

A Systematic Review of New Media Influencing People's Attitude and Cognition to GMF

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ABSTRACT

Nowadays, new media plays an important role in people's life. The idea of media attention proved that media would influence the audiences' attitude, opinion direction, opinion strength, actual behavior, and cognitive learning. In this review, the readers' attitude and cognition will be fully analyzed in a controversial topic--- genetically modified food (GMF). By reading substantial relevant literature reviews and researches, the result is that new media certainly changed the readers' attitude and cognition, which corresponds to the theory of planned behavior. In this theory, an attitude refers to the individual's evaluation of a particular behavior after conceptualizing. New media, in this case, provides a platform for readers to conceptualize social instances. Therefore, the change in the readers' attitude will lead to a change in their behavior. With this argument in view, new media will first change the customers' attitude and sequentially change their behavior to decide whether to buy the GMF.

Keywords: Theory of Planned Behavior, New media, GMF, Cognition, Attitude.

1. INTRODUCTION

Transgenic technology is known as "one of the most rapidly applied major technologies in human history". As the name implies, genetically modified food (GMF) is derived from organisms such as plants or animals that genetic materials have been modified in ways that do not occur naturally [1]. For example, tomatoes contain a lot of nutrients needed by humans, but most tomatoes cannot be stored for a long time if they are produced in large quantities, which will cause waste. Using genetic engineering methods, the modification allowed the tomato to delay ripening after picking [2]. This tomato is anti-aging, anti-softening, storage-resistant, can be transported over long distances, and can reduce waste in processing, production and transportation, saving time and labour cost for producing tomatoes, same as other vegetables and fruits. In China, GMF has always been a controversial topic, some people do not care about how the food is made, but some of them only accept pure natural food. However, with the development of new media, it is always changing people's opinions by posting new information through the power of social

networking [3]. New media refers to forms of media that are computational and rely on computers for redistribution, which provides a platform for the general public to discuss. Use social media as an example. Every user can express their opinions. Therefore, people will change their attitude frequently by gathering information from new media.

By considering the effects of the media on attitudinal and behavioural changes, this study furthermore suggested that different types of new media will influence public opinions in different ways [4]. In this review, these three new media, online news articles, WeChat official accounts, and Weibo articles, will be fully illustrated and compared. Also, the two concepts, planned behaviour and media attention, will be applied in this review.

This study aims to investigate how different kinds of new media influence people's attitude and cognition to GMF, including the main information gathering ways, for example, online news articles, WeChat official account, and Weibo articles. Using different ways to obtain information about how the ways influence people's recognition, how the content of the information

influences people's attitude to the sample topic-- GMF, and how planned behaviour and media attention are applied in illustrating the influence. It is important to investigate because it will uncover how new media leads our attitude to a controversial topic.

2. METHOD

The GMF surveys and data analysis were referenced in related research articles, journals, academic websites, and government websites in this review article. From those resources, the new discoveries and further researches will be illustrated in this review article.

3. NEW MEDIA GUIDES PEOPLE'S ATTITUDE TOWARDS GMF

3.1. The generation and definition of new media in the new era

New media is an emerging thing derived from the Internet. Represented by the Internet and mobile media, new media is booming. Mass media are gradually enriched, and the content is gradually diversified. At the same time, new media is also a social platform where consumers can interact and spread various information about enterprises. New media is not a general term for emerging or new media but should have a relatively accurate concept. New media or emerging media are all new media, which is a narrow concept. Moreover, this concept cannot meet the needs of new media development and is not conducive to communication in the industry. Therefore, the industry has summarized the relatively accurate definition of new media through research on media, a large number of market data analyses, and the understanding and views of new media in the industry, combined with consumers' views.

3.1.1. Individuation of new media is prominent

In the past, almost all media were democratized for technical reasons. On the other hand, new media can be targeted at more subdivided audiences and individuals who can customize the news they need through new media. In other words, the final combination of information and content received by each new media audience can be the same or completely different. This is quite different from the traditional media audience, which can only passively read or watch undifferentiated content.

3.1.2. More selective audiences

Technically speaking, everyone can receive information in new media, and everyone can act as an information publisher. Users can watch TV programs and play music at the same time, participate in voting on programs, and search for information. This breaks the

limitation that only news organizations can release news and fully meet information consumers' segmented needs. Different from the "dominant audience type" of traditional media, new media is "audience-oriented". The audience has a greater choice, can read freely, can amplify the message.

