Journal Homepage: -www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/13623
DOI URL: http://dx.doi.org/10.21474/IJAR01/13623

RESEARCH ARTICLE

CUSTOMERS' PERCEPTION ON FOOD SERVICE AND WATER MICROBIOLOGY LABORATORY FROM THE NATIONAL INSTITUTE OF HYGIENICS OF LOME FROM 2012 TO 2020

Mawuli Kossi Fiagnon[1], Mamatchi Melila[2], Yaovi-Gameli Afanyibo[3], Wemboo Afiwa Halatoko[3] and Tchadjobo Tchacondo[4]

1. School of Medical Assistants (EAM), University of Lomé, 01 BP 1515 Lomé 01, Togo;
2. Department of Biochemistry, Faculty of Sciences, University of Lomé, 01 BP 1515 Lomé 01, Togo;
3. National Institute of Hygienics, NIH BP 1396 Lomé, Togo;
4. Higher School of Biological and Food Techniques (ESTBA), University of Lomé, 01 BP 1515 Lomé 01, Togo.

Manuscript Info

Manuscript History
Received: 31 August 2021
Final Accepted: 30 September 2021
Published: October 2021

Key words:-
Customer Perception, Services, Quality, Microbiology Laboratory, NIH, Lomé

Abstract

The general purpose of this article is to help monitor the performance of the water and food microbiology laboratory at National Institute of Hygienics (NIH) of Lomé. To achieve it, the work focused on analyzing trends in customers' satisfaction from the laboratory in the period from 2012 to 2020. This study mainly took into account the analysis of customers' satisfaction levels with satisfaction metrics such as quality reception facilities, the waiting time, the reliability of the results and the deadline for rendering results; customers complaints analysis as well as analysis of customers suggestions. From the results obtained, it emerged that the majority of the laboratory's customers are satisfied of its services. Satisfaction rates were over 86% with respect to the quality of reception facilities, more than 89% concerning waiting time, more than 93% compared to the reliability of the results and more than 73% for the deadline for rendering results. Claiming customers are over 75% cleared and all cleared claims were made within the timeframe resolution expected. Customer suggestions are taken into account through the implementation of appropriate action plans. However, the analysis of these results has made it possible to identify inadequacies such as the non-representativeness of the samples from the various satisfaction surveys and the unavailability of certain data which should allow a more thorough. In addition, the available data have shown that the perception of the benefits of the laboratory by customers, is not growing. However, these data made it possible to achieve to the conclusive results which deserve to be taken into account. In short, it appears clearly that customers' perceptions in the services of the water and food microbiology laboratory of the NIH of Lomé, is satisfactory, even if it is not growing.

Introduction:-

Nowadays, with the increasing competition in the national and international markets, customer's satisfaction has become more than ever a priority for the development of any business (Appiah-Adu, 1998; Braviet al., 2019;

Corresponding Author:- Mamatchi Melila
Address:- Department of Biochemistry and Nutrition, Faculty of Sciences, University of Lomé, 01 BP 1515 Lomé 01, Togo.

Siltoriet al., 2021). This satisfaction enables the growth and retention of customers of companies while increasing their turnover (Ponnaiyanet al., 2021; Siltori et al., 2021). To achieve this, the implementation of a quality approach through a quality management system (QMS) is intended to be the essential tool (Fekari, 2011; Georgiev et al., 2015; Almeida et al., 2018). This quality approach allows companies to be in a continuous improvement of their performance as explains the Deming wheel. Indeed, the Deming wheel is a cyclical approach continuous improvement which consists, at the end of each cycle, in questioning all the actions previously carried out in order to improve them (Berrada, 2013). Customer's perception constitutes a salient element for the continuous improvement of a company's services. It mainly takes into account the feedback from customers vis-à-vis the services that the company offers to them. These returns are made of complaints and suggestions. In most of the cases, they are collected on a continuous basis but also on an ad hoc basis through surveys of 0satisfaction (WHO, 2011). Indeed, a quality approach is a business project implemented works to control, ensure and plan quality and improve products and services, processes, production processes, customer satisfaction and more broadly, improving the performance of an organization and the satisfaction of all interested parties (Dumel, 2019).

