Employing Analytics to Automate and Optimize Insurance Distribution

An evolving distribution landscape creates the opportunity for carriers to use advanced analytics tools and methodologies to capitalize on their data and extend their reach to digitally-connected consumers.

Executive Summary

For years, insurance distribution remained largely unchanged – relying primarily on independently affiliated agents and brokers. The process of selling to and servicing insurance customers was for the most part based on “high-touch” customer encounters. These interactions consumed a lot of time and energy – requiring agents to educate and assist customers with their research and subsequent purchase of coverage for insurable risks.

Today, new distribution channels continue to emerge. One example is Bancassurance – among the fastest-growing online conduits for fulfilling insurance customers’ needs throughout developed and maturing markets.¹ As these new entities take center stage, the distribution side of the carrier business faces the dual challenge of managing growing support costs to serve a limited (and shrinking) number of advisors, while meeting the escalating demands of multichannel sales and distribution.

Historically, carriers have reacted slowly to such developments, with a modest appetite for investing in future-focused changes. This “evolution vs. revolution” mindset has led to the preferential allocation of funds for supporting and managing legacy systems, including personnel-dependent distribution processes. By pursuing this “keep the wheels on the bus” strategy, many carriers skirted the opportunity to execute and capitalize on projects with potentially transformative implications for the business.

In this white paper, we throw light on how insurers can apply advanced analytics to their distribution operations – leveraging data and research resulting from the analytics mandate across the industry. Critical to this discussion is the powerful construct of Code Halos, or the virtual footprints individuals, organizations and devices leave in our increasingly connected digital world.² We also offer an approach for applying analytic insights and innovations to key business activities to help insurers enhance their competitiveness, profitability and consumer centricity.

What Consumers Want

Prior to the mid-1990s, insurance distributors held most of the knowledge regarding insurance products, pricing and processes – requiring
customers to have the assistance of an intermediary. By the end of the last decade, consumers had become more informed, thanks to social media, the ability to compare service providers through reviews posted on Web sites and blogs, and the growing volumes of content streaming from handheld devices and other online channels. Clearly, producers no longer wielded as much influence as they once had.

In this increasingly digital environment, consumers have shown two thematic preferences for how their insurance needs are met:

- They want industry players to expand their services beyond core "comfort and assurance;" they want a sense of community, and the freedom to choose from a variety of highly personalized products. While today's insurance carriers and distributors have an opportunity to comply with these preferences and achieve true market differentiation, they must be ready to compete with services that can stand up to a new breed of potentially disruptive entrants, such as Google and Amazon.

- Consumers expect carriers and their distribution partners to provide tools and technologies through various digital channels that expedite the process of researching, applying for and servicing their policies. Increasingly, this expectation includes the use of high-functioning mobile devices.

Using Analytics to Better Inform the Business

Several factors – the evolution of information technology, demographic changes, new cultural norms of social and sales interactions, and a hyper-connected millennial generation – are driving dramatic changes in the insurance distribution ecosystem.

We believe that carriers that are well informed on all fronts are in the best position to optimize available resources, make the most of their existing IT investments, and implement new systems as needed to grow the business. By employing advanced analytics, carriers can take advantage of real-time data to gain deeper insights into their customers' preferences and better inform their business and distribution strategies.

and better inform their business and distribution strategies. Yet to achieve this kind of operating environment, carriers must first adopt a strategic, proactive approach to leveraging analytics across the enterprise. A significant number of insurers are already doing so – investing in data and analytics tools for marketing, distribution and policy servicing. In fact, according to a recent report from Strategy Meets Action (SMA), analytics and mobile technologies are among the top priorities for insurers this year.

For instance, more than 40% of survey respondents said their organizations are now using analytics to develop advanced customer segmentation. Another 20% noted that they are already piloting or implementing such environments. Furthermore, 21% are using analytics to develop a single view of customers, while another 26% are piloting or implementing the tools needed to do so. Analytics are used by 48% of insurers for channel/agent performance management, and another 20% are currently piloting or deploying these tools.

