



# Predictive Analytics for Database Marketing

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[www.sv-europe.com](http://www.sv-europe.com)

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## FAQ's

- Is this session being recorded? Yes
- Can I get a copy of the slides? Yes, we'll email a PDF copy to you after the session has ended.
- Can we arrange a re-run for colleagues? Yes, just ask us.
- How can I ask questions? All lines are muted so please use the chat facility – if we run out of time we will follow up with you.



Predictive Analytics  
for Smarter Business



- Premium, accredited partner to IBM specialising in the SPSS Advanced Analytics suite.
- Team each has 15 to 20 years of experience working in the predictive analytic space - specifically as senior members of the heritage SPSS team



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# What do we mean by 'Predictive Analytics'?



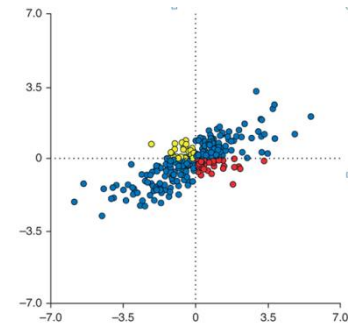
**Predictive analytics** encompasses a variety of techniques from **statistics** and **data mining** that analyze current and historical data to make predictions about future events



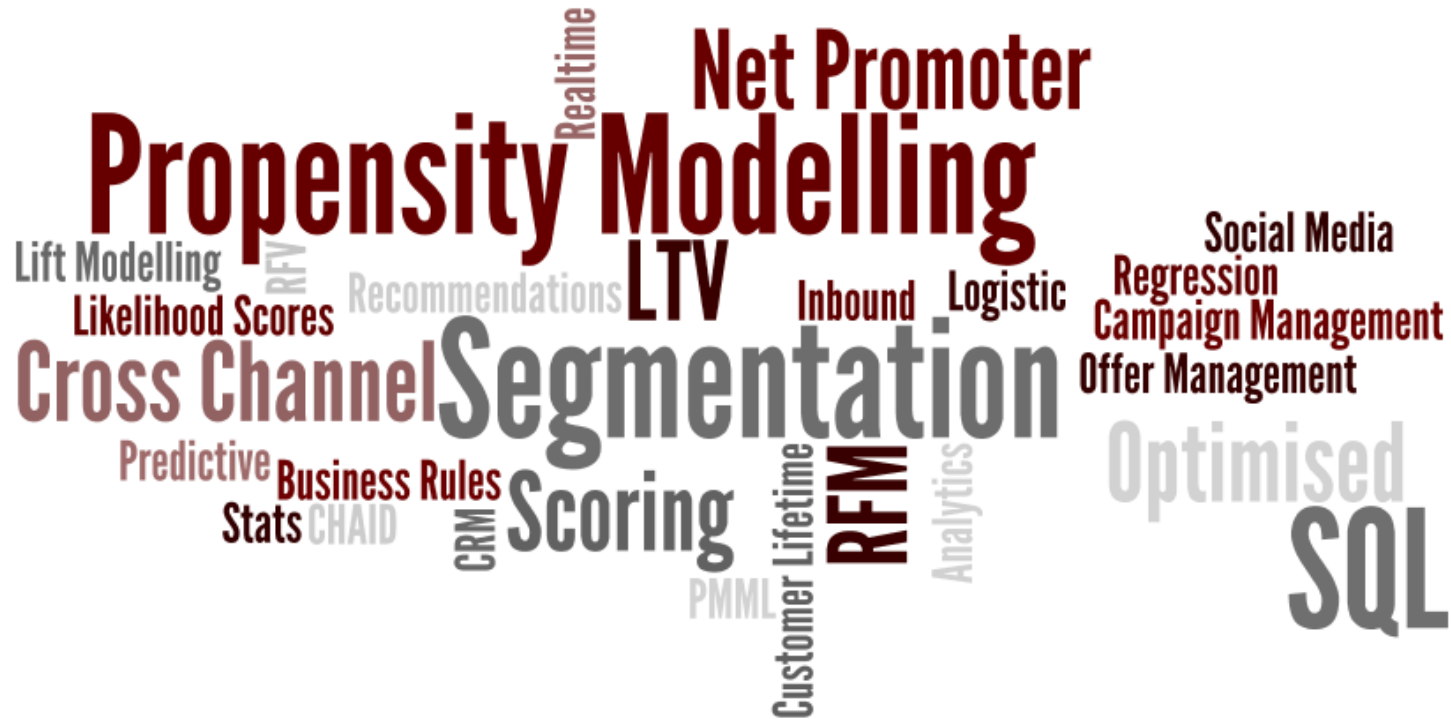
Analysis of structured and unstructured information with mining, predictive modeling, and 'what-if' scenario analysis.

# What do we mean by 'Predictive Analytics'?

- It's different from Business Intelligence or MI reporting
- Actually, it's not *always* about prediction
- However, Predictive Analytics *does* creates important new data
- These data take the form of estimates, probabilities, forecasts, recommendations, propensity scores, classifications or likelihood values
- Which in turn can be incorporated into key operational and/or insight systems



# Predictive Analytics for Database Marketing



# Core Applications in Marketing



attract

## Acquire customers:

- Understand who your best customers are
- Connect with them in the right ways
- Take the best action maximize what you sell to them



grow

## Grow customers:

- Understand the best mix of things needed by your customers and channels
- Maximize the revenue received from your customers and channels
- Take the best action every time to interact



retain

## Retain customers:

- Understand what makes your customers leave and what makes them stay
- Keep your best customers happy
- Take action to prevent them from leaving

