



SKIM/Sawtooth Software European Conference and Training Event October 20-23, 2014

Renaissance Amsterdam Hotel
Kattengat 1 Amsterdam 1012 SZ Netherlands



SKIM (The Netherlands) and Sawtooth Software (USA) are pleased to announce their 2014 European Conference and Training Event. The European event consists of 4 days of workshops, tutorials, and conference papers. It brings together market research practitioners and academics to learn about and discuss quantitative methods in marketing research. Previous attendance in 2013 was 120 participants.

Topics include:

- Conjoint/Choice Analysis
- Market Segmentation, including Cluster Ensembles and Random Forests
- Working with Clients, from Research Design to Data Presentation
- Questionnaire Programming/Construction
- Maximum Difference Scaling (MaxDiff)

Instructors include:

Bryan Orme, President, Sawtooth Software
Keith Chrzan, Senior Vice President, Sawtooth Analytics, Sawtooth Software
Aaron Hill, Vice President, Client Services, Sawtooth Software
Gary Baker, Executive Vice President, Sawtooth Software
Joseph Retzer, Vice President, Advanced Analytics, Radius Global Market Research
Ewa Nowakowska, Director, Marketing Sciences, GfK
Gerard Loosschilder, Chief Innovation Officer, SKIM
Jeroen Hardon, Senior Executive Consultant, SKIM
Stefan Ammerlaan, Executive Consultant, SKIM

Training Event and Conference At-A-Glance

October 20-22 features simultaneous breakout sessions (select which breakout rooms to attend). All attendees will be together for the final conference sessions on October 23.

	Monday, October 20 (Training)	Tuesday, October 21 (Training)	Wednesday, October 22 (Training)	Thursday, October 23 (Conference—All Combined)
Breakout Room 1	<u>AM (9:00 – 18:00):</u> Intro to MBC Workshop (Orme)	<u>AM (9:00 – 17:00):</u> Turbo Choice Modeling (Chrzan, Moderator + Expert Panelists: Kurz, Neuerburg, White, van der Wagt, Orme, Hill)	<u>AM (9:00 – 17:00):</u> Turbo Choice Modeling (Continued)	9:00-9:10 Intro remarks 9:10-11:10 Session 1 Speakers Chrzan Belyakov Chaouki/Markowitz/Shi
Breakout Room 2	<u>AM (9:00 – 10:50):</u> MaxDiff Applications & Advances (Chrzan) <u>AM (11:10 – 13:00):</u> Conjoint Simulators (Hill) <u>PM (14:00 – 18:00):</u> Segmentation, Part I (Retzer)	<u>AM (9:00 – 13:00):</u> What's New in ACBC v8.3? (Orme) <u>PM (14:00 – 18:00):</u> Segmentation, Part II (Nowakowska, Retzer)	<u>AM (9:00 – 13:00):</u> Intro to CiW (Baker) <u>PM (14:00 – 18:00):</u> Advanced CiW (Baker)	(Break 11:10-11:40) 11:40-13:00 Session 2 Speakers Schreurs/Hoogerbrugge/Hardon Retzer (Lunch 13:00-14:10) 14:10-16:10 Session 3 Speakers Tien Wolf Tilmans/Jesionka/Loosschilder
Breakout Room 3		<u>AM (9:00 – 13:00):</u> A Practitioner's View : From Business Question to Set-up (Ammerlaan) <u>PM (14:00 – 18:00):</u> A Practitioner's View : From Data to Answer (Ammerlaan)	<u>AM (9:00 – 10:50):</u> Advanced CBC for Practitioners (Hardon) AM (11:10 – 13:00): Rocket Science CBC (Hardon) <u>PM (14:00 – 18:00):</u> Presenting Your Results with Great Impact (Loosschilder)	(Break 16:10-16:30) 16:30-17:50 Session 4 Speakers Höfer Rausch/Kurz 17:50-18:00 Closing remarks
			*Complimentary After-Hours Dinner Event: (Madame Tussaud's)	