The importance of Code Halo™ thinking is immense when applying analytics to the distribution side of the insurance industry. Analytics provide the catalyst for making meaning from intersecting Code Halos – affording the opportunity for insurers and their intermediaries to identify, communicate with and conduct business with the most profitable clients.

The Insurance Industry’s Digital Business Challenges

One dominant theme, particularly in personal lines of insurance, is the emergence of the digital consumer. Typically, he or she carries a modern smartphone, is persistently connected in real time to work, family and social circles, and is contextually informed by location-aware applications. Dealing with digital consumers with easy access to information (e.g., product reviews) and transactional capabilities (e.g., digital payments) imposes massive demands on the industry's traditional distribution models. For instance, channel players must continually prove their “worth” by adding value to sales and service processes. This places more pressure on them to differentiate themselves and offer distinct value that is difficult to replicate and automate through digital interactions and transactions.

Clearly, the evolution of the digital consumer presents unique distribution challenges. Addressing
and overcoming these hurdles requires knowledge and a deep understanding of the changing distribution landscape, as well as a new way of thinking in several key areas:

- **Product design.** Shifting consumer demographics, increasingly technology-savvy customers (existing, new and prospective alike) and the onset of new insurable risks create some special challenges for insurance product-design and development teams. They are expected to create well-rounded views of customers’ wants and needs, process large amounts of data, translate existing loss information to estimate new categories of products, and price them competitively. Overall, they must be able to finely segment risks, keep anti-selection at bay, optimize predictive underwriting and drive profitability by back-feeding claims experiences into product designs, targeting and pricing. Simply stated, the level of agility a product design team can achieve in understanding user needs and translating those into competitive product propositions largely depends on their analytical abilities.

- **Multi-channel distribution.** Historically, various insurance distribution channels were able to reach existing and prospective customers by themselves (or independently), but these channels were rarely integrated. Today’s digital

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**Quick Take**

**Decoding Customer Behavior**

To truly understand customer needs and the factors that drive their actions, insurers must become familiar with the fundamentals of customer behavior, and be prepared to answer the following questions:

- What and why are customers buying? What is the implication for the product development lifecycle?
- Are they happy with the insurance products and services they currently own?
- How long might individual customer relationships last? How can the insurer proactively mitigate the risk of attrition?
- What leads to customer churn? How does that affect profitability?
- Can a distributor predict the propensity of a customer to buy a particular product? What other products may interest that customer?
- Can the insurer sense when customers signal dissatisfaction, and adjust/tailor services to their liking - in real time?
- Are there leading or lagging indicators of insurance customers’ preferences that could be used to optimize marketing spend?
- How can they acquire and retain the most profitable customers at the lowest distribution costs?
- How can they determine customers’ wallet share?
- How can they maximize the conversion of prospects?
- Is the insurer cognizant of the competition, and prepared to win over customers to gain market share?
- How does the insurer optimize its production channels and incentives that go towards premium production?
- How do current clients and ideal prospective clients wish to be engaged digitally? Does the company have a current understanding of how to meet their needs today, as well as a complementary long-term strategy?

While these questions may seem fundamental to a successful product and distribution strategy, the truth is more nuanced. The broader reality is that all but the most sophisticated carriers and distributors are using preexisting data to understand their business and address the issues cited above. By minimizing, overlooking or simply not taking action to address this concern, carriers miss the opportunity to fully understand and comply with their customers’ preferences.
consumers have a distinct preference for flexible and integrated channels that enable them to interact via e-mail, chat, mobile, the call center and direct communications. They have become accustomed to and expect seamless, multi-channel experiences like those pioneered by retail and digital media giants such as Amazon and Google.

Enabling and maintaining multi-channel interactions – from engagement through distribution – has value, but it also places an additional burden on already-stretched IT budgets. Better resource alignment across channels requires detailed insights into each channel’s productivity, revenue-wise. This helps ensure that preferred distribution channels are prioritized and receive the necessary resources. Analyzing channel probability and productivity can make a significant difference when it comes to improving overall distribution efficiency.

