

Game-Changing Solutions for the Telecom Industry- CLTV

KEY FEATURES

- Pre- built, CLTV Model
- Data Collection Across Customer Touchpoints
- 350+ Data Elements Analyzed
- Open Source based
- Easy to Enhance & Enrich
- Established Process Flow
- Optimizes output through millions of calculations
- Easy to Integrate with Any Enterprise Data Warehouse or Data Lake
- REST API to Integrate with Real-time Streams

KEY BENEFITS

- Out-of-Box LTV Model
- Complexities Made Easy
- Well Defined Steps for Data
- Curation & Pre-processing
- Guided Steps for Building & Customizing Models
- Easy to Draw Inference

- Typical 8-10 Weeks of Implementation

OVERVIEW

Digital transformation of a CSP should seek to maximize the full value of every customer relationship. The “full value of each customer” is called the lifetime value (LTV). Customer Lifetime Value or CLTV is an estimate of the average revenue and margin that a customer will generate throughout their lifespan. This 'worth' of a customer can help determine many economic decisions for a company including investments in physical assets, allocation of resources, profitability projections, marketing budget and revenue.

marketing, sales, product, support — around → LTV. LTV plays a major role in Churn analysis and retention campaign management. In the context of churn analysis, the LTV of a customer or a segment is important complementary information to their churn probability, as it gives a sense of how much is really being lost due to churn and how much effort should be concentrated on this segment. In the context of retention campaigns, the main business issue is the relation between the resources invested in retention and the corresponding change in LTV of the target segments.

Why LTV IS SO IMPORTANT?

Research shows that increasing customer retention rates by 5% can boost profits by 25% to 95%. Hanging on to the best customers is simply a good business.

Optimizing for CLTV means getting future orders from existing customers without increasing the special marketing efforts to target them. Sales, product, marketing, customer support, and other teams should take on OKRs that will positively impact the parts of the LTV formula over which they have control.

The product team can be measured on how well they increase the average number of transactions (retail LTV), or the number of years that a typical customer stays (subscription LTV), or the likelihood that a customer upgrades (multitier LTV).

The ops team can be measured on how well they improve the operational efficiency and thereby increase the value per transaction. They could do this by reducing shipping times, reducing manufacturing costs, etc.

The marketing team can be measured on the effectiveness of ads targeting to increase the probability of purchase and the likelihood of cross-sell and up-sell.

HOW DO WE COMPUTE CUSTOMER LTV

The first step we take in the process of CLTV computation is defining and creating a single consolidated view of the customer data to be analyzed. It includes various attributes that reflect customers' profile and behavior changes: customer data, usage summaries, billing data, accounts receivable information, and social demographic data. Relevant, trends and moving averages are calculated, to account for time- variability in the data and exploit its predictive power. Building CLTV models for marketing applications, we should take into account the way they are going to be used. An important concept in marketing is that of a "segment", representing a set of customers who are to be treated as one unit for the purpose of planning, carrying out and inspecting the results of marketing campaigns. A segment is usually implicitly considered to be "homogeneous" in the sense that the customers in it are "similar", at least for the property examined (e.g. propensity to churn) or the campaign planned.

The standard formula for CLTV for a CSP is :
$$LTV = \sum_{\text{cohort}} \sum_{\text{year}=1}^N S_{\text{year}} \times V_{\text{subscription}} \times (1 + r)^{\text{year}}$$

- The S_{year} is the survival rate by year. Estimate it from the historical data by cohort (or customer segment). For example, customers in rural areas may have a different renewal rate than urban areas.
- The $V_{\text{subscription}}$ is the value of a subscription. This could be the profit, computed by subtracting the cost of providing the service and the customer acquisition cost.
- r is the discount rate. Subscriptions last into the future, compound interest is applied to calculate NPV
- N is number of years you can reasonably estimate these values.

Assumptions in the CLTV implementation are:

- The marketing analyst is interested in examining segments, not individual customers
- These segments have been pre-defined from CSP's data warehouse/data lake
- They are "homogeneous" in terms of churn (and hence LOS - Length of Service) behavior
- They are reasonably large

- Under these assumptions we adopt a non- parametric approach to estimating LOS (Length of Service) in the segment by averaging over customers in the segment.

These segments (or rules) are characterized by several attributes accompanied by statistical measures that describe the significance of the segments and their coverage.

