

# **Analysts in The Development of Food and Beverage Product That is Impact to The Supply Chain Aspect in PT. Aerofood ACS Garuda Indonesia**

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## **ABSTRACT**

In this study aimed to develop of food and beverage product that is impact to the supply chain aspect in PT. Aerofood ACS Garuda Indonesia. The focus of this project is to develop the ability of the company to know the taste and flavor that were demanded from the consumer of their food and beverage product. Qualitative data were collected from public reports, articles, and journal. The contribution this paper offers is the way we could do to know, if PT. Aerofood ACS Garuda Indonesia products is acceptable to the consumer. In this project, we are focusing on the consumer of PT. Aerofood whom was from passenger of airplane in Indonesia.

## **I. INTRODUCTION**

PT. Aerofood ACS Garuda Indonesia has been boasting for 40 years in experience as an internationally recognize airline catering provider. Aerofood ACS being a part of national flag carrier Garuda Indonesia, has been maintained its reputation in delivering premium services with best-in-class food and beverage products. Currently, Aerofood ACS employs more than 6.000 professionals and is regarded as the leader in its field, with premium quality products in-flight logistic services delivered 40 international and domestic commercial airlines.

All the successes that have been achieved, it wasn't without the endeavor of the management. For the years to come, they are tried in targeting on developing more innovative approaches to

stay ahead of market demands and expectation. The thing that we consider is the process to actualize their targets. In this case, being innovative is good to satisfy the needs and wants of the consumer. However, being innovative wasn't enough. The company has to be capable on knowing the standards of consumer's expectation from their product. According to Mark Wiens in his Garuda Indonesia Airline Food Review, 2018 "the food taste wasn't great, but it is okay". This is the reason if being innovative wasn't enough.

Genuinely, it wasn't because of the mistake that is happened in the catering manufacturing. It because human taste bud doesn't work properly when the airplane reached 30.000 feet. According to a 2010 study conducted by Germany's Fraunhofer Institute for Building Physics, commissioned by German airline Lufthansa if when airplane reached 30,000 feet, humidity is less than 12%. The combination of dryness and low pressure reduces the sensitivity of consumer taste buds to sweet and salty foods by around 30%. In the other fact, isn't just about the consumer taste buds it also impacted the consumer smell. In the parched cabin air, consumer odor receptors do not work properly, and it affected the food taste twice as bland.

The quality of in-flight catering has improved "tremendously" in recent years. In order to keep up with the international standard, we want to help PT. Aerofood ACS for knowing and understanding the quality standard. Therefore, the company could apply the solution through their supply chain systems.

## II. BACKGROUND

In this century, the number of travel itinerary has increased. Not only for leisure activities, but also for business activities. For the businessman, they had spent their time mostly in the air. They had business trip trough the nation. Therefore, the passengers are tempted to pay more for higher standard and quality in the airplane. Especially in the catering aspect, the passengers want to feel comfort with the taste of the food.

Unfortunately, what the passenger get in the 30,000 feet above was food with bland, tasteless, soggy, and tough texture when it goes to the protein sources food. The reasons are several of our sensorial doesn't work properly in the air and it goes dry because they had been cooked in the ground of hours later before it gets served. Basically, we can't use the same recipes for airline meals that we would use on the ground. And we have to portray to our self in the condition when the passengers eat the dish above 30,000 feet.

### III. METHODOLOGY

In this case we can give solutions by using sous vide technique on foodstuff processing. Consistent temperature adjustment when processing food will make the texture and taste of the food better. Way of processing sous vide technique that is food that will be cooked put into special plastic bag which have zipper. Add the seasoned ingredients to the zipper bag, press the zipper bag until no air enters and close the brace. After that the food is placed in a pan filled with water that has been set as we need. This process takes about 1-2 hours, longer than usual cooking process. However, through the technique we will get the food with a different taste than the usual cuisine. Once the food is cooked, you are free to fry it or bake it as needed. In addition to processing foods with sous vide techniques, the key to making food tasty in the air is by applying more than enough flavoring, adding more spice to the taste of food can be felt. In addition to using sous vide techniques, we also test food for passengers through chamber machines. Chamber is a room where the temperature and the situation are likened to the situation in the cabin aircraft above 30,000 feet. Through the room the food will be tested taste and texture, whether it has fulfilled the desire of the results or still needs improvement.