Predictive  
Customer Analytics

Acquire  
Grow  
Retain



# Why is this important to organizations?

- Acquiring customers is expensive
  - Not unusual to cost **6 times** as much as retaining them
  - Understanding who is *most likely* to convert is very cost effective
- **80%** of a company's profits come from **20%** of its customers
  - Need to understand these customers requirements
  - How they behave and what keeps them happy
- Increasing customer retention rates by **5%** increases profits by **25% to 95%**.
  - Study by Bain & Company, working with Earl Sasser of Harvard Business School

Incremental gains in one business area can lead to *extremely* compelling ROI



# Typical Analytical Applications

- **Segmentation**

- Customer Behaviour
- Life Time Value
- Loyalty

- **Predictive Modelling**

- Campaign Response
- Cross-Sell/Up-Sell
- Customer Acquisition
- Retention Scoring
- Satisfaction Modelling
- Real Time Recommendations

- **Other Applications**

- Basket Analysis
- Sequence Modelling
- Sentiment Analysis

# At the heart of Predictive Analytics is the model

- Predictive Analytics uses historical data from many people/incidents
- Age, Gender, Average Spend, Product Category, Region, Tenure etc.
- With known outcomes/results
- Responded, upgraded, defaulted, recommended, cancelled, donated, failed, renewed etc.
- To build a reusable model



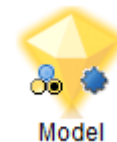
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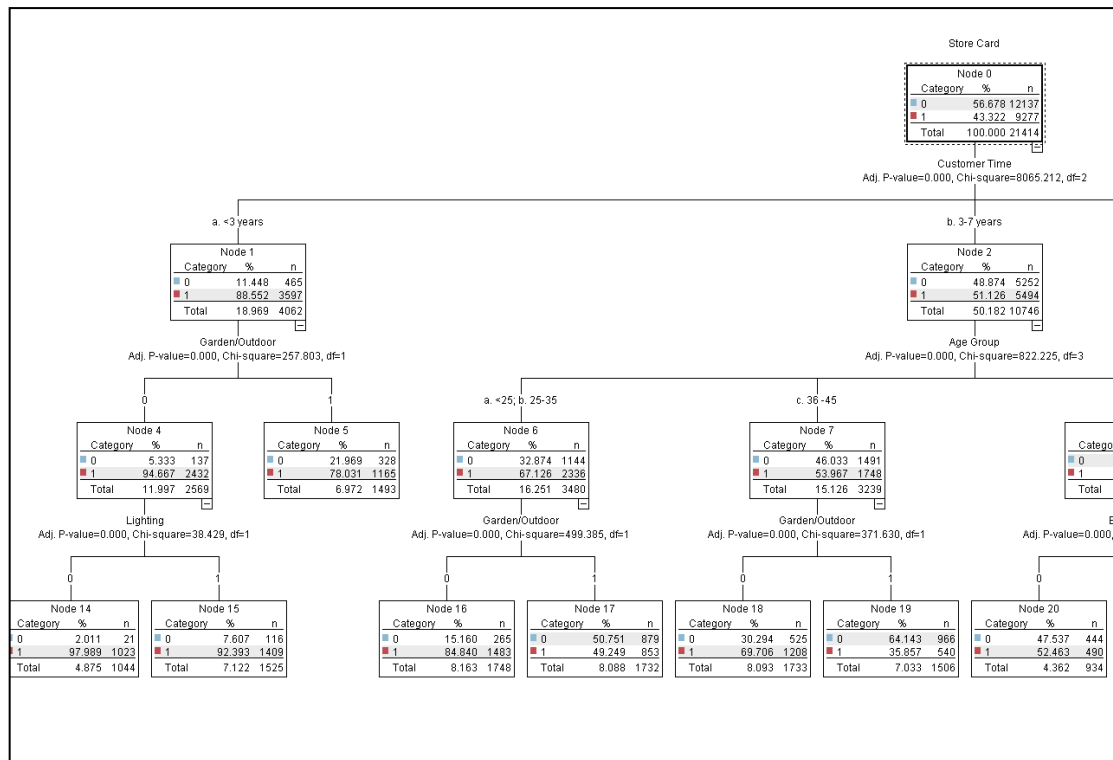
Model



# At the heart of Predictive Analytics is the model



- The resultant model is a *pattern or formula* that can be examined and tested
- Moreover, it can be treated as a *physical object*
- Or an important asset that can be deployed in a wide variety of ways before being archived



# At the heart of Predictive Analytics is the model

- We can take new data from individuals or incidents...
- Age, gender, average spend, sentiment, tenure, time since last visit
- Using a model based on the same information...
- Generate probability values, likelihood scores and estimates
- In other words.....predictions