In Togo, many laboratories under the authority of the ministry of health, public hygienics and universal access to healthcare are committed to this quality approach with as a goal, obtaining national recognition. This commitment was motivated by a support for the laboratories division of this ministry (MSHP, 2019). However, only two public and private health institutions willingly committed their laboratories in the accreditation process with international organizations (Barry,2018). Among them is the National Institute of Hygienics (NIH) with three accredited laboratories including the water and food microbiology laboratory, the first to be accredited since 2012 by the French Accreditation Committee (COFRAC).

One thing is to be in the quality process with or without accreditation and another is to master the dynamic of continuous improvement (Valmohammadi et al., 2015). At this problematic, in addition to the virtual non-existence of data on the quality of services of microbiological analysis laboratories (Katawa et al., 2010). Customer perception being one of the factors of this continuous improvement, the question is whether the customers'perception on the food and water's microbiology laboratory is satisfactory and growing. The increasing performance is not necessarily linked to the accreditation status (Valmohammadi et al., 2015), which makes it possible to put forward the following hypothesis: the perception of customers of the food and water's microbiology laboratory is satisfactory but not growing. Thus, to answer all these questions and help to make data available on the quality of service provided by structures in the quality approach, the general objective of this study is to contribute to the surveillance of continuous improvement in the performance of National Institute of Hygienics food and water's microbiology laboratory of Lomé. The specific objectives are as following: a) analyze the trends in customer satisfaction of the food and water microbiology laboratory from 2012 to 2020; b) assess the level of relevance in the monitoring elements of the satisfaction retained by the laboratory.

The first section of this article is devoted to the presentation of the situation of the process quality in Togo. The following section presents the method used to collect the data as well as the results and the discussion. The final section is devoted to the presentation of the conclusion and recommendations.

Quality approach situation in Togo

The adoption of the framework law N ° 016/2009 in Togo, in force since August 12, 2009 relating to organization of the national scheme for the harmonization of standardization and accreditation activities, certification, accreditation, metrology, the environment and the promotion of quality, allowed strengthening the performance of the QMS of togolese national companies. This law created quality structures such as the High Authority for Quality and the Environment (HAUQE), the Togolese Standardization Agency (ATN), the Togolese Métrologie Agency (ATOMET), the Togolese Approval Committee (COTAG) and theTogolese Agency for the Promotion of Quality (ATOPROQ). Adoption of national policy quality on November 06, 2019 comes to complete the process of setting up the scheme of the national organization of the quality system in Togo in harmony with the quality policy of the ECOWAS (Avenir-Togo, 2020).

Through these initiatives, several Togolese companies (public and private) have had national as well as internationally community performance recognition (UEMOA, ECOWAS) (Avenir-Togo, 2020).

In the field of microbiology, a study carried out in 2006 showed that in Togo, data on the quality of services provided by medical analysis laboratories are almost non-existent (Katawa et al., 2010).

Togo, after adopting the ISO 15189 standard, has commissioned diagnostic audits to take stock of 87 laboratories in the public and faith-based sector and at all levels health system. These audits showed a low level of implementation of the QMS in laboratories. Thus, to correct this situation, the laboratories division initiated in 2016 a new approach to quality enhancement called the "Mentorship Program". To the following the implementation of this program, 35 laboratories have managed to have anational performance recognition inNovember 2019 (MSHP, 2019). However, only two public and private public health institutions have accredited their laboratories by international organizations. This is the National Institute of Hygienics and the BIASA clinic (Barry, 2018). The National Institute of Hygienics alone has three accredited laboratories including that of microbiology analyzes of water and food accredited ISO 17025: 2017 in 2012. This laboratory is the only national public laboratory accredited in the food sector, which therefore motivated its choice to serve as a framework study for this research work, whose aim is to provide a solution to the lack of data on the quality of the services of structures in quality approach in Togo.

Material and Methods:

Study framework: water and food microbiology laboratory of National institute of Hygienics of Lomé.

The National Institute of Hygienics is a state structure under the authority of the Ministry of health, public hygienics and universal access to healthcare. It plays the role of central public health laboratory and its mission is to ensure better access to examinations in quality laboratory, to contribute to the hygienic quality control of food products, to the rapid detection of diseases with potential epidemic, offers services that meet quality standards and increase customer's satisfaction through an adequate response to their needs. It is mainly involved in the realization of medical biology analyzes, epidemiological surveillance, vaccination, training of students and in the control of the microbiological quality of water and food.

