Indian Journal of Science and Technology, *Vol 9(6), DOI: 10.17485/ijst/2016/v9i6/84334, February 2016*
ISSN (Print) : 0974-6846
ISSN (Online) : 0974-5645

Assesment of Effectiveness of Food Safety Adoption within the Wine Industry in Karnataka, India

D. K. Krushna Yadav[1*], Nataraj A. Durgannavar[1], Y. Ravi[1], R. N. Shukla[2] and K. Shilpa[3]

[1]Department of Food Science and Nutrition, University of Agricultural Sciences, GKVK, Bengaluru - 560065, Karnataka, India; yadav819@gmail.com, natarajdurgannavar@gmail.com, raviraj2219@gmail.com,
[2]Department of Food Process Engineering, Sam Higginbottom Institute of Agriculture, Technology & Sciences, Allahabad-211007, Uttar Pradesh, India; rama.shukla@shiats.edu.in
[3]Department of Food Technology, Davanagere University, Davanagere - 577002, Karnataka, India; shilpayadav819@gmail.com

Abstract

The objective of this study is to add a valuable recommendation to the Indian wine industry to unite their performances on the execution of food safety. The importance of the food safety is to protect the consumer from any possible unsafe products produced. The results of the study were analysed by means of a descriptive analysis. The responses obtained from the questionnaire are indicated in table format and specific frequency tables were used for the ease of reference. Each aspect within a question in this study was compared with each other. Each aspect within a question was also analysed with Analysis of Variance (ANOVA). The study outcomes revealed that the food safety compliance was influenced on increased customer satisfaction, improved internal procedures, improved product quality, compliance with regulatory requirements, improved corporate image, improved employ morale, enhanced prospect of trading in other countries, reduced operating costs and insurance charges. Improvements can adopted as food safety training bodies should provide training to management representatives responsible for the food safety on the verification and validation of the food safety. Based on the study results, this study suggested that wine producing organisations should provide systematic regular training to core examiners and plant base employees in order to improve the efficiency of food safety.

Keywords: Assessment, Effectiveness, Food Safety, HACCP, Impact, Wine Industry

1. Introduction

Food Safety adoption facilitates the producers, processors, distributors, exporters, etc., of food products to use technical resources efficiently and in a cost effective manner in order to assure food safety in all stages of wine manufacturing[1]. Assessment also covers a comparison, validation, application and the key factors affecting on the food safety adoption in wine manufacturing process. Good Food Safety contains the following modules: a Good Hygiene Practices (GHPs) Quality Management System (QMS), and Good Manufacturing Practices (GMPs)[2]. In Karnataka state the wine manufacturing Organisations of are spread out over the Northern and Southern parts Karnataka. The wine organisations in order to fulfil customer requirements and to remain competitive, wine organisations have to manufacture a wine that is good in quality and product that not poses bad effect to the consumer[3]. Therefore the wine must be manufactured under controlled condition to meet the food safety. Now a days many of the wine organisations located in the Karnataka state have effectively employed and maintaining the Good Manufacturing Practices (GMP), Good Hygiene Practices (GHP) and Quality Management Systems (QMS). The aim of this study is to recognize the critical control points of the food safety adoption that is instigated at the selected wine manufacturing organisations in the Karnataka state. Different food safety measures are implemented at wine organisations, comprising the major production cellars and subordinate bottling plants[4]. Although many wine manufacturing organisations have

*Author for correspondence

adopted food safety over the past years, the influence of this food safety and how they influence on the efficiency of performance on the wine industry in the Karnataka state, has however not been evaluated. It is therefore commanding that this study finds whether these wine producing organisations follow the major necessities of the food safety, and to appraise their enactment in order to launch whether they meet the essential necessities of food safety.

2. Materials and Methods

The study methods are normally allied with quantifiable and qualitative study models. Qualitative study is generally adopted for investigative study and emphases on lesser respondent samples. It collects analyses and understands statistics that cannot be profoundly enumerated. Quantifiable study is generally implemented to gather, evaluate and construe the data to designate the features of large respondent samples. It is suitable for collecting quantifiable data and questionnaire survey employed as a study technique. Suitable study method was established on the nature of the data and problems of the study and the position of data and the collection of the data and purpose of data is collection. The most important objective of this study was to fix the criteria that can be used to measure food safety adoption efficiently. For this reason a quantifiable study design is applied. To touch the objectives of this study a descriptive study will be accompanied whereby present food safety was studied and equalled to understand how each of the chosen respondents measures their performance on food safety adoption in the wine organization. The investigator asks a several questions to participants who are interested: Summarises the comebacks with percentages, regularity counts or more refined indexes, and then drawn conclusion about responses of the respondents. Surveys can be divided into two categories: the questionnaire and the interview. The aim is to understand what each and every group of participants do, think. Qualitative study data forms the outer cover of this study. In this study descriptive research method was chosen as the most suitable method for collecting and examining the quantifiable data to meet the problems of the study.

3. Results and Discussion

Out of 17 wine manufacturing organisations only 16 organisations of 92 respondents are responded to accomplishment of questionnaire.

3.1 General Questions on Food Safety (Descriptive Figures)

The data that analysed in the Figure was collected from the 92 respondents from the various wine manufacturing organisations participating in this study.