- **Marketing.** Another area with limited budgets but with increasing scrutiny around its return on investment (ROI) is marketing (advertising, to be more specific). The growing demand for closed-loop marketing systems is an outcome of the push to measure and enhance the productivity of various marketing channels. Optimizing the marketing mix is one technique that several insurance carriers use to increase the impact of marketing communications and boost the ROI from multi-channel marketing initiatives. Various distribution channels often ask for more marketing items/collaterals in an effort to extend their customer reach. Typically, distribution organizations do not have information on the volume of collaterals used, since most lack the ability to track, automate and collect data. Using advanced analytics to understand the effectiveness of marketing spend can have significant, positive implications – helping companies to:
  - Develop a deeper understanding of customers and their behavior patterns.
  - Reduce spend on channels and collateral materials that do not have high returns.
  - Improve compliance by effectively tracking collateral items.
  - Realize overall productivity improvements.

When marketing teams are no longer able to build and/or manage an ever-increasing lineup of channels or materials, they can refine and improve their “best-of-the-best” approaches.

- **Profitability management.** Competition and market shifts heighten pressure on “bread-and-butter” service lines, which impacts carriers’ overall profitability. Efforts to squeeze distribution channel spending (typically via reduced commissions and fees) signal that producers and brokers see less returns on the same-sized book of business. Seeking a balance between these two opposing forces to maximize profitability requires highly accurate analytical insights.

Measuring distribution profitability comprises three layers: carrier standalone, distributor standalone and joint measurement. In the two standalone categories, each group is responsible for the independent drill-down and analysis of their business. Too often, distributors rely on carriers to provide the underlying data, when in reality there are many sell-through transactions that a distributor can discreetly track to gauge profitability. A joint commitment to disciplined analysis and information can facilitate valuable and informed partnerships. This process not only apprises carriers of key profitability facts; it also carries with it broader practical implications that can affect product design and pricing, as well as marketing spend.

The Science of Resource Allocation: Using Analytics to Address Key Challenges

An important principle of data science is that analytics is a process with distinct stages. It is not an event, as is commonly thought. Some stages of analytics involve the application of information technology and computational capacity (e.g., data processing, automated pattern discovery). Other stages require an analyst’s creative understanding of business imperatives. Each data-driven business decision is a unique challenge, with its own combination of goals and constraints. It is therefore important for an analytics team to sit with business stakeholders and develop a sound understanding...
of the business challenge so it can be broken down into analytic subtasks.

Conventional wisdom suggests that while each business problem might have some subtasks that are unique, many (i.e., data cleansing, staging, tabulation, etc.) are common among business issues. This allows for the reuse of analytic approaches and algorithms — permitting the analytics team as a whole to be much more efficient by addressing several problems simultaneously.

To fully understand the entire gamut of insurance distribution-related challenges that can be resolved through analytics, we will review the important analytic approaches and algorithms that are closely aligned with the tasks at hand.

**Sales Conversion Analysis**

In any commercial environment, selling is a step-by-step process. This certainly holds true for insurance distribution channels. Starting from a potential lead, the customer passes through various stages of the selling process, including engagement, qualification, proposal, negotiation and deal closure. Distributors and brokers frequently maintain a sales funnel to track the number of customer threads in each stage and monitor the percentage of threads that move forward. This can help discern weaknesses in agent operations while maximizing sales leads and opportunities. For example, a persistent inability to convert qualified leads into proposals might indicate a weak link in the lead-qualification process.

It is essential to differentiate sales-related activities along two dimensions: production-generating activities (PGAs) and production-supporting activities (PSAs). The distinction is important, since it forces organizations to understand the critical path of activities and events that drive revenue, as opposed to those (PSAs) that merely support the activities that actually generate revenue. Once businesses recognize which PGAs are directly correlated with production, they can focus on the PSAs that drive the highest volume of PGAs. A common mistake is treating PGAs and PSAs in the same way, which means they are tracked in the same way. Understanding the discreet nature of both PGAs and PSAs affords a deeper understanding of the full sales continuum and the impediments to effective sales conversion.