**32% CHANCE OF  
CANCELLATION**

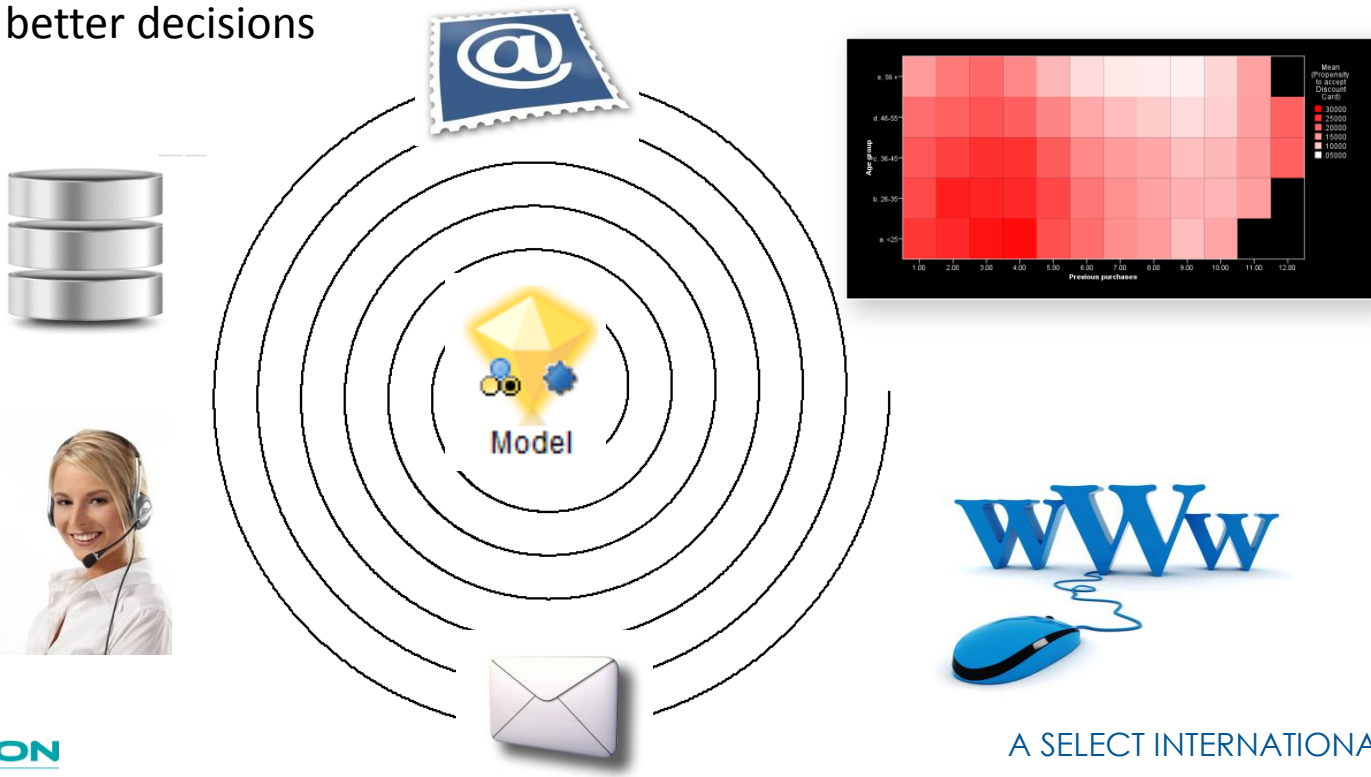
**Predicted Lifetime  
Value = £938**

0.13 probability  
of defaulting

**Estimated  
NPS = 6**

# At the heart of Predictive Analytics is the model

- We can then deploy the predictions through multiple channels to make better decisions



# Proactive vs. Dynamic Deployment

- **Proactive (outbound)**

- Integrated with existing campaigns
- Can set the decision agenda
- Can be planned in advance
- Less costly and simpler than dynamic but also *less timely & accurate*