To ensure continuous improvement of its organization and service, the National Institute of Hygienics has registered its laboratories in a quality approach since 2002, including the one of the microbiology of water and food. Having first managed to get accreditation ISO / IEC 17025 in 2012, among all National institute of Hygienics'laboratories, the water and food microbiology laboratoryhas set itself the quality objective of maintaining ISO / IEC accreditation17025, while remaining in a continuous improvement of services to guarantee the quality of results and constantly increase customer's satisfaction. Characteristics measured within the framework of the accreditation are among others microorganisms, coliforms, thermotolerant coliforms, coagulase positive staphylococci, sulfite-reducing bacteria developing under anaerobic conditions, *Salmonella spp* including *Salmonella typhi* and *Salmonella paratyphi*, *Escherichia coli-ß* glucuronidase positive, *Enterobacteriaceae*, yeasts and molds, osmophilic yeasts and molds xerophiles (INH, 2019).

Material:-

The material consists of the customer satisfaction surveys reports for the period from 2012 to 2020 as well as the customer complaints follow-up sheets from this period.

Methods:-

Type and study period

This is a retrospective descriptive study carried out at the National institute of Hygienics of Lomé's water and food microbiology laboratory during the period from November 2, 2020 to April 30, 2021, aimed at collecting qualitative and quantitative data from 2012 to 2020 on customer perceptions of the services offered by the laboratory.

Perception monitoring activities

Three perception monitoring activities were selected for this study. This involves the analysis of indicators used in satisfaction surveys, the analysis of trends in complaints and the analysis of suggestions made by customers.

Study population

The target population for the study were clients of the Food and Water Microbiology Laboratory. These are the individual and corporate clients who requested the laboratory's services from 2012 to 2020 for the microbiology analyzes of water and food.

Individual customers:
These are all individual clients who have benefited from the laboratory's services on an ad hoc basis during the period from 2012 to 2020.

Company customers:
These are all the partner companies of the laboratory for whom, the laboratory carries out a regular monthly sample collection, according to the clauses of a contract.

Data collection techniques and instruments
The food and water microbiology laboratory organizes a satisfaction survey every fifteen (15) months to collect feedback from users of its service. The survey takes place over a 6 weeks period. Concretely, this involves collecting and analyzing customer's expectations and perceptions in relation to the laboratory's services in order to take them into account for continuous improvement of its services as required by standard NF EN ISO / IEC 17025 (2017). To collect the data, the laboratory uses a self-administered questionnaire at the site of partner companies and at the National institute of Hygienics for individual customers. The quiz is made up of multiple-choice questions. However, a "suggestions" box was reserved to allow respondents to freely express their opinions. The sample size varies with each survey period. This variation is presented in Table I below.

The study therefore consisted of a documentary analysis on the one hand, and an interview with laboratory managers on the other.

Literature Review:-

We analyzed the reports available from satisfaction surveys from previous years, which enabled us to collect data on satisfaction indicators and customer's suggestions. The analysis of the deviation and complaint tracking sheets also allowed us to collect data on complaints. The satisfaction indicators varied over each survey period. We therefore retained those that were relevant and common to all survey periods.

Interview
The interviews made it possible to exchange views with the laboratory managers on the managerial management of laboratory information and subsequently to have data on the different client numbers available from 2012 to 2020.

Data processing technique
The data were entered using Excel 2016 software. This software also made it possible to plot the curves and represent the tables.

Difficulties and constraints
We can retain as difficulties and constraints:
On the one hand, some difficulties and constraints were noted during this study. This concerns the partial unavailability of data from the accreditation period which did not allow full consideration of all the data to better assess the satisfaction and permanent growth in laboratory performance. Nevertheless, taking into account the available data made it possible to reach conclusive results and to formulate recommendations for better improvement.

On the other hand, it was also a question of the total unavailability of data from the pre-accreditation period which did not allow a comparative analysis of the data to better assess the evolution of the laboratory's performance during the pre-accreditation period to the post-accreditation period.

Results:-

Presentation of customer numbers and sample sizes
Table I presents the situation of customer's numbers and sample sizes for the 2015, 2017, 2019 and 2020 surveys.