New predictive analytics techniques, such as classification or class probability analysis, can also be employed to improve the efficiency of sales.

**Quick Take**

**How Analytics Helped an Insurer Maximize Customer Retention**

One of the world’s top-three composite insurance groups operating in 40-plus countries requested Cognizant’s insight in helping to improve customer retention. In several countries, in its life and pensions business, the group’s 13th-month persistency rates were lower than the industry norm. The company asked us to develop a series of predictive models using logistic regression, GLM and Cox regression techniques to correspond with observed attrition trends across time periods, external environment changes, and the changing lifecycle stages of existing in-force customers.

Figure 1 (next page) shows how we helped improve the insurer’s customer-attrition challenge using our retention and recapture analytics framework, iVALUE, which runs on a big data platform. The predictive models within the iVALUE platform are integrated with the retention and recapture campaign management systems through Web services.

Using analytical models, customer retention and persistency have increased substantially in multiple countries. For one of its European implementations, the iVALUE-based solution has helped grow customer retention from 83% (steady for the last five years) to 91% in one quarter. Moreover, the models were also deployed in customer win-back campaigns and revived 4% of the client’s lapsed/surrendered customers. In another Asian implementation, 50% of high-risk attrition customers were retained, and 3.5% of lost customers were won back.
operations. These data-mining approaches can be used to forecast sales quotas and conversion probabilities. They help to answer questions concerning the likelihood of a particular lead proceeding to the next sales stage. This kind of probabilistic assessment makes it easy to align the best sales resources – human and material – with leads that have the highest chances of conversion.

**iVALUE Analytics Services**

- **Customer & Premium Retention Consulting**
- **Lead Generation & Conversion**
- **Surrender & Attrition Prediction**
- **Mortality, Morbidity & Claims Prediction**
- **Fraud & Money Laundering Detection**
- **Risk & Compliance Reporting & Analytics**
- **Analytics Delivery**
- **Data Pre-Processing & Quality Assessment**
- **Visualization Portal & Mgmt. Reporting**
- **Closed Book Analytics**

**iVALUE Implementation and Business Integration Approach**

- **Planning & Initiation**: Data assessment workshop with data availability checklist, data sources identification, finalize requirements for data extraction.
- **Data Preparation**: Infrastructure setup, data merging, cleansing and standardization, baseline exit criteria for iVALUE models.
- **Exploratory Analysis & Modeling**: iVALUE model training, iVALUE Customer Segmentation, iVALUE Lead Scoring, Design for Web Services, iVALUE Attrition & Survival model training.
- **Model Validation & Piloting**: iVALUE model testing against exit criteria, pilot run and benefit tracking, roll-out planning, design for change management, training.
- **Insights on a Portal**: Customization of iVALUE portal, customization of business utilities for agents, NB, UW and policy servicing, and call center operations, iVALUE launch.
- **Analytics Service Integration**: Customization of iVALUE Web Services for scoring, integration of iVALUE Web Services to agency, NB, UW, policy servicing, and call center systems, integration with source systems for data intake.

**iVALUE Implementation Case study**

**Situation**
- Client experienced high attrition in its customer base due to competition and misselling (45% in overall lapse rate).
- Business was heavily dependent on one LOB (70% is Medical) compared to the 30% industry average.
- Company was highly region-focused and not a national insurer. Sold only in 33% of the regional markets.
- Business never examined the motivation for customers to buy and how they could be proactively retained.

**Solution**
- Performed customer segmentation to understand customer characteristics.
- Created the attrition model to predict policy churn using Logistic regression and survival model and calculate the duration of a policy before attrition.
- Developed utilities for underwriters to identify potential attrition probabilities before underwriting new business proposals.
- Developed productivity tools for agents to recommend the right products based on prospect profiles.

**Benefits**
- Twenty-five percent of the in-force portfolio has been identified, with 67% of the premium at risk of attrition. (Approx. US$1.35 BN premium at risk).
- Developed a list of customers who can buy specific products.
- Generated leads from ex-customers (lapsed customers) worth US$800 Million, with estimated probability of conversion.
- Developed recommendations for premium retention for the customer-retention and persistency-management teams.
- Formulated a growth strategy to retain existing customers and grow the business.

