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The challenges of digital marketing of food products towards the behavior of young consumers

Wyzwania cyfrowego marketingu produktów żywnościowych wobec zachowań młodych konsumentów

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Abstract. This article provides up-to-date information on the marketing of foods and non-alcoholic beverages to children and the changes that have occurred, focusing in particular on the major shift to digital marketing. It examines trends in media use among children, marketing methods in the new digital media landscape and children's engagement with such marketing. It also considers the impact on children and their ability to counter marketing as well as the implications for children's digital privacy. The aim of the article is to summarize the evidence on children's exposure to food marketing in digital media and the persuasive power of that exposure' overview international and national literature as well as to answer on questions regarding to frequency of using social media by children, methods used to track online and offline, influence of marketing on children exposure, impact of food marketing in social media for children and counter it and policies which should be implemented to protect children by food marketing.
Keywords: social media, Internet, marketing, food, child

Abstrakt. Artykuł zawiera aktualne informacje na temat marketingu żywności i napojów bezalkoholowych wśród dzieci oraz zmian, które zaszły, ze szczególnym uwzględnieniem istotnego przejścia na marketing cyfrowy. Pokazuje trendy w korzystaniu z mediów przez dzieci, metody marketingowe w nowym krajo-brazie mediów cyfrowych oraz zaangażowanie dzieci w tenże marketing. Uwzględni również wpływ na dzieci i ich zdolność do przeciwdziałania marketingowi, a także konsekwencje dla prywatności cyfrowej u dzieci. Celem artykułu jest podsumowanie danych na temat narażenia dzieci na marketing żywności w mediach cyfrowych oraz siły perswazyjnej tego narażenia, przegląd literatury krajowej i międzynarodowej, a także udzielenie odpowiedzi na pytania o częstotliwości używania mediów socjalnych przez dzieci, metod do ich śledzenia zdalnie i niezdalnie, wpływu marketingu na ekspozycję dzieci oraz marketingu jedzenia w mediach społecznościowych i przeciwstawianiu się temu zjawisku przez dzieci. Jako ostatni

problem artykułu są opisane działania podejmowane w celu kreowania regulacji i przepisów wdrażanych, by chronić dzieci przed marketingiem jedzenia.

Słowa kluczowe: media społecznościowe, Internet, marketing, jedzenie, dziecko

Introduction

The prevention and control of noncommunicable diseases is a core priority of World Health Organization. These diseases are currently the leading cause of death and disability in the WHO European Region and are responsible for more deaths worldwide than all other causes combined, and it is predicted that, by 2030, 52 million deaths per year will be attributable to them (WHO, 2014). Driven by lifestyle risks such as an unbalanced diet, noncommunicable diseases are increasingly occurring in younger people, due to e.g. overweight and obesity, raised blood pressure and blood glucose, and abnormal blood lipids (Proimos, Klein, 2012, pp. 379-381). In some countries, children and adolescents account for 20-50% of cases of new-onset diabetes (Dabelea, Mayer-Davis, Saydah et al., 2014, pp. 1778-1786), and young people increasingly present with risk factors for cardiovascular diseases, including pre-hypertension (May, Kuklina, Yoon, 2012, pp. 1035-1041).

In Europe, overweight and obesity are highly prevalent among children and adolescents, particularly in southern countries. The WHO European Childhood Obesity Surveillance Initiative has shown that, in some countries, almost 50% of eight-year old boys are overweight and more than 25% are obese (Wijnhoven, van Raaij, Spinelli et al., 2014, p. 806). Such alarmingly high rates of childhood obesity, increasingly seen worldwide in high- and low-income countries alike, not only pose a health risk but also breach the right to health, as stated in the United Nations International Covenant on Economic, Social and Cultural Rights, and children's rights to the development and enjoyment of the highest attainable standards of health in the United Nations Convention on the Rights of the Child. As Member States are obliged not only to respect and protect but also to fulfil human rights, they are obliged to act on this global risk to health (Ohchr.org, 1966). The enterprises through marketing activities are taking responsibilities for health improvement among young generation. Through social media campaigns they promote healthy behaviours. Health promoting campaigns on social media offer unique opportunities to target youth, as social media interventions can target individuals within a certain age range. The main areas in this matter are:

- healthy eating to inspire consumers to live healthier, fitter lives and advertisements promoting fad diets;
- alcohol harm reduction to commit to a period of non-drinking and to blog about their experiences;
- smoking cessation to discourage the uptake of smoking among young people and to encourage smokers to quit.