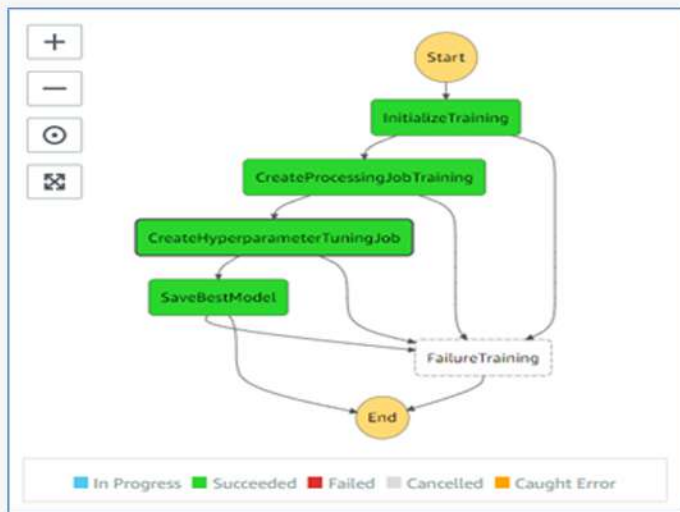
We analyze the distribution of each variable per churn/loyal groups or in comparison to the entire population and an

- interactive visual data analysis, which provides the ability to further investigate attributes to provide additional insight and support the design of retention actions.
- Data is extracted monthly and accordingly the scoring process is performed once a month. The churn score is one of the main components of the LOS; thus, each customer will have a new CLTV every month.

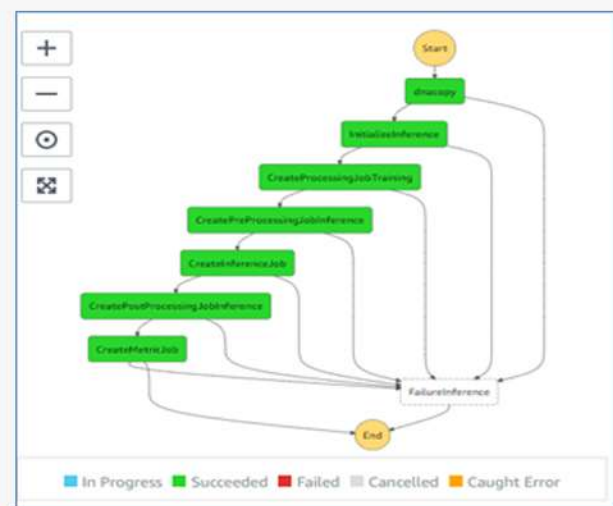
HOW DOES THE CUSTOMER BENEFIT

- Faster time-to-value – Guided Steps to define and refine the CLTV Models – covers 350+ data elements
- Well defined process and procedures (easy to enrich and enhance) to create customer data mart from enterprise data warehouse. This data mart serves as the basis for all customer centric algorithm and model building exercise
- Well defined process and procedures (easy to enrich and enhance) to compute CLTV base line information from a customer data mart
- System produces segments that characterize churn and loyal populations. Thus, the segment level and not the customer level is the basis for the interaction with the analyst. That is the level on which retention campaigns are planned and therefore the level on which the analyst is interested in viewing CLTV.
- Well defined process and procedures to infer the CLTV segments, CLTV range and the Label information.