3.1.3. Information release is real-time

New media has various forms, and the expression process of various forms is relatively rich. It can integrate text, audio, and pictures into one to instantly expand content, thus making content "living". In theory, as long as the computer condition is satisfied, a new medium can meet the world's information storage needs. In addition to its large capacity, new media also has the characteristics of "easy to check", can be stored at any time, find the previous content, and related content is very convenient. Compared with radio and television, only new media can be processed and released at any time without a time limit. New media presents content with powerful software and web pages, making it easy to be online 24 hours a day.

3.1.4. The impact of new media on people's life

The emergence of new media not only stimulates traditional media but also stimulates a vast audience. Meanwhile, the new media era also changes the business environment, affects consumers' purchasing behaviours, and creates new business models and economic behaviour patterns [5]. Therefore, the influence of new media on the consumer buying behaviour and its influence channels is a problem worthy of in-depth study. As for the research on new media, Chinese scholars have made some progress in various application environments. Taking social media as a research platform, studied effective strategies of contemporary marketing in detail by analyzing new media and marketing related content [6]. According to Aihti Kelimu analyses, the impact of various forms of marketing on consumers from different forms of marketing and gives full play to the role of new media by changing operational thinking [7]. The research results also suggest how enterprises use new media to publicize their products and services. He Wen discussed the importance enterprises attached to their own brand building in the new media environment and summarized the importance of having innovative consciousness and capturing consumers' hearts[8].

The application of new media is in line with our life. The continuous progress of network technology has brought massive information influx, which has greatly influenced the production and lifestyle of traditional society. Blogs, podcasts and other new communication methods make everyone become information publishers, expressing their own views and spreading their own

concerns. On the one hand, the personalized way of communication allows people to experience the release of information. Still, at the same time, there are drawbacks of the content of good and bad, which puts forward higher requirements for the audience's ability to choose information.

3.2. How is the theory of planned behavior reflected in people's behavior

Connotation of planned behaviour theory the theory of planned behaviour was proposed by Icek Ajzen[9]. It is the successor of the Theory of Reasoned Action (TRA) jointly proposed by Ajzen and Fishbein because Ajzen found that human behaviour is not 100% voluntary but under control. Therefore, He expanded TRA to include a new concept of Perceived Behaviour Control (Perceived Behaviour Control), which led to the development of a new model of Behaviour Theory -- Theory of Planned Behaviour (TPB).

The theory of planned behaviour is divided into five elements: attitude, subjective norms, perceived behavioural control, behavioural intention, and behaviour. The theory proposes that behavioural intention is the best way to predict and explain individual behaviour, which is affected by behavioural attitude and subjective norms. When individuals perceive complete control over whether or not to perform a specific behaviour, behavioural intention can directly predict behavioural outcomes. For example, an individual may have a strong desire to perform the behaviour but may not have the necessary opportunities or resources (such as knowledge, skills, abilities, information, time, money, equipment, and the cooperation of others) to actually perform the behaviour. Generally speaking, the more positive an individual's attitude towards a behaviour is, the stronger the individual's behavioural intention will be. The more positive the subjective norm of behaviour is, the stronger the individual's behavioural intention will be. The more positive the attitude and subjective norms are, and the stronger the perceived behavioural control is, the stronger the individual's behavioural intention will be.

The theory has been used to study management development, consumer behaviour, e-commerce, alcoholism, and vaccination. This theory favours self-reported measures of behaviour, behavioural intentions may change over time, and behavioural intentions may be temporary. The relationship between behavioural intention and behaviours is stable but only moderately strong. This may mean that individuals can have a strong intention to act but not necessarily translate it into actual action. The researchers reached their conclusions by identifying moderators that help reinforce the transition from behavioural intention to actual action, such as time stability, need satisfaction,

and behavioural intention to perform. This paper will focus on studying how the theory reflects the influence of new media on people's attitude and cognition of choosing GM food in the context of big data such as new media.

Based on the propagation theory, the theory of planned behaviour theory to build model, taking into account the individual differences in the process of spread and the influence factors of new media, new media research on genetically modified for the consumer recognition and acceptance, and analysis the change tendency of the future, to our government provide decision-making reference for the future gm technology development strategy.

3.3. The audience's attitude towards GM food under the influence of media

The media has a tremendous impact on attitudes and behaviours by affecting how viewers accept new products and are willing to alter their behaviours. According to the theory of media effect, television viewing influences beliefs and opinions about the real world [10]. Take the research conducted by Bandura for example, the researchers wanted to see if children would imitate aggression modelled by an adult in television. The children were divided into two groups, and one group was exposed to the aggression model, which shows the bobo aggressively. The second group observed a non-aggressive model for 10 minutes. The result shows that children who had observed the aggressive models were significantly more aggressive—both physically and verbally [11]. From this research, the content in television can automatically influence children because children cannot distinguish what is right or what is wrong. Based on the theory of media effect, in the GMF topic, television programming might potentially affect people's worldviews and their related behavioural responses.

