

The Food Safety Practices in Select Food Companies

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ABSTRACT

The Food safety is a global public health concern. The problem of food safety not only affects human health but also causes the economic damage of nations. The food stuffs are expanding in global economies and international trading, there is an increasing demand to ensure worldwide safe food. The most important dynamic force for enhanced attention for food safety. The School children have been the foremost victim of food borne illnesses due to their unsafe behaviour in food consuming. The awareness and practices of food safety is very important among students since they are also consumers .Because in the world wide estimation from world health organisation indicate that 600 million people almost 1 in 10 people in the world fall ill after eating contaminated food and 420 000 die every year. The Children under 5 years of age carry 40% of the foodborne disease problem and 1,25,000 deaths every year.

The food safety tools helps in reducing the risk of manufacturing and selling of unsafe products and thus providing better confidence to consumers. Food safety is a vital issue which relates to the quality of food and producing, allocation as well as consumption avoiding the contaminated and deteriorated food. The selected food companies are manufacturing biscuits and cookies. The Biscuit is a nutritious, easy-to-store, easy-to-carry, and long-lasting food product. The biscuits hard and dry with crispy, it contain good condition with rough handling and high temperature resistance. The biscuits kept in dry place without spoiling survive for years as long. The Biscuits are made from flour with the addition of other ingredients such as salt, fat, sugar and flavoring agents. Protein-fortified biscuits contain

nutrients in concentrated forms for feeding programme as emergency rations.

However, the acceptance of protein-fortified biscuits depends on their nutritional values, organoleptic qualities and price of production. The Food safety is the inverse of food risk or can be described as the probability of not suffering some hazard from consuming a specific food. In general, food safety is public health precedence. The Food regulatory authorities in many countries and select food companies are adopting food safety regulations like FSSAI, HACCP, and ISO22000:2005, BRC, APEDA and other food quality management system as a part of their food safety system in dictation to assure that food products safe to reach the customers consumption.

Keywords: Food safety, knowledge, practices, regulations, manufacturing, food borne.

Introduction of the Food Safety Practices

The Food is fuel for human body. It is necessary for growth and maintain the proper health condition, the food give nutritional support for an human system. The component is ingested in to organism and assimilated by the organism's cells to provide energy, maintain life and stimulate growth. Most of the people obtained food from agriculture sector. According to world population growth, it is impossible to have adequate food supply. So food companies are playing a significant role to solve the problem. The food companies are manufacturing nutritious foods and long shelf life products [1]. The

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Demand for the food and consumer satisfaction, health point of view, the food companies are making safety foods. The most important quality parameter within the food sector is food safety [2].

In contradiction with rapid and continuous development of food processing technologies, applied latest quality control and analytical methods, the number of food safety incidents are increasing huge. The Food safety assured that food products are safe to consume. It means taking care with all aspects of food production and preparation to make sure that the final food product is safe without any contamination. The food safety is usually managed through regulation, Quality Assurance and Hazard Analysis Control Critical Point (HACCP), Good Manufacture Practice (GMP), Quality Management System (QMS), Global Food Safety Initiatives (GFSI), International Organization for Standards (ISO 22000). These are international recognized logical tools for adapting traditional inspection methods to modern methods. The Prevention of Food Adulteration Act (PFA) Introduced by the Government of India in 1954. It was replaced by the food safety standard Authority of India in 2011.

According to this act, Food protection from contamination that may lead to the health risk of consumer. The Food safety tools are proved to be very effective tool to safety parameter in food processing. Based on the observation of my thesis carried out the following conclusion are made that the raw material management and final product management enhance the safety. The raw material and final product Analysed in the Quality Control Lab before they are sent for processing proximate analysis of the processed food product has also being carried out in the Quality Control lab in the entire three shifts. The Food Safety practices looks for hazards and anything that could go wrong regarding product safety and implements controls subsequently to ensure that the product will not cause harm to the consumer [5]. The Food safety system

mainly focuses on identifying and preventing hazards that may lead product to deteriorate. The Food safety methods are more efficient and effective companies oversight and places more responsibility for assure safe food to customers from the food producers. The biscuits companies in India using compete effectively in the world market by reducing barriers to international trade.

MATERIALS AND METHODS

The study was performed in four biscuit manufacturing companies which are private limited food companies in Hyderabad, Telangana state. The employees are working total 3800 in four food companies for three shifts to produce the biscuits and cookies. The respondent total 120 employees taken from the total population. The simple random sampling method is using for select the sample from total population. The random sampling method each individual is selected entirely by chance of each member of the population. The biscuit companies are following the food safety standards and guidelines as per the government rules and regulations. The select food companies are following food safety 1. BRC (British Retail Consortium), 2. HACCP (Hazard Analysis Critical Control Points) [3].