Pricing:

- € 550 per day / € 275 per half day

Late Fees (payment received after September 9): Add € 100 per day of attendance

** For the Madame Tussaud's Wax Museum Dinner on October 22, additional guests cost € 85.*

Descriptions of Workshops and Tutorials

Monday, October 20

Intro to MBC Workshop (Breakout Room 1, 9:00 to 18:00, 8 hours)

Bryan Orme, Sawtooth Software

Menu-Based Choice (MBC) is a relatively new and flexible choice modeling approach for solving a variety of multi-check (combinatorial) menu-selection problems. Examples include: choosing options to put on an automobile, selections from a restaurant menu, banking options, configuring an insurance policy, purchasing bundled vs. a la carte services including mobile phones, internet, and cable. Using the MBC software requires expertise in terms of experimental design for conjoint exercises, developing MBC surveys using advanced HTML/Javascripting, and some data processing to prepare the files in .csv-format for analysis within MBC. MBC has a built-in simulator and can also automatically export Excel simulators.

This course is intended for those with a strong background in discrete choice and econometric modeling. It is not necessary to own any software to participate: a demo license will be given. Attendees must bring their own Windows-capable laptops. The learning is enhanced by working with real practice datasets.



MaxDiff Applications and Advances (Breakout Room 2, 9:00 to 10:50, 2 hours)

Keith Chrzan, Sawtooth Software

Whether you are relatively new to the use of MaxDiff or already quite experienced, this class provides material that will stimulate your thinking and improve your practice. Keith will briefly cover the basics of designing and executing a MaxDiff study, with special emphasis on best practices based on his deep experience in practice. He'll also discuss score estimation, methods of rescaling the scores for interpretability, market segmentation, and anchored scaling techniques (both Lattery and Louviere approaches). Finally, he'll wrap it up with some newer MaxDiff topics and intriguing research from the recent Sawtooth Software conferences as well as the broader literature.

Conjoint Simulators (Breakout Room 2, 11:10 to 13:00, 2 hours)

Aaron Hill, Sawtooth Software

Market simulators for conjoint analysis move the data from a somewhat esoteric state (part-worths) toward a practical what-if tool for informing strategic business decisions. These tools can be either off-the-shelf (as with Sawtooth Software SMRT and Online Simulators) or customized in Excel. Aaron Hill will demonstrate the pros and cons of different simulators. He'll show how to use simulators for common applications, including sensitivity analysis and product optimization. Aaron will also specifically address the issues of using "external effects" to adjust the results of market simulators to better predict market realities (with special emphasis on these adjustments within Excel simulators). Finally, he will give a brief preview of what to expect in the upcoming Sawtooth Software market simulator, to be integrated within SSI Web v9.

Advances in Market Segmentation Analysis, Part I (Breakout Room 2, 14:00 to 18:00, 4 hours) *Joseph Retzer, Radius Global Market Research*

The focus of this tutorial will be on conceptual underpinnings of unsupervised learning (Cluster Analysis) algorithms and models. It will begin with a short review of some well-known methods while paying particular attention to the Cluster Ensemble approach. Unsupervised methods covered will include:

- Hierarchical methods (agglomerative and divisive with various cluster similarity measures e.g. Wards distance, complete, single & average linkage)
- K-means
- PAM (Partitioning Around Medoids)
- Finite Mixture Modeling
- Clustering Objects on Subsets of Attributes (COSA)
- Cluster Ensembles
- Aceclus & SPSS Two-Step Clustering (time permitting)

Cluster quality diagnostics (e.g. silhouette plots, quality indices, etc.) will also be reviewed. Comparison of cluster partitions using the Adjusted Rand Index will be covered along with this discussion. Finally, an illustration of effective post hoc cluster profiling, and presentation of cluster analysis results in general, will be demonstrated. Example code will be provided, typically in R, but also in Sawtooth Software, and Latent Gold when appropriate.

