

Defending the Use of Transactional (Purchase) Data

Transactional data, acknowledged as inputs into credit scoring models, has received recent unwanted attention from the media as more customers experience financial stress due to the economic downturn. As credit has tightened and traditionally low risk customers experience the inability to pay their debts, more people are starting to question the effectiveness and legitimacy of scoring models and their components.

The perception is that transactional data is a key component of many credit scoring models, including those at Fair Isaac. While the inputs to credit models are generally proprietary, and thus not available to the public, transactional data is not likely a major driver. Additionally, companies are very sensitive about transactional data, as the use of customer information falls under Federal (and sometimes State) regulations.

Legislation, while trailing technological advancement in information processing, has done a relatively good job of advocating for additional customer protections – often driven by the pressures of advances in the “creativity” of fraudsters.

While the public may believe their personal information and purchase behavior is being used incorrectly or is at risk, it's often a misperception being driven by media coverage of fairly isolated fraud and data breaches. By and large, most large companies make information security a priority - offering education programs to ensure their employees are familiar with the regulations and tests to ensure compliance.

Likewise, employees who are authorized to access customer information for business purposes are bound by policies and a code of ethics that requires confidential treatment of customer information.

Policies generally cover customer Information, which means personally identifiable information about a consumer or a consumer's current or former customer relationships. Examples of personally identifiable information that financial institutions collect include: identification information (name, address, phone, and SSN), Application Information (income, job, length of employment, transaction and experience information (purchase info, balance, payments), consumer report information (credit bureau), information from outside sources (including verifying employment info), and other general information (public records).

Purchase information captured by Financial Institutions includes: date, amount, location, and store type/merchant information.

There are a myriad of positive and valid reasons for companies to use transactional data:

1. **Marketing** – can help drive the types of products offered, as well as how companies communicate with customers.
 2. **Fraud Detection** – purchase behavior outside the norm for an individual can be used to alert the customer and allow the bank to take quick action.
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3. **Risk Management** – can be used to price accounts for risk, manage credit lines and exposure, thus allowing differentiation in price for customers with little risk.
4. **Law Enforcement** - credit cards leave a trail. Law enforcement agencies can subpoena credit card companies to solve crimes or prevent them from happening.

More often than not, transaction data is NOT used. There are just too many transactions to be useful. Processing time using purchase data in a model is often unrealistic; that's why most models are run on month-end aggregated data. For example, active credit card customers make multiple transactions per day. For a large company, that means tens of millions of transactions per day and hundreds of millions of transactions per month. While Fraud systems DO utilize purchase data, they can do this because they are generally looking only at daily transactions compared to prior purchase behavior. Marketing/risk modeling techniques such as response modeling do not generally use purchase data due to the difficulty accessing, sorting, and storing the data.

There are usually other variables that are MORE predictive of payment behaviors such as utilization levels, balance size, external credit use, type of balance category (retail vs. cash), etc. This is not to say that purchase behavior is not predictive, it's just that often it's not as predictive as other variables. For a variable to be useful it has to have predictive value. It's highly unlikely that a one time or even occasional purchase at a "high risk" merchant would be predictive enough to drive usage and inclusion in a model.

As mentioned before, transactional data is often used for fraud monitoring (processed on a daily or per transaction basis using sophisticated techniques called neural network/pattern detection) or categorized into larger general buckets such as "travel and entertainment". Additionally, even if particular purchase transactions are used in making a marketing or risk decision, they are generally not identifiable at the account level and are part of a much larger set of predictive variables that may have driven a decision.

Because of the difficulties of using transactional data on a regular basis, it is often merged to create behavior, demographic, lifestyle, psychographic, or geographic customer segments. These segments are then used to provide consistent treatments to customers or to communicate to customers in a consistent way. Examples of Demographic/Psychographic Segmentation products/companies: Psyte (Claritis) and Personix (Acxiom) or credit behavior segments like Trendview's (transactor, revolver, mixed, inactive) by Experian.

Segmentation approaches can also be developed in house. However, experiential/purchase behavior-based segmentation is generally not used for making risk decisions as there are too many chances that the segmentation might mirror variables (age, sex) that could cause disparate impact (where certain protected classes of people are inadvertently hit hard with credit restrictions). Companies are VERY careful not to use any prohibitive status variable info such as age, sex, etc. They are also careful (because of HIPAA regulations) not to use anything that may relate to health care, such as pharmacy expenses or doctor visits.

Most sophisticated/large card companies have very stringent policies and practices in place to make sure that data is being used legally and does not pose a compliance or reputation risk. Models/segmentation approaches and their inputs go through peer reviews, legal reviews, and compliance reviews.

Credit companies generally error on the safe side of using transactional data and typically only use it to determine either the message or the type of offer a customer will receive – NOT whether they qualify, the credit line size, or the pricing of an account.

Some examples of transactional data use include:

- Providing customers with annual summaries of their purchasing information for budgeting and taxes
- Identifying customers for customized retail offers
- Identifying fraudulent transactions (transactions outside normal purchase patterns such as foreign transactions, electronics, jewelry, etc)
- Identifying business travelers for business card products (travel and entertainment spend - volume and merchant type)
- Using high-end store purchase behavior to offer high-end financial products such as investment management to mass affluent customers
- Using transactional data to identify higher risk transactions - like casino cash advances, or identifying changes in the risk profile

Predictive models (which occasionally utilize transaction data) are necessary because of the large number of financial institution customers. Unfortunately with predictive models, there will occasionally be mistakes. Decisions are made based on the “average”, and we all know there are always exceptions to the rule.

However, without legitimately using transactional/purchase data and advanced modeling, the cost of credit would rise for everyone. Marketing expenses, fraud losses, and credit losses would all be higher. As a result, banks would be much more restrictive to whom they offered credit, many people would not get credit, and the cost of that credit would be higher.

For more information on how you can use transactional data to its full potential, contact PTC today.
