

A Study on the Planning of Food Safety & Quality Management System in Supermarkets

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This article is funded by the scientific and technological project of "research and development of HACCP and its Standardization in Supermarkets in Jiangsu."

Abstract

This article studies the standards for food safety&quality management system, proposes the establishment of food safety&quality management system to ensure food safety and focuses on the planning of such system in supermarkets.

Keywords: Supermarket, Food safety, Quality, Management system, Planning

With food being a kind of indispensable energy for our human beings, its safety issue is the baseline in our consumption. In the recent years, with increasing food-related diseases endangering our health, food safety has attracted more attention. According to a report from China Business Information Center, food sales in supermarkets will have taken up over 90% of the total by 2010, hence revealing the important role of supermarkets in food retail. Therefore, this article will focus on the construction of food safety&quality management system to conduct overall and standardized management on the sources and processes of food sales, and consequently, to ensure food safety.

At the very beginning of this article comes the current situation of researches on food safety management standards in and outside China. Then comes the construction of such system. Finally, our focus is paid to the planning of this system in supermarkets.

1. The Current Situation of Researches on Standards of Food safety&quality management system in and outside China

The researches on food safety management system outside China are mainly based on HACCP, which was proposed by Pillsbury and Natick Lab of NASA in their joint development of space foodstuff in 1959. Later, many countries formed their respective standards for HACCP with their researches and applications of this system. In order to present a universal food safety management system shared all over the world, ISO issued ISO22000:2005 *Food safety management systems — Requirements for organizations throughout the food chain* on Sep. 1, 2005.

Referring to GB/T 19538-2004, GB/T 19001-2000, GB/T 19080-2003 and other food safety systems, China issued SN/T 1443.1-2004 *Requirements of Food Safety System* (put into practice since Dec. 1, 2004) for the organizations in production, processing, packing, storage, transportation, sales involved in food chains as well as those producing and selling food and raw materials for human consumption. Actually, this regulation has provided bases for the construction of the food safety management system in the enterprises in food chains. Currently, China is planning to perfect it according to ISO22000 in order to issue a national standard for food safety management.

ISO9000 series standards were first laid down by ISO in 1987 and after some corrections were put into practice in 1994. Later with complete corrections, the 2000 edition was issued on Dec. 15, 2000. Currently, more than 90 countries and areas all over the world have adopted the standards as their national ones. As for China, its GB/T19000 is equivalent to the series standards. Actually, as a set of mature standards for safety management system, ISO9000 can be used in a variety of organizations with different scale, products, ownership and so on.

2. The Construction of Food safety&quality management system in Supermarkets

Following ISO Guide 72, some standards for the construction of management system have been laid down in ISO 9001:2000 *Requirements for Quality Management System* and ISO22000:2005 *Food safety management systems* —

Requirements for organizations throughout the food chain. Due to their consistent structure, we are able to integrate the two in management ideas and other aspects in order to provide standards for the construction of our integrated food safety&quality management system.

This article, following ISO9001 and ISO22000 as well as taking in the reasonable parts in other management systems, aims at establishing an integrated food safety&quality management system in accordance with the characteristics of supermarkets and of great feasibility by organically integrating the special requirements, standards and key technologies of food industry and the current advanced quality management systems. Here, the construction process includes planning, control, guarantee and improvement of this management system. Only the planning course of food safety&quality management system in supermarkets will be mentioned in this article.

3. The Planning of Food safety&quality management system in Supermarkets

3.1 The policy and objectives for food safety &quality in supermarkets

The policy for food safety &quality in supermarkets are issued by the supreme administrator of supermarkets to be used as their overall tenets and directions. By establishing such guidelines, supermarkets are able to strengthen the staff's cohesive force internally and reveal their faithful pursuit for food safety and hence achieve customers' trust externally.

3.1.1 Policy for Food Safety in Supermarkets

The general manager is responsible for the establishment and issuance of food safety policy. They should comply with the following aspects:

- (1) They are supposed to be in accordance with companies' overall management guidelines as well as their own requirements for food safety;
- (2) They should include promises about food safety and quality as well as great efforts to improve their management systems;
- (3) They should reflect the framework for the establishment and realization of management goals and be put into practice with these goals set up in relevant functional departments and at different levels;
- (4) They are expected to be understood by the whole organization;
- (5) They should be evaluated in constant appropriateness.

And the supreme administrator (the general manager) is responsible for the implementation of the guidelines.

3.1.2 Objectives for Food Safety in Supermarkets

The general manager is responsible for the establishment of food safety objectives. The following standards should be followed:

- (1) They should be measurable and in line with food safety policy;
- (2) They are expected to be disintegrated in relevant departments and levels;
- (3) They should be examined annually, the result of which should be kept in records.

