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INTERNET ADVERTISING: A PRIMER

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ABSTRACT

Internet advertising (IA) is using the Internet to market products and services to a large audience. In the current era of Internet commerce, companies have chosen to use Internet advertising and the trend is irreversible. The goal of Internet advertising is to drive customers to your website. Understanding some key concepts of Internet advertising is crucial to creating a strategy that will suit one's business. This paper provides a brief introduction to Internet or online advertising.

INTRODUCTION

Advertising is critically important for companies to promote their products and services. The emergence of the Internet and its fast penetration has provided opportunities for marketing and advertising besides the traditional media (such as radio, TV, newspapers, magazines, and press). The Internet (the Information Superhighway) has become increasing part of our lives since its commercialization. In effect, the Internet has provided a pervasive medium for producers to access their consumers directly. As a two-sided market, Internet brings together advertisers and consumers. Internet is the only medium that delivers to the advertisers its dual promise of global reach and one-to-one targeting. Non-Internet-based advertisements, particularly newspapers, are losing customers and advertisers to web media.

Internet advertising, also known as online advertising, is basically advertising on the Internet. It started in 1994 when a web magazine, HotWired, sold a banner ad to AT&T and displayed the ad on their website [1]. Like all advertising, Internet advertising disseminates information to affect a buy-seller transaction. It is widely used across virtually all industry sectors –education, companies, organizations, governments, real estate, manufacturing, healthcare, religious groups, pharmaceutical companies, automotive, jobs, etc. It is one of the most effective ways for businesses of all sizes to find new customers and grow their business. A typical infrastructure of Internet advertising is shown in Figure 1[2].

In order for advertising to promote sales, it must inform and then persuade target consumers to adopt a specific product, service, or idea. The goal of Internet advertising is driving customers to your website. While some companies use traditional advertising to drive customers to their websites, many businesses are trying online ads as a way of reaching people who use the Internet for shopping. Popular Internet advertising companies include Google, eBay, and Amazon,

IA vehicle can be multimedia, hypertext format, images, videos, text or sound. The advertising format could make a difference in Internet users' perceptions, attitudes, and behaviors. IA performance or effectiveness is usually measured by business performance indices such as click-through rates, sales, traffic to website, ROI, profit or market share.

TYPES OF INTERNET AD

There are various kinds of Internet advertising. These include email advertising, online classified advertising, banner advertising, mobile advertising, and social media advertising [3].

1. *Email advertising*: It is an ad sent through an email. Most email ads are unsolicited. Email advertising is one of the most common and popular IA strategies. Companies like Hotmail and Juno provide free email access in exchange for displaying paid ads.

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2. *Online classified advertising*: This involves listing specific products or services. Examples include online job boards, online real estate listings, automotive listings, and online yellow pages.
3. *Banner advertising*: Banner ad is typically rectangular or banner-shaped graphical ad display within a web page. It involves placing "banners" (or display ad) on a website, which direct a consumer to another site when clicked. Typically, a banner advertisement contains eye-catching graphics or animations and leads to brand awareness.
4. Mobile advertising: This is an ad delivered through wireless mobile devices such as smartphones or tablets. It is either placed on mobile handsets or targeted to mobile phone users. Mobile advertisement allows companies to deliver personalized advertising information to consumers at the right time and place, at relatively low cost. Mobile advertising is growing rapidly. It may include Wi-Fi advertising that enables customers to read ad when using free Wi-Fi network.
5. *Social media advertising*: This relatively new. Using social media, companies can achieve marketing and branding goals at lower cost. Major players in social media include Facebook, Twitter, Linkedin, and Instagram.

Other forms of advertising include interactive ads, buttons, pop-up ads, floating ads, and paid text links.

ISSUES AND CHALLENGES

Internet advertising has the potential of providing global coverage of advertising messages. Thus for some particular industries, IA can enhance the globalization process. A lack of presence on the Internet may hurt business in the long run [4]. Needless to say, Internet advertising competes with traditional advertising for marketing budgets. The traditional media often complain that Internet advertising is threatening their survival [5]. Internet users are often time-constrained and are overwhelmed by the huge amount of good on sale. This is basically information overload [6]. Users may find it hard to process technical information such as on pharmaceutical products.

Several IA practices are controversial and increasingly subject to self-regulation and state regulation. In every country, these two traditional modes act independently but one tends to dominate. There is an increasing interest in child exploitation materials, where young users are exposed to pornography through online advertising. Parents should be aware of online sex and gambling industries with ad targeting children [7]. Also, the misleading or false ad is common in IA. Misinformation ranges from trivial hyperbole to deception. In the US, the Federal Trade Commission regulates misleading ad [8].

Internet advertising endangers the security and privacy of users. Consumers also face malware risks when interacting with IA. In a mobile setting, data privacy is vulnerable. Consumers perceive Internet to be intrusive. Crowdsourcing introduces some malpractices in IA. It is easy to hire web workers through crowdsourcing to attack other advertisers. Consumers regard Internet advertising as an unwanted distraction and some tend to block it. Ad blocking or filtering is a means of using technology to screen out ads. Some software has been designed to automatically remove banner advertisement images from Internet pages [9]. Before long, most people will deploy such advertising-avoidance tools.

Culture plays a critical role in advertising and the global consumption of the Internet. Consumers from different cultural backgrounds may evaluate and perceive similar advertising messages differently. The idea of a global convergence of culturally different markets into one-world culture is only an illusion. Culturally appropriate websites can impact digital divide [10].

CONCLUSION

Internet advertising is a new service in the marketing industry. While Internet advertising is still new to many in many countries, its adoption is phenomenal as Internet advertising is outpacing offline traditional advertising. The Internet is now regarded as the most powerful media for advertising.