Tuesday, October 21

Turbo Choice Modeling (Breakout Room 1, 9:00 to 17:00, 7 hours)

Keith Chrzan (Lead Panelist and Moderator), Sawtooth Software, Inc.

Expert Panelists: Peter Kurz (TNS-Infratest), Christian Neuerburg (GFK-SE), Joseph White (Maritz Research), Kees van der Wagt (SKIM Group), Bryan Orme (Sawtooth Software), Aaron Hill (Sawtooth Software)

Sawtooth Software has invited some of the brightest conjoint and choice modeling researchers to join us for two days of instruction and collaboration regarding the coolest things happening in the choice world. While most topics will mention Sawtooth Software's CBC- and MBC-related programs, the principles generalize to any other software for choice modeling. The sessions will emphasize practical issues and practical solutions more than theoretical academic research.

Key to the success and value of this event is the core group of researchers whom we have invited to attend and participate as panelists. These researchers have contributed to past Sawtooth Software events and are leading experts in choice modeling. Most importantly they are plain-spoken and insightful about choice methodologies. With this experienced group of choice modelers, you can bet that the discussion will be lively and instructive. Each of the panelists will be giving presentations and will also participate in the panel discussion.

Topics include: Random Regret Minimization, designing holdouts, MBC case studies, HB covariates, adaptive choice designs, mixed bundling, non-compensatory screening strategies, calibrating models with market information, custom CBC designs using SSI Web and Excel, thermometer coding, future CBC software features, fusing MaxDiff and CBC, statistical testing in conjoint analysis. **(Note: these topics are covered over October 21-22; you must attend both days to receive the full training.)**

What's New in ACBC v8.3? (Breakout Room 2, 9:00 to 13:00, 4 hours)

Bryan Orme, Sawtooth Software

The latest v8.3 release of ACBC provides a number of new features to extend your capabilities, including:

- Alternative-specific designs
- New experimental design algorithm, including the option to avoid dominated concepts
- Ability to customize section flow (drop BYO, drop Screeners) or use different combinations of sections
- New Test Design routine for generating robotic respondents and assessing the quality of your design (including the impact of attribute prohibitions)
- Interaction search tool (works for CBC too!)

We'll also explore and explain areas of the software that you should know about, so you can make the most of your ACBC license.

Advances in Market Segmentation Analysis Part II, A Hands-On Tutorial (Breakout Room 2, 14:00 to 18:00, 4 hours)
Ewa Nowakowska, GfK and Joseph Retzer, Radius Global Market Research

The focus of this tutorial will be on combining theory with implementation via a “hands on” programming of cluster analyses and cluster partition evaluation.

The tutorial will begin with an in depth discussion of the Semi-Supervised Learning (SSL) algorithm. The implementation of SSL using Random Forest analysis similarity matrix results in conjunction with Sawtooth Software's Convergent Cluster Ensemble Analysis package will be demonstrated. SSL can be useful in producing clusters of high quality that are also informative to pre-specified marketing strategy.

Cluster basis variable importance evaluation, as measured by relative variation, will also be performed. Importance measurement will be accomplished using Friedman's R based cluster analysis evaluation tools. Various data sets will be used for illustrative purposes including one in which an interesting application of geographical data clustering is reviewed. Finally, a presentation of Bayesian Co-Clustering will be presented with results produced via JAGS (Just Another Gibbs Sampler) and R, time permitting.

Attendees are encouraged to bring laptops with the R statistical programming language installed (<http://www.r-project.org>). Additional information pertaining to required R packages will be provided at a later date.

