

Barriers to the Application of the ISO22000 Food Safety Management System in Egyptian Flight Catering Companies

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Abstract

The safety of passengers and crew is a top priority for the airline industry. This includes serving in-flight food that is not harmful to the health and safety of passengers and crew. Food safety is important. Consumers have a right to expect that those who supply the food that they buy have taken care to manufacture products that do not cause harm. There are several potential benefits of the implementation of ISO22000, such as the ability to provide consistently secure foods, products, and services that meet applicable legal and regulatory customer requirements and address the risks associated with the objectives. The research aims to identify the reasons for gaps that appear in the application process of the ISO22000 Food Safety Management System. The case study was chosen for this study. Two different methods were adopted to collect data; interviews and questionnaires. A personal interview was conducted with the quality manager of the flight catering company under study to identify the gaps that currently exist in the ISO 2000 safety management system. Then, a questionnaire was designed for the employees of the flight catering company to identify the causes of those gaps. A number of 39 questionnaire forms were distributed. This number represents the total number of employees working in the operation within the surveyed flight catering company. The respondents returned 33 of the 39 forms. Upon emptying the data, 3 questionnaires were excluded because they were not valid for analysis, and thus 30 questionnaires were analyzed. Data were analyzed using the SPSS system. A mixed approach to analyze the study data has also been used. The research made several recommendations for in-flight catering companies to avoid these gaps when implementing the system.

Keywords: Flight catering, food safety, ISO 22000, food safety management, aviation, Egypt.

Introduction

ISO 22000 applies to all organizations in the food and meal preparation industries, regardless of size or sector. Following the same High-Level Structure (HLS) as other ISO management system standards, such as ISO 9001 (quality management is designed in such a way that it can be integrated into an organization's existing management processes, or used alone (Sysmac Management Consultant FZE, 2020). ISO 22000 can apply to all types of organizations within the food chain from primary producers through food manufacturers, transportation and warehousing operators, and subcontractors to retail outlets and food services along with interconnected organizations such as producers of equipment, packaging materials, cleaning agents, additives, and ingredients. The standard will combine generally recognized key elements to ensure food safety along the food chain, as follows: Interactive communication, System Management and Hazard control (Færgemand & Jespersen, 2004).

ISO 22000 is the international standard that specifies requirements for a Food Safety Management System (FSMS) to enable food safety-related organizations to:

- Plan, implement, operate, maintain, and update an FSMS that provides products and services under their intended use;
- Demonstrate compliance with applicable statutory and regulatory food safety requirements;
- Assess and evaluate food safety requirements agreed upon by the customer and demonstrate compliance with them;
- Effectively communicate food safety issues to interested parties within the food chain;
- Ensure that the organization complies with its stated food safety policy;
- Proof of compatibility with relevant stakeholders.
- Obtain certification or registration of the FSMS by an external organization, or conduct a self-assessment or self-declaration of conformity with this document (ISO, 2009).

Research Problem

Some studies have dealt with the potential barriers and constraints that can hinder the implementation of an FSMS. Barriers to FSMS implementation, based on ISO 22000 standards, vary from country to country and from sector to sector. Some may be due to internal factors in individual businesses, such as the level of knowledge or resources available to a business. The barriers, constraints, and difficulties enterprises faced in their quest to implement integrated food safety management systems are people-related (Keps, 2018). This is partly attributed to the low level of education and training of employees related to food safety management systems. As the generic knowledge and competence for manufacturing are inadequate in itself to develop and implement FSMS, a competency gap is created. This gap, if ignored could create resistant culture; morale would drop and implementation would be sabotaged (Mensah & Julien, 2011).

Research Questions

1. What are the current gaps in the application of the food safety management system ISO 22000?
2. What are the reasons for the current gaps in the ISO 22000 application of the food safety management system?
3. What are the barriers to the current gaps in the ISO 22000 application of the food safety management system?

Research Aims

1. Identify the existing gaps in the application process of the Food Safety Management System (ISO22000) in-flight catering companies.
2. Identify barriers to the effective application of the food safety management system (ISO22000).
3. Explore staff attitude and reasons for gaps in the application of the Food Safety Management System (ISO22000).

