

Research Assessment Exercise 2020
Impact Case Study

University: The Hong Kong University of Science and Technology

Unit of Assessment (UoA): 22-Business

Title of case study: Marketplace implications of consumer beliefs about obesity

(1) Summary of the impact

Professor Anirban Mukhopadhyay's compelling research has helped address the growing global obesity crisis, by identifying that people's beliefs are an influence in the causes of obesity, and that those beliefs often stem from marketing messages of the food and beverage industry. The research has informed policy and public debate by being widely disseminated to industry and policy leaders at influential international fora, and via international media coverage. It has contributed to greater awareness that what people eat is the key cause of obesity, rather than lack of exercise; and to the debate on whether food companies need to act – either voluntarily or through regulation – to address their role in people's beliefs about food and dietary choices. Additionally, a major corporate member of the global reinsurance business sector has responded by engaging Mukhopadhyay in consultancy projects to enhance knowledge in the industry of behavioral risk factors.

(2) Underpinning research

Obesity is a growing crisis worldwide. The World Health Organization estimated in 2016 that nearly two billion people worldwide are overweight or obese, and the global research firm McKinsey (2014) estimated an annual cost of US\$2 trillion globally, the same as all war and terrorism combined. Medical research has concluded that overconsumption of food is the single most important factor (*Journal of the American Medical Association*, Editorial 2012).

Mukhopadhyay (previously Associate Professor and currently Chair Professor at HKUST), an expert on consumer motivation, food psychology and marketing, and his collaborators (from the University of Michigan and Simon Fraser University) have conducted a systematic program of research, starting from 2009 and on-going today, to address this crisis. They have studied people's beliefs about the causes of obesity, investigated how these are shaped and what their consequences are, and established the connections between these micro-level psychological factors and the larger societal trends in public health and the systemic issues in the food industry. These findings break new ground in the understanding of how food industry marketing communications across countries shape people's beliefs, and their consequences in relation to obesity.

The starting point for any solution must be a diagnosis of the problem. Mukhopadhyay's research takes a unique and novel perspective by asking (a) what do laypeople believe is the primary cause of obesity, and (b) where do these beliefs come from? He then proposes corrective mechanisms. Many factors influence obesity, but medical research concludes that overconsumption of food is the single most important factor. Across a series of surveys conducted in South Korea, the US, France and Hong Kong, Mukhopadhyay found that around 50% of laypeople named poor diet as the primary cause of obesity and the other 50% named lack of exercise; other factors were barely mentioned [R1]. Critically, people who believed obesity is caused primarily by lack of exercise were significantly more likely to be overweight. These patterns were observed everywhere, even after accounting for other factors known to affect weight, establishing laypeople's beliefs as a hitherto unknown predictor of obesity.

Where do these beliefs come from? The team's follow-up research argues that "leanwashing" by the food and beverage industry [R2] – the public relations and marketing activities that promote the perception that a firm is helping to solve the obesity problem – deflect attention from the fact that it is directly contributing to the obesity crisis. This research analyzed food industry messaging and found that it has been consistently and overwhelmingly focused on either exercise or a "balanced"

lifestyle, almost never mentioning poor diet as the main cause of obesity. Food industry messaging also often communicates the message that “a calorie is a calorie”, independent of nutritional value. The team’s research found that people who believe both the food industry’s messages – diet is NOT the most important factor and a calorie IS a calorie – are the ones most likely to have a significantly higher body mass index (BMI) [R3].

Framing the obesity crisis thus helps provide insights into possible solutions. Mukhopadhyay and his collaborators then analyzed the obesity crisis as a case of market failure in the food industry [R4]. Many consumers are misinformed about food and do not have full information about what they eat or the causes of obesity. Some, such as young children, are unable to make far-sighted decisions about food; some foods are addictive. Furthermore, the costs of obesity are not proportionately borne by either the relevant firms or consumers. These are all symptoms of market failure in the food industry. Four possible remedies exist — industry self-regulation, corporate social responsibility, social activism, and government regulation. Mukhopadhyay’s analysis shows that government intervention will be required for a reduction in the prevalence of obesity.

(3) References to the research

[R1] McFerran B, Mukhopadhyay A. (2013) “Lay Theories of Obesity Predict Actual Body Mass”, Psychological Science, 24, 8 (August), 1428-1436.

[R2] Karnani A, McFerran B, Mukhopadhyay A. (2014) “Leanwashing: A Hidden Factor in the Obesity Crisis”, California Management Review, 56, 4 (Summer), 1-26. Lead article.

[R3] Karnani A, McFerran B, Mukhopadhyay A. (2017) “Corporate Leanwashing and Consumer Beliefs about Obesity”, Current Nutrition Reports, 6, 3 (September), 206-211.

[R4] Karnani A, McFerran F, Mukhopadhyay A. (2016) “The Obesity Crisis as Market Failure: An Analysis of Systemic Causes and Corrective Mechanisms”, Journal of the Association for Consumer Research, 1, 3 (July), 445-470.

(4) Details of the impact

Mukhopadhyay and his co-authors’ research has attracted much attention outside of academia. Its key societal impact has been to influence policy and public debate and awareness about the causes of obesity and how to address it, with longer-term impact on the individual’s health and well-being, as well as impact for societies struggling to meet the economic costs of this health crisis. The major beneficiaries are policymakers; health advocacy groups; medical and health practitioners and related businesses including insurers and the food sector; and ultimately the general public. While contributing to policy debate globally, he has had direct engagement with these beneficiary groups in Hong Kong, India, and the ASEAN region.