Marketing in digital media is characterized by powerful creative techniques and data analytics. Building on the early definition of Montgomery and Chester, we define digital marketing as: Promotional activity, delivered through a digital medium, that seeks to maximize impact through creative and/or analytical methods, including (Montgomery, Chester, 2011):

- creative methods to activate implicit emotional persuasion, such as building engagement in social networks (e-Word of-Mouth); using immersive narratives or social- entertainment- and humour-based approaches; using “influencers” popular with children, such as YouTube “vloggers” (video bloggers); using augmented reality, online games and virtual environments;
- analysis of emotions, responses, preferences, behaviour and location to target specific groups, individuals and particular moments of vulnerability or to maximize the impact of creative methods.

Children across Europe use digital media avidly and increasingly. In 2012, 15-year-olds in countries of the Organisation for Economic Co-operation and Development (OECD) reported using the Internet for nearly 2 h daily (109 min) on weekdays and an extra half an hour daily at weekends; use was lowest in Turkey and highest in the Nordic countries. Internet use is increasing sharply, with annual rises in all age groups in the United Kingdom; in a recent survey, 7-16-year-olds reported spending an average of 3 h online daily, while those aged 15-16 years reported nearly 5 h daily. The Net Children Go Mobile study in six European countries (Belgium, Denmark, Ireland, Italy, Romania, Portugal and the United Kingdom) reported a “post-desktop media ecology” among children aged 9-16 years; smartphones were the devices most frequently used daily. Mobile device ownership is rapidly increasing: 67% of British children own a tablet, and tablet ownership is increasing very rapidly from a lower base in central and eastern Europe and Turkey (Tatlow-Golden, Boyland, Jewell et al., 2016, p. 4).

In terms of Internet activity, multiple studies, including the EU Kids Online series, report that the Internet locations most visited by children are not child-specific but are platforms that provide access to a wide range of content for mixed ages, like Google, Facebook, Instagram and YouTube. Younger children (9-11 years) in Europe go on the Internet mainly to view videos, such as on YouTube. Among older children, social networking dominates: over 50% of 13-16-year-olds have a social network profile, in steeply increasing numbers from 13 year. At 13-17 years, young people in the United Kingdom spend most of their Internet time on social media, accumulating 100 min daily (Tatlow-Golden, Boyland, Jewell et al., 2016, p. 4).

In the United Kingdom, 73% of 1000 13-17-year-olds reported following brands they like in social media, 62% click on ads and 57% make in-app or in-game purchases. Nielsen data suggest that over half of adolescents in the USA “always” or “sometimes” look at mobile ads. A qualitative study of avoidance of ads by Australian adolescents on the MySpace social media site showed that, although they found

some ads annoying and avoided clicking on them, they liked those that involved interaction or receiving something, such as playing games or receiving ring tones. In Egypt, young people aged 17-29 years reported following brand pages (including fast food brands) on Facebook and enjoying Facebook advertising, perceiving it as less intrusive than “pop-up” digital ads (Tatlow-Golden, Boyland, Jewell et al., 2016, p. 4).

Research gap is overview international and national literature to show challenges in digital marketing of food products in young generation consumption. The main goal is to present this aspect through overview literature and reports to highlight the problem worldwide.

Following research questions have been created:

1. How often children use digital media?
2. What methods are being used to track users online and beyond?
3. What influence has digital marketing of HFSS (High Fat, Sugar and Salt) in children exposure?
4. What is the impact of food marketing in digital media and children’s ability to counter it?
5. What key components of effective policies should be implemented to resolve problems of children’s food marketing?

Marketing in the new digital media landscape

The rapidly changing world creates tsunami of data being generated every minute. Digital infrastructure provided by YouTube, Snapchat, Twitter, Facebook, Instagram allows billions human to get connected, so they can collaborate and share between themselves. According to Statista portal worldwide, there are over 2.9 billion monthly users (Statista.com, 2021b). With world population 7.9 billion human beings this put in perspective of almost 37% of whole people living in the world. YouTube has 2.3 billion of active users (Oberlo.com, 2021), Instagram with almost 1 billion active users (Statista.com, 2021c). Snapchat achieved volume of 293 million active (Businessofapps.com, 2021) users and as of the second quarter of 2021, Twitter had 206 million monetizable daily active users worldwide (Statista.com, 2021a).

Besides social media, mobile is an important part of digital world. According to Techjury portal (Techjury.net, 2021):

- with 1.3 billion projected subscriptions by 2023, Internet of Thing is about to experience another boost by the 5G technology;
- by 2022, Google Home will have the largest IoT devices market share, at 48%;
- the average number of connected devices per household in 2020 was 10;
- by 2021, 35 billion IoT devices will be installed around the world;
- the number of connected devices in 2021 will be 46 billion.