3.2 Process Recognition

Here the process just refers to a series of interactive activities to convert input into output. Pursuing their additional value, organizations usually plan their processes to be conducted in controlled conditions. Meanwhile, the food-supplying processes in markets (purchase→storage→sale) should be recognized, with special attention to the key stages and the interaction among different stages.

3.2.1 Recognizing the Process of Constructing Food safety&quality management system and Its Application

- (1) Planning: this process should be based on Item 4.1, Item 5.3 and Item7 of ISO22000:2005as well as Item 4.1, Item 5.4.2 and Item 7.1of GB/T 19001-2000 idt ISO 9001:2000;
- (2) Creating value, such as purchase, storage and sale stages;
- (3) Offering support, including administration, resource management, the confirmation, verification and improvement of food safety system.

3.2.2 Confirming the Order and Interaction of Processes

- (1)The order of food safety planning and realization processes is shown as follows:

Planning of safe food---Prerequisite programs---Preliminary steps to enable hazard analysis---Hazard analysis---Design and redesign of the operational PRPs---Design and redesign of the HACCP plan---Updating of

preliminary information and documents specifying the PRP(s) and the HACCP plan---7.8 Verification planning---Operation of the food safety & quality management system.

(2) The interaction among processes

Here, the supporting process is employed to support and monitor the operation of food safety & quality management system; the safe food realization process and the supporting one interact with each other, forming a dynamic PDCA cycle of food safety & quality management system, which is shown in Figure 2.

3.3 Resource Allocation

Reasonable allocation of necessary resources is another factor to ensure the effective operation of food safety & quality management system, which includes resource supply, human resources, basic facilities and work environment.

3.3.1 Resource Supply

Through the planning course required by food safety system, a company will know what resources are necessary for it and then supply them in order to implement, maintain and constantly improve its food safety & quality management system as well as to fulfill customers' satisfaction better.

3.3.2 Human Resources

(1) The middle-level and higher administrators in supermarkets as well as the technicians related to food safety should be trained about food safety & quality management system to be qualified for their work;

(2) The staff should be educated, trained and assessed in sense of quality, food safety and the knowledge about HACCP, through which they will realize the importance of customer satisfaction and laws and regulations. In this way, they will be better qualified for their work and therefore make great contribution in their positions.

(3) The staff playing a particularly important role in food safety should be trained in the basic knowledge about HACCP and other relevant information. Only those passing the exam should be permitted to work.

(4) Human resource departments should keep the records on the staff's education, training, skills, experience and examination and so on.

3.3.3 Basic Facilities

The following basic facilities should be supplied, maintained and cleaned to meet the requirements in function and sanitary standards: relevant facilities in selling places and storehouses, food storage facilities and relevant monitoring appliances, sterilization facilities for washrooms, dressing rooms and sinks and other service facilities such as transportation vehicles, telecommunication and computers and so on.

3.3.4 Work Environment

The following requirements should be fulfilled:

(1) In order to guarantee the staff's health and energy, a shift system should be conducted in different work groups. In addition, they should receive regular physical examinations and be supplied with necessary labor protection devices according to *Food Hygiene Law of People's Republic of China* and the universal standards in food industry;

(2) The sanitary conditions of selling places and storehouses should be guaranteed;

(3) The work environment should be protected against any external pollution.

3.4 The Planning of Food safety & quality management system Documents

In order to ensure the effective operation of the whole process, we are expected to produce some relevant documents of food safety & quality management system in supermarkets at five levels according to ISO22000 and ISO9001. It is shown in Figure 3.

The first level: The policy and objectives for food safety & quality in supermarkets reflect the overall tenets and directions of an organization;

The second level: The manual of food safety & quality management in supermarkets, a programmatic document, gives instructions and restrictions on all the documents at lower levels.

The third level: The documented procedures of food safety & quality in supermarkets, which is a supportive document for the one at the second level, lays down duties, procedures and methods for those universal inter-departmental activities, including the document controlling procedure, the record controlling procedure, the internal examination procedure, the procedure of controlling potentially unsafe products and so on;

The fourth level: HACCP plans, operational instructions, management regulations, technical specifications and so

on are employed to instruct different departments to conduct their activities;

The fifth level: Quality records here serve as proof documents for food safety&quality management system.

4. Conclusion

To sum up, Chinese supermarkets are expected to focus on food safety and exert efforts to set up their food safety&quality management system according to relevant standards in order to implement the overall management of their food supply quality.

