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Increase Sales and Customer Satisfaction with Cross-Sell/Up-Sell Modeling

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Key Findings

- Businesses, especially small and medium businesses, are often able to leverage their customer service records to improve the response rates to up-sell pitches, without annoying the customer with a laundry list of non-relevant information.

- Recent advances in information technology allow customer data, recent customer transactions, and business objectives to create customer models that are used to optimize customer interactions.

- Upselling offers tailored to the individual provide a greater value to the customer.

Cross-Sell/Up-Sell Modeling

This whitepaper investigates how companies can optimize face-time with customers in order to increase sales and customer satisfaction.

The best time to advertise a new product or service is when the customer is standing at the checkout counter. Face time with a current customer is certainly a valuable advertising space, and there is no other time that a business has the complete attention of the customer than during checkout time or similar customer interactions. Businesses which take advantage of these interactions can increase their revenue without the need for expensive external advertising campaigns.

Up-selling is one such technique whereby the customer service representative encourages the customer to purchase more expensive items, upgrades and/or add-ons. Some common examples of up-selling include: (1) asking drive-through customers to *supersize* their value meal, (2) encouraging customers to buy the extended warranty, or (3) suggesting memory upgrades when buying a new computer.

Cross-selling, on the other hand, is the act in which a business encourages a customer to buy an additional product or service. Some common examples of cross-selling include: (1) communications companies offering *bundles*, or package deals on internet, television and phone service; or insurance companies offering discounts if the client purchases home, automobile and life insurance together, or (2) computer salesmen offering a mouse, keyboard or printer to go with the purchase of a new laptop.

Businesses frequently reward employees that perform the most up-sells, that is, sell the most warranties, through prizes and bonuses. However, in the information-age, businesses, especially small and medium businesses, are often able to leverage their customer service records to improve the response rates to up-sell pitches, without annoying the customer with a laundry list of non-relevant information.

Two Examples

We investigate customer interaction optimization at any point, whether face-to-face, via the Web, on the phone, or with any other interaction channel. Consider these examples:

• Bob, a current customer at an insurance company, calls to check if his homeowners-insurance premium has been paid on time. After determining that his account is up to date, he decides to investigate whether the insurance company offers automobile insurance with competitive premiums and coverage. He also wants to see if he can find insurance to cover a new sports car. Can your system recommend items that are relevant to his specific profile and intent?

• Alice is a customer at the same insurance company. She is very environmentally conscious, recycles consistently, and pays all her bills online. She does not even open the bank's mailers that provide incentives to sign-up for electronic statements; she would gladly sign up for electronic statements if she received the offer. Can your system detect her personal preferences and recommend items that are relevant to her specific profile and intent at the right time in the correct method?

With the increase in computational services, marketing has become more customer-oriented. Instead of mapping customer segments to broad types of products, customer models can be tailored to individuals. With that in mind, businesses not only need to attract customers, but also optimize the message content during customer-initiated interactions. When the customer's attention is maximized, businesses have seen large improvements in customer retention, transaction value, and customer satisfaction. To that end, marketers frequently work with data specialists and information analysts to implement a decision support strategy to address the following questions:

• Does your company personalize and optimize the interaction for individual customers?

• Does your company share interaction data about each of your customers between your customer interaction points, so that you can offer each customer the best recommendations, all the time and across interaction modalities?

Small businesses and proprietorships are adept at delivering individually-tailored information to the customer because the business owner knows the personal needs of each individual customer. However, these one-on-one relationships simply cannot scale as the business grows. Many growing businesses typically find it difficult to deliver messages that are tailored to individual customers. These businesses are limited to advertising their most popular products, without considering the individual needs of the customer.