A Practitioner's View: From Business Question to Set-up (Breakout Room 3, 9:00 to 13:00, 4 hours)
Stefan Ammerlaan, SKIM

Step up to the plate and join us on the quest to crack the shell of research practice. In this first, semi-independent part of the tutorial (4 hours) we will showcase a triad of conjoint case studies to discuss the translation from business question to research set-up, including choice of method, best practices and pitfalls. This tutorial is meant to be an interactive workshop and your active involvement is appreciated.

A Practitioner's View: From Data to Answer (Breakout Room 3, 14:00 to 18:00, 4 hours)
Stefan Ammerlaan, SKIM

Step up to the plate again and join us for another 4 hours on the quest to crack the shell of research practice. This second part takes the set-up as given and guides you from the derived data to the right answer. This interactive workshop intends to get you a foothold in the application of various analysis techniques, like Latent Class and HB, and interpretation of the results.

Wednesday, October 22

Turbo Choice Modeling (Breakout Room 1, 9:00 to 17:00, 7 hours)
Keith Chrzan (Lead Panelist and Moderator), Sawtooth Software, Inc.
Expert Panelists: Peter Kurz (TNS-Infratest), Christian Neuerburg (GfK-SE), Joseph White (Maritz Research), Kees van der Wagt (SKIM Group), Bryan Orme (Sawtooth Software), Aaron Hill (Sawtooth Software)

(Continuation of the sessions started on Tuesday, October 21. See description above.)

Introduction to General Survey Writing within SSI Web (CiW) (Breakout Room 2, 9:00 to 13:00, 4 hours)
Gary Baker, Sawtooth Software

Most Sawtooth Software users recognize the value that the SSI Web platform delivers in terms of conjoint analysis and MaxDiff. Fewer users have actually explored and realized the power included in the standard survey software aspect of

the platform (CiW, for Computer Interviewing for Web). In this introductory class, we demonstrate the essential capabilities of the SSI Web system for general survey writing. Topics include:

- Project management
- Styles, headers & footers, progress bar
- Standard question types (select, numeric, open-end, constant sum, grid, ranking, semantic differential, terminate/link)
- Questionnaire flow: Skip patterns and randomized blocks
- Introduction to constructed lists and piping
- Introduction to fielding the survey on a server or CAPI

Attendees must bring a laptop PC with SSI Web installed (a demonstration version will be given to you in advance for the purposes of classroom instruction). You will follow along within the software and do programming exercises to solidify the concepts.

Advanced General Survey Writing within SSI Web (CiW) (Breakout Room 2, 14:00 to 18:00, 4 hours). *Gary Baker, Sawtooth Software*

Most Sawtooth Software users recognize the value that the SSI Web platform delivers in terms of conjoint analysis and MaxDiff. Fewer users have actually explored and realized the power included in the standard survey software aspect of the platform. SSI Web is a point-and-click system for those who wish to remain in the point-and-click world. But, for power users who learn some HTML, Javascript, and Perl, the SSI Web system takes on new characteristics and life. Gary will show a variety of examples that take advantage of the more powerful aspects of the program. Example studies will be shared with attendees. Attendees must bring a laptop PC with SSI Web v8 installed (a demonstration version will be given to you in advance if you need it). We will be doing some programming exercises in class to solidify the concepts.



Advanced CBC for Practitioners (Breakout Room 3, 9:00 to 10:50, 2 hours)

Jeroen Hardon, SKIM

Assuming you are an experienced user of CBC research, Jeroen Hardon would like to get you on board for this 2-hour tutorial on advanced applications. He will focus on a number of challenging and interesting extensions of choice modeling, including: alternative-specific designs, optional choice models, and pricing models with special constraints.

In this advanced session, Jeroen Hardon intends to show you some of the more interesting and useful possibilities within the

family of discrete choice methods. The techniques described usually involve custom work breaching the standards provided by Sawtooth Software's CBC suite.

