

Application of "Six Thinking Hats" in the Investigation and Improvement of Hidden Dangers in Food Safety

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Abstract With the development of economy, people's living standards are constantly improving, and the requirements for food safety are getting higher and higher. The Food Safety Law stipulates that enterprises should implement the main responsibility of food safety, and the investigation and improvement of food safety hazards plays an important role in improving the food safety management level of enterprises and reducing food safety risks. This paper combines the innovative thinking mode of six thinking hats with food safety, discusses the application mode of six thinking hats in food safety investigation and improvement, and hopes to improve food safety level through this way.

Key words Six thinking hats, Food safety, Hidden danger investigation and improvement

1 Introduction

The investigation and improvement of hidden dangers in food safety is the main way for enterprises to implement the main responsibility of food safety^[1]. Article 4 of *Production Safety Law of the People's Republic of China* stipulates that food producers and operators are responsible for the safety of their food production and operation. Food producers and operators shall engage in production and business activities in accordance with laws, regulations and food safety standards, ensure food safety, be honest and self-disciplined, be responsible to the society and the public, accept social supervision and assume social responsibilities. With the increasing supervision and sampling inspection by the regulatory authorities, people pay more and more attention to food safety. Enterprises must improve the level of food safety management in order to survive and develop in the market competition and avoid sudden food safety incidents bringing devastating blows to enterprises^[2].

The investigation and improvement of hidden dangers in food safety is the key link to ensure food production and supply chain^[3], and the investigation of hidden dangers is a complex task, because it needs to comprehensively consider various possible hidden danger sources and control measures^[4]. Traditional tools and methods, such as Six Sigma, QC-7, experience analysis and hidden danger prompt table, have some limitations to some extent. They pay more attention to finding and solving hidden dangers, but ignore the root causes of hidden dangers and deep-level control measures. Therefore, in the process of food safety hazard investigation and improvement, it is necessary to adopt a comprehensive approach, involving the cooperation between multiple departments^[5]. "Six Thinking Hats" is a thinking tool and can be applied to the investigation and improvement of hidden dangers in

food safety management. It uses six different color hats to represent six different modes of thinking, each representing a particular role or way of thinking. Using this tool, managers can think about food safety issues comprehensively, and work out more comprehensive and effective solutions from different angles, which can be applied to food safety management^[6].

2 Concept of "Six Thinking Hats"

Six Thinking Hats is a thinking mode tool created by Dr. Edward de Bono, which aims to provide a parallel thinking tool and effectively avoid unnecessary arguments. It emphasizes comprehensive thinking and seeking the way forward. Through the reasonable and effective application of "Six Thinking Hats", it is helpful to clarifying confused ideas and turning meaningless disputes into rich and valuable achievements. The "Six Thinking Hats" include hats in six colors: white, black, yellow, green, red and blue. Each color represents a specific mode of thinking, and contains different emotions and reasons. The use of this mode of thinking is helpful in guiding people to think from different angles, so as to obtain a more comprehensive perspective^[7].

3 Application of "Six Thinking Hats"

3.1 White thinking hat White stands for objectivity and is not affected by other external factors. White thinking hat needs to pay attention to all data in food safety, and white represents neutral and objective facts and data. Food safety hazards and improvement personnel, wearing white thinking hat, should first pay attention to raw materials, auxiliary materials, production and processing process, semi-finished products, finished products, environmental monitoring and other data. Food safety hazards are complex and sporadic, including many uncertain factors. Therefore, the hidden dangers easily intersect with external unrelated events, which leads people to subjectively connect irrelevant things. It is necessary to judge the source and improvement effect of food safety hazards through the analysis of objective data. People wearing white

Received: August 19, 2023 Accepted: October 14, 2023

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thinking hat should have strong data analysis ability, be able to use relevant big data tools to carry out statistical analysis and predictive analysis, master food safety standards and inspection knowledge, and make suggestions and judgments through data and standards^[8].

3.2 Red thinking hat Red indicates emotional characteristics such as anger and rage. Red thinking hat represents emotional feelings, intuition and premonition. Wearing a red thinking hat gives us the opportunity to express our feelings, intuitions and emotions without any explanation or correction. The traditional view is that one's emotions disturb one's thinking. It is believed that a good thinker must be very calm and free from any emotional influence. However, any decision-making must resort to emotion in the end. The red thinking hat is a way of thinking that expresses the emotional and sensory irrational thinking that works secretly in a reasonable way. The purpose is to show these background emotions so as to observe various possible influences. People wearing red thinking hat should have rich experience and be experts in this field. They can make full use of the intuition and experience of experts and use the expert personal judgment method to directly give the sources of food safety hazards and the best improvement measures^[10].

