

# Real-Time Bidding Advertising: Challenges and Opportunities for Advertising Curriculum, Research, and Practice



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## INTRODUCTION

### The Emergence of Real-Time Bidding (RTB) Advertising

Sabastian (2015) reported that ad spends in digital media show the largest growth between 2014 (17.4%) and 2015 (15.7%) and are expected to grow at 13.8% (refer to Table 1). Digital media has increasingly comparable to traditional media such as television and newspaper advertising in terms of global ad share (Sabastian, 2015). In terms of the share of advertising budgets, ad spends in digital media account for 21.9% in 2014, 23.9% in 2015, and are expected to grow to 25.9% in 2016 (refer to Table 2) (Sabastian, 2015). This trend is consistent with the Nielsen Company's quarterly *Global AdView Pulse* that reports double-digit growth of global ad spends in digital media (Maddox, 2013). Another marketing research firm, *eMarketer.com* (2014, July 9), also predicts that ad spends on digital media will increase 16.7% (about \$140.15 billion) in 2015. Spending on smartphones and tablets is expected to be a key factor for the exponential growth (*eMarketer.com*, 2014). Mobile and video ad spends are the dominant factors contributing to the digital media growth (Sabastian, 2015). According to the popular and most cited Display LUMAscapes (Chatwin, 2013; LUMA Partners, 2014), the emerging digital media sectors include Commerce, Gaming, Display, Marketing Technology, Mobile, Search, Social, and Video. New entities have appeared to address the needs of the digital advertising industry. These new players

*Table 1. Global growth rate (%) of ad spend in various media*

|            | Global Year on Year % Growth at Current Prices |             |      |
|------------|--|-------------|------|
|            | 2014   | 2015        | 2016 |
| Television | 4.4 (4.8)                                      | 3.6 (4.3)   | 3.9  |
| Newspapers | -5.9 (-2.5)                                    | -3.8 (-2.3) | -2.4 |
| Magazines  | -3.5 (-1.6)                                    | -1.7 (-1.3) | -1.7 |
| Radio      | 4.4 (3.7)                                      | 2.3 (3.0)   | 4.9  |
| Cinema     | 2.5 (2.9)                                      | 3.4 (4.3)   | 1.9  |
| Outdoor    | 5.0 (3.3)                                      | 4.8 (4.1)   | 5.2  |
| Digital    | 17.4 (16.1)                                    | 15.7 (15.5) | 13.8 |

Figures in Brackets Show Previous Forecasts from September 2014.

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*Table 2. Global share (%) of ad spend in various media*

|            | Global % Share of Advertising Spend |             |      |
|------------|-------------------------------------|-------------|------|
|            | 2014                                | 2015        | 2016 |
| Television | 42.7 (43.2)                         | 42.4 (42.9) | 41.7 |
| Newspapers | 13.9 (14.5)                         | 12.8 (13.4) | 11.8 |
| Magazines  | 7.3 (7.5)                           | 6.9 (7.0)   | 6.4  |
| Radio      | 6.8 (6.7)                           | 6.6 (6.5)   | 6.6  |
| Cinema     | 0.5 (0.6)                           | 0.5 (0.6)   | 0.5  |
| Outdoor    | 7.1 (7.0)                           | 7.1 (7.0)   | 7.1  |
| Digital    | 21.7 (20.5)                         | 23.9 (22.6) | 25.9 |

Figures in Brackets Show Previous Forecasts from September 2014.

include agencies, agency trading desks, DSPs, exchanges, ad networks, data-sharing, and social tools (LUMA Partners, 2014). Particularly, the digital advertising industry has gradually seen the important roles played by ad exchange operators, digital advertisers, and web site publishers; all of whom have been developing sophisticated methods, systems, and tools to enable, manage, optimize, and track the effectiveness of online advertising campaigns (Chatwin, 2013).

Despite the growing presence of digital advertising, click-through rate (CTR) has been low (Birkner, 2014) for many online display ads. According to HubSpot Inc., a marketing software provider in Massachusetts, the average click-through rate for banner ads is only about 0.1% (Birkner, 2014). The desire to pursue better advertising effectiveness prompts many advertisers to other cost-effective solutions such as data-driven per impression base real-time bidding advertising (Birkner, 2014). Online display ads using a real-time bidding mechanism (henceforth, RTB advertising in this book chapter) has outgrown other digital ad spends in recent years (Maddox, 2013). RTB advertising, a subset of popular machine-facilitated programmatic ad buying practices, has garnered massive support from many ad exchanges and sell-side platforms (Birkner, 2014; Google, 2011; Marshall, 2014). Unlike other programmatic ad buying through utilizing secured advertising impressions in selected publisher websites, RTB advertising is characterized by the purchase of ads in real-time and through an auctioning mechanism (Marshall, 2014).

## Objectives of the Study

Given the potential of RTB advertising and foreseeable impacts, the authors reviewed and content analyzed industry reports, trade publications, and newspaper articles to discuss the RTB advertising's current state, potential impacts, opportunities and challenges. The authors attempt to present a preliminary assessment on the emerging importance and growing interests of RTB advertising to the digital advertising and the e-commerce industries. Like other emerging digital advertising platforms and practices, a large number of articles, studies, and reports in the existing literature have provided anecdotes that RTB advertising is expected to impact advertising and marketing education, research, and practices. However, what is lacking in the literature is a systematic assessment of RTB ad's current state, the types and the extent of impacts on various stakeholders, professional practices, and strategies to address its opportunities and challenges.

Therefore, the objectives of this book chapter aim to provide advertising and marketing educators, practitioners, and researchers to understand the emergence of RTB advertising by focusing on four key

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