



# doolytic for Black Box Auto Insurance



## Marketing and Risk Management

doolytic enables Marketing, by working with data scientists, to segment their customer base according to driving behavior linked to six categories: The “average” driver with no distinctive characteristics, “commuters” who drive long distances on weekdays, “weekend” drivers who drive long distances only on weekends, “occasional” drivers who drive short distances on weekdays, “Sunday” drivers and “speeders” who regularly drive at higher than average speeds. These clusters are associated with different risk profiles in order to plan offers based on the real characteristics of their customers, rather than simply age, sex and profession as traditionally calculated by insurers.

Insurance Black Boxes can generate up to 10 million records a day describing temporal, location, speed and vehicle status data. doolytic enables the data scientists supporting the Risk Management group to receive data that is clean, filtered and pre-aggregated for specific data models in order to generate the necessary datasets for their internal customers. With this data, risk managers define specific premiums and insurance clauses for use by the Marketing group in formulating tailored offers.



A major Italian auto insurer wanted to use a data driven approach for identifying targeted customers to market custom insurance solutions to based on their individual characteristics. In order to tailor offers and marketing campaigns that would ensure high response and conversion rates, the Marketing department relied on the insurer’s Risk Management group to use the company’s own big data and doolytic for segmenting and identifying individual target customers.

In order to support Marketing, the Risk Management group needed to update their algorithms for calculating premiums with more information than was available in standard customer profiles. With the new algorithms created with doolytic, business users can use interactive dashboards, graphics and frequent queries to observe data that has been aggregated and filtered for them. More sophisticated citizen data scientists now obtain highly granular data and drill down into it on the fly in order to discover new relations and rules. They can also explore the data matrices obtained through Data Enrichment with the Relation-Action model so that underwriting decisions can be made based on expanded risk factors. The insurer’s expert data scientists, using doolytic’s integrated notebook computing tool, can now identify customer clusters based on their driving behavior by relating their profiles to existing profiles calculated from real accident data. As a result, the insurer can now profile risk with a much more sophisticated model, enabling smarter and more profitable business decisions.



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## Functionality



## Data Preparation

Raw, disaggregated data are filtered and aggregated using doolytic's **Join Wizard** and **Group Wizard**. Citizen Data Scientists can also use the **SQL Query Wizard** for direct query creation.

## Big Data Discovery

With doolytic's **Self-Service Dashboarding**, business users can independently perform **data exploration** with aggregations, filters and selections in real time.

## Advanced Analytics

doolytic's integrated Notebook Computing platform allows users to create **machine learning algorithms** on data previously transformed during data preparation or directly on detailed data. Expert data scientists can generate **regression and classification models** and do **cluster analysis** using their preferred **scripting language** (R, Python, Scala). Business users can obtain new insights from the data by accessing indexed results through **self-service dashboards**.



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