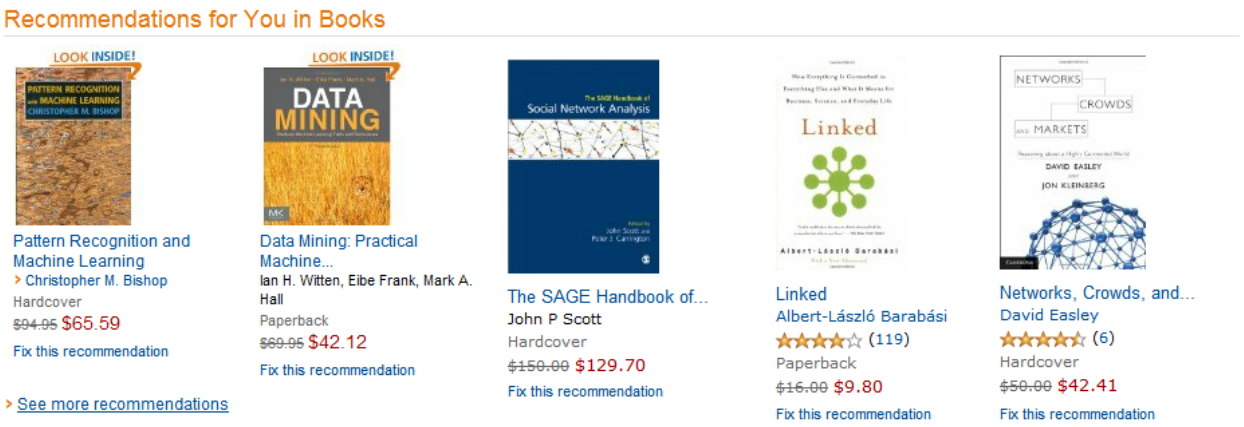
Recent advances in information technology allow customer data, recent customer actions, and business objectives to create customer models that are used to optimize customer interactions. Thus, instead of the most popular product being presented to everyone, each customer can be offered products that they are most likely to buy.

Recommendation Engine

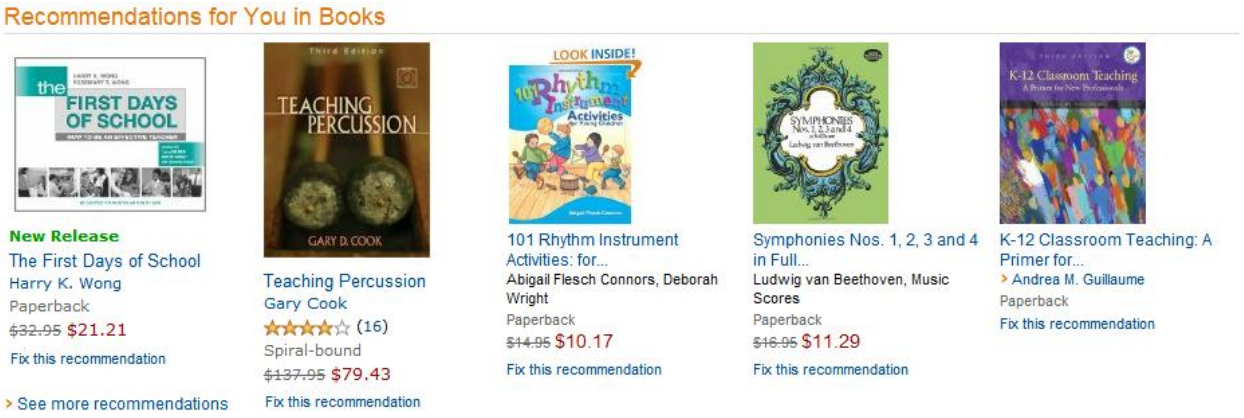
A recommendation engine is a decision-support system that looks at customer information, interaction history, customer history, and business goals to make recommendations to an individual customer. A recommendation engine is also able to look at what has worked or not worked in the past and account for that information while making decisions.

Decisions are made using statistical models that essentially predict the outcome of particular interaction based on current information of the customer and how similar customers have responded in the past. This allows recommendation engines to discover behavioral patterns from past interactions, and it enables the system to learn from experience.

One of the most popular recommendation engines is the Amazon's What's New For You® service. This service is a recommendation engine that looks at the customer's previous purchases and recommends new products that the customer might be likely to purchase. For example, the author of this whitepaper is a data scientist, who has previously purchased certain types of books via Amazon. Thus, amazon recommends newer books that he might be interested in.



On the contrary, his wife, who is a music teacher, is given a separate, significantly different set of recommendations based on her previous purchases.



Amazon has several objectives in mind when offering these recommendations. First and foremost, Amazon wants to sell as many products as possible – increasing volume almost always leads to an increase in revenue. However, there can be other more subtle, objectives at play. Amazon may have a higher margin with books sold by its warehouse over those sold by private stores (who just use Amazon as a listing service), so the recommendation engine may bias its offers more heavily towards books sold by the Amazon warehouse. Perhaps Amazon is looking to discontinue a particular book; in order to liquidate its stock of the book the recommendation engine may offer a discontinued book at a heavily discounted price.