Research Significance

Studies examining the topics associated with the application of ISO22000 in-flight catering companies are relatively scarce (Păunescu, 2017). Therefore, the research analyzes the main gaps that may prevent the full and integrated application of ISO 22000 standards in Egyptian flight catering companies. The research is an effort to raise awareness of food safety and the ISO 22000 food safety system, which could have implications for catering companies in gaining greater market share and better food safety performance.

Literature Review

Relation Between Flight Catering Companies and Airline Companies

There has been increased competition in the airline catering industry due to the advancements in the industry. Due to the cost pressure, most airlines decided to outsource their catering service. Some catering companies subcontract meal production and remain in the industry as the logistics service provider (Rajaratnam & Sunmola, 2021). The meal on board may seem to come from a single party (the airline). This isn't as trivial as it may seem; it's the result of much more widespread origins with multiple interactions between multiple stakeholders in the airline catering supply chains such as governments, airlines, logistics service providers, caterers, meal suppliers, and passengers (Lin, 2018). Such elaborate coordination shows the complexity of operations in the airline catering sector, where organizational principles such as outsourcing, vertical integration, and just-in-time assembly are just as important.

Many businesses are discovering emerging markets in the airline catering industry. This trend has influenced more and more airlines to contract catering services to catering companies, while some airlines are still operating their catering units. The length of catering contracts between the airline and service providers is usually three years agreement. Some contracts are signed for a more extended period (Jones, 2012).

The air transport industry, including airlines and its supply chain, is estimated to support US \$3 billion of GDP in Egypt. Spending by foreign tourists supports a further US \$4.1 billion of the country's GDP, totaling US \$7 billion. In total, 2.1 percent of the country's GDP is supported by inputs to the air transport sector and foreign tourists arriving by air. Linked to this growing change, onboard food service has become one of the key factors in providing quality and usefulness within the catering industry. The main goal is not only taste satisfaction but also the guarantee of food safety. The recurrent need for improvement, and the application of new models aiming to improve the health and quality of food is present in the specific quality control systems in the aero system (IATA, 2018).

Food Safety Management System ISO 22000

ISO 22000 is an international certification that shows the company's commitment to producing safe food products. ISO 22000 can be used by any organization independent of their role in the food chain or the size of the organization since it only delineates what the organization needs to do to prove that it controls the food safety hazards to ensure safe food (Keps et al., 2018). ISO 22000 can be used by any organization that is independent of its role in the food chain or the size of the organization, as it only specifies what the organization must do to demonstrate that it controls food safety risks to ensure safe food (Keps, 2018). The current valid ISO 22000 is from

2005 (NQA Global Certification Body), but since then new challenges in food safety have emerged requiring an update of the standard. The new version is expected to be published in June 2018 and the main changes include a new high-level structure, which will be the same as for all other ISO management system standards, modifications to the risk approach, and clarification of the PDCA-cycle (plan-do-check-act). Last released in June 2018 major changes include a new top-level structure, the same for all other ISO management system standards, modifications to the risk approach, and clarification of the PDCA (Plan, Do, Action, and Act) cycle. In addition to these, a clearer description will be given of the concerning difference between CCPs, OPRPs, and PRPs (Kholif et al., 2018).

The Food Safety Management System (FSMS) is a vital part of any modern food business. Organizations in the food chain need to demonstrate their ability to control food safety risks to ensure food safety at a time of human consumption. The well-established FSMS system allows you to identify risks to food safety and detail how they are monitored and controlled by FAO (Matsuo & Nakahara, 2013). Therefore, ISO 22000 sets out the basic requirements of the food safety management system and provides a systematic way to analyze food processes, identify potential risks, and identify critical control points and risks. These steps are necessary to prevent unsafe food from reaching the consumer (Arvanitoyannis, 2009). This approach helps reduce the risk of food poisoning and maintains food safety for consumption. A well-designed FSMS system with appropriate control measures can help food companies comply with government food regulations and ensure that the food for sale is healthy and safe for consumers. The ISO 22000 food safety management system means that the company has a fully documented and implemented system throughout the facility that includes:

- a) Effective prerequisite programs to ensure a clean, healthy environment. These are the programs used to control the likelihood of contamination through the work environment (Afoakwa et al., 2013), such as the construction and planning of buildings and workspace, facilities - air, water, energy, waste disposal, equipment suitability, cleaning and maintenance, management of purchased materials, cross-contamination prevention measures, cleaning and sterilization, pest control, staff hygiene, staff facilities, reworking, product recall procedures, storage (Chountalas et al, 2009).
- b) The Hazard Analysis and Critical Control Plan (HACCP) has been developed to identify, prevent, and eliminate food safety risks. This includes biological, chemical, or physical risks.
- c) Establish documented food safety management system operations for food safety management throughout the organization. Obtaining an ISO 22000 certification allows the company to show customers that there is an effective food safety management system (Zorpas and Tzia, 2008), which ensures safe food for consumption. This has become even more important as customers order safe food and food processors require ingredients obtained from their suppliers to be safe (Păunescu, 2017).

