HUMAN BEHAVIOR - 4TH HAZARD IN FOOD SAFETY

Vladimir Kakurinov

1Consulting and Training Center KEY, Sv. Kiri li Metodij 52-1/3, 1000 Skopje, Republic of Macedonia

* e-mail: vladimir.kakurinov@key.com.mk

Abstract

Food safety systems and standards are long ago known and applied in the food industry. And all food safety teams, consultants and others are looking after 3 well established hazards: (micro)biological, chemical and physical. However, we are all witnesses that even today, in the most developed countries there are food safety incidents resulting with food poisoning, sickness and even deaths, originating from the factories and operators who already have well established food safety system and/or standard. Main factor for these incidents is human behavior. The aim of this paper is to establish how human behavior affects food safety and is it necessary to be listed as a separate food hazard.

Within 10 years (2007 to 2016), the author visited 425 companies all over the world, trained over 700 people, had over 40 informative meetings with: food operators, governmental and consulting companies and countless face to face meetings with all of them. During this period, 1,500 questionnaires were distributed to food safety operators and food safety teams who were/are working in all food industry sectors, in companies had food safety issues and/or incidents. The questionnaire contained section on human relations according: workplace and responsibilities. All answers were analyzed and processed by mean arithmetical value.

Given answers and results showed that human behavior can be classified in 4 cases: 1. I didn’t know; 2. I forgot; 3. I couldn’t and 4. I choose not to (I didn’t want to). Elaboration of these causes allowed us to establish reasons for these kinds of human behavior and to give possible solutions how they can be overcome.

Clear conclusion from this research is that food safety is not possible to be achieved only by following already established food safety procedures and buying hygienically designed equipment, and that human behavior have to be recognized as 4th food safety hazard, and included in all food safety procedures.

Key words: Human behavior, Food Safety, Food safety hazards.

1. Introduction

Food safety legislation is a part of legislation almost in all the countries worldwide. However, even today we are witnessing many food safety incidents that are taking death tolls even in most developed countries (E. coli O104:H4 outbreak in Germany in 2011 [1], resulting with 53 deaths, listeriosis outbreak in 2011 in United States resulting with 30 deaths [2], etc.), and not mentioning many cases of incidents which resulted with outbreak of sicknesses, recalls, brand damages and enormous economic losses.

When speaking about non-intentional incidents, expert community and consumers are always talking about the non-competence or false implementation of food safety system, and expert community (especially inspectors) are investigating one of well know hazards: (micro) biological, chemical and physical hazard. Usual reason for this food incidents are found to be:

- The equipment.
- Not adhering to HACCP plan and procedures.

When speaking about the equipment it is necessary to be said that within the food industry widely is used the equipment with common industrial design (equipment designed with aim to produce as much food products in as shorter period of time). However, this equipment usually contains dead zones and areas, or in short period of time will contain many: cracks, crevices, etc. that cannot be cleaned, and hence the reason for the incidents. This is not surprising having in mind that this kind of equipment is widely and easily available. That’s why, in the last 28 years European Hygienic Engineering and Design Group (EHEDG)
developing guidelines on adequate hygienic design in different areas of food production equipment and machinery, as well as on the food manufacturing infrastructure. There is increasing number of food equipment manufacturers who are producing hygienically designed components and parts of the machinery, and companies from all over the world are buying and installing this kind of equipment. And, what is more surprising, even in this kind of companies there are food issues and incidents. In another words, if we exclude machinery for the equation explaining food incidents, only one reason remains: not adhering to the HACCP plan and procedures, and the sole responsible for this kind of mistakes are people, or more precisely human behavior!

So far, no one took a serious look at the people behavior working in the factories which had food safety issues or incidents. All investigations are ending with taking samples from suspected areas or from a whole factory, their analysis and announcement of results which in most cases ends with fines and/or court trials against the factory. Nobody took even second look to the operators who are working in that factory, and trying to understand who made a mistake and find out the truth why this mistake was made.

Hence is the aim of my research. To find out what kind of human behavior exist in the factories with already proved food incidents and even wider, what are the causes for that kind of behavior, and what can be done this behavior to be corrected.

2. Materials and Methods

In order to get as much as possible data, we performed our research in the period of 10 years (from 2007 to 2016). The author visited 425 companies all over the world, trained over 700 people, had over 40 informative meetings with: food operators, governmental and consulting companies and countless face to face meetings with all of them. Within this period, 1,500 questionnaires were collected from food safety operators and food safety teams who were working in companies that had food safety issues and/or incidents, regardless of food industry sector.

The questionnaire contained more sections, and one section was dedicated to human relations according: workplace and responsibilities. Answers from this section were taken for analysis of the human behavior.

All answers given during this investigation were processed as “Trut” (mutable concoction of facts employed for an ulterior purpose. “Trut” - 4 letters consists of exactly 4/5 of the stuff of Truth - 5 letters). All answers were analyzed and processed by mean arithmetical value.