Influencing policy and industry through high-level engagement

Mukhopadhyay’s research has informed industry and policy leaders via active, multi-way conversations in several countries at influential fora, such as:

i) VitaFoods Asia Conference, 2015 and 2016: Asia’s largest food industry conference. In 2015 Mukhopadhyay was invited to present on obesity, and serve as expert on a panel that included a managing director of a major multinational business and director of a national regulatory body. He was invited to return the following year to share his expertise on consumer behavior in a panel that included the head of nutrition for one of the world’s largest food marketers [S1].

ii) Food Vision Asia, 2016: an exclusive leadership forum for the food industry, featuring more than 160 industry leaders and government secretary-level attendees from across Asia and beyond, such as the executive director ASEAN Food and Beverage Alliance; chief executive officer, Singapore’s

Health Promotion Board, and policy director of Food Industry Asia. Mukhopadhyay was among key speakers to address issues facing the Asian marketplace, sharing his research that corporate “lean-washing” is contributing to consumer misconceptions about nutrition and the driving up of obesity rates [S2]. A report on the conference highlighted its importance in promoting responses to the issues covered. Mukhopadhyay’s presentation was alluded to in an *Asia Today* report: “Of the many topics that were explored... several stood out and were popular with the delegates...including critical issues such as malnutrition and obesity... These presentations received many queries from the attendees and prompted numerous additional discussions” [S3].

iii) Clinical Nutrition Research Center, Singapore A*STAR (Agency for Science, Technology, and Research), 2016. This is the Singapore government’s research wing. Mukhopadhyay was invited to present to an audience of over 50 doctors and nutrition scientists.

iv) TEDx Hong Kong, 2016, presenting to a paying audience of several hundred people.

v) HKUST Institute for Emerging Market Studies, 2017. The YouTube video of the event has been viewed over 200 times [S4].

vi) National Conclave on Food, Center for Science and Environment, India, 2019. Mukhopadhyay was asked by a prominent NGO to present his research and discuss its implications with a panel that included high-level public health experts, pediatricians, children’s educators, and the media. Chandra Bhushan, Deputy Secretary General, Centre for Science and Environment, Delhi, India, wrote: “*His presentation helped enhance the knowledge of participants and deepen their understanding of the marketplace implications of consumer beliefs about obesity.*” [S5]

Mukhopadhyay’s presentation of his research evidence also generated a response from the reinsurance industry. [Text removed for publication]

Influencing debate and public awareness via the mass media

Impact involving Mukhopadhyay’s influence on wider public debate and awareness is evident from the extensive local and international media coverage and comment on his research. For example, citing his work, the *Times of India* (approx. readership: 13 million) identified the link between exercise and obesity as the “#1 idea that should die with 2016”, “because research on weight loss and exercise says that the extra calories you burn account for a small part of your total energy spend. Cutting diet is a more efficient way to lose weight”. [S7] The *South China Morning Post* in Hong Kong (approx. readership: 400,000) featured Mukhopadhyay’s research in a full-page article and concluded that “correcting lay beliefs about obesity would be a start” toward remedying the obesity problem. [S8] The message has also been relayed to professionals and individuals, through specialist publications such as *Psychology Today* [S9], where the research was cited for showing “why so many people are wrong about the causes of obesity”, and the wider business media, such as an article on leanwashing in the *European Financial Review* [S10].

Ultimately, this knowledge has contributed to growing awareness that consumers need to become more alert in their purchasing and dietary decisions, with long-term impact on their well-being and society. This in turn is contributing to impact on the food industry as it adapts to greater demand for healthier products and whether, voluntarily or through government regulation, it needs to revisit its messaging.

(5) Sources to corroborate the impact (indicative maximum of 10 references)

- [S1] “Making Consumer Behaviour Change Stick.” 10 August 2016, Vitafood Insight (published to coincide with Vitafood Conference) <https://www.vitafoodsinsights.com/trends/making-consumer-behaviour-change-stick>
- [S2] Food Vision Asia Programme <https://www.foodnavigator-asia.com/Products/Food-Vision-Asia-Programme>
- [S3] “Inaugural Food Vision Asia 2016 Concludes with Resounding Success,” *Asia Today*, 18 May 2016. <http://www.asiatoday.com/pressrelease/inaugural-food-vision-asia-2016-concludes-resounding-success>
- [S4] Video. Anirban Mukhopadhyay: Obesity and Leanwashing. <https://youtu.be/R8EHIXTPKcs>
- [S5] Letter, Chandra Bhushan, Deputy Secretary General, Centre for Science and Environment, Delhi, India. [On file]
- [S6] Confidentiality agreement with [Text removed for publication]. [On file]
- [S7] “#1 idea that should die with 2016,” *Times of India*, New Delhi, 28 December 2016
- [S8] “Hands off those buns: Hongkongers mistakenly believe poor diet is not the primary cause of obesity,” *South China Morning Post, Health* section, 29 February 2016.
- [S9] Brent McFerran. “Where do Obesity Myths Originate?” *Psychology Today*, 13 February 2016. <https://www.psychologytoday.com/za/blog/ill-have-what-shes-having/201502/where-do-obesity-myths-originate?amp>
- [S10] “Leanwashing: A Hidden Factor in the Obesity Crisis”, *The European Financial Review*, 21 October 2014. <https://www.europeanfinancialreview.com/leanwashing-a-hidden-factor-in-the-obesity-crisis/>