Requirements of ISO 22000

The ISO 22000 contains the specific requirements that FSMS must address, as follows:

1. A comprehensive food safety policy was developed by senior management.
2. Setting objectives that will drive companies' efforts to comply with this policy.
3. Planning and designing a system of management and documentation of the system.

4. Keep system performance records.
5. Identify communication procedures to ensure effective communication with important contacts outside the company (regulatory, customers, suppliers, etc.) for effective internal communication.
6. Having an emergency plan.
7. Management review meetings to assess FSMS performance (Dora, 2013).
8. Provide adequate resources for the effective operation of the food safety management system, including appropriately trained and qualified staff, adequate infrastructure, and a working environment to ensure food safety.
9. Follow HACCP principles.
10. Create a tracking system to identify the product.
11. Create a corrective work system and monitor the non-conforming product.
12. Maintain a documented procedure for dealing with product withdrawal.
13. Control of measurement devices.
14. Establishment and maintenance of an internal audit program.
15. Continuous modernization and improvement of FSMS (Escanciano, & Santos-Vijande, 2014).

Challenges of the Application of ISO 22000

Despite implementing ISO 22000 leading the way to a long list of benefits, there are numerous challenges. All Data et al. (2017) confirm that there are several challenges facing management when implementing the ISO 22000 standard. Those challenges belong to three sources, difficulties imposed on the administrative level, technical aspects, and restrictions arising from within the organization. On the other hand, Bukak (2013) directs that a lack of familiarity with the standard represents another challenge. Many food companies do not realize the potential benefits and anticipate the high costs and difficulties associated with implementing the system. Arvanitoyannis (2009) found a set of challenges represented in the process of launching the product in the preliminary stage, legal rules, lack of participation and responsibility from management, difficulties occur in understanding the procedures of the International Organization for Standardization and its application, and the constraints imposed by insufficient time, as well the lack of staff skills and reluctance to change. As for Bilalis et al., (2009) the existence of inappropriate infrastructure that cannot support the application process, and the absence of financial funds to finance the procedure are some of the most important challenges facing the implementation of the system.

Methodology

The researcher will rely on a case study to collect preliminary data on the subject of the research. The investigated case is an ISO 22000 certified and one of the well-known companies in the Egyptian flight catering market. It was selected as a case study as by reviewing previous quality reports, various gaps in the application of the requirements of the food safety management system ISO22000 were noted, without specific reasons. In addition, this company is the only company in Egypt to obtain ISO 22000 accreditation in its latest version, updated in 2018. This research used the mixed methods research approach. This type of research design is a procedure for collecting

and “mixing” both quantitative and qualitative research and methods in a single research to understand a research problem. Mixed-method research was a better fit for this research; as quantitative or qualitative data alone would not adequately answer research questions.

A personal interview was conducted with the quality manager of the company under research. The quality Manager was interviewed on August 15, 2022, in his office in Cairo. The objective of the interview was to identify the repeated gaps in the application of the ISO 22000 food safety management system in the company's quality audits. After identifying these gaps, a survey was designed for the employees of the flight catering company to identify the reasons for the existence of these gaps. The questionnaire has been distributed to employees of the surveyed flight catering company. A number of 39 questionnaire forms were distributed. This number represents the total number of employees working in the operation within the surveyed flight catering company. The respondents returned 33 of the 39 forms. Upon emptying the data, 3 questionnaires were excluded because they were not valid for analysis, and thus the total number of questionnaires analyzed was 30.

Results and Discussion

Quality Manager Interview Analysis.

The following is an analysis of the personal interview with the quality manager.