### IV. FINDINGS

One of the remarkable breaking movement in the caterer industry in the aero-food was done by Heston Blumenthal. Heston Blumenthal is a pioneer of multisensory cooking, food-pairing, and flavor encapsulation. He merges a scientific knowledge (especially chemistry) with cooking methods. Former before Heston Blumenthal did, Singapore Airlines once hired Gordon Ramsay as a consultant, Air France has used J  l Robuchon. The airline industry seems competing each other for becoming the leader in the aero-food industry. But the result is, no one of them has remarkable success as Heston Blumenthal did. This phenomenon leads us to observe if all the mistakes wasn't come from the kitchen, and this is the Heston Blumenthal has brought to the publics.

#### 1. The pressure inside the cabin is lower than on the ground

When we step on an airplane, the atmosphere inside the cabin affects our sense of smell first. Then, as the plane gets higher, the air pressure drops while humidity levels in the cabin plummet. At 30,000 feet, humidity is less than 12% (drier than most dessert). The combination of dryness and low pressure reduces the sensitivity of our taste buds to sweet and salty foods by around 30%, according to a 2010 study conducted by

Germany's Fraunhofer institute for Building Physics, commissioned by German Airlines Lufthansa. But it's not just about our taste buds, our smell senses also get the impact of the conditions. Genuinely, we need evaporating nasal mucus to smell, but in the parched cabin air, our odour receptors do not work properly, and the effect is the food is tastes twice as bland.

## 2. The noise levels are high during air travel

Flight noises include vibrations from the air striking the hull, as well as the roaring of the engines and winds. These collectively produce a rather constant 'noise' that can be as loud as 85 decibels, which is equivalent to city traffic. It might seem like a weird reason for food to taste bland, but researchers have found that loud noises inhibit our ability to appreciate sweet flavors. On the other hand, noise does help us to appreciate something called 'Umami'. Umami is found in tomatoes and other hearty, rich or meaty foods, so at least tomatoes taste better during flight. In fact, in 2008, staff at Lufthansa noticed that passengers were drinking as much tomato juice as beer on flights – a shocking discovery for a German airline, since Germans traditionally love beer. 48 participants sampled tastes in both a quiet room and one made to sound like an airplane cabin. Each volunteer rated the foods for flavor and stated how much they liked them. Background noise led to the foods being rated less salty or sweet.

## 3. The method of Food Production

The thing is, all of the food in that the passengers eat in the plane are had been cooked 24 hours before. after the caterer cooks the meal, the food will be chilled until it gets served to the customers. Most of the time, the food is overcooked. The protein goes tough and dry, the starch is un-appetizing, the sauce is bland. It caused by mass-production. Sometimes when the company didn't concern with how to handle mass-production rightly, the result end up with incorrect recipes. One of the negative side effect of mass production is they can't elevate the flavor of the food's ingredients.

In the food safety aspect, this issues called *freezer burn*. *Freezer burn* happens when the food loss of moisture affecting both texture and flavor of the food.

What can be done?

a. Chamber of testing

This chamber will help us to know the conditions when the passengers reached 30,000 above the sea. The humidity, dryness, low pressure, and noises will be controlled during the judging of the new recipe. in order to evaluate the composition and the technique. If the composition and technique didn't as right as expected, the judging will completed the recipes.

b. Instead of we are worrying with the sweet and salty sensory in our taste buds, we thought if the company should do a better work at umami taste. Giving a chance of umami ingredients such as nori, coconut milk, soy sauce, tomatoes, broth, and stock for raising up and manipulate our taste buds.

c. Salt-brine

Brining is good for tenderizes the meat and keep the meat tastes juicy.

d. Pre-prepared food

Pre-prepared food is to tenderizes the meat and prevent the food gets overcooked. Because in the airplane the food will be re-heat and that will be causing loss moisture from the food. In this process, we also can elevate the taste or flavor of the dish.

e. Sous vide technique

Sous vide cooking utilize precise temperature control with circulation to produce results. It prevents overcooked result by a consistent temperature. sous vide technique will help us to decrease the waste reduction. Literally, the food that already reached the level will lose up to 40% of its volume due to drying out.

## V. CONCLUSION

In this phase, we already knew that the issues do not come from the kitchen only, but also our taste buds. As along with PT. Aerofood is the biggest company in the catering industry in aero-food, we want to help the company to reach a higher level. Through the solution, we hope that is the company can satisfy the demands and the needs of costumer (passengers). Either, our team receive a new knowledge and great chances in the supply chain aspect and get in touch with the company. We knew if our solution will impact the food-cost, but all the solution has been focusing on customer satisfaction. Nevertheless, when the customer satisfaction is raise up, we believe if the profit will raise up to.

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