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**Figure 1**

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Sales Productivity Analysis

Sales productivity can be measured by tracking several metrics, each providing a slightly different perspective on the concept of productivity. Some commonly used metrics employed across distribution channels are quote-to-close ratio, gross written premium (GWP) and per-agent ratio, which calculates sales and marketing costs per US$1,000 of placed first-year annualized premiums.

Beyond the operational-type metrics listed above, it is also possible to use data-mining techniques such as profiling to derive insights from those customer segments that were most productive. For example, to achieve a minimum threshold of revenue generation, advanced analytics can identify the lowest cost associated with taking a specific customer segment from quote to close. That is, the cost to usher these customers through the sales cycle — from presentation of the illustration to completion of the sale. Similar profiling analyses can also be conducted with distributors to identify the demographic, geographical and other factors that drive successful and efficient business practices.

Profiling can also help make comparisons between sales territories, and lead to a more level playing field. Questions such as “If New York generates 2x the revenue as Michigan, does that make it twice as good? ... twice as profitable? ... twice as efficient?” can best be addressed through geographic profiling that enables an understanding of discrete markets. Again, sales productivity can be measured in several ways, and suitable analytical approaches can involve a blend of operational and predictive techniques.

Agent and Salesforce Deployment Analysis

Agent and salesforce deployment analysis addresses critical resource-allocation tasks, such as territory alignment, workload allocation and salesforce sizing. Historically, these activities were conducted manually — generally resulting in unbalanced workloads, impractical quotas and a lack of focus on key accounts. Analytics can help establish a benchmark to build territories that are distinctly different and independently managed. This can enable leadership and individual distribution partners to more precisely measure their comparative performance. The same benchmarking tools and techniques used at the carrier level can make it easier for independent distributors and alternate distribution channels to conduct fair performance appraisals. Moreover, the use of this type of platform allows greater transparency throughout the organization, and a level of insight that enables smaller geographies and territories to be equitably compared and measured against larger players.

It is possible to mathematically model goals, quotas, activities and staffing levels to get a “near correct” answer to complex questions surrounding resource deployment. The output from mathematical models can then be manually “tweaked” to work on the ground, given the marketplace realities that cannot be factored into how analytics helped an insurer create a 360-degree agent view

How Analytics Helped an Insurer Create a 360-Degree Agent View

A top-five P&C insurance carrier based in North America had an agent attrition problem that was in the top decile* of the industry. Working with us, the carrier designed machine learning algorithms to study patterns that existed across internal and external data. The models were used to identify the likelihood of attrition of the carrier’s existing agents; develop a real-time profile of them, including information on agents’ lifetime value; the time to reach their full potential; likely and pessimistic production forecasts; plus the reason for and expected time of departure.

Subsequently, these models were used to screen potential recruits, generate a profile and accelerate the recruitment of the right set of agents.

The insurer was able to increase its sales conversion rates 20% by applying quote conversion analytics and revisions to its quote follow-up processes, which can be redesigned to run in campaign mode using insights generated from analytics.

* Decile refers to any of the groups that result when a frequency distribution is divided into ten groups of equal size.
For example, in salesforce sizing and allocation situations, nonlinear programming models that maximize three-to-five years of profitability for alternative salesforce sizes (and market allocations) can be used as a technique for developing “first-cut” deployment models. Output from this analysis can then be fine-tuned, based on personnel strengths and relationships in certain markets.

For sales-territory designs where the distribution of territories and accounts is in question, integrated programming models that maximize coverage and minimize profit disruptions can typically be used. Furthermore, as shown in Figure 2 above, analytical models can be employed to identify factors that determine the success of newly inducted agents/brokers.