By asking the quality manager of the company under research about the gaps in implementing the ISO system in his company, he reported the following. Periodic inspections are carried out, whether internal or external. Items that have notes are selected in the app. As for the usual gaps in the application, they are as follows:

1. The food is not being defrosted under temperature-controlled conditions.
2. Knives and utensils are not properly used or color coded.
3. Food is not cooled fast to prevent the growth of microorganisms.
4. Minimum cooking core temperature and times are not achieved
5. Gloves in the final stage are not changed regularly.
6. Weight control Crew meal examination is not achieved
7. weight control of meals passenger meal check is not achieved
8. The fridge temperature is not monitored or maintained.
9. Lack of use of the seal for the catering truck.

Questionnaire Analysis

A number of 39 survey forms were distributed to employees in the flight catering company, which represents the total number of workers exclusively in the air catering company. The respondents returned 33 of the 39 forms. Upon emptying the data, 3 questionnaires were excluded because they were not valid for analysis, and thus the total number of questionnaires that were analyzed became 30. Each gap to be investigated included an open-ended question for respondents to determine the area of occurrence of the gap.

Demographic Data

The demographic data of the sample members are illustrated in Table 1.

Table (1): Sample’s Demographic Data

Demographics	Classes	Freq.	%
Profession	Chef	12	40%
	Assistant Chef	8	26.60%
	Steward	10	33.40%
	Total	30	100%
Work experience	Less than 3 years	15	50%
	From 3 to 5 years	6	20%
	More than 5 years	9	30%
	Total	30	100%
Educational Level	Secondary School	9	30%
	Technical School	18	60%
	Higher Education	3	10%
	Total	30	100%

Table 1 shows the total number of the sample is 30 respondents, representing all individuals working within the catering unit. The number of chefs represented the largest group at 40%, the assistant chefs represented 26.6%, and the number of stewards represented 33.4%. The number of years of experience varied among the respondents, where the percentage of those with experience less than 3 years was the largest percentage by 50%, followed by the percentage of experience more than 5 years at 30%, while the lowest percentage was for those with experience from 3 to 5 years at 20%. This indicates that the highest percentage of workers have limited experience, which affects their efficiency in applying the requirements of the food safety management system under research. Regarding the educational level of the respondents, the respondents with education from technical institutes had the highest percentage of 60%. Followed by those with secondary education, with a percentage of 30%, while those with university education represented the lowest percentage at 10%. This means that the majority of workers in-flight catering companies at the time of conducting this research are from technical and secondary schools.

The Analysis of Gap Reasons

This section analyzes gaps that occurred in the scope of responsibility of the employees in terms of their reasons from the employees’ point of view. Table 2 presents the results of the gaps and reasons analysis from employees’ perspectives.

Table (2): Results of Gaps Reasons Analysis from Employees’ Perspectives.

No.	GAPS	Reasons					Total	
			Lack of training	Resistance of change	Employee Non-involvement	Staff turnover		Management commitment
1	Food is defrosted under temperature controlled condition	Freq.	10	5	4	5	6	30
		%	33%	17.50%	12%	17.50%	20%	100%
2	Knives and utensils are	Freq.	5	10	0	12	3	30
		%	16%	33%	0	40%	10%	100%

	correctly used and color-coded							
3	Food is quickly cooled to prevent the growth of microorganisms	Freq.	6	5	8	10	1	30
		%	20%	18%	26%	33%	3%	100%
4	Minimum core cooking temperature and times are achieved	Freq.	8	4	0	14	4	30
		%	26%	13%	0	27%	13%	100%
5	Workers change gloves at the final stage of food preparation regularly	Freq.	5	10	0	5	10	30
		%	17%	33%	0	17%	33%	100%
6	The weight of crew meals is controlled and sample testing is performed	Freq.	3	9	5	10	3	30
		%	10%	30%	17%	33%	10%	100%
7	The weight of passengers' meals is controlled and sample testing is performed	Freq.	3	9	5	10	3	30
		%	10%	30%	17%	33%	10%	100%
8	The fridge's temperature is controlled and recorded	Freq.	5	4	3	10	6	30
		%	17%	18%	10%	33%	21%	100%
9	Seals are used for the catering truck	Freq.	3	5	0	10	12	30
		%	10%	17%	0	33%	40%	100%

The following results are illustrated in Table (2):

Food is Defrosted under Temperature Controlled Conditions

Regarding the occurring gap in the application of 'Food is defrosted under temperature conditions'; the respondents attributed the most likely reason to a lack of training to 33%. Employee non-involvement was the least reason for the gap from their point of view, with 12%.