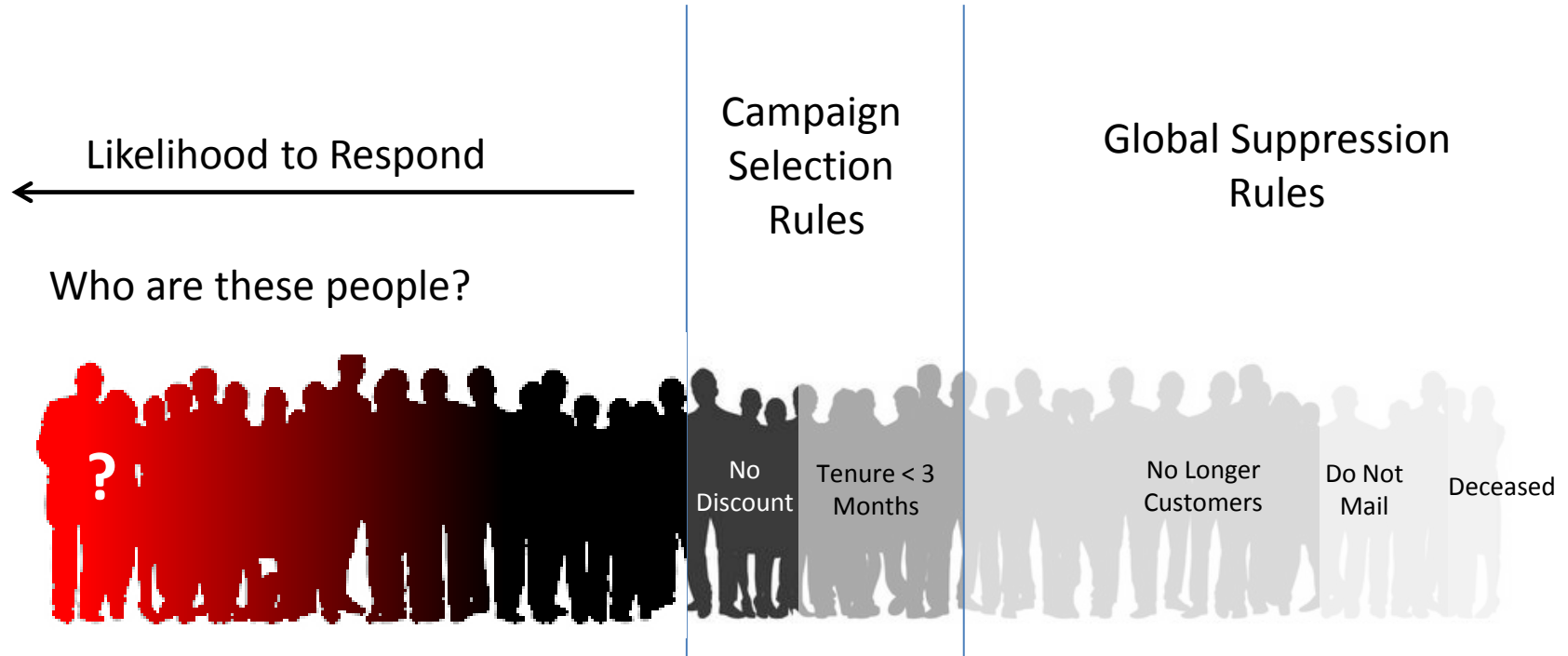


- **Dynamic (inbound)**

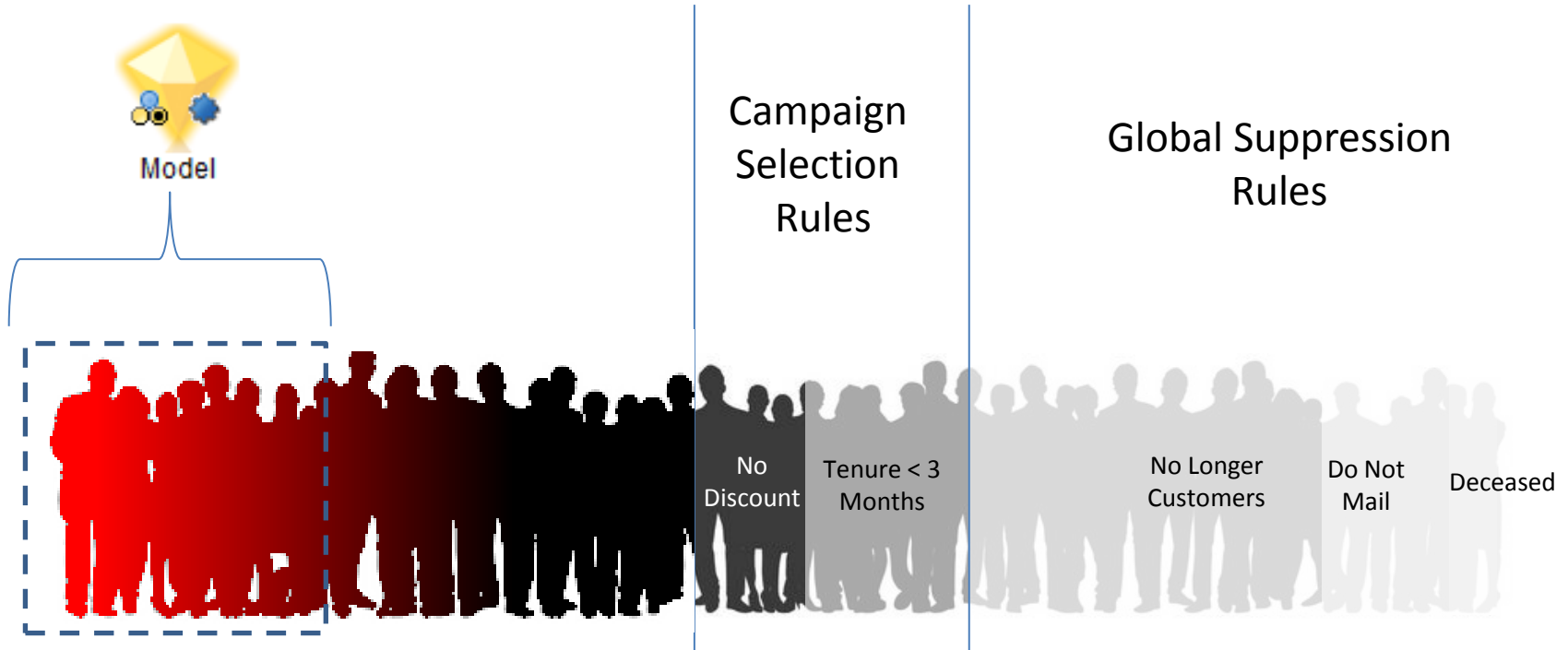
- Offers based on *new data* in real time
- Opportunity to gather new, important information
- Opportunity to revise offer/action – e.g. retain, cross-sell
- Outcome can be captured immediately
- Requires greater investment than proactive approaches



# In Marketing, Predictive Analytics enhances the existing campaign selection process..



By finding the *most likely* responders...





# Even when the application isn't a predictive model...

- We can still use historical data to better understand our customers
- Find strong correlators or drivers of behaviour
- Carry out text mining and analyse changing sentiment
- Develop a segmentation strategy that is *data-driven*
- Go beyond recency, frequency monetary to incorporate
  - Who – Demographics
  - What – Product/Service Categories
  - Interactions – Web, Call Centre, Payment methods
  - History – Tenure, Customer Journey,

