LITERATURE REVIEW

1)PAPER TITLE: Using Technology in Smart and Intelligent Food Packages as a Communicational Tool with Consumers.

AUTHOR:

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ABSTRACT: This exploratory research aims to track the recent trends in food packaging design, through multiple case studies, to examine the core concepts of creative packaging and the implementation of the recent technology in the packaging industry. The research focuses on technology and its impact on design, functionality, and user experience, to highlight recommendations that could help designers and marketers to determine the essential information and elements in packaging. Also, to consider the possibility of using these new trends to stimulate, attract, and convince customers, and motivate their buying behavior and decision-making. The study also emphasizes the vast role of the smart and intelligent package to increase the interaction with consumers and help them to ensure the quality of the product and interact with them technologically through sensors of the active packaging. The researchers suggest that companies and designers should design packages in line with the consumers' experience process and invest in the smart packages to increase interaction in three main stages, sensation, Attraction, and Functionality; to raise consumers satisfaction, especially through smart technology. Moreover, to reduce the amount of food waste and support recycling, by connecting them through their smartphone to review the detailed information in that context.

DRAWBACKS:

- **i)** Smart packaging systems may collect sensitive nonpublic information about the customer (such as identity, behavior, location, and preferences).
- **ii)** The additional waste generated by the installation and production of intelligent packaging is actually contradictory to the goal of reducing the amount of food wastage Another aspect that still needs to be clarified is the recycling of the packaging.

2)PAPER TITLE: Analysis on the safety design of food delivery packaging in the post-epidemic era

AUTHOR:

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ABSTRACT: With the rapid development of information technology, the forms of food delivery and ordering have become more mature and experienced people have become more and more dependent on it. The design level of take-out packages is also constantly improving, but the development process has revealed a lot. Security risk issues. In general, take-out packaging only needs to meet the basic needs of safety, convenience and environmental protection, and users' demands for take-out safety design increase, especially during special times of fashion. Therefore, whether at a special time or at the present stage, designers present a new perspective on existing packaging design issues and new effective ways to ensure and solve the safety features of food take-out packaging. Measures need to be incorporated.

DRAWBACKS:

i) Quality of food may suffer.
ii) Food delivery services are often late.
iii) Food may get cold.
iv) Not the same personal touch as in a restaurant
v) Person who delivers food may not be trustworthy.
vi) Food delivery may cost some money.
vii) You may get lazy.
viii) Food delivery may contribute to social isolation.

3)PAPER TITLE: IoT-Based Sensing and Communications Infrastructure for the Fresh Food Supply Chain.

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ABSTRACT: Assisted by centralized data collection and analytics, IoT-based mechanisms can substantially reduce food waste, improve transportation and distribution efficiency, and support quick removal of contaminated or spoiled products from the fresh food supply chain.

DRAWBACKS:

i) lack of traceability and transparency, on the other hand, can create blind spots in your supply chain and expose you to unnecessary risk.

ii) It can weaken consumers' trust in your brand, which can translate into lower sales and profits. It can even give rise to certain legal issues that can stall new product launches.

iii) Fragmented information and lack of communication can have a major impact on the food supply chain. This is because there are various parties involved in the chain which have little to no knowledge of one another's actions

iv) Poor communication causes errors, inefficiency, excessive waste, and can lead to mistrust among suppliers and their customers. This problem gets

4)PAPER TITLE: The Analysis of a Chicken-Based Pet Food Supply Chain: a Case Study of Thailand.

AUTHOR:

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ii) Pornthipa Ongkunaruk,Department of Agro-Industrial Technology, Kasetsart University, Bangkok, Thailand.

ABSTRACT: Currently, the hermetically sealed food industry in Thailand is growing. There are many types of hermetically sealed food packaging such as can, pouch, cup, etc. Our objective was to analyze the chicken-based hermetically sealed container supply chain using the Integration Definition for Function Modeling (IDEF0). The results showed that there was a major problem with the quality of incoming raw chicken in the sourcing process due to the abuse of temperature. After finding the root causes using why-why analysis, it showed that there was improper cold chain management during transportation from a slaughterhouse to the manufacturer. From the supplier viewpoint, there was no delivery planning, no traveling time record, lacking data collection, no GPS, and data logger monitoring. In addition, the manufacturer had no proper raw materials receiving schedule for suppliers. Currently, some drivers unplugged the refrigerator during waiting for the quality checking. Consequently, we recommended the proper measure to solve this problem. Finally, we expected that our guidelines could reduce the return defective product rate of incoming raw materials and also enhance the collaboration with the suppliers to maintain raw materials quality along the supply chain.

DRAWBACKS:

i) The raw dog food contains larger fragments of bones which might be difficult for dogs to eat.

ii) There are also cases where eating dog food has lead to gastrointestinal inflammation and infections

iii) It is very time-consuming to prepare the meals at home. Also, it is comparatively more expensive than feeding them the dog food available in the market.

iv) Many experts suggest that raw dog food should not be given to dogs suffering from cancer or other such diseases as they are more susceptible to bacteria.

5)PAPER TITLE: Systematic review for low-cost and automatic packaging machine with UV disinfection applied to food industry.

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ABSTRACT: This paper evaluates the integration of the UV ray applied to disinfection in food industry with an automatic packaging machine, instead of traditional methods. This systematic review allows to evaluate the most appropriate solution to the selection of the automatic process and devices involved, in order to reduce the bacterial and virus with UV treatment by a schematic development and its verification through modeling and simulation software. The results obtained demonstrate the ability to control the intensity of UV rays emitted by an OSRAM TYPE UVC lamp with a range between 200–280 nm. It is appropriated for a complete disinfection of food products. And also, that the Proportional-Integrative Control system regulates the set-point in a rise time of 24 ms, settlement of 87.8 ms and overshoot of 13.8%. Our findings are the the control time, efficiency, accuracy and uniformity to be integrated into the packaging process; compared to thermal disinfection methods; with a settlement error of ± 1.48 and its ability to counteract Covid-19.