Agricultural and processed Food Products Export Development Authority (APEDA), 4. ISO 22000 Certified, 5. FSSAI.

Data Analysis and Interpretation

This study presents the results of the data analysis of the responses obtained from the employees from the select food companies in Hyderabad, Telangana state. The study presents Descriptive statistical analysis, Chi-Square Analysis and ANOVA Analysis with respect qualitative data analysis is described in details. The data analysis has done with the main objectives of finding out the factors, particularly food companies employees data qualitative analysis. The data analysis helps in finding conclusions and results helps with help of scientific methods. The significance of the data analysis is to provide suitable findings for proper results and

conclusions. The data collected and coding of data is done with suitable software like SPSS ver.23. The data collected by several respondents of select food companies with help of questionnaires [7].

Demographic Descriptive Analysis

1. Gender wise Respondents Descriptive Statistical Data Analysis

Table: 1. Gender wise classification of respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	116	96.7	96.7	96.7
Female	4	3.3	3.3	100.0
Total	120	100.0	100.0	

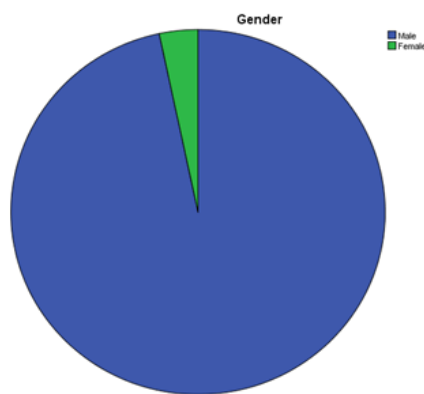


Figure: 1. Gender wise Respondents

From the table no:1. The total sample of 120 respondents, in that 116(96.7%) of the respondents are male employees, remaining 4(3.3%) of the respondents are female employees.

2. Age wise Respondents Descriptive Statistical Data Analysis

Table: 2 The Age wise classification of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 20-25yr	7	5.8	5.8	5.8
26-30yr	44	36.7	36.7	42.5
31-35yr	28	23.3	23.3	65.8
36-40yr	39	32.5	32.5	98.3
41-45yr	2	1.7	1.7	100.0
Total	120	100.0	100.0	

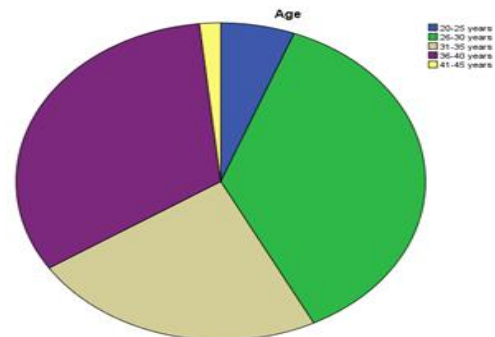


Figure: 2. Age wise Respondents

Interpretation:

From the above table no:2. shows that Age of total 120 Respondents, it indicate that 20 to 25 years between age employees 7 (5.8%) , 26 to 30 years between age employees 44 (36.7%) , 31 to 35 years between age employees 28 (23.3%), 36 to 40 years between age employees 39 (32.5.2%), 41 to 45 years between age employees 2 (1.7%) ,the remaining age group employees are not select in the study.

3. Marital Status wise Respondents Descriptive statistical Data Analysis

Table: 3. Marital Status wise Respondents classification

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Married	106	88.3	88.3	88.3
Un Married	14	11.7	11.7	100.0
Total	120	100.0	100.0	

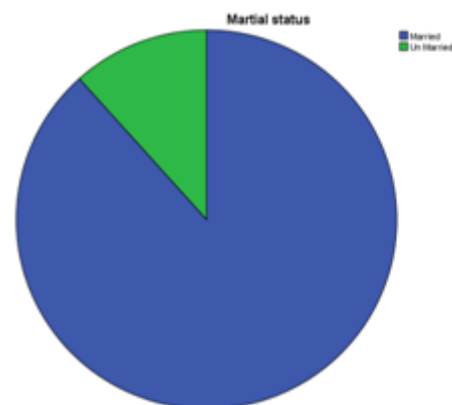


Figure: 3. Marital Status wise Respondents

Interpretation:

From the table no: 3. The total sample size 120 Respondents, in that 106(88.3%) of the Respondents are married employees, remaining 14(11.7%) of the Respondents are Un Married employees. The analysis clearly shows that the married employees are more in Respondents. In future un married employees increase more and more so management should be proactive.