According to Investopedia „Digital marketing is the use of the Internet, mobile devices, social media, search engines, and other channels to reach consumers. Some marketing experts consider digital marketing to be an entirely new endeavor that requires a new way of approaching customers and new ways of understanding how customers behave compared to traditional marketing” (Investopedia.com, 2021).

Digital marketing, also called online marketing, is the promotion of brands to connect with potential customers using the internet and other forms of digital communication. This includes not only email, social media, and web-based advertising, but also text and multimedia messages as a marketing channel (Mailchimp.com, 2021).

According to Oxford reference digital marketing is the use of digital technology, including web and multimedia and processes in the development, distribution, and promotion of products and services. Digital technologies include Internet media such as websites and e-mail as well as other digital media such as wireless or mobile and media for delivering digital television, both cable and satellite (Oxfordreference.com, 2021).

Lee (2017) in the pages of the Harvard Business Review puts forward quite a strong thesis that that traditional marketing (including advertising, public relations, branding and communication corporate) is already dead. He supplements the statement with the statement that many people traditional marketing roles and the organizations that play on them are resting, they may not yet realize that they are functioning under the dead paradigm (Beyer, 2018).

According to Kotler and Armstrong (2012) online marketing (e-marketing) is reduced to the activities of a company that are conducted via the Internet and are aimed at: promoting (communicating); selling products and services; building relationships with the client. The creator of the competition strategy Porter (2001) pointed out that the Internet enriches marketing tools with such elements as: online sales channels; access to real-time information for customers; online product configurators; profiling the offer to the needs of customers; push advertising; customized online access for customers; getting feedback from customers in real time. It should be emphasized that online marketing is not only advertising on the Internet, but this is the entirety of activities consisting in communicating with customers through newsletters, social media and other channels debatable. It is also placing the latest information on the company’s website about products, services, the company’s offer and promotion (Berlkey, 2009).

Marketing in digital media is characterized by powerful creative techniques and data analytics. For purpose of the article definition of Montgomery and Chester has been taken to define digital marketing as promotional activity, delivered through a digital medium, that seeks to maximize impact through creative and/or analytical methods, including (Montgomery, Chester, 2011):

- creative methods to activate implicit emotional persuasion, such as building engagement in social networks (e-Word-of-Mouth); using immersive narratives or social entertainment and humour-based approaches; using “influencers” popular with children, such as YouTube “vloggers” (video bloggers); using augmented reality, online games and virtual environments;
- analysis of emotions, responses, preferences, behaviour and location to target specific groups, individuals and particular moments of vulnerability or to maximize the impact of creative methods.

The table 1 contains synthetic collection of authors and years of digital marketing highlighted in the article.

Table 1. Synthetic collection of authors and years of digital marketing

Authors/Portals	Year
Montgomery and Chester	2011
Kotler and Armstrong	2012
Lee	2017
Oxford Reference	2021
Mail Chimp	2021
Investopedia	2021

Source: Own study based on literature in the article

Marketers use different methods to track users online and beyond. These methods are as following (Tatlow-Golden, Boyland, Jewell et al., 2016, p. 7):

- Device graphs or social graphs identify individuals’ (and families’) linked devices or a user’s personal digital connections;
- Device fingerprinting track users across the devices they use (e.g. smartphone, tablet, laptop) to integrate marketing appeals and offers. “Canvas”-based fingerprinting operates with no indication that a user’s system is being fingerprinted;
- Cookies are small files placed on a user’s computer system that track and record users’ activities. Some cookies are used only for internal analytics or functionality (e.g. language preference, payment options), but many sites and platforms allow third parties such as advertising networks to place tracking cookies to collect information on users, to facilitate targeted marketing;
- Flash cookies are more durable and persist after a browser has been cleared, thus allowing tracking after users believe they have been deleted;
- Zombie cookies are even more durable than flash cookies, as they are re-created after a user has deleted them, allowing continued tracking;
- On-boarding combines online with offline data to generate even richer consumer profiles.

The WHO set of recommendations notes that the effectiveness of food marketing depends on exposure (frequency and reach) and power (the nature, creative content, design and execution of the marketing message, e.g. use of persuasive techniques such as promotional characters). Currently, the evidence on digital media marketing in the public domain consists largely of analyses of the content of sites or pages created by food companies (food and beverage brand websites and social media brand pages) and occasional analyses of advertising on non-food websites popular with children. It therefore addresses the nature of digital food marketing (i.e. aspects of its power) and young people's potential rather than actual exposure (Tatlow-Golden, Boyland, Jewell et al., 2016, p. 11).

