivating. For example, your RFM model may fail to account for the impact of past promotions or seasonality on RFM analysis. Likewise, a customer may have very little activity with your brand one month yet be ready to engage in purchasing behaviour the following month due to a birthday or anniversary.

## How relevant The RFM Model is Today.

RFM analysis remains a perennial favorite of marketers. It’s simple and intuitive, yet data driven. It has the power to provide actionable insights down to the individual customer level — all without any input from data scientists or complex tools. That isn’t to say you can’t do sophisticated things with RFM analysis. For example, you can use RFM techniques to identify your best customers and turn them into a seed audience within an advertising platform that uses lookalike modeling to automatically identify prospects who share similar key traits.

Nevertheless, thanks to CDPs, marketers are now able to combine RFM data with other behavioral and demographic traits — everything from geolocation to recent products purchased — to create even more effective segmentation. Better yet, they can quickly and easily apply lookalike models and other sophisticated analytics to predict what messages are most likely to resonate and how and when those messages are most likely to prompt action.

With or without these more sophisticated approaches, marketers can use RFM analysis to:

**Increase the effectiveness of email marketing campaigns:** Build an automated drip campaign with messages tailored to each segment.

**Increase loyalty and user engagement:** Follow up with recent customers or new customers with timely promotions and educational content likely to increase their engagement with your brand.

**Decrease churn:** Send personalized messages, offer repeat purchases at a discount or provide surveys that help you understand and address potential concerns.

**Reduce marketing costs and increase ROI:** Reduce costs by focusing quickly and easily on smaller segments that are more likely to produce revenue and use insights from RFM analysis to optimize campaigns going forward.

**Learn more**: RFM is one of many powerful KPIs that can be used to inform and measure the success of your enterprise’s marketing programs and customer experiences. Explore additional KPIs by reading [12 KPIs Every Marketer Should Define and Know](https://www.actioniq.com/blog/12-kpis-every-marketer-should-define-and-know/). And if you’re ready to dig deeper into how you can deploy authentic customer experiences at enterprise scale.

12 KPIs Every Marketing and Customer Experience (CX) Pro Must Know

# 12 KPIs Every Marketing and Customer Experience (CX) Pro Must Know:

As you work to ready your business for the upcoming quarter, for a **customer – centric transformation** or for strategic changes of any kinds. Here are some of the most important marketing KPIs that marketer and CX pro should know:

1. Customer Acquisition Cost:
2. Conversion Rate:
3. Return on ad spend (ROAS):
4. Incremental lift:
5. Customer Lifetime Value (CLV):
6. Revenue per customer:
7. Customer Retention Rate:
8. Churn Rate:
9. Net promoter scores:
10. Customer Satisfaction (CSAT):
11. Customer Effort Score (CES):
12. Return on Investment:

## Breadth of data that we need:

* **PLL Info:** Personal Customer information such as name, address, phone, email ,etc. (for anonymous customer and prospects, brands will capture device ID or cookie ID)
* **Campaign and customer engagement info** – Data Reflecting the campaigns a customer received, the engagement within them, and other interaction data across marketing, advertising, sales and support channels.
* **Transaction information:** KPI examples include products purchased, channels transacted through, purchase prices, discounts used
* **Marketing metrics and scores** – KPI examples include customer health score, average click-through rate, customer loyalty status, lifetime value
* **Demographic or firmographic info** – Examples include dwelling type, estimated income, company type, company industry, number of employees
* **CSAT data** – Examples include satisfaction scores from surveys and interactions with customer support associates.

## Customer Data Platforms (CDPs) Help You Move the Needle on KPIs

Many marketers and CX pros are turning to **customer data platforms (CDPs)**

# Customer Acquisition Cost (CAC):

Measures how much of an organisation spends to acquire new customer. CAC – an important business metric – is the total cost of sales and marketing efforts, as well as property or equipment, needed to convince a customer to buy a product or service.

A diagram of a customer and a scale

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## How to calculate CAC?

Calculate CAC by dividing the total expenses to acquire customers (cost of sales and marketing) by the total number of customers acquired over a given time.

Here is the simple method for **calculating CAC: CAC = MCC / CA**

**MCC:** Total marketing campaign costs related to acquisition.

**CA:** Total customers acquired.

Here the complex method for calculating **CAC: CAC = (MCC + W + S + PS + O) / CA**

**MCC:** Total Marketing campaign costs related to acquisition.

**W:** Wages associated with marketing and sales.

**S:** The cost of all marketing and sale software.

**PS:** Any additional professional services (e.g. consultants) used) in marketing /sales.

**O:** Overhead.

**CA:** Total customers acquired.

## 3 Tips to reduce CAC

1. Know you customer.
2. Engage customers early
3. Keep them coming back

# Conversion Rate:

Conversion: the process of converting something from one thing to another.

Conversion rate is the percentage of website visitors who completed a conversion. In all simplicity, you calculate conversion rate by dividing the number of conversions with the number of visitors.

**CONVERSION RATE = #CONVERSIONS / #VISITORS \* 100%**

This measures the performance of your campaigns and landing pages. You can calculate conversion rate for an entire domain or selected pages.

Need more time to research on this.

## Cost Per acquisition (CPA)

Another important conversion KPI is CPA, or **cost per acquisition**. In this context, CPA essentially meant **cost per conversion**. That is how much you paid for a conversion. Conversion CPA is calculated by dividing the associated marketing costs with the number of conversions.

CPA (for conversions) = ASSOCIATED MARKETING COSTS / #CONVERSIONS

## Conversion Value:

The natural next step from knowing the cost of a conversion is to find out the value of a conversion. As a KPI, **conversion value** helps you to **estimate the ROI of CRO activities and marketing in general**.

## Conversion ROI

**Return on investment** should be a key interest to marketers in all situations. When you know the number of conversions, cost per conversion, and conversion value, you can calculate your ROI for the actions you took with a conversion goal in mind.

For **a basic conversion ROI formula,** you need to know:

* The value of your conversions (#conversions \* conversion value)
* The cost of your conversions (#conversions \* CPA)

Then can calculate ROI as follows:

ROI = (Value of Conversions – Cost of Conversions) / Cost of Conversions \* 100%

# Customer Lifetime Value:

Is a metric **that indicates the total revenue a business** can **reasonably expect from a single customer account** throughout the business relationship.

The metric considers a customer’s revenue value and compares that number to the company’s predicted customer lifespan.

CLTV is something that customer support and success teams can directly influence the **customer’s journey.** The longer your customer continues to purchase from your company, the greater their lifetime value becomes.

## Why Customer Lifetime Value important?

1. Increasing CLV can increase revenue over time
2. It can help you find issues so can boost customer loyalty and retention
3. It helps you target your ideal customers.
4. Increasing CLV can help reduce customer acquisition costs.
5. CLV can simplify financial planning.
6. CLV trends can show you how to improve your products and eservices.

## Customer Lifetime Values Models

There are two models that companies will use to measure customer lifetime values.

Predictive CLV, and Historical CLV:

* Predictive: uses machine learning
* Historical: built on past data

Customer Value x Average Customer Lifespan

You can see both formulas:

Customer value is the customer’s perception of the worth of your product or service.

**Customer Value = AVERAGE PURCHASE VALUE x AVERAGE NUMBER OF PURCHASE**

**Customer Lifetime Value =** **CUSTOMER VALUE** x **AVERAGE CUSTOMER LIFESPAN**