3.3 Black thinking hat Black stands for calm and seriousness. Black thinking hat considers the negative factors of things, and logically judges and evaluates the negative factors of things. Generally speaking, the black thinking hat is to find fault, mainly to fully consider the worst situation. In practical work, it is easier to find one's own advantages, while it is easier to find shortcomings when thinking about others, which is a common fault of ordinary people. In fact, black hat thinking is the same as thinking about other people's shortcomings. It is to take advantage of this sensitive psychology, pick mistakes in other people's work, find out the existing defects, and promote the continuous improvement of work^[11]. Generally speaking, it is easier to be critical than constructive. As long as you are deliberately critical, you can find reasons to criticize anything. If you abuse the black thinking hat, so that you spend a lot of time looking for mistakes, it will undoubtedly destroy its value. Those who wear black thinking hat should not be those stakeholders related to food safety hazards or rectification, so that the questions raised in this way are usually based on reality, rather than picking mistakes out of the interests of individuals or departments.

3.4 Yellow thinking hat Yellow is a very bright color, a symbol of energy and positivity, representing vigor and optimism, representing the harvest season, representing value and affirmation. The yellow thinking hat contains hope and positive thoughts, which requires actively looking for the bright spot of affairs, that is, when thinking about a problem, optimistic and positive situations are put together, that is, finding out the most ideal situation and seeking the best possibility. Yellow thinking hat is an effective way to check and improve the effectiveness of all kinds of control measures, affirm and further maintain the effective control

measures^[12]. Those who wear yellow thinking hat should be front-line personnel in food safety management and implementation, belonging to the implementation level, so that they are more aware of the positive factors of measures and go deeper into reality.

3.5 Green thinking hat Green represents vitality, and you can imagine the new green leaves of vegetation. Green thinking hats represent creativity, generating new ideas and new ways of thinking about things. Under unfavorable circumstances, the green thinking hat has innovative ideas to turn the situation around. It is a vital thinking hat and a creative thinking hat, which requires us to jump out of old ideas and find better ideas. Green thinking hats do not make people more creative, but they can give thinkers time to concentrate and strengthen their creativity. The more time you spend in looking for innovative ways, the more hopeful you are of getting more workarounds. Green thinking hat can be used as an artificial stimulus. Although it is difficult to make a person more creative, it can make a person wear a green thinking hat and think creatively^[13]. People wearing green thinking hats should be those with strong innovative ability in the team, who can enhance the innovative effect of green thinking hats and better propose non-traditional ways to investigate and improve food safety hazards.

3.6 Blue thinking hat Blue is calm, and it is also the color of the sky above us. Imagine what it feels like to fly in the sky and look far and wide. The blue thinking hat represents the organization and control of the thinking process, which can control other thoughts, that is, it is the thinking about thinking. The blue thinking hat plays a leading role, which can effectively manage and organize thinking and control the thinking process. We can use the blue thinking hat at the beginning to define and describe the hidden dangers of food safety to be investigated and improved, indicate the specific objectives, and discuss the results to be achieved. You can also arrange the order of other thinking hats in the thinking process, maintain discipline in the discussion, and ensure that everyone thinks according to the established thinking mode. After the discussion, we can also summarize and discuss the successes. The blue thinking hat maintains the order of thinking, and keeps the investigation and improvement of food safety hazards going on normally according to the predetermined goals^[14]. When communication deviates from the topic or there is an argument, the blue thinking hat has a very important function, that is, interrupting. Personnel who wear blue thinking hats should be those with higher management positions in the team, who can make better use of the advantages of their positions and the breadth of information mastery to take the overall situation and grasp the progress and depth of work^[15].

4 Discussion

The application of six thinking hats saves time and cost and breaks down barriers between departments. Food safety usually involves too many departments, involving procurement, R&D, production, equipment, quality and logistics, which influence and penetrate each other. It is easy for each department to go its own

way, cover up the real cause of food safety hazards for the benefit of the department, and shift the responsibility to others, which is not conducive to the investigation and improvement of food safety hazards. Therefore, the barriers of departments are disrupted by six thinking hats, hidden danger points and the best improvement scheme are given by red thinking hat, negative effects and possible mistakes are found in time by black thinking hat, the contents of positivity that need to be adhered to are summarized by yellow thinking hat, innovative thinking is stimulated to promote the advancement and growth of organizations by green thinking hat. Through data analysis and prediction of white thinking hat, the contents and methods proposed by other thinking hats are verified, the management height is improved and the overall situation is controlled by blue thinking hat. In the application process of six thinking hats, people with different advantages are arranged to wear thinking hats of different colors. Through the characteristics of thinking hat, the advantages of personnel are expanded and enhanced, and only thinkers are allowed to do only one thing at a time. This can not only give full play to the advantages of personnel, but also avoid different departments going their own way, give full play to the potential of organizations, better investigate and improve food safety hazards, improve the food safety management level of enterprises, bring value to enterprises, and better assume the main responsibility of food safety^[16].

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