This indicates the need for the flight catering company to have effective training on how to defrost food under temperature-controlled conditions.

Knives and Utensils are Correctly Used and Color Coded

According to what is mentioned in the previous table, the reason for the gap in the application of “Knives and utensils are correctly used and color-coded” is, Respondents attributed it to staff turnover at 40%, followed by staff resistance to change at 33%. The lowest reason from their point of view was management commitment at 10%. This indicates that the high turnover rate and sometimes their behavior in terms of resistance to change are the reasons behind the occurrence of this gap in the application process.

Food is Quickly Cooled to Prevent the Growth of Microorganisms

The respondents attributed the gap in the application of ‘Food is quickly cooled to prevent the growth of microorganisms’ to the turnover of staff turnover by 33%, while they did not consider the commitment of the management to be the reason, as its acceptance rate was only 3%. This reinforces what was mentioned in the previous gap as well, reiterating the effect of staff turnover being the main cause behind the occurrence of some gaps in the application process.

Minimum Core Cooking Temperature and Times are Achieved

The reasons for the gap in the application “Minimum cooking core temperature and times are achieved” were somewhat convergent, where the labor turnover was the biggest cause with a rate of 27%, followed by direct training with a rate of 26%, while the rest of the reasons are resistance to change and Management commitment by 13%. This is due to the failure to apply this element to the turnover of labor on the one hand and the unwillingness of workers to develop and improve themselves in performance on the other hand.

Workers Change Gloves at the Final Stage of Food Preparation Regularly

Respondents attributed the reasons for the existence of a gap in the application of “Workers change gloves at the final stage of food preparation regularly equally to both Staff Turnover and Resistance to change by 33%. Their views were equal for the rest of the reasons Lack of training and Employee Non-involvement by 17%. This explains the negative impact of rapid staff turnover in in-flight catering companies, in addition to the need to change the behavior of some employees in terms of accepting change and improving performance.

The weight of Passengers’ Meals is Controlled and Sample Testing Is Performed

For a gap in the “Weight of passengers’ meals is controlled and sample testing is performed”, the respondents attributed the main cause to staff turnover 33%, followed by Resistance to change by 30% as the second strongest cause. While the Lack of training and Management commitment was the last place in terms of strength of reasons. This indicates that the employees received instructions and appropriate training at that point, while the real reasons were due to the employees themselves, whether with the rapid turnover of staff or their behavior towards their unwillingness to change and learn.

The weight of Passengers’ Meals is Controlled and Sample Testing is Performed

Regarding the opinions of the respondents on “Weight of passengers’ meals is controlled and sample testing is performed” It is the same as the percentage of acceptance and arrangement of the reasons for the previous gap.

The fridge's Temperature is Controlled and Recorded

Regarding the existence of a gap in the application of "Fridge's temperature is controlled and recorded", respondents attributed the main reason for this gap to staff turnover, with an acceptance rate of 33%. It is followed by management commitment as the second reason with a percentage of 21%. The least acceptable reason is Employee Non-involvement with an acceptance rate of 10%. This reinforces the negative outcomes of staff turnover.

Seals are used for Catering Truck

Regarding the occurrence of a gap in the effectiveness of the application of "Seals are used for catering truck", the respondents attributed the management committee as the main reason, with an acceptance rate of 40%, followed by the second reason Staff turnover of 33%, While the least reason in terms of acceptance was Resistance to change with an acceptance rate of 10%. This shows a failure on the part of the administration to follow up on the application of this item, which is one of the important items that fall under aviation security, and failure to do so could lead to serious consequences. This agrees with (Arvanitoyannis, 2009) about the constraints of the application food safety management system