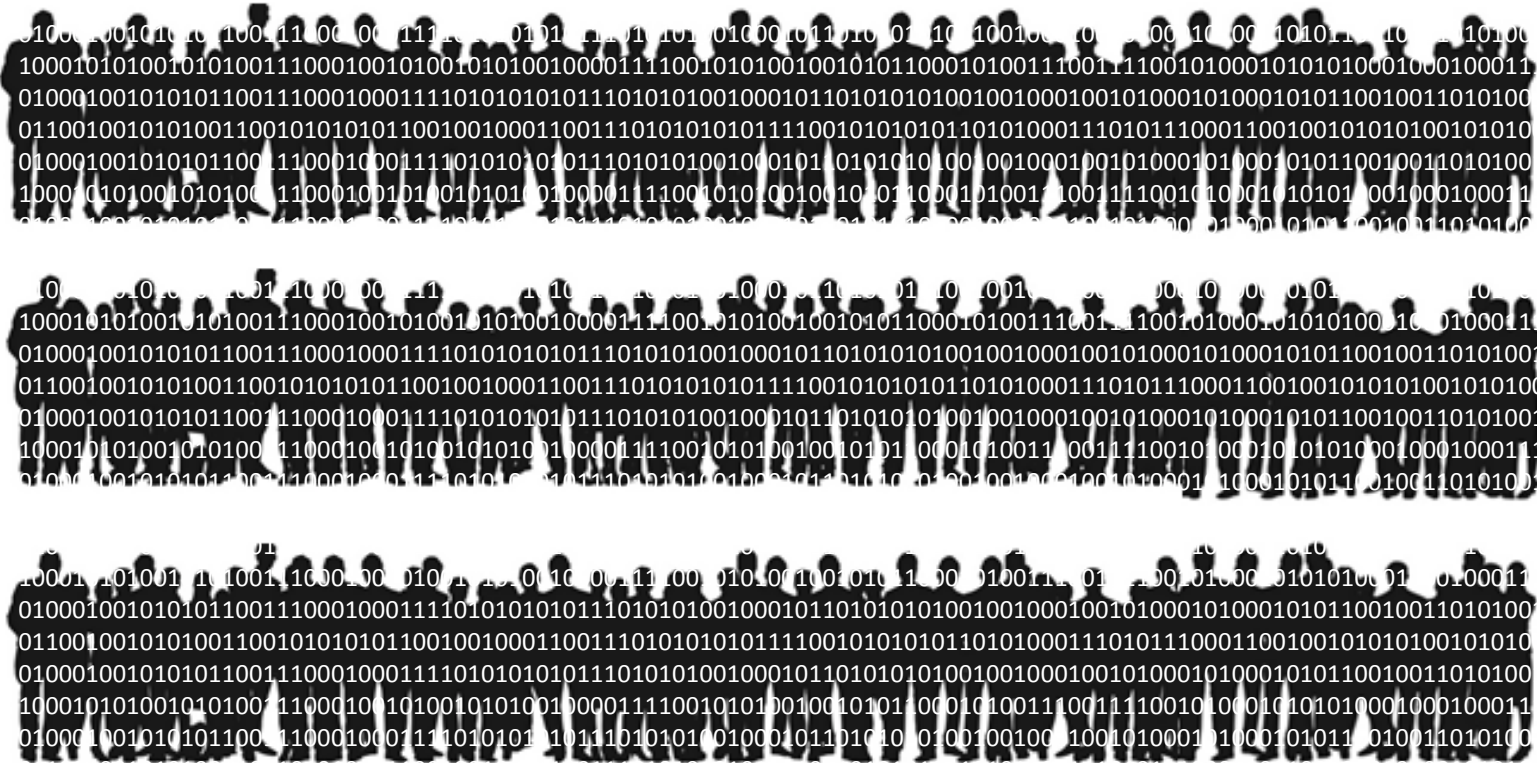
## Example: How are your customers characterised?

[illegible]

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 104

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# Using data to uncover customer segments



# Deeper customer understanding = more appropriate interactions

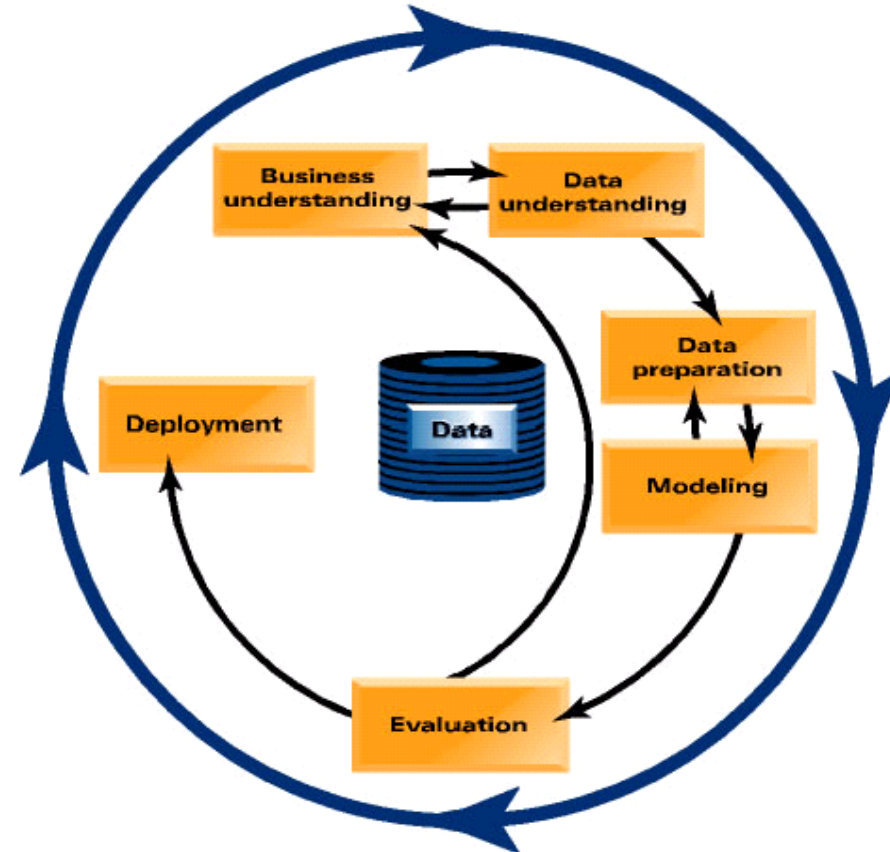


Techniques like cluster analysis can uncover subtle differences and previously hidden groups