4. Designation wise Respondents Descriptive statistical Data Analysis

Table: 4. Designation wise classification of Respondents

Sl.No	Designation	Frequency	Percent	Valid Percent	Cumulative Percent
1	Material movement worker (mmw)	2	1.7	1.7	1.7
2	Plant (machine) operator	100	83.3	83.3	85.0
3	Supervisor/Assistant manager	10	8.3	8.3	93.3
4	chemist/safety officer	8	1.5	6.7	100.0
5	Deputy manager	0	0	0	0
6	Manager	0	0	0	0
7	General Manager	0	0	0	0
	Total	120	100.0	100.0	

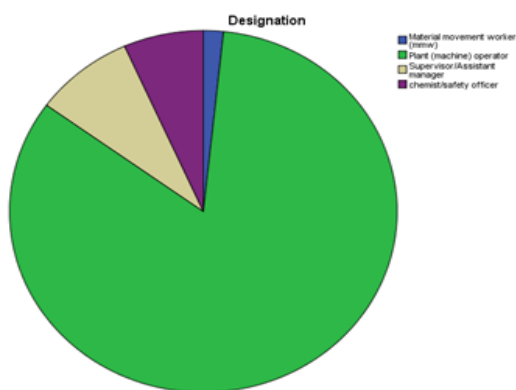


Figure: 4. Designation wise Respondents

Interpretation:-

The table no: 4.Described that total sample size 120 Respondents in that 2(1.7%) of the Respondents are Material movement worker (mmw), 100(83.3%) of the Respondents are Plant (machine) operator, 10(8.3%) of the Respondents are Supervisors /Assistant managers, 8 (1.5%) of the Respondents are chemist/safety officer. The Data Analysis designation wise Respondents that data have taken from the working employees inside the companies at work place [10].

5. Education Qualification wise Respondents Descriptive statistical Data Analysis

Table 5. Education Qualification wise Respondents

Sl.No	Education	Frequency	Percent	Valid Percent	Cumulative Percent
1	No Education	0	0	0	0
2	1-9 th class	0	0	0	0
3	SSC	0	0	0	0
4	Inter	5	4.2	4.2	4.2
5	Graduate	105	87.5	87.5	91.7
6	Post Graduate	5	4.2	4.2	95.8
7	MBA & Engg.	5	4.2	4.2	100.0
	Total	120	100.0	100.0	

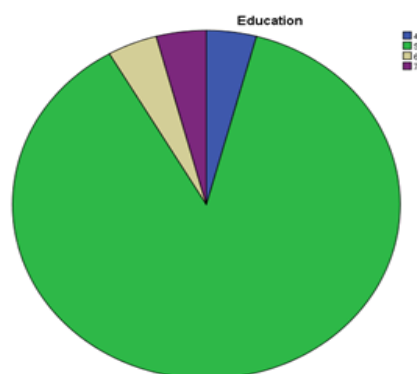


Figure: 5. Education Qualification wise Respondents

Interpretation:

From the table no: 5. indicate that sample size 120 Respondents, in that 5(4.2%) of Respondents education qualification Inter, 105(87.5%) of Respondents education qualification Graduate, 5(4.2%) of the Respondents education is Post-Graduate, 5 (4.2%) of the Respondents education is MBA & Engg. The analysis of the Respondents as per qualification most of the employees education qualification graduate which are working as a plant / machine Operators [11].

6. Income wise Respondents Descriptive statistical Data Analysis

Table: 6. Income wise classification of Respondents

Sl.No	Annual Income	Frequency	Percent	Valid Percent	Cumulative Percent
1	Up to 1,00,000 lakhs	117	97.5	97.5	97.5
2	1,00,001 to 2,00,000 lakhs	3	2.5	2.5	100
3	2,00,001 to 3,00,000 lakhs	0	0	0	0
4	3,00,001 to 4,00,000 lakhs	0	0	0	0
5	4,00,001 to 5,00,000 lakhs	0	0	0	0
6	5,00,001 to 6,00,000 lakhs	0	0	0	0
7	Above 6 lakhs	0	0	0	0
	Total	120	100.0	100.0	

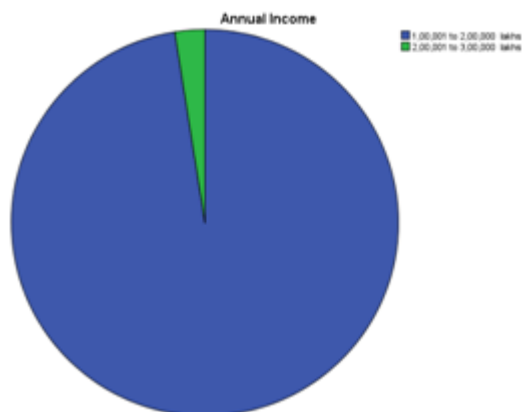


Figure: 6. Annual Income wise Respondents

Interpretation:

From the table no: 6. Respondents sample size 120 in that 117(97.5%) of the Respondents annual income up to one lakhs, 3(2.5%) Respondents annual income in between one lakhs one to two lakhs. The employees annual income majority of employees in between one to three lakhs only.

