

Dissertation Proposal

Stylianos Despotakis

"Expertise, Attribution, and Ad-Blocking in the World of Online Marketing"

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In this dissertation we model and provide insights to some of the key challenges the world of online marketing currently faces. In the first chapter, we examine the role of information asymmetry introduced by the presence of experts in online marketplaces and how it affects the strategic decisions of different parties in these markets. In the second chapter, we study the attribution problem in online advertising and provide implications of different types of attribution models. In the third chapter, we explore the future of online advertising in light of the recent increase in popularity of ad-blocking software.

The first chapter examines the effect of the presence of expert buyers on other buyers, the platform, and the sellers in online markets. We model buyer expertise as the ability to accurately predict the quality, or condition, of an item, modeled as its common value. We show that non-experts may bid more aggressively, even above their expected valuation, to compensate for their lack of information. As a consequence, we obtain two interesting implications. First, auctions with a hard close may generate higher revenue than those with a soft close. Second, contrary to the linkage principle, an auction platform may obtain a higher revenue by hiding the item's common-value information from the buyers. We also consider markets where both auctions and posted prices are available and show that the presence of experts allows the sellers of high quality items to signal their quality by choosing to sell via auctions.

In the second chapter, we study one of the main challenges in the online advertising industry: the attribution problem. Consumers are exposed daily to a number of display and search ads. Before the final conversion, a consumer passes through different stages: awareness, interest, consideration, and finally purchase. Each ad helps the consumer move to a different stage on this path. An important question is how much credit should each type of ad get for the conversion. Despite the large amount of data available today, the problem of attribution has not been fully addressed. In this work, we develop an analytical model to compare the effectiveness of different attribution models and different contracts between advertisers and publishers.

The third chapter studies the effects of ad-blockers in online advertising. A typical online platform consists of four main types of entities: users/consumers, firms/advertisers, content creators, and the publishing platform. For this work, we propose to analyze how ad-blockers affect each of these stakeholders, how the conversion rate of consumers and the prices of products change as a result, and what are some good strategic decisions for each entity in the presence of ad-blocking.