# How do our clients maximise success?

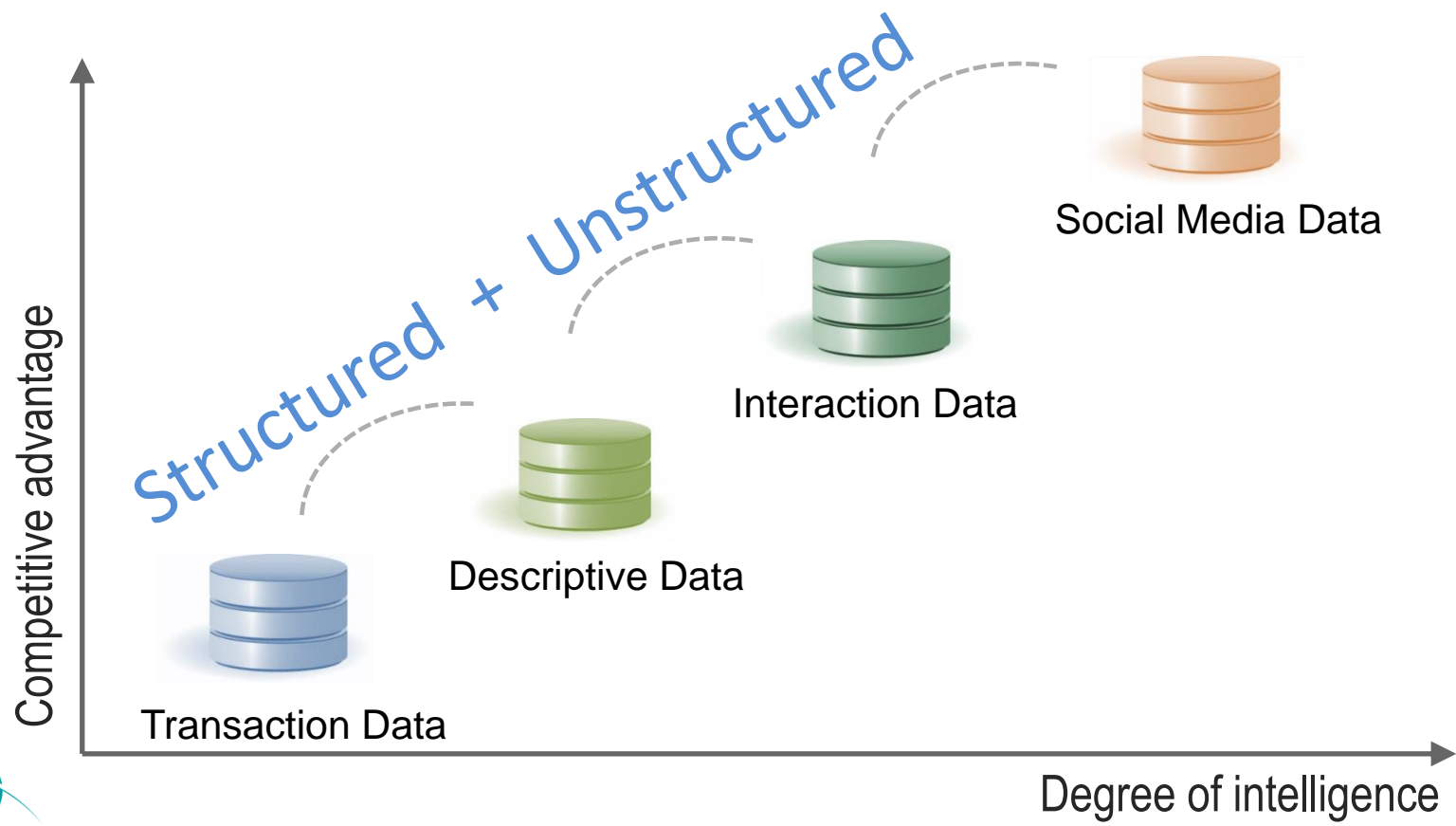
## By utilising a powerful, proven methodology

- CRISP-DM: Cross-Industry Standard Process for Data Mining
- Each application can be developed and progressed through a series of key phases
- [www.CRISP-DM.eu](http://www.CRISP-DM.eu)