This Figure 1 depicts the respondent's views on general statements about food safety. All the wine manufacturing organisations that partaken in the survey already adopted food safety and that was the reason that most them are strongly agreed and also majority of the declarations from 1 to 6 had a positive response.

- Good manufacturing practices is a prerequisite for food safety putting into practice (FS-1).
- Hazard analysis critical control point is applied as foundation for the food safety (FS-2).
- Wine organisations review and develop their food safety (FS-3).
- Wine organisations measure the efficiency and the enactment of the food safety (FS-4 and 5).
- Training programs on food safety are in place for staff members (FS-6).

3.2 Decision Making Figures

The Figure 2 shows that the results from all 92 participants are positive in nature. Among that many comebacks

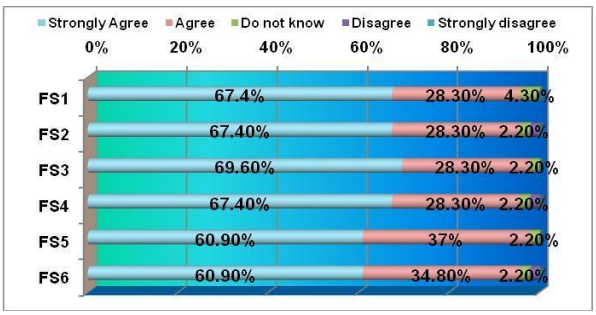

Figure 1. Comebacks regarding food safety questions.

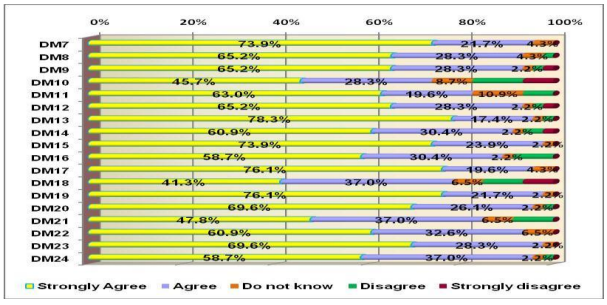

Figure 2. Comebacks regarding decision-making questions.

are very positive, majority of above 90% agree with the statements, such as DM-7, DM-12, DM-13, DM-14, DM-15, DM-17, DM-19, DM-20, DM-22, DM-23, and DM-24. Ultimately the following areas are considered as significant among these wine producing organisations:

- Is your management is dedicated to keep up food safety (DM-7).
- Corrective actions are used to advance the performance of food safety at your organisation (DM-12).
- Is your organisation certification audits are used to advance the performance of food safety (DM-13).
- Whether process control is applied to measure the enactment of food safety (DM-14).
- Training programs for personnel are in place to advance the performance of food safety (DM15).
- Audit outcomes are used to advance the performance of food safety (DM-17).
- Food safety is supportive to make product safer (DM-19).
- Food safety is supportive in improving the quality of products (DM-20).
- Food safety is helpful in improving consumer satisfaction (DM-22).
- Internal audits are used efficiently to verify food safety (DM-23).
- The systematic results of confirmation activities recognized the need for improving the Food safety (DM-24).
- DM-10, DM-18 and DM-21 shows that food safety has no positive effect on the volume of the returned products, statistical tools as calculating tool of Food safety and the decline of waste.

4. Conclusion

The implication of this food safety is to safeguard the consumer from any potential unsafe products manufactured[5]. Over recent years many of wine organisations across the food and beverage range have adopted food safety as their licence to trade[3]. Most of the wine manufacturing organisations depend on the certifications audits as their only tool of assessing the food safety.

5. References

1. Gowri KP, Devi V. Microbial quality of food products sold by selfhelp group women of informal sectors in Tamil Nadu State. Indian Journal of Science and Technology. 2012 Jan; 5(1). DOI: 10.17485/ijst/2012/v5i1/30967.
2. Corlett DA. HACCP user's manual. New York: An Aspen Publication; 1998.
3. Fotopolous C, Gotzamani K, Kafetzopoulos D. Critical factors for effective implementation of the HACCP system: A pareto analysis. British Food Journal. 2011; 113(4):578–97.
4. Gorris L. Food safety objective: An integral part of food chain management. Food Control. 2005 Nov; 16(9):801–9.
5. Hariyadi DR. Implementation of food safety management at industry level in developing countries: Is GMP/HACCP confusing? SEAFAST-ICMSF-Borlaug International Seminar and Workshop; Bogor Agricultural University, Indonesia, Bogor. 2009
6. Higgins CL. A systems-based food safety evaluation: An experimental approach. Journal of Environmental Health. 2004 Nov; 67(4):9–14.
7. Jacxsens L, Luning P. Comparing food safety management systems between food processing companies. International Symposium of the University of Ghent; Brussels. 2010.
8. Morsal T, Ismail M, Osman M. Developing a self-assessment model to measure QMS maturity in ISO certified manufacturing companies. Journal of Scientific and Industrial Research. 2009 May; 68(9):349–53.
9. Wallace C, Powell S. Development of methods for standardised HACCP assessment. British Food Journal. 2005; 107(10):723–42.
10. Yapp C, Fairman R. Factors affecting food safety compliance within small and medium-sized enterprises: Implications for regulatory and enforcement strategies. Food Control. 2006 Jan; 17(1):42–51.