Incentives and Commissions Analysis

Optimizing payouts on incentives and commissions is critical if a carrier is to maximize its overall profitability and ensure the retention of quality distribution staff. By using the benchmarking referenced earlier, carriers can better understand profitability per distributor and therefore can control it better. One element of this approach is that distributors are not paid exclusively based on premium – just one factor in a mix that collectively rewards efficient and profitable businesses. To gain a meaningful perspective on the interplay among these variables, it is also possible to calculate average payouts per distribution agent and compare those with industry benchmarks (or historic values) to see how the current level of incentive payments measures up when compared to where it needs to be.

Advanced computational models can be used to align compensation with the level of sales efforts. These kind of non-standard models can help build incentive compensation plans that extend beyond the considerations of company sales and profits. For example, disaggregate models link each salesperson’s utility for time; money and sales response models link each salesperson’s call efforts with territory sales to develop the aggregate relationship. While such options are rarely used, they can help carriers gain a unique, computationally-intensive perspective on the efficiency of their sales operation.
Channel Preference Model

As discussed earlier, the modern digital customer expects a seamless, multi-channel experience once he or she starts interacting with an insurance carrier and its distribution network. While these customers may interact through various channels, they generally have a preference. It is possible to collect data and discern patterns on preferred channels and their contribution to the carrier’s top line. Operational intelligence metrics can gather the data on various touchpoints and sequence those channels based on customer interactions.

In addition to operational data, the analytics team can conduct data mining exercises such as classification studies to predict which channel may be preferred by an incoming new lead based on demographic or behavioral attributes. These studies can also be used to predict the probability of conversion or cross-sale, or chances of responding to certain offers through the available distribution channels.

Churn Prediction Model

Churn rate is a measure of customer or employee attrition. Strictly defined, it is the number of customers that discontinue a service, or employees who leave a company during a specified time period, divided by the average total number of customers or employees over that same time frame. Customer retention is a critically important business goal in today’s competitive arena. An in-depth analysis of factors affecting customer attrition helps in understanding the reasons behind why loyal customers drift toward other carriers. These insights can help in formulating effective strategies that can improve customers’ engagement and keep them from turning to competitors.

Often, carriers are interested in knowing if a customer will leave when their current policy lapses. In these situations, predictive churn analysis can help estimate certain target-level outputs, such as the probability that a particular customer segment or archetype will leave, given a proposed premium rate offer or other changes in the product offering or price. This analytical approach involves a supervised classification, or class probability, estimation. It produces a model that categorizes all potential customers into “churn” and “no churn” groups if current offer parameters are retained in the renewal offer.

This can make it very easy for renewal analysts to target and come back to the “high chance of churn” customers with a more competitive offer – addressing attrition before it happens. Making a revised offer after the consumer has switched carriers is often too little too late.

Sales Campaign (Including Cross-Sell/Up-Upsell) Analysis

The ability to cross-sell a product throughout the business or up-sell another, higher-value product from the same organization is key to driving up net revenue. The rationale? Selling to current customers involves no additional costs, unlike selling to new customers. Traditionally, the carriers’/distributors’ sales efforts are aligned by product type or solution type. While solution-type alignment can support cross-sell opportunities, it can lead to short-term resistance, since some view solution similarities as a threat that could cannibalize other product sales.

The most effective analytical methods for overcoming these issues and driving up-sell and cross-sell revenues are generally those associated with similarity and clustering categories. If two attributes (among people, companies, products) are similar in some ways, there is a good chance that other characteristics will be shared as well. Data-mining techniques that focus on searching for the right sort of similarity (or degree of association) help identify the next product or service that a current customer may be interested in because a similar customer has already bought it and likes it. Modern retailers such as Amazon and Netflix use similarity or degree of association (i.e., collaborative filtering) to provide product recommendations – a core tenet of Code Halo™ thinking (“people who liked X also liked Y.”).

Such recommendation engines could be used more pervasively in insurance to add relevancy - a valued attribute for customers - to the purchase and decision-making process for prospects at the time of the first purchase, as well as for existing customers whose requirements change over their lifetime.
Customer Service Analysis

Customer service analysis tracks and investigates customer interactions with an organization at point-of-sale, service delivery and during follow-on support to ensure that customers are well served. Effective customer service is an integral part of a successful insurance brand experience, and therefore closely monitored by the most senior management. Operational reports track service levels at customer touch points, and issue resolution rates and changes in the number of customer requests and complaints. Several metrics commonly used for this purpose include dollars to resolve issue, number of issues outstanding and CSAT (customer satisfaction) ratings.