Researchers examining food brand websites have found that child-oriented webpages frequently promote unhealthy products with dynamic, engaging, persuasive techniques. The British Heart Foundation (BHF, 2011) examined 100 websites for food and drink products likely to be bought or requested by children, including snacks and breakfast cereals; 80% included products that were not permitted to be advertised to children on television under United Kingdom broadcast regulations (Television advertising of food and drink products to children: final statement, 2021), which were marketed online with cartoons, animations, brand characters, competitions, games, downloadable content (e.g. mobile phone ringtones) and links to social networking site product or brand pages. In Germany, the nongovernmental organization "Foodwatch" (Foodwatch 2015) searched company and product websites and supermarkets in three German cities for items marketed to children by signatories of the voluntary EU Pledge, by which food companies agree not to market unhealthy foods to children (EU, 2015). Of 22 Pledge signatories, 7 advertised unhealthy items on the Internet with child-directed content (65 of 281 items; 23%), such as games, comics, crafts and clubs; and of the 281 foods marketed to children, 90% (252) were identified as unhealthy by the WHO Regional Office for Europe nutrient profile model. In Ireland, the websites of the top food and drink retail brands (rather than child-directed brands or products) had little child-oriented content, but one in five had content that appealed to older children and adolescents, such as celebrity endorsement and competitions (Tatlow-Golden, Murrin, Bergin et al., 2015, pp. 1-19).

Studies have also been conducted of food marketing exposure and power in social media. In Ireland, researchers analyzed exposure by identifying the Facebook "reach" of the 113 food brands most popular in retail sales and on Facebook among users aged 13 or 14 years. All 18 brands that Facebook estimated had the greatest "reach" in this age group featured sugar-sweetened carbonated drinks, fast foods, savoury snacks, sweets, chocolate and ice-cream. Content analyses of the power of these Facebook posts found they used the tactics of engagement, emotion and entertainment, with competitions, humour, links to entertainment events, bold graphics and links to eventful "special days"; the effectiveness of such approaches is underpinned by research on

Facebook brand advertising that found humorous, brand “personality” advertising to be more effective than informative content (Lee, Hosanagar, Nair, 2015). Most frequent – more so even than displaying the logo, packaging or the advertised item itself – were prompts to interact with ads: hashtags and invitations to like, comment and share, indicating brands’ desire that adolescents would spread marketing through their networks. Similarly, an analysis of the most popular food and beverage Facebook brand pages in Australia included five that were most popular with adolescents aged 13-17 (again, featuring sugar-sweetened drinks, ice-creams, chocolate and fast food); it identified widespread marketing techniques, often unique to social media, that could increase consumer interaction and engagement and even facilitate direct product purchase (Freeman, Kelly, Baur et al., 2014, pp. 56-64).

The impact of digital marketing campaigns is likely to be substantial. Although there has been little external research on the impact of HFSS food digital media marketing on children, social media platforms and marketers themselves report that social media marketing amplifies the effects of broadcast marketing, increasing target audience reach, ad memorability, brand linkage and likeability to a greater extent than television alone (Brand awareness optimization, 2021). In France and the USA, the direct return on investment for online Coca-Cola and Cadbury campaigns is reported to have been about four times greater than for television campaigns; e.g. in a Coca-Cola campaign in France, Facebook accounted for 2% of marketing cost, but 27% of incremental sales (<http://tinyurl.com/ozekqyv>, access date 26.12.2021). Facebook ads in 14 campaigns generated nearly triple the ad recall as compared with control groups (Gibs, Bruich, 2010), and econometric analysis of fast-moving consumer goods brand marketing (including food and drinks) in Europe found that combining online marketing with other media magnified returns on television (by 70%) and on cinema (by 71%) (Microsoft, 2013).

Cognitive models of advertising defence assume that viewers respond rationally to advertising information. Yet, emotional advertising was found to be most effective in a study of over 800 advertising campaigns (Binet, Field, 2009, p. 130-133), and emotions are processed differently from cognition, driving rapid decision-making (Kahnemann, 2011, pp. 5-15). Modern psychological models predict that, even without conscious awareness, non-conscious (implicit) processing of advertising can influence beliefs and behaviour (Harris, Brownell, Bargh, 2009, pp. 211-271), again challenging a cognitive-based ad defence model. In digital media, where marketing is often less recognizable, advertising may be processed implicitly even more often. On webpages, children could not consistently recognize simple static advertisements, even at 10-12 years of age (Ali, Blades, Oates et al., 2009, pp. 71-83), and identifying marketing is likely to be still more difficult in social media where the boundaries between marketing and other content are increasingly blurred. For example, in early 2015, Facebook adjusted its “News feed” algorithm to favour marketing posts that are less overtly promotional (Facebook for Business, 2014);

the rise in the use of ad blockers means that less overt but still powerful forms of advertising are increasingly being used (Emarketer.com, 2016).