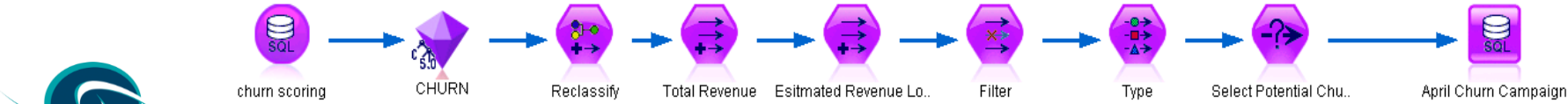
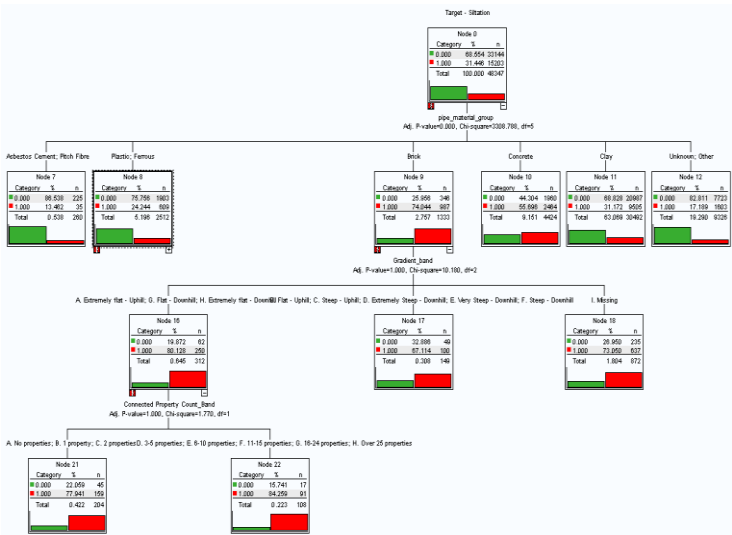
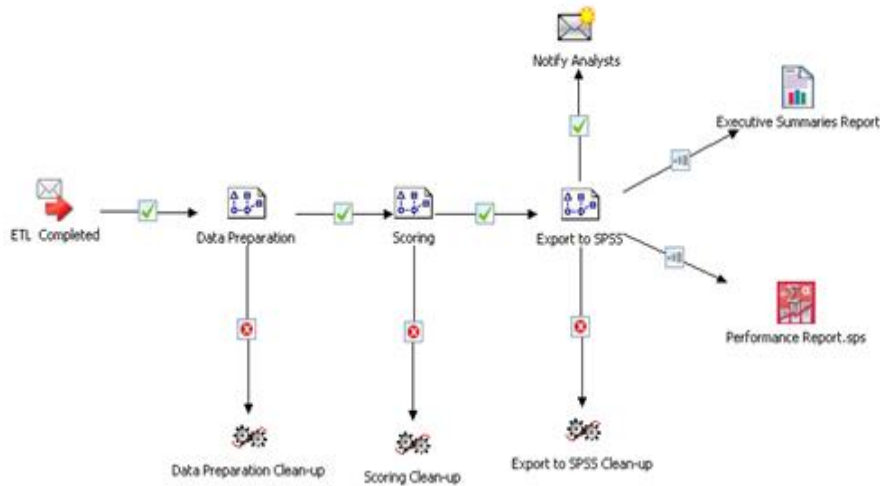
# How do our clients maximise success?

By exploiting a wide data landscape



# How do our clients maximise success?

By using powerful IBM advanced analytics technology



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# How do our clients maximise success?

## By integrating the resultant insight with existing systems

Cognos  
software

infosphere™

WebSphere

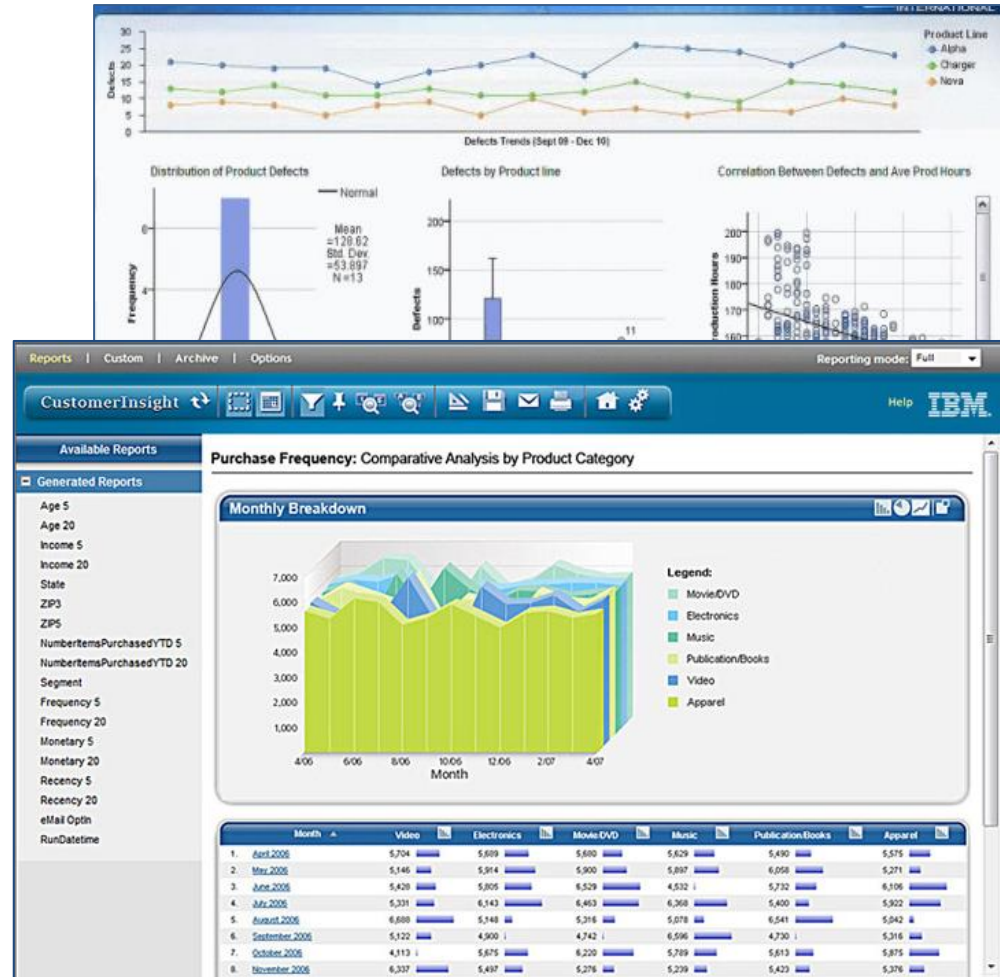
SPSS

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Changing the rules of business™

COREMETRICS

salesforce  
SOFTWARE



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Europe



# What do we offer Anna?

- 31 years old
- Estimated income > £28K
- On average spends £26
- Usually pays with credit card
- Not eligible for discount offer
- In the last 6 weeks bought these items -



What is the next most relevant product to offer her?