3. Results and Discussion

Based on gained results and answers given, human behavior was classified in 4 classes:
1. I didn’t know
2. I forgot
3. I couldn’t
4. I chose not to

3.1 I didn’t know

This kind of human behavior is tightly connected with appropriate education and training. When operators training in question, not always are operators to be blamed. Sometimes the company owners and/or HACCP team leaders are not sending or assigning their employees to appropriate trainings. However, in this case we are speaking about the operators who were present at all necessary trainings at already scheduled training plan within food factories.

Main reasons why this people didn’t understood or were not following the training is due to their lack of interest.

There are few reasons why this happen, and here are all of them according their frequency:
1. Demotivation.
2. Overburdening.
3. Not appropriate level of training and/or training language.

In the case of demotivation, the operators are feeling that way because their knowledge and position are not appreciated within the factory, and their appreciation, promotion and/or salary are the same nevertheless how many trainings they took.

Operators are feeling overburdened, because they (and their superiors) know that they are good in the operations for which they are responsible, and only they are given more and more obligations to fulfill or cover weak spots within the production. In another words, good operators are burdened with more and more tasks, and they are not interested to educate themselves more or go on new trainings, because they know that they will be assigned with another responsibility.

In the case of not appropriate level of training, the simple answer is that employees are not hearing anything new, or they are hearing things that are not understandable and not explained in an appropriate way. HACCP system is multidisciplinary, and requires serious approach regarding training. Most of the times, the only criteria for engagement of training organization or trainer is how cheap their services are. This kind of training providers are not interested to loose time with the training, but to finish it as soon as possible, and to move onto another company. Training organizations that are
serious are usually not the cheapest, but their approach is far more serious regarding knowledge transfer to food operators. Their goals is to educate food company personnel how to implement and maintain food safety system on their own, or in another words to be self-sufficient, and not to leave operators without any or as little as possible knowledge so they could be engaged in food safety system implementation.

Having all this in mind we can offer few recommendations:

1. Companies should appropriately identify training needs.
2. There should be a right choice of trainers and the main criteria should not be a price, but training/trainer's quality.
3. Engaged trainers should use appropriate training language level. Training material should be presented in as much as possible visual way, and all specific terms should be explained in as much as possible simplistic way.
4. Training should be monitored.
5. Training effectiveness should be verified.
6. Dedicated operators should be valued as asset to the factory.

3.2 I forgot

Main reason for many food incidents is forgetfulness, or in another words incidents occurred because food operators forgot to perform scheduled task. Reasons for this can be different, but all of them are summarized as lack of awareness.

Human brain is an information warehouse. Storing places have variable access degree. There are full and empty parts of the human mind. These empty parts of the human mind are called “operational parts” or “top of mind”, or in another words - awareness.

In order things or tasks not to be forgotten, all food production companies have to establish awareness plan. Elements of this plan should be:

1. Refresher training.
2. Signs and posters.
3. Staff briefings.
5. Awareness boards.
6. Use of intranet.

3.3 I couldn’t

The sentence “I know” means: I know what, when and how, but in no case it doesn’t mean I can!

Analysis of gained results in this research, showed that there are 2 main reasons why food operators said that they couldn’t perform, or more precisely because of lack of skills and/or resources.

3.3.1 Lack of skills

In the case of lack of skills it was identified that:

1. There was no qualified person for assigned workplace.
2. There was qualified person for assigned workplace, but this person was/is working on 2 or 3 additional workplaces.
3. There was no substitute person for qualified worker position.

Sometimes food producers are employing unqualified persons because:

a). There were no applications which is matching that workplace;

b). Company owners think that person that is employed should not have appropriate qualification and that the similar qualification is good enough.

In this case it was proven that the simple training showing the type of work that should be performed and learning by doing are not enough. Many of the incidents are assigned to this case.

Sometimes qualified person for one workplace is performing duties for 2 or 3 different tasks. This is tightly connected with case 3, when qualified person is on the sick leave or holiday. In this case it is obvious that one person can’t perform appropriately because:

a). It is not qualified for second or third task.

b). Doesn’t have time enough for appropriate preparations to start second or third task.

c). This person feels overburdened and not appreciated.

Simple recommendation to the companies is to do the opposite of their established practice, or more precisely to employ qualified persons for assigned workplaces and not to assign one person with other tasks that are not covered by that person qualifications.

3.3.2 Lack of resources

In this case it was established that personnel didn’t have available or adequate: equipment, tools, materials and specifications. Responsibility for this lays equally on: purchasing personnel and food operators.

Personnel that are responsible for acquiring and purchasing appropriate resources in many cases are not educated or trained in food safety system requirements and needs. Usually they are economists, in most cases specialized in marketing and management, and they were/are not trained in food safety
systems requirements. Lack of appropriate education and training directly lead to lack of assets essential in food safety implementation or maintenance, simply because they don’t know what these needs are, and/or because they think that food operators are asking for more than is necessary.