The statistical model underlying the recommendation engine takes many of these types of factors into account when rendering its recommendations. The goal of the engine is always to optimize some business-defined objective; this objective is usually defined as profit, but it is defined as a mixture of separate, sometimes competing objectives because *profit*-only objectives can be a

turnoff to the customer. The best way to properly define a recommendation engines' objectives is in consultation with an data analytics specialist.

ptimizing Direct Customer Interactions

While Web-based recommendation engines are easy to define and visually represent, the most effective type of up-selling and cross-selling occurs during face-to-face, phone, or other direct customer interactions where a company representative is communicating directly with the customer.

Upselling, for example, almost always occurs during the decision-making portion of the customer interaction. Large corporations typically have a script that their customer service agents recite during the order period. Phrases like, "would you like to supersize your order?", or "Would you like to purchase these new tires with the Acme Mastercard?", or "Would you like to purchase three years of IT support for your new computer?" are baseline upselling techniques which can be a nuisance to the customer and do not always provide added value to the interaction.

However, upselling offers tailored to the individual may provide a greater value to the customer. For example, if a car shop collected customer data during service calls, the business may be able to recommend a flat-tire repair warranty to customers who frequently have flat tires. If customers in a certain zip code or particular neighborhood have a higher than normal occurrence of cracked windshields because of gravel roads, then the car shop could relay that information and recommend a windshield repair warranty. These types of individually tailored suggestions during face-to-face interactions not only increases revenue, but also can improve customer satisfaction.

Memberships clubs, like Sam's Club and Costco, are well known for offering tailored upgrades. For example, during checkout at Sam's Club the sales clerk is shown a screen with the amount of additional savings a regular member would save if he were to upgrade to a premium membership. This information is available because all purchases made by members are recorded and aggregated based on their membership card.

Less direct cross-selling practices often occur at grocery checkout counters where coupons are dispensed based on a model created by a recommendation engine in response to the basket of groceries that were checked out by the customer. Large grocery chains have nearly universally adapted a *savings card* that records customer information in order to create models for use by the recommendation engine. In a method similar to the Amazon examples, the grocery store recommendation engine determines products that the current customer is likely to purchase in the future and finds coupons related to those items. Grocery chains are also known to entice upselling with customer loyalty programs with their savings cards by offering every 10th gallon of milk for free, or by offering discounts of gasoline for every $100 purchase, etc.

In these, and hundreds of other instances, companies are finding ways to make the most out of each interaction with the customer. Behind these efforts are statistical models, built by recommendation engines, which are used to tailor upsell and cross-sell offers to individual customers. Studies show that when these types of interactions are tailored to the individual customers, customer satisfaction improves leading to an increase in sales and profit.

Case Study

The Oracle Corporation performed a study on businesses that implemented a particular version of its Real-Time Decisions® (RTD) System. RTD is a particular software package for Web-based user recommendations.

Their study attributed the following improvements to RTD:

Improvements in transaction volumes:

- Up to 150% increase in click-through rates for Ecommerce Self-Service Web Site.
- Up to 20% increase in sales conversion rates for Ecommerce Commerce Web Site.
- Up to 50% increase in click and purchase rates for Email Marketing acquisition.

• Up to 76% increase in close rate for inbound contact center service interactions.

Improvements in transaction value:

• 6% increase in average transaction value for online customer acquisition.

Improvements in retention rates:

• 40% increase in retention rates from proactive churn management during inbound service interactions.

Statistics Solutions Company Biography

Statistics Solutions has been in the statistics consulting business for 18 years. For those interested in data mining solutions, we offer a wide range of consulting services and technology to assist you in optimizing your marketing campaigns, including the building of acquisition models, cross-sell and up-sell models, and churn models. For organizations without an analytic capability in-house, data mining activities will show an immediate ROI to your marketing campaigns.

For those firms with existing analytic capabilities in-house, we offer an outside opinion. For example, we specialize in trying different models (in addition to the typical SVM, gradient boost machine, partial least square, glmnet, generalized additive model, neural networks, etc.) and assumptions on the data, in order to get better lift. We also do meta-modeling (bagging & boosting of an existing models, and ensemble of a collection of different models), where we have seem improvements of 5%-10%!

For more information, you can reach us at 877-437-8622, Info@StatisticsSolutions.com, or visit our website at www.StatisticsSolutions.com.

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