Pre-built Steps for Model Building



Well Defined Inference Processes



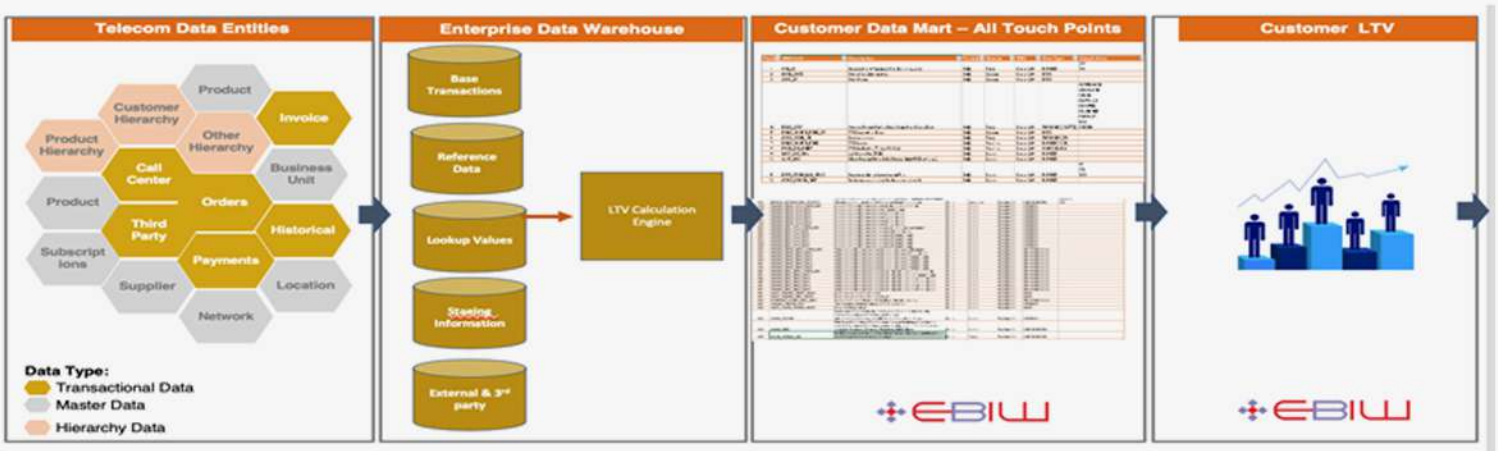
Proprietary workflow processes are designed to perform millions of calculations and adapt to changing metrics to optimize outputs over time ensuring the highest levels of accuracy based on changing market conditions.

OUR APPROACH

We can approach it either as a survival analysis problem or a standard supervised learning problem where the time (i.e. customer's tenure with the company) is one of the predictors and churn is the response. To include a "baseline hazard" effect, time can be treated as being factorial rather than numerical, thus allowing a different effect for each tenure value. Additional covariates are customer details, usage history, payment history, etc. Some of the covariates may be based on time-dependent accumulated attributes (e.g. averages over time, trends). The customers' tenure with the company is an important churn predictor since LOS frequently shows a strong dependency on customer "age". Here are the steps.

- Initial hypothesis
- Brings in data from different data sources across all customer touch points including 3rd party and Oracle apps, database systems and warehouses, on-premise or Cloud
- Extract data
- Data curation, Feature Engineering and pre-process input data for analysis
- Extensive usage of sophisticated methods for representative sampling are encouraged as a key ingredient for generating faster and accurate insights.
- Analyze data with specific model - An iterative process of Transformation Visualization and Model Building using hybrid approach – both supervised and unsupervised algorithm.
- Testing a model and computing effectiveness
- Applying the model to new data to predict
- Using and refining the model (reports, applications)
- Reviewing results with Graph, Findings, Compare & Contrast with initial hypothesis
- Prediction

Solution Architecture



While there is no perfect CLTV formula, many factors are considered when calculating a score in EBIW CLTV offering. The reason is that the CLTV calculation typically includes subjective data from business aligning to your business strategy — while it's not the same for all businesses, we see refinement over time to align to changing markets.

One cannot simply take the CLTV formula that is built into some business intelligence tool and tell the team to use it. Instead, one needs to treat the LTV as an evolving model that one continually refines over time as new data is added. This goes into quite a bit of granular detail because it is important that you understand the nuances. These nuances are the levers that you can use to drive your business forward.

CLTV is a way to drive decision-making and accountability throughout the organization.

VALUE ADDED OPPORTUNITY TO ORACLE

Application Development Tool	<ul style="list-style-type: none">● OCI APEX Service
Data Ingestion & Capture	<ul style="list-style-type: none">● OCI Fusion REST Service
Data Integration	<ul style="list-style-type: none">● OCI Streaming Service● OCI Integration Cloud Service
Data Transformation	<ul style="list-style-type: none">● OCI Data Integration Service● OCI Data Flow Service
Data Storage & Governance	<ul style="list-style-type: none">● OCI Object Storage Service● OCI Autonomous DW Service● OCI Data Catalog Service
Data Analysis & Visualization	<ul style="list-style-type: none">● OCI Analytic Cloud Service● OCI Data Science Service

CONTACT US

For more information about **CUSTOMER LTV COMPUTATION**, visit ebiw.com or call to speak to an EBIW representative.