When food operators are in question they are usually blaming their superiors. They are claiming that:

a). Superiors (not them) should take care about availability of all necessary assets

b). They reported lack of these assets orally, but nobody reacted.

Recommendations for both case are following:

1. If personnel that are responsible for acquiring and purchasing appropriate assets is not educated before in food safety system requirements, should take all appropriate trainings in food safety systems requirements and in hygienic engineering and design, so they can take appropriate actions.

2. Operators should report all missing or soon to be missing assets to their superiors not just orally, but also in a documented manner.

3.4 I chose not to

Reasons for this kind of behavior are many, and they could be summarized in 5 different sub-cases, as follows:

3.4.1 I’m angry with my organization (Boss, Supervisor, etc.)

This is special case of behavior in the way that most of the given reasons for it can be assigned as intentional mistakes. Mistakes leading to food safety issues or incidents are because:

1. Food operators are feeling that they are under compensated;

2. Superiors don’t care and

3. Boss don’t respect him/her.

The only recommendation to food companies’ owners is to take management action (to be familiar) with their employees opinions. Immediate supervisors should know the characters of their employees and to be polite in their communication with them.

3.4.2 I do not see why I have to do it

People don’t see why they have to do something because of objective and “philosophical” way of thinking.

Sometimes food operators are given tasks without any explanation or when explanation is asked the answer is “because I told you so”. In this case company managers or supervisors should reconsider their behavior and give argument explanation. This type of management behavior has double benefit: first of all, giving an explanation is showing respect which is highly appreciated by the employees and second, while giving the explanation sometimes they are recognizing that they are giving useless task which will save company time and money.

And sometimes even given argument explanation is not enough, because of people “philosophical” way of thinking. This way of reasoning is requirement for giving all explanations about each aspect of given task, using all kind of excuses that this task is not appropriate for their skills, workplace, etc. The simplest explanation for this kind of behavior is laziness. Appropriate management action for this kind of behavior is layoff, and employing other person. Maybe this sounds too harsh, but leaving this kind of food operator will lead to spreading of this kind of behavior among other employees.

3.4.3 And what about him/her? (Shift leaders, Supervisor, etc.)

Food operators are exposed every day to other people behavior. Special attention in human mind is given to shift leaders or supervisors. They are soaking and measuring their talk and behavior, and they expect their talk to follow their behavior. If that is not the case, than companies are ending with divided groups of food operators. One will be grouped around the shift leader, and the other will be against it. This is not “healthy” environment and sooner or later will end in dysfunctional relationship among food operators that almost every time results with food issue and/or incident.

Companies can’t expect their workers to comply with a requirement if their shift leaders or superiors don’t. In order to have functional relations shift leaders and supervisors should “walk the talk”, or more precisely do what they preach.

3.4.4 Nobody cares

In the core of human behavior is not to take attention to good things, but only to bad ones. Bad things are occupying human taught, because they should be solved, and nobody takes attention to good ones, simply because are already good.

In each food producing facility are employees that are very good in what they do, and because of that they are always overlooked, and nobody takes care about their work. So, with passing of time, they start to believe that their work is not important and is irrelevant whether they are performing good or not. And hence the food incidents originating from the food operators who were known about their diligent work.

They only recommendation is that good food operators should know that their work is monitored, so it’s important and appreciated.
3.4.5 Why should I care?

Last, but not least kind of human behavior is that some people just don't care. There is no explanation for this kind of behavior.

These food operators couldn't give any explanation why they don't care, even when in order to find out the underlying reason, they were asked that could one of the previous reasons is the key for their disinterested way of behavior.

Key word for this kind of behavior is commitment. Companies should trying to build a commitment, not only for food operators, bit for all employees that are in connection with food safety.

4. Conclusions

- Usual reason for food safety issues and/or incidents are found to be the equipment and not adhering to food safety system plan and procedures. Sole responsible for later kind of mistake are people, or more precisely human behavior!

- Human behavior in food producing companies that have issues with food quality and safety can be classified in 4 groups: 1. I didn't know; 2. I forgot; 3. I couldn't and 4. I chose not to.

- There are many reasons for these kinds of behaviour. These reasons are separate for each dedicated class of behaviour or they are criss-crossed.

- Companies should pay special attention to human behaviour because that way they will: decrease the number of human mistakes, lower the production costs, avoid food safety issues or incidents, keep good company brand name, and costs for prosecutions, fines, recalls and correcting brand name reputation.

- All food operators and especially human resources departments should be educated and/or trained in food safety system and hygienic engineering and design.

- Human factor should be separated from other food safety hazards and should be recognized as 4th hazard in food safety system.

5. References
