**////Title: Profiting from Disinformation: The Case of Genetically Modified Organisms**

**////Stand-first**:

As people are now spending a substantial amount of time online, traditional businesses and other vendors try to attract new customers by gaining traction on social media platforms, capturing the attention of users in a variety of ways. This is often achieved by disseminating compelling information, which is not always true or reliable. In a recent study, Dr Camille Ryan and her colleagues at Bayer Crop Science have taken a closer look at the monetisation of disinformation, focusing on the specific case of genetically modified organisms (aka GMOs).

**////Body text:**

The widespread use of social media has created both opportunities and challenges for businesses worldwide. With increasing numbers of people seeking information and entertainment online, many businesses have started focusing their efforts on attracting the attention of potential customers, particularly on social media platforms.

Most businesses today have a social media strategy and invest considerable resources in creating content that could help them to gain popularity online. Although building a successful business without such a strategy seems almost impossible now, the huge pressure to grasp people's attention on social media can also have undesirable effects. In fact, in the hope of gaining social media traction and increasing value, several kinds of vendors – individuals, companies, bloggers, NGOs, and other organizations - disseminate information that is highly compelling, and yet may be also false or unreliable.

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The dissemination of disinformation online has recently been growing at an alarming rate as vendors seek financial gain, to push an agenda or to expand influence. Such disinformation can consist of anything from strategically constructed narratives that are misleading to false data depicted as fact. This phenomenon is deeply rooted in what is now known as the 'attention economy' – a new landscape in which anyone can profit from the attention of online users.

The fact that so many people are reading and trusting information that is false or deceiving can have profound implications. For example, disinformation has influenced public perceptions regarding important health issues, including the use of vaccines and treatments for mental health conditions.

With this in mind, researchers at Bayer Crop Science, Including Drs Camille Ryan and John Swarthout, Regulatory Sciences and Andy Schaul and Ryan Butner, Data Sciences. Recently published a study in the *European Management Journal*, which investigates the growth of disinformation for monetisation purposes. Their paper focuses on one particular example – that of genetically modified organisms, or 'GMOs'.

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GMOs are organisms, typically crops, that have been altered using genetic engineering techniques. Genetic engineering can provide a crop with many advantages, such as resistance to diseases and pests, or resilience in the face of extreme weather brought on by climate change.

Several researchers and scientific institutions have conducted studies assessing the safety, implications and effects of consuming GMOs, as well as their benefits for farmers and the economy. Their safety and benefits were confirmed by 284 technical and scientific institutions worldwide, which found them to be as safe as their conventional equivalents.

Despite the evidence confirming that GMOs are safe and can have social and economic advantages, many continue to express their doubts and concerns about their safety. For instance, numerous activists worldwide have an openly negative stance towards genetically modified crops, which they express extensively through social media. Indeed, the popularity of social media platforms has exacerbated the debate, with many organisations and individuals presenting misleading narratives online.

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In their study, Dr Ryan and her colleagues tried to gain a better understanding of disinformation for monetisation purposes using online articles about GMOs as an example. To do this, they analysed 94,993 articles about GMOs published between 2009 and 2019 and examined the social media engagement they elicited, including the total number of times they were shared and their 'evergreen score'.

The evergreen score is a ranking system developed by BuzzSumo that measures the number of times users engage with an article on social media in the 30 days after it is published. Their analyses helped to unveil some of the tactics contributing to the narrative that GMOs are harmful, which could also be applied to the dissemination of disinformation about other topics.

Overall, Ryan and her colleagues found that social media users engaged far more with articles posted on alternative health and pro-conspiracy sites than with those published by reputable media outlets or organisations. The high engagement with articles published by unreliable sources also continued for longer periods of time, with misleading articles presenting higher median evergreen scores than more reliable and fact-based content.

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The articles on non-reputable sites were typically packaged in a far more compelling way, with attention-grabbing headlines and more persuasive language. This could partly explain why they attracted greater attention from social media users, which in turn would result in increased site traffic and increased profits through ad sales.

The researchers also observed that the topic of GMOs remains a social and political controversy online, so public beliefs about the safety of genetically modified crops are likely to be highly mixed. Many companies seemed to follow marketing strategies that further fuelled this wave of disinformation on the topic, for instance stating that their products had undergone 'non-GMO' verifications.

Public debate about the safety of GMOs urged organisations to carry out additional studies and reviews aimed at better understanding their effects. These studies, which cost taxpayers a lot of money and required the use of animal testing, only confirmed that GMOs are as safe as conventional

crops. The persistent distrust in the safety of genetically modified crops intensified by disinformation online could thus be very expensive, as it could prompt further unnecessary research efforts.

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This study highlights some of the implications of monetising disinformation on social media, while also showing how some organisations package false information in a way that attracts greater attention from users.

The debate surrounding GMOs, which the authors considered in their paper, is an example of how disinformation can sometimes have detrimental effects, resulting in unnecessary investments aimed at reassuring the public. Some of the observations gathered by this team of researchers could also be applicable to other topics that are widely discussed online, such as the side effects of vaccinations or the causes of autism spectrum disorder.

With so many companies and individuals worldwide now using disinformation to gain advantages and profits, studies such as the one carried out by Dr Ryan are of social and economic importance In the future, their findings could help to better understand the subtle dynamics behind the spread of false information on social media, potentially informing the development of tools to manage it, limit it, or decrease its impact.

This SciPod is a summary of the paper ‘Monetizing disinformation in the attention economy: the case of genetically modified organisms (GMOs)’, from the European Management Journal.

For further information you can connect with John Swarthout on LinkedIn and Cami Ryan, Andy Schaul and Ryan Butner on Twitter.

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