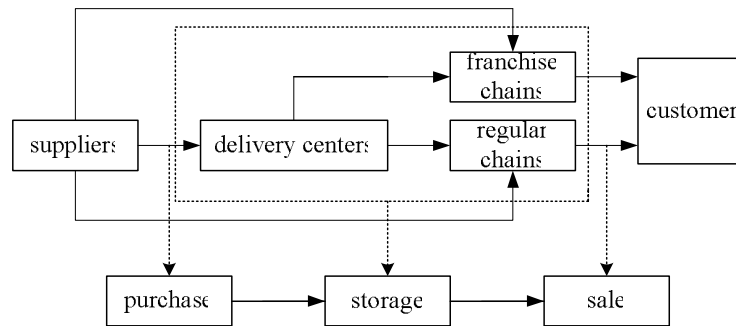


Figure 1. The pattern of the supply chains of supermarkets

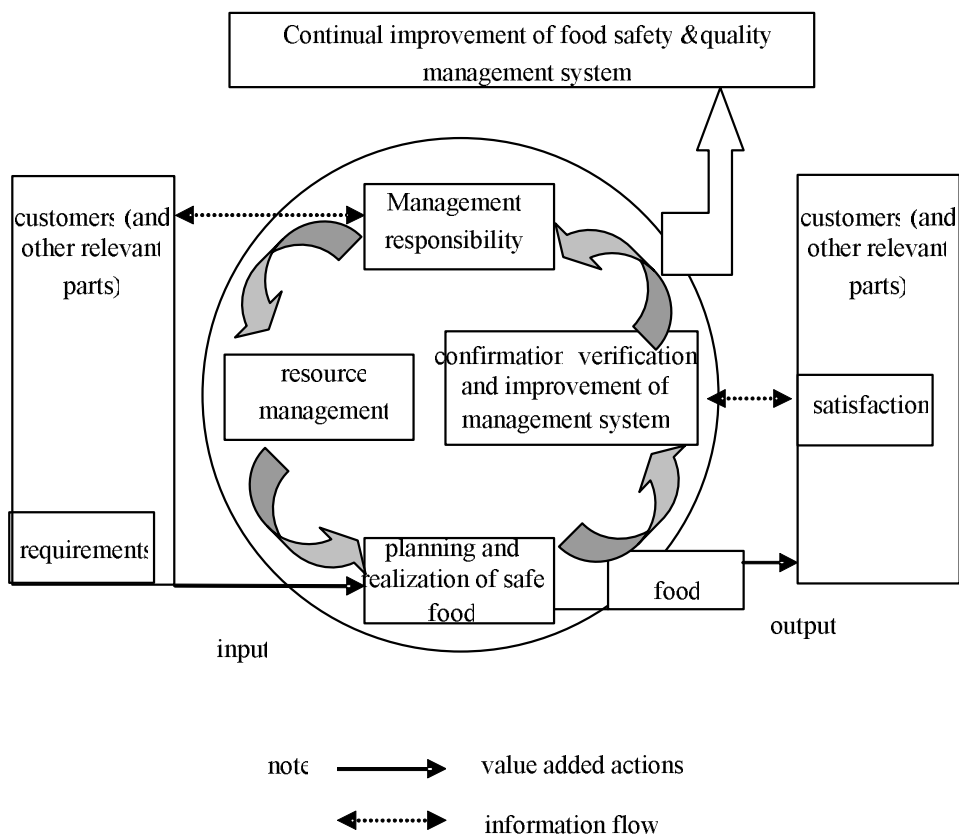


Figure 2. The flowchart of food safety&quality management system processes

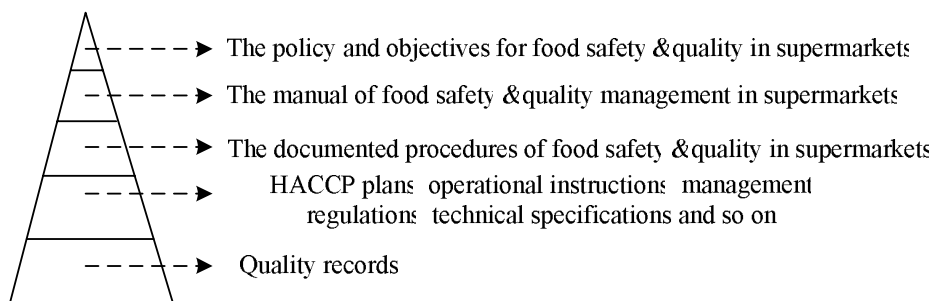


Figure 3. The framework of food safety&quality management system in supermarkets

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