Research in digital food marketing to children: challenges and solutions

Researchers wishing to understand children's exposure to marketing in digital media now face substantial methodological challenges. With television advertising, it was possible for parents and interested adults to see what children saw. In the new media landscape, this is no longer the case, first, because children use devices with small screens that are not readily visible to others and, secondly, because of the new, personalized nature of marketing in digital media. Furthermore, gaining access to private social media accounts or children's devices is unlikely to be sanctioned by institutional research ethics boards, as informed consent cannot be obtained from all members of a user's network. Yet, such analyses are carried out at will by Facebook and others, as an integral part of their business model, without ethical oversight. Google, Facebook, Instagram and others and the food and beverage industries that advertise with them conduct analyses that provide extensive, sophisticated, extraordinarily fine-grained data that are not made available in the public domain. Even external access to rudimentary data is beyond the price range of most public health bodies; for example, we received quotes of over €50 000 to access limited competitive intelligence analytics and other analyses of marketing activities of brands featuring HFSS items in social media.

Almost all published social media analyses to date have focused on Twitter, as few tools are easily available to obtain data from other platforms, such as Tumblr, Instagram and Snapchat (Weller, 2015, pp. 281-289). Children in most countries, however, are less likely to use Twitter than other social media platforms (<http://www.bbc.com/news/education-35399658>, access date 26.12.2021). The terms and conditions of social media platforms typically restrict research by outsiders, and Facebook's programming interface presents technical barriers to researchers (Firstmonday.org, 2021). In general, standard digital analytical tools cannot be used in social media without user authentication, even if users have given permission for their data to be accessed (e.g. raw data log files are accessible only to researchers employed by the social media company) or if a rare collaboration is established. Researchers report difficulty in obtaining responses from Facebook when seeking permission to conduct research, or conditions being imposed requiring that the research "improve the Facebook user experience". Even when social media platforms are not configured to prevent access to certain kinds of data, the configuration can be changed without advance notice, and researchers have found that such changes in platform permissions or functionality have compromised their studies on Twitter and Facebook, even for studies for which they had already obtained informed

consent from participants. Such risks may prohibit researchers from exploring these platforms (Zimmer, Proferes, 2014, p. 250-261).

Key components of effective policies should be implemented to resolve problems of children's food marketing as follows (Tatlow-Golden, Boyland, Jewell et al., 2016, pp. 25-27):

- acknowledge the duty of governments to protect children online with statutory regulation;
- extend offline protections online;
- define legal age, rather than leaving commercial interests to do so;
- define marketing directed to children;
- draw on existing legislation, regulation and regulatory agencies;
- compel private Internet platforms to remove marketing of HFSS foods;
- develop appropriate sanction and penalty mechanisms;
- devise cross-border international responses.

Additionally beyond regulation some recommendation for research and further action supposed to be taken (Tatlow-Golden, Boyland, Jewell et al., 2016, p. 28):

- strengthen corporate social responsibility;
- address the ethics of conducting digital research with data from children;
- audit algorithms and supervise data mining practices;
- disclose marketing spending, activities and reach and children's engagement.

Conclusion

The main purpose of the article was to present how digital world is being connected with food marketing to children. As all statistics and information in the work provided, children are using internet very often and the trend is increasing on every single year. Marketers use different methods to track users online and beyond e.g. device graphs or social graphs, device fingerprinting, cookies, flash cookies, zombie cookies, on-boarding combines online with offline. In children exposure online marketing has got huge influence especially by promoting unhealthy food which increases interests of young generation to buy these offered products and going forward to getting obese. Unhealthy products leads to problems with health conditions and overall well-being. The impact of food marketing in social media for young generation is increasing and easily available. Without education consumption of unhealth products will be leading to further diseases and illnesses.

The outcomes of the work has shown further researches should be continued:

- children use digital media and are engaged with marketing in digital media;
- marketing in the new digital media creates media landscape;
- digital marketing of HFSS (High Fat, Sugar and Salt) has strong influence on children's exposure.

Children should be supported to engage in the digital world and hold their rights to information and participation in fast consumed world to avoid traps waiting for them in each decision making. Overload of products and information's in very digitalized world and limitation of time and making decision make children much more threatened. To avoid the issues education and politics are required in food marketing to children in the digitalized world.

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