Ordering the Reasons for Gaps

In summary, as can be seen in Table (2),

- The respondents' opinions in arranging the reasons for the existence of gaps in the application tended to the following:
- Rapid labor turnover in the field of flight catering; came the first reason for the occurrence of gaps of 34%. This indicates that the speed of staff turnover leads to a failure in the application of the ISO 22000 food safety system.
- Resistance to change; came second with 22%. This indicates that the behavior of employees needs to be followed because it has been found that their unwillingness to change and develop is the second most important reason for the gaps in the ISO 22000 application of the food safety system.
- Lack of training; came third with 17% on the causes of gaps. It is a middle rank. This means that staff receives a reasonable degree of training in their tasks, although this rank is unacceptable in a sensitive field such as food safety, in which staff is supposed to receive the highest levels of training.
- Management commitment; came in the penultimate position, one of the causes of gaps in the application of the food safety system ISO 22000, and this by 14%, and indicates that the management enjoys a reasonable amount of commitment and makes a reasonable effort in applying the system
- Employee Non- involvement; came in the last rank among causes of the presence of gaps by 13%.
- This indicates the involvement of employees with management and the ability to listen well to their opinions, which is one of the channels of the open-door policy.

According to what has been discussed, the most important results were as follows:

The reasons for the existence of gaps in the application tended to be the following.

1. Rapid labor turnover in the field of flight catering leads to a failure in the application of the ISO 22000 food safety system.

2. Resistance to change, the behavior of employees needs to be followed up because it has been found that their unwillingness to change and develop is the second most important reason for the gaps in the application of the food safety system ISO 22000
3. Staff receives a reasonable degree of training in their tasks, although its rank as third in the field study is unacceptable in a sensitive field such as aviation food safety, in which staff is supposed to receive the highest levels of training.
4. The management enjoys a reasonable amount of commitment and makes a reasonable effort in applying the system.
5. Non- involvement of employees. There is a reasonable level of involvement with management which is one of the channels of the open-door policy.

Recommendations for Flight Catering Companies

1. Controlling staff turnover as it was found that the speed of staff turnover leads to a failure in the application of the ISO 22000 food safety system.
2. Carefully selecting workers, after an extensive process, and subjecting them to continuous training in terms of behavior and soft skills, as it has been found that their unwillingness to change and develop is the second most important reason for the gaps in the ISO 22000 application of the food safety system.
3. Enhance the quality of staff training as food safety is a sensitive field such as aviation food safety, in which staff is supposed to receive the highest levels of training.
4. Enhancing the management commitment and encouraging them to continue performing reasonable efforts in applying the system
5. Instilling an open-door policy and carefully listening to the opinions of employees has an effective impact in directly identifying gaps and working to address them.

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معوقات تطبيق نظام إدارة سلامة الغذاء أيزو 22000 في شركات التموين الجوي المصرية

الملخص العربي:

تعتبر سلامة المسافرين وأفراد الطاقم من أهم أولويات صناعة الطيران. يشمل ذلك تقديم طعام على متن الطائرة غير ضار بصحتهم وسلامتهم. هناك العديد من الفوائد لتطبيق أيزو 22000 ، مثل القدرة على توفير أغذية ومنتجات وخدمات آمنة باستمرار تفي بمتطلبات المسافرين. يهدف البحث إلى التعرف على أسباب الثغرات التي تظهر في عملية تطبيق نظام إدارة سلامة الغذاء أيزو 22000. تم اختيار دراسة الحالة لهذه الدراسة. تم اعتماد طريقتين مختلفتين لجمع البيانات؛ المقابلة الشخصية والاستبيان. تم إجراء المقابلة الشخصية مع مدير الجودة في شركة التموين الجوي قيد الدراسة المسؤول عن إدارة عملية تطبيق نظام إدارة سلامة الغذاء أيزو 22000 من أجل تحديد الثغرات الموجودة حالياً في النظام. بعد ذلك، تم تصميم استبيان لموظفي شركة تموين الطائرات من أجل تحديد أسباب تلك الثغرات. تم توزيع 39 استمارة. يمثل هذا الرقم إجمالي عدد الموظفين العاملين داخل شركة التموين الجوي التي شملتها الدراسة. أعاد المستجوبون 33 من أصل 39 استمارة. عند تفرغ البيانات، تم استبعاد 3 استبيانات لأنها لم تكن صالحة للتحليل، وبالتالي كان العدد الإجمالي للاستبيانات التي تم تحليلها 30 استمارة. تم تحليل البيانات باستخدام نظام SPSS. وقد تم البحث مجموعة من التوصيات لشركات التموين الجوي من أجل تجنب هذه الثغرات عند تطبيق النظام.

الكلمات المفتاحية: تموين الطائرات - سلامة الغذاء - أيزو 22000 - إدارة سلامة الغذاء - الطيران - مصر.