

# Abstracts

## **Roman Guchenko.**

### Basics of programmatic bidding.

This presentation will look behind the recent boost in data-driven, programmatic advertising and examine the size of data sets involved, the challenges and benefits to marketers along with the latest developments in statistics, data science and ad tech. It will assess the current state of decision making and, using examples from inside and outside digital advertising, explain why algorithms, AI and machine learning are at the heart of it.

## **Anatoly Zhigljavsky.**

### Artificial intelligence and machine learning for devising bidding strategies.

In this talk, we give a brief overview of the statistical and machine learning techniques that have been used in analysing online advertisement data and devising programmatic bidding strategies. The machine learning techniques examined include support vector, gradient boosting and factorization machines and along with some basic techniques of extracting information about dependencies between behavioural characteristics of the users and their conversions.

## **Andrey Pepelyshev.**

### Analysis of online advertisement data.

We show the results of a statistical analysis of large data sets, this presentation will compare several novel decision making approaches and reveal methods of extracting information from data sets and demonstrate how they make a difference to performance.

## **Nina Golyandina.**

### Models for evaluating efficiency of advertisement.

How an advertisement can impact on user choice, change in preference and brand loyalty. In this talk we describe a simple model for evaluating the efficiency of an advertisement. This model assumes that after being exposed to an ad, potential buyers can change their preference either at random or after being influenced by the ad. This model gives more realistic estimates of the ad efficiency than the simpler model which ignores random change of preferences. We illustrate the discussion by showing results of data analysis and demonstrate that the probability of randomly changing preferences differs a lot across categories.

**Valdimar Sigurdsson.**  
Data-Driven Decisions in Social Media Marketing.

Firms are increasingly using social media for marketing communications, either directly or through shared consumer-to-consumer interactions related to the brand. Furthermore, reactions and popularity on social media aid customer intelligence and strengthen the content strategy and implementation. In this article, we investigate the determinants of consumer brand engagement on Facebook and Twitter for an international airline. Facebook fan page posts published between 2011 and 2015 (242 posts), and Twitter posts from 2012 to 2016 (143 tweets) were collected, categorized and analyzed based on their design and content. The design aspects included the vividness and interactivity of the posts, and post contents used were categorized into “informative”, “entertaining”, “promotional”, and “social” posts. The impact of different post types on consumer engagement such as “likes”, “comments/replies” and “shares/retweets” were examined. The results show that an “entertaining” content is a key determinant of online consumer brand engagement in both social media platforms. The study points out the distinct differences between consumer brand engagement in the two of the biggest social media platforms and thus provides a guide for academics and marketers detailing the design and content that could be used in building a content strategy on Facebook and Twitter.

**Asle Fagerstrom.**  
What Influences Consumers’ use of Internet of Things  
Technology in the Retail Grocery Choice Situation?

The ongoing digitalization transforms retail grocery to omni-channel retailing where “the distinctions between physical and online will vanish, turning the world into a showroom without walls.” (Brynjolfsson, Hu, & Rahman, 2013, p. 23.). Internet of Things (IoT) is intrinsically an important part in this transformation. By connecting sensors to physical things, IoT technology are able to act smart by transmitting information online, offering consumers valuable information in their choice situation. As such, physical things can act smarter than those without sensor, actuators and communication technology can. The IoT technology presents, therefore, an opportunity for retail groceries to develop an infrastructure that make physical things such as mobile phone, shopping basket, store shelves, digital display, and, even the product it selves smart, allowing real-time interaction with customers both in the physical store and in the virtual store. Besides a few exceptions, most research on IoT is related to design, architecture and implementation from a technical point of view. There exist, however, little research on IoT in grocery retail from a customer perspective. The aim of this presentation is, thus, to expand understanding of how IoT can create “value” for customers’ in the retail grocery choice situation.

**Nils Magne Larsen.**  
How data on consumers’ complete in-store journeys provide  
valuable insight to digital advertising in physical stores.

The literature demonstrates that consumers’ purchase decisions in the grocery store is highly influenced by price and promotion elements. In this respect, retailers are exploring new technology as in-store advertising tools to communicate offers. This include the use of digital screens mounted on walls, ceilings, shelving systems, aisle endcaps, or integrated into freestanding displays, as well as shopping cart-mounted electronic displays (digital shopping assistants). However, assessing the potential of such digital advertising devices in affecting consumer choice would require behavioral data derived from tracking efforts of complete in-store customer journeys. This includes data on in-store travel paths, walking speed, time spent in different zones of

the store, walking directions, cart parking behavior, and consumers' choice of carrying equipment. In other words, a time-based representation of the behavioral process and flow a customer goes through when visiting a grocery store. There are some pivotal variables in the retail environment affecting consumers' attention to digital screens and displays. A prerequisite for capturing attention is that the consumer physically visit the zone where a particular screen is located, and further that he/she is walking in the "right" direction, and not too fast to notice the advertisement. The opportunity to see would therefore differ from one particular digital advertising device to another due to differences in store traffic patterns. We demonstrate how surveillance cameras used in combination with innovative tracking software opens up very new avenues for studying such traffic patterns, and how consumers actually behave in the store. Data from our ongoing research in a discount store also reveals that consumers' preference for a shopping cart is much lower than we expected. Thus, the potential of touchscreen tablets mounted onto shopping carts as an advertising vehicle can be far less than anticipated in some retail contexts.