7. Experience wise Respondents Descriptive statistical Data Analysis

Table: 7. Experience wise Respondents

Sl.No	Experience	Frequency	Percent	Valid Percent	Cumulative Percent
1	Up to 1 year	1	.8	.8	.8
2	Up to 2 year	25	20.8	20.8	21.7
3	Up to 3 year	44	36.7	36.7	58.3
4	Up to 4 year	42	35.0	35.0	93.3
5	Up to 5 year	8	6.7	6.7	100.0
6	Up to 6 year	0	0	0	0
7	Above 6 year	0	0	0	0
	Total	120	100.0	100.0	

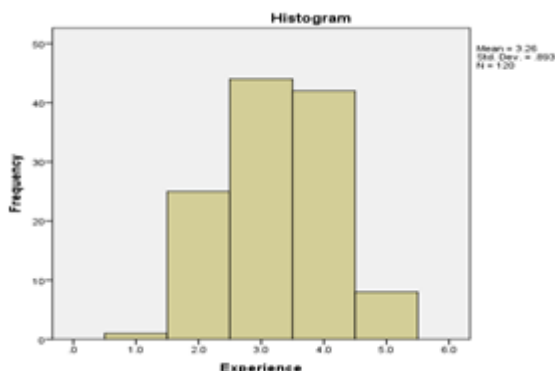


Figure: 7. Experience wise Respondents

Interpretation:

From the table no:7. The sample size 120 Respondents in that 1(0.8%) of the Respondents up to one year working experience, 25(20.8%) of the Respondents up to two years working experience, 44(36.7%) of the Respondents up to three years working experience, 42 (35%) of the Respondents up to four years of working experience, 8 (6.7%) of the Respondents up to five years of working experience.

8.The Chi Square Data Analysis entire Demographics variables

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	55.691 ^a	24	.000
Likelihood Ratio	55.742	24	.000
Linear-by-Linear Association	29.244	1	.000
N of Valid Cases	120		

a. 28 cells (77.8%) have expected count less than 5. The minimum expected count is .50.

Accept and reject criteria

Null Hypothesis: Demographic variable of Respondents does not influence the food safety Practices. Alternative Hypothesis: Demographic variable of Respondents influence the food safety Practices.

Interpretation:

The table no: 8. Described that the relationship between the Demographic variable of the Respondents and their Food safety practices. This analysis concludes that result found is 55.691, the significant difference (P value) is 0.00. It is found that significant difference (P value) less than 0.05. As per the table indicate that Null hypothesis is rejected and Alternative Hypothesis is accepted. Hence, it is concluded that the demographic variables of Respondents perception influences the Food safety Practices [6].

9.The ANOVA Data Analysis entire Demographics variables

Table: 9. ANOVA demographic variable wise Respondents

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	119.225	3	39.742	13.449	.000
Within Groups	342.767	116	2.955		
Total	461.992	119			

Accept and reject criteria

Null Hypothesis: Demographic variable of Respondents does not influence the food safety Practices.

Alternative Hypothesis: Demographic variable of Respondents influence the food safety Practices .

Interpretation:

The table no:9. Described that the relationship between the education of the Respondents and their Food safety practices. This analysis concludes that result found F value is 13.449, the significant difference (P value) is 0.000. It is found that significant difference (P value) less than 0.05.As per the table indicate that Null hypothesis is rejected and Alternative Hypothesis is accepted. Hence, it is concluded that the demographic variables of Respondents influences the Food safety Practices.

Conclusions

The study shows that the employees response on food safety practices in select food companies. There is a high level of awareness and adopted the food safety of FSSAI and HACCP, ISO22000:2005, BRC, APEDA. The reasonable association between FSSAI and other international bodies responsible for ensuring compliance with food safety and hygiene standards and food laws. The role of food safety standards must be considered within the circumstance of food inspections are carried out by companies. With regard to the recent inspections most of businesses food companies stated that they encountered difficulty complying with the regulations. As the study is limited to four food companies which is located at Hyderabad, Telangana foods. The select food companies have produced biscuits and cookies ensure

crispiness and most hygienic which is more acceptable. Usually popular biscuits are consider as a snacks there contain crisp fired product and manufacturing many types of biscuits. All the raw materials and packaging material analysed in the Quality Control laboratory before they are sent for processing proximate analysis of the processed food product has also being carried out in the Quality Control laboratory in all the three shifts, it has given chance for employees for active participation and also improved their knowledge in fields of food processing and food safety. The companies many products produced which are protein rich and calorie supplement products to children and all age groups. The select food companies are following the food safety standard and guidelines, As per records dates conducting internal and external audits, providing suitable employees training, the companies overall food safety practices satisfied with the export quality food products. The select food companies data collection and analysis concluded that respondent perception food safety practices influence the employees demographic variable, as per research study select food companies are following suitable food safety standards and making safety products.

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