While using analytics to track the behavior pattern of a dissatisfied customer is a relatively new approach, it is proving to be highly valuable. The customer experience is not a binary event. A “not bad” customer experience does not mean it is a “good” one – a fact often overlooked by carriers and distributors. Insurers must understand how analytics can be used to help design a service that clients will clamor for – even if they have minimal knowledge of the offering. Clients desire a level of comfort, since purchasing many insurance products involves a lifetime financial commitment. The goal should be to move the customer to self-service mode and reduce the chance of displeasing them.

A “not bad” customer experience does not mean it is a “good” one.

Using an analytical approach known as profiling, insurers can examine customer service data to address questions concerning the typical behavior patterns of a dissatisfied customer, or predict whether a particular customer complaint or claim is just an anomaly or points to a larger yet hidden trend. Profiling can also be used as input for data-reduction analytical techniques (transforming digital information into an orderly, simplified form) that focus on understanding events or actions that might lead to more customer issues.

Customer Segmentation

This form of analysis addresses fundamental questions such as “How can we select one or more attributes/features/variables (like churn rate) that will best divide the sample with respect to the target variable of interest?” For example, will the customer of a certain demographic and financial status stay or leave after their policy lapses? There are many techniques for generating supervised segmentation from a dataset. One of the most popular approaches is to create a tree-structured model, where different branches of the tree represent the segments into which the data can be distributed. Sometimes, the analyst may be interested in more information than merely classifying customers into segments. He or she may want to know the probability of each event within a class (predicting the probability of someone leaving within three months compared with just predicting if he/she will leave within three months of joining).

Overall, customer segmentation analysis can give carriers a very useful grasp of the aspects of consumer behavior, which can be a precursor to actions such as churn, complaints and fraud. Timely prevention can translate into huge savings in what are sometimes considered unavoidable distribution losses.

Customer Profitability Analysis

For the purposes of this paper, we can assume that the average customer of a distribution company also happens to be a profitable one. That alone does not make them an ideal customer. The ideal customer clears all or nearly all of the internal benchmarks related to profitability and retention. Many businesses have defined this quite well – often attracting a lot of ideal customers by analytically aligning the organization to find them. Therefore, to the extent that there is an unending supply of these ideal customers, a business would want to work exclusively with these clients.

The reality is that there is not an unending supply of ideal candidates – at least not all the time. Businesses would be well advised to consider the “channelization” of prospective customers. In this approach, it is understood that a blended average across the migration continuum is a success if it meets some internal standards.
Clearly, the goal would be to obtain as many profitable customers at the top end of the continuum while achieving minimum thresholds of client profitability. Profitability analysis would then mean calculating differences between highly profitable and less profitable client segments along this continuum. Questions of this kind can be answered through the use of statistical techniques, such as hypothesis testing.

At the same time, insurance distribution managers are often interested in answering more intriguing questions, such as “Who are really our most profitable customers? Is there a way to characterize them? Are there any character attributes that lend themselves well to lowest-cost distribution channels?” They also want to know early on if a particular new customer will be a profitable one and how much revenue they should expect that customer to generate.

Understanding true customer profitability can change, based on the perspective used to examine the data. Various analytical methods that fall into classification and regression analysis categories can be used in conjunction with creative business analysis to develop a well-rounded and balanced understanding of customer profitability.

Looking Forward

Insurance – and the entire financial services industry – are at a crossroads as established players wrestle with a host of challenges and opportunities. Advanced analytic capabilities hold enormous potential for leaders to evaluate their business and allow it to thrive. Understanding the evolving roles of the carrier, producing agents, distribution structures and digitally connected consumers will distinguish the progress carriers make moving forward.

Winners will view these factors through the lens of opportunity, and harness the power of smart analytics to benefit their clients, strengthen their profit margins and establish a durable competitive position.