These days, many companies have made Internet advertising part of the marketing plan because of its greater flexibility, easy accessibility, cost-effectiveness, higher accountability, and increased awareness of the products and services. No other medium affords users such immediate access to the point of sale. However, the Internet is

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not expected to replace conventional media; it should complement them [11]. It presents advertisers and consumers with still-to-be opportunities and challenges. For more information on Internet Advertising, see the book by Zeff and Aronson [12].

REFERENCES

1. D. S. Evans, "The online advertising industry: Economics, evolution, and privacy," *Journal of Economic Perspectives*, vol. 23, no. 3, Summer 2009, pp. 37-60.
2. D. Siew and X. Yi, "Agent-mediated Internet advertising," *Second International Workshop on Advanced Issues of E-Commerce and Web-Based Information Systems*, 2000.
3. "Online advertising,"*Wikipedia*, the free encyclopedia https://en.wikipedia.org/wiki/Online_advertising
4. M. Ling et al., "Economics of advertising: Emerging functions of Internet advertising," *Netnomics*, vol. 1, 1999, pp. 127-136.
5. A. Zentner, "Internet adoption and advertising expenditures on traditional media: an empirical analysis using a panel of countries," *Journal of Economics & Management Strategy,* vol. 21, no. 4, Winter 2012, pp. 913-926.
6. M.N.O. Sadiku, A. E. Shadare, and S.M. Musa, "Information overload: causes and cures," *Journal of Multidisciplinary Engineering Science and Technology*, vol. 3, no. 4, April 2016, pp. 4540-4542.
7. P. A. Watters, "A systematic approach to measuring advertising transparency online: an Australian case study," *Proceedings of the Second Australasian Web Conference*, Auckland, New Zealand, 2014, pp. 59-67.
8. K. Hattori and K. Higashida, "Who benefits from misleading advertising?" Economica, vol. 82, 2015, pp. 613-643.
9. N. Kushmerick, "Learning to remove Internet advertisements," Proceedings of the Third Annual Conference on Autonomous Agents, 1999, pp. 175-181.
10. M. Hermeking, "Culture and Internet consumption: Contributions from cross-cultural marketing and advertising research," Journal of Computer-Mediated Communication, vol. 11, 2006, pp. 192-216.
11. S. Markham, R. Gatlin-Watts, and W. Bounds, "Internet advertising vs. traditional advertising," Journal of Promotion Management, vol. 6, no. 1-2, 2001, pp. 3-17.
12. R. L. Zeff and B. Aronson, Advertising on the Internet. New York: John Wiley & Sons, 2nd edition, 1999.

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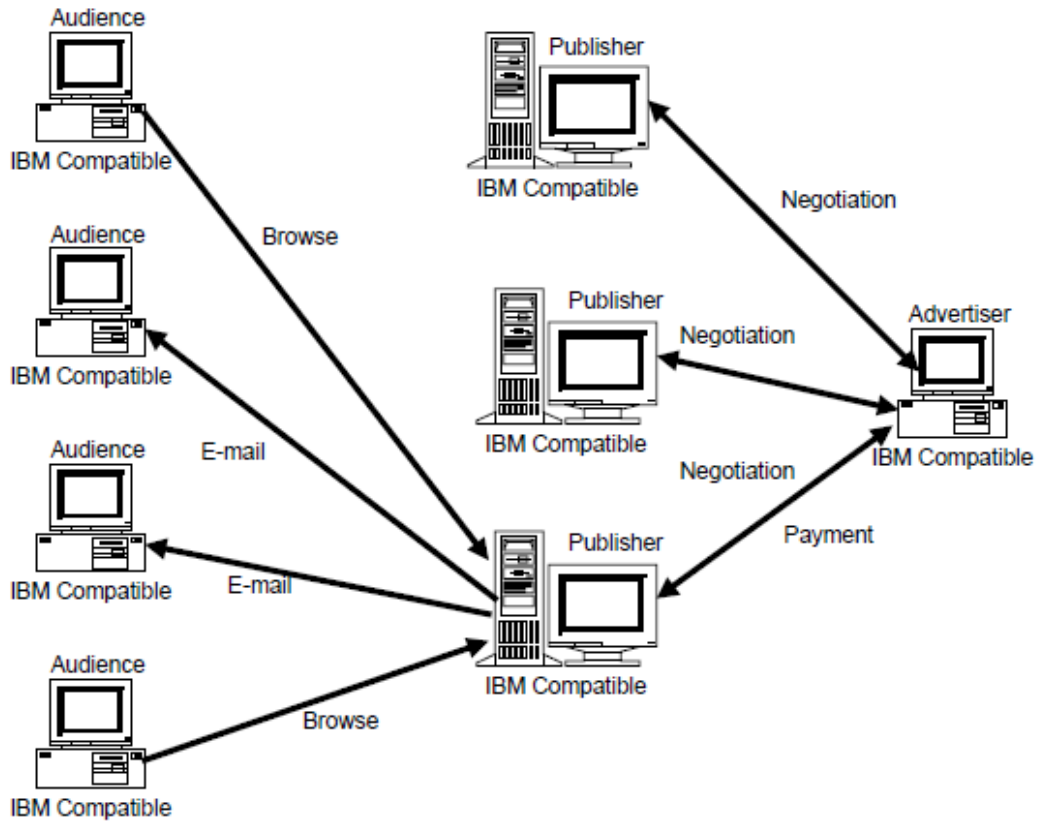
6.   *Figure 1 A typical infrastructure of Internet advertising [2].*