Rocket Science CBC (Breakout Room 3, 11:10 to 13:00, 2 hours)

Jeroen Hardon, SKIM

A somewhat dramatic title partly meant as self-mockery, but surely also indicating the complex nature of this tutorial. Jeroen Hardon will take you for a 2-hour spin, leaving the scenic route, to show you some of the more adventurous CBC applications. He aims not to present proven ways but instead stir the discussion and inspire. This will be done based on a variety of "experimental" conjoint solutions to challenging business questions.

Presenting Your Results with Great Impact (Breakout Room 3, 14:00 to 18:00, 4 hours)

Gerard Loosschilder, SKIM

When developing impact-full presentations, do you ask yourself "so what" with every fact you're presenting? What's the implication of this fact for the client's business and for your audience? Answering these questions will turn you into an empathic business consultant. In this training session, Gerard will help you to develop and apply a more effective approach to preparing market research presentations following a consultative approach and based upon actionable insights, giving you a greater impact and making a greater impression on your clients and the clients of your clients.

Main Conference Session Abstracts

Thursday, October 23

Introductory Remarks
(9:00 - 9:10)

▪ Session 1 (9:10 - 11:10):

MaxDiff as a General Psychographic Scaling Method: The Case of the Big 5 Personality Factors
Keith Chrzan, Sawtooth Software



In this presentation we review the Five Factor Model (openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism) and illustrate a MaxDiff measurement tool to bring it to life. In addition we validate the MaxDiff tool by examining convergent validity, and testing external validity of the MaxDiff instrument and a ratings-based version of the FFM questions. Attendees benefit (a) from seeing how MaxDiff can be used in psychometric applications, (b) from a discussion of when it might be more appropriate than ratings-based psychometrics and (c) from seeing how personality measurement, in particular, may be added to marketing research surveys.

Which Rescaling for MaxDiff Is Better?
Dmitry Belyakov, Synovate Comcon

This presentation examines MaxDiff utility rescaling procedures, introducing a new formula and comparing it with the existing ones. The results are verified in terms of stability using both simulated and empirical studies. The paper also investigates performance of rescaling methods for CCEA clustering. I will demonstrate how such a minor component as utility rescaling procedure can make significant impact on the research conclusions.

Version Effect Avoidance: New Criteria for Construction and Optimization of MaxDiff Designs
Fikria Chaouki, Paul Markowitz, Wei Shi, Bain & Company

MaxDiff is commonly used for market segmentation. However, we often observe the undesirable outcome that derived importance scores from MaxDiff are correlated with version. We note that this issue is most evident when the number of versions is small—which while not the norm for Sawtooth Software users is still very common in industry. To combat this observed design effect, we propose an updated set of design criteria emphasizing both overall design quality and within-version balance. We define a measure of within-version balance and use it as an optimization criterion in design creation. We compare the results to Sawtooth Software's MaxDiff designs in terms of parameter recovery and version effects.

Break (11:10 - 11:40)

- Session 2 (11:40 - 13:00):

A New Research Method Combining Utility Maximization and Regret Minimization

Maura Schreurs, Marco Hoogerbrugge, and Jeroen Hardon, SKIM

This presentation firstly introduces the Random Regret Model (RRM), as an alternative to the traditional Random Utility Model (RUM). The RRM acknowledges that preferences depend on the choice set composition. We will discuss how the joint use of RUM and RRM will result in “behaviorally robust” marketing policies. Second, we will shortly address our new model that allows us to determine, based on the data, what decision rule is used by each customer.

Key Driver Analysis in Market Research Using MARS

Joseph Retzer, Radius Global Market Research

Most methods commonly used for driver analysis (e.g. correlation and regression) assume linear relationships exist between the dependent and independent variables. Oftentimes however relationships between these measures are in fact non-linear. If the true relationship is non-linear it may be missed, or at best, understated by the model. MARS (Multivariate Adaptive Regression Splines) is a computer intensive data-mining technique that may be used to identify non-linear relationships. By recognizing and modeling non-linear relationships, we can obtain more accurate explanatory and predictive driver analysis models.