DRAWBACKS:

i) Although the initial cost of some UV applications is somewhat higher than chlorination, the low operating costs allow for a quick return on investment.
ii) artificial substances such as petroleum or pharmaceutical products. In addition, other filtration methods should be used with UV to ensure that all contaminants are removed from the water.
iii) If the water is cloudy, a pre-filter should be used. Indeed, UV light can only work if the water is clear.
iv) UV water systems require electricity to operate. A UV may not be suitable for all applications such as emergency or survival needs if electricity is not available.
v) UV disinfection does not offer the persistence of some other chemicals.

6)PAPER TITLE: China's Food Supply-Demand Situation and Countermeasures Research.

AUTHOR:

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ABSTRACT:

Foods are the key commodities for steadying price and popular feelings. In recent years, China's supply and demand of the main foods were overall balanced, but food problem is still the most important event of our country. Because rice, wheat, and corn are the main foods in China, this paper analyses the supply and demand situation of food in recent years based on a lot of data of them, respectively. Furthermore, we putted forward some countermeasures based on the view of food safety, such as gradually increase grain price, increase farmers' income, strengthen land transfer, and establish valuation system, to provide a reference to the future development of grain production, circulation management, and food security.

Keywords- food; supply and demand ; countermeasures.

DRAWBACKS:

i. Due to the rising disposable income and rapid urbanisation .

ii Changes in tastes and preferences are one of the reasons.

Iii Better organisation of food production and marketing.

7)PAPER TITLE: Food Quality Demand and Monitoring System.

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ABSTRACT:

Food plays a very important role in our day to day life. With an increase in globalization quality of food decreases day by day. In most of the time various food processing is done to keep the food fresh. Various preservatives or the ingredients are added in the food so that it looks like fresh or tempting. Now most of the food is preserved with the chemicals which causes the food contamination. This contamination leads to various diseases which results that the consumer want healthy food. The people wants organic food for healthy lifestyle. So to avoid the problems associated with the food without human interpretation we need such a device which helps to determine the quality of food. There is a requirement of such a device which guide us about the hygienic food. Hence to fulfill this consumer demand we made a device that checks whether the quality of food is good or bad. This paper represents the use of various sensors in the field of the food industry. The sensors like pH sensor, gas sensor, temperature sensor help in identifying the condition of food. This system makes an effective presence in restaurants, households, small scale industries.

Keywords: - Food quality, Contamination of food, pH sensor, Gas sensor, Temperature sensor

DRAWBACKS:

The Quality of a food is defined from two perspectives- scientific status and customer preferences. Scientific factors affecting the quality of food in clude composition,spoilage, colorants, contamination etc.

8) PAPER TITLE: Daily Food Demand Forecast with Artificial Neural Networks: Kırıkkale University Case.

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ABSTRACT:

In food service organizations, demand estimation is very important in planning of production. When an accurate demand forecast is made, the resources are used more efficiently, and the production wants to be lost in some places. In the institutions where the number of people to make a request is not known clearly, the demand forecasts of the quantitative and qualitative targets are made. It has been proposed a model of artificial neural networks to estimate the daily meal demand. Artificial neural networks are a qualitative method that targets a predetermined target by using the previous example data using a predefined demand estimate. Kırıkkale University cafeteria, where a selection should be made, the demand can affect, your criteria, MATLAB program was prepared a suitable model was created and the data were analyzed in the meantime.

Keywords— Demand Forecast, Food Forecast, Artificial Neural Networks

DRAWBACKS:

1. This method is subjective and the forecast could be unfavorably influenced by persons with vested interests.
2. Results are based on mere hunch of one or more persond and not on scientific analysis.

9)PAPER TITLE: The design of an intelligent food consumption data collection and analysis system

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ABSTRACT:

A novel intelligent food consumption data collection and analysis system is presented in this paper. Information collection devices and an analysis system are the two important constituent part of this system which are introduced in detail. We design this system to solve problems such as statistical and administration departments having difficulty to acquire actual data in resident food consumption, people having demand on healthy diet with the improvement of living standard, and the demand of food safety regulations. The design combines applied techniques including smartphones, intelligent wearable devices and big data. Cloud service is utilised to provide information service and service after customers food data are collected.

DRAWBACKS:

1. Lack of quality random sampling leads to questionable statistical confidence and margin of error. A topic that is a major challenge the market research industry faces right now.

10) PAPER TITLE: FOOD DEMAND PREDICTION USING MACHINE LEARNING

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ABSTRACT:

Demand forecasting is the process in which historical data is used to estimate the quantity of product customer will purchase. This prediction activity is used in many fields like retailing, food industry etc. In Restaurants, prediction play a vital role as most of the basic ingredients have short-shelf life. The demands depend upon many explicit and hidden context such as season, region etc. In this paper, number of order is used to forecast stock of items, using machine learning with internal and external data. In this we provide an appropriate algorithm for demand forecasting which is capable of overpowering the wastage of short life items. Proposed algorithm like Bayesian Linear Regression, LASSO, XGBoost algorithm are used that considerably improves the forecasting performance.

DRAWBACKS:

1.It involves a lot of data gathering, data organizing, and coordination.

2.Companies typically employ a team of demand planners who are responsible for coming up with the forecast. But in order to do this well, demand planners need substantial input from the sales and marketing teams.

3. In addition, it’s not uncommon for processes to be manual and labor-intensive, thus taking up a lot of time.

4.Fortunately, if you have the right technology in place, this is much less of an issue.