Let's look at an example...

# AEGON

- Improved customer response by 78% through a targeted direct marketing campaign that precisely reflects customer needs
- Increased policy purchases by 3% , from 5% to 8%
- Expected to boost cross-sell opportunities by selecting qualified customers and predicting type of insurance offerings needed

 Let's build a smarter planet

Insurance



Budapest, Hungary  
[www.aegon.hu](http://www.aegon.hu)

Solution Components

- IBM® SPSS® Statistics Base
- IBM SPSS Modeler
- IBM Software Services
- IBM Business Partner Clementine Consulting

**AEGON**  
**Hungary Composite**  
**Insurance Co. Ltd.**

*Analyzes thousands of data points to predict the needs of existing customers, increasing new policies by 3 percent*


With more than two million customers and employing approximately 1,200 people, AEGON Hungary Composite Insurance Co. Ltd., is a subsidiary of the AEGON Group and one of the largest insurance providers of life insurance, asset insurance and pension products for individuals and businesses in Hungary. The company's insurance products range from healthcare, life and home insurance to business, car and fleet insurance.

**The Opportunity**


As a major player in the Hungarian life and asset insurance markets, AEGON has more than two million customers but didn't have the capability to turn the existing volumes of raw customer data into valuable insight and cross-selling opportunities. The company's existing combination of analytics applications that it used to perform customer

# Eircom

- “Our analytics team discovered that customer experiences during the on-boarding process when they join our mobile network have a significant effect on the likelihood of churn. ”
- Enabled eircom to identify the most effective ways to improve the customer experience – reducing churn on key customer journeys by around 6%

 Let's build a smarter planet

Communications



**eircom gains deep insights into customer experience**  
*Reducing churn and improving customer experience with predictive analytics from IBM and Presidio*

**Smart is...**  
*Using predictive analytics to identify and mitigate the factors that lead to customer churn.*

Ireland-based telecommunications service provider eircom wanted to reduce the business risk of customers switching to its competitors' networks by understanding the factors predicting churn. The company worked with Presidio, an IBM® Premier Business Partner, to implement IBM SPSS® predictive analytics software – enabling it to identify which customers were most likely to switch, and why.

With over two million fixed-line and mobile customers, just under 5,000 employees and an annual turnover of around €1.5 billion, eircom is one of the largest telecommunications service providers in Ireland. Through its Meteor and eMobile brands, the company serves 20 percent of the country's mobile customers and 40 percent of the broadband market, and is currently in the process of deploying a new fibre network that will reach 600,000 homes and businesses by the end of 2013.

In recent years, economic recession has driven increasing competition between mobile network operators. With multiple vendors offering a wide range of tariffs, and the effects of the 2008 Irish financial crisis still being felt strongly across the country, mobile customers in Ireland are now switching between operators far more frequently.

# C Spire Wireless

- United States' largest privately held wireless communications company
- Enhanced customer satisfaction levels
- Improved the effectiveness of retention campaigns by 50 %
- Boosts cross-selling and up-selling, with sales of select accessories rising by 270%.

 **Let's Build A Smarter Planet**



**C Spire Wireless connects more closely to customers**

*Reducing churn and increasing sales through analytical decision management*

**Smart is...**

*Giving employees real-time recommendations on how to maximize and enhance every customer interaction*

Finding new, more effective ways to reduce customer churn is at the heart of every telecommunications company's strategy, and C Spire Wireless is no exception. With customers expecting more and mass marketing techniques losing their impact, the company felt that the key to success lay in getting to know its customers better and putting this information into the hands of front-line employees.

Consumers have limited patience with being treated as one of the pack: they want their service providers to address their needs as individuals. In the high-stakes telecommunications business, how do companies get the right messages to the right people and create that personal connection?

C Spire Wireless knew that the answer to this question lay in getting to know its customers better and – most importantly – putting this insight into the hands of the employees who interact with these customers in stores, via email or web, and over the telephone.

**Customer-led strategy**

As the United States' largest privately held wireless communications company, C Spire Wireless competes with public companies that have the advantage of greater size and more resources. Nevertheless, the

# Common Misunderstandings

- Revolutionary results overnight!
- You'll need a Ph.D.
  - In fact , data-literate, business focussed people learn how to do this all the time.
- The more *accurate* the model the better
- You need a clean, single-customer-view warehouse

# Advice to get started

- **Build Internal Credibility:** *Think* about where you would get *biggest impact* for the *least effort*.
- Consider adopting a proven methodology e.g. CRISP-DM ([www.CRISP-DM.eu](http://www.CRISP-DM.eu))
- Don't get hung up on modelling techniques - focus on *Business Understanding* and *Deployment*
- Consider the full data landscape
- Consider the sorts of roles involved /impacted
- Consider integration with other business insight systems (e.g. MI/BI)
- How will you know its worked? Focus on measuring the benefit – e.g. response rate lift, increased cross-sell, revenue/profit impact

# Working with Smart Vision Europe Ltd

- As a premier partner we sell the IBM SPSS suite of software to you directly
  - We're agile, responsive and generally easier to deal with
- As experts in SPSS / Analytics / Predictive Analytics we will
  - deliver classroom training courses
  - offer side by side training support
  - offer “skills transfer” consulting
  - run booster and refresher sessions to get more from your SPSS licences
  - Give no strings attached advice
- We are a support providing partner so if you already have SPSS you can source your technical support directly from us (identical costs to IBM)
  - We offer telephone support with real people as well as web tickets / email queries
  - We offer “how to” support to help you get moving on your project quickly





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# Thank you