Television is one of the traditional media, and it impacted people in the late 19th century the most. However, through the development of new media, online articles have become the major way for people to gain information. The information processing model requires attention to media messages connected to the news to influence behaviour. In other words, the more attentive people are to media messages, the more likely they are to strengthen or modify their view and conduct with such messaging [12]. Also, in China, through the introduction of GMF in the late 1990s, media might be an effective platform for letting more people know the technology of GMF. Still, most of the GMF-related news reports tends to be negative in China.

According to the analysis of Consumer Acceptance of Genetically Modified Foods published in 2002, which is the time period that new media was immersed

in people's life. This article provides insight into Chinese consumers' knowledge and prospects of using telephone interviews in the city of Nanjing for GM food and analyses important variables influencing these attitudes. The results reveal that most Chinese consumers polled had a limited understanding of GM foods. Still, all consumers surveyed thought that GM foods had to be labelled negative and that media attention to GM foods has risen both in frequency and quantity of unfavourable products since the late 1990s [13]. From this study, through the development of new media, every user can post their opinions on platforms. Most of the news article is not objective. The writer can easily put their own attitude in it. The more extreme the article writes, the more readers will view and share it with their friends because extreme articles can rapidly raise readers' attention. This can be proved in Media dependency, which means people rely on media to achieve goals. Suppose a person substantially relies on media to meet his or her requirements. In that case, it indicates that media eventually takes on a larger role and has a greater influence on that person [14]. To put it another way, the higher a person's reliance on media, the greater its impact on changing or modifying his or her attitude and behaviour.

Moreover, according to Li's research, the relationship between media dependency and the customers' attitude toward GMF. This study provides unique insights on GMF views and related main personal and media factors based on a sample of university students in Kunming, China. The results showed that respondents had an overall negative perception of GMF. Those with a high level of food neophobia were more susceptible to a negative attitude towards GMF, independent of age or gender. In contrast, those who saw more GMF benefits are likely to be more positive towards it. Although media dependence is unrelated to GMF attitudes, a high degree of the media focus was associated with GMF attitudes [15]. Therefore, new media is a convenient way for people to get information, but the quality and reliability of the information cannot be promised. In GMF case, due to the substantial negative articles posted on new media, most of the customers don't willing to do research by themselves. They do not think critically, which largely influence people's attitude and the development of GMF.

4. CONCLUSION

Genetically modified food is an inevitable outcome of the development of science and technology and the needs of people's livelihood. However, as the audience of GM food, before eating gm food, first of all, to know what it is "gene". It is up to people to choose whether to eat such gm foods. Similarly, the common living habits of human beings have been written into our genetic

sequence after thousands of years of evolution, and the development of industrial civilization in the past 200 years has also caused great changes in people's living habits. But can our body's adaptation mechanism keep up with such changes? Should the products of the new age be chosen or not? New media provides a good discussion platform for the public through computerization and computer redistribution. Take social media as an example. Users or professionals express different opinions to state their views on genetically modified food. This reveals how the influence of new media is reflected in our attitude towards GM food in a big data environment and how to guide us to choose GM food in a controversial topic.

Through systematic sorting, we can find that social media has more influence on the public's scientific knowledge and behaviour attitude than newspapers, indicating that the influence of traditional media is gradually declining. With the increase of people's reliance on social media, Weibo and WeChat have gradually become the main channels for people to obtain news and information. The interactivity of social media enables the public to participate in discussing GM related issues and even construct GM related information. The more dependent the audience is on WeChat and Weibo, the longer they will use them than online news. This is also a good explanation for why paying attention to the WeChat public account is helpful to the public's scientific knowledge of GM, which may be because the public's time to use social software squeezes their time to surf the Internet for news. It can be seen that in the new media environment, the information people receive from Weibo and WeChat websites has a deeper impact on their behavioral intentions.

For the public living in the era of information explosion, it is difficult to distinguish rumours and fake news on fake social media. It is difficult to fully understand the truth of science. It is suggested that the follow-up survey data analysis should be used in future research to clarify the real causal relationship between the use of new media, scientific knowledge and attitude. Considering that the knowledge points behind different technologies are very different, it is also suggested that the subsequent research should be inferred to other controversial scientific and technological issues for verification.

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