Lunch (13:00 - 14:10)

- Session 3 (14:10 - 16:10):

Sophisticated Line Optimization beyond the Shapley Value

Matthias Tien, Ipsos GmbH

Applications of the Shapley Value in Line Optimization have been widely used in the past years. We will present a methodological approach which extends current applications. Core is going beyond simple Shapley Values by using properties of the Proportional Value introduced by Feldman and by including the aspect of variety seeking into the model for line optimization. The approach is embedding consumer needs, usage occasions, variety seeking and the competitive environment into the optimization task.

Incorporating Attribute Non-Attendance in Choice-Based Conjoint Analysis

Barbara Wolf, GfK SE

The complexity of Choice-Based Conjoint experiments can be reduced by asking respondents before they enter the experiment which attributes they will and will not consider in their decision process. Only relevant attributes are subsequently used to create individual choice tasks. This paper compares three different approaches of including the individual non-attendance information into the HB model based on a Monte Carlo simulation study.

Combining Sales Data and Choice-based Conjoint Data

Merel Tilmans, Virginie Jesionka, and Gerard Loosschilder, SKIM

In this paper, sales data and custom choice-based conjoint data are combined to create an enriched model to support scenario planning in price and portfolio management studies. This work comes up with an approach (using Sawtooth Software’s CBC/HB program) to connect the two data sources in an actionable way that seeks to complete missing or uncertain information from one source with the other.

Break (16:10 - 16:30)

▪ Session 4 (16:30 - 17:50):

Menu Based Choice – Alternative Ways of Modeling Two-Stage Decisions

Björn Höfer, Ipsos GmbH

Menu Based Choice (MBC) often involves a two-stage decision process. Reflecting this in the choice experiment increases the realism of the tasks and the validity of the collected data. Finding the optimal way to model such data is a complex task that needs further investigation. Based on a case study for a food delivery service a single logit, a two-stage logit and a nested logit are compared to provide further guidance in this issue.

Alternative-Specific Designs: Comparing ACBC and Discrete Choice Models

Maximilian Rausch, Peter Kurz, TNS Deutschland GmbH

We present a comparison between alternative-specific designs implemented within ACBC and DCM based on an empirical study modelling a complex example from the mobile phone market. Our aim is to show the differences and advantages of both methods concerning stability of individual utilities, suitability for segmentation, quality of the respondent's answers, and the likeability of the interview. Another focus of the paper will be the adequacy of the build-your-own, must-haves and unacceptable sections of ACBC when using alternative-specific designs.

Closing Remarks (17:50 - 18:00)





Conference Registration

Please visit <https://www.eiseverywhere.com/ereg/index.php?eventid=85411> to enroll. Prices are listed on page 2 of this brochure.

Hotel Registration

The event will be held at the **Renaissance Amsterdam Hotel**, with a promotional rate of € 219 single / € 219 double.

Renaissance Amsterdam Hotel
Kattengat 1
Amsterdam, 1012 SZ, Netherlands

Register with the hotel by following the link provided in your online conference registration (link provided above). Or, you may directly dial the hotel at +31.20.621.2223. Be sure to mention that you are with the SKIM/Sawtooth Software event to get the promotional rate.



You must register with the hotel by September 20 to be guaranteed the promotional group rate.

Questions?

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Disabilities: SKIM and Sawtooth Software are committed to providing equal access to our meetings for all attendees. If you are an attendee with a disability and require meeting room/program accommodations (wheelchair access, hearing or visual assistance, dietary restrictions, etc.) please contact us and a member of our staff will ensure that appropriate access arrangements are made.

If you have specific disability-related needs for your hotel sleeping room, please be sure to communicate those directly to the hotel when you make your reservation. In an effort to provide the highest quality of service to all attendees, we require that details of all access requests be communicated to the Sawtooth Software office at least 14 days in advance of the beginning of the meeting.