We believe that an integrated analytics strategy will provide carriers and distribution channels with an added advantage by enabling them to:

- **Better serve the client** (i.e., the digital customer) by gaining a clearer understanding of what they want and how they want to be engaged. Today, carriers can create tighter...

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**Predicting Outperformance**

**Business Problem**

- Estimate the time new employees take to become fully productive after they join the organization.
- Evaluate the factors impacting the performance of an individual after induction training.

**Solution Approach**

- Historical data review
- Logistic models to compute the probability of becoming fully productive at various points in time
- Survival models to predict the ability of the employee to sustain his or her productivity levels

**Results**

- **% of employees (1000s)**
  - Less than 0 Days
  - Less than 3 Days
  - 3 – 6 Months
  - 6 Months – 1 Year
  - 1 – 1.5 Years
  - 1.5 – 2 Years
  - 2 Years

- **Deployment Time**

**Key Features**

- Targeted Training Recommendations
- Educational Background Recommendation

**Parameters Affecting Deployment Time**

- Count of Employees (1000s)

- Performance

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<td>Non-Target</td>
<td>Discipline#2</td>
<td>Training#1</td>
<td>City#2</td>
<td>50%</td>
<td>Low</td>
</tr>
<tr>
<td>Non-Target</td>
<td>Discipline#1</td>
<td>Training#2</td>
<td>City#1</td>
<td>33%</td>
<td>Low</td>
</tr>
<tr>
<td>Non-Target</td>
<td>Discipline#2</td>
<td>Training#2</td>
<td>City#1</td>
<td>30%</td>
<td>Low</td>
</tr>
<tr>
<td>Non-Target</td>
<td>Discipline#2</td>
<td>Training#2</td>
<td>City#2</td>
<td>28%</td>
<td>Low</td>
</tr>
</tbody>
</table>

Stakeholders received a priority matrix table of colleges for recruitment and specialized training, thereby knowing what combinations work best.

<table>
<thead>
<tr>
<th>College Group</th>
<th>Dovetail Score</th>
<th>Training Group</th>
<th>Probability of Rtings A &amp; M</th>
<th>Probability Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>&gt;76.663</td>
<td>Training #1</td>
<td>87%</td>
<td>High</td>
</tr>
<tr>
<td>Target</td>
<td>&gt;76.663</td>
<td>Training #2</td>
<td>81%</td>
<td>High</td>
</tr>
<tr>
<td>Target</td>
<td>&lt;=76.663</td>
<td>Training #1</td>
<td>77%</td>
<td>High</td>
</tr>
<tr>
<td>Non-Target</td>
<td>&lt;=72.5</td>
<td>Training #1</td>
<td>72%</td>
<td>Medium</td>
</tr>
<tr>
<td>Non-Target</td>
<td>&gt;=60</td>
<td>Training #2</td>
<td>69%</td>
<td>Low</td>
</tr>
</tbody>
</table>

connections and a stronger brand proposition with customers. For example, they can leverage the snippets from customer Code Halos to create a “Personal Digital Portal” where a client can manage his application, policy and future preferences. This portal could also allow policyholders to receive tailored company news feeds and provide customer-survey feedback to enhance product innovations.

- **Provide systematic guidance and a road-map for sales and distribution** by facilitating well informed planning and sales activities throughout the organizational hierarchy - from senior leadership to the producing agent.

- **Create well planned, informative sales and marketing campaigns** that support superior results for agents. Campaigns can be more customized as carriers distill insights from customers’ Code Halos.

- **Tackle the challenges of field management and producing agents** related to territory development, lead creation/management and performance tracking across the organization.

Just as other industries have transformed their operations through the smart use of digital technologies, so must the insurance sector. In the end, the integration of analytics will drive more simplicity and greater efficiencies across the industry and within individual businesses. This transformation will not only deliver more value to the business and internal stakeholders, but also, most critically, create a compelling, satisfying and lasting experience for today’s digitally-minded consumers.
Footnotes


References


Acknowledgments

The authors would like to thank Matt Hamann, an industry expert on the digital customer experience, for his contributions to this white paper.

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