Table I:- Presentation of client numbers and sample sizes.

Settings	Years			
	2015	2017	2018	2020
Sample size	27	38	29	62

Number of corporate clients	52	61	63	66
Number of individual customers	ND	657	734	929
Average number of individual customers	ND	54	61	77
Total number of corporate customers and individual customers way	ND	115	124	143

NA : Not Available

The average number of individual customers constitutes the average number of monthly employees for the year. Missing data is data that is not available as in the case of data from the period 2012 to 2014.

Presentation of the results of the satisfaction indicators

The satisfaction threshold adopted by the laboratory for an indicator to be satisfied is 75%.

Customer satisfaction rate in relation to the quality of reception facilities

Figure 1 shows the evolution of customer's satisfaction trends with respect to facilities reception from 2015 to 2020.

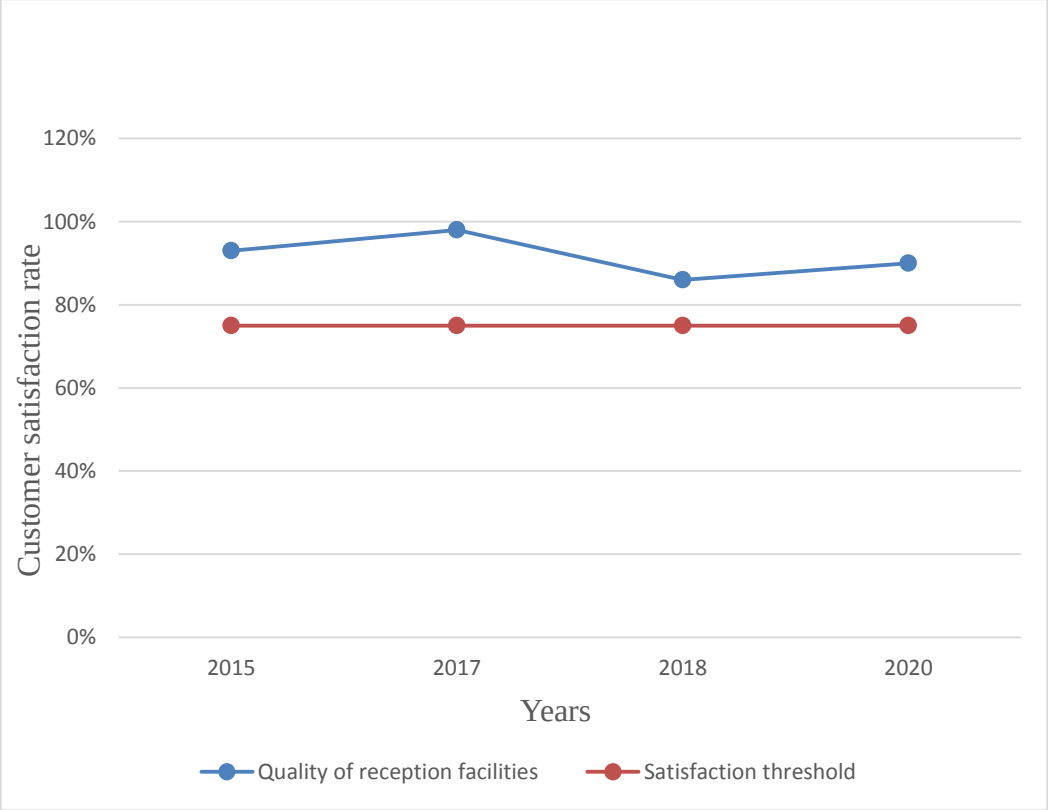

Figure 1:- Customer satisfaction rate with respect to the quality of reception facilities.

In 2015, 93% of customers surveyed by the laboratory were satisfied with the quality ofreception facilities. This satisfaction rate is a cumulative satisfaction rate that corresponds to a total of the percentages of the assessment items such as very satisfactory and satisfactory. Throughout the presentation of the results, the employee satisfaction rates will have the same explanations. In 2017, 98% of customers surveyed were also satisfied with the quality of the facilities reception while in 2018 and 2020 this satisfaction rate was respectively 86% and 90%.

Customer's satisfaction rate in relation to waiting time

Figure 2 shows the evolution of customer's satisfaction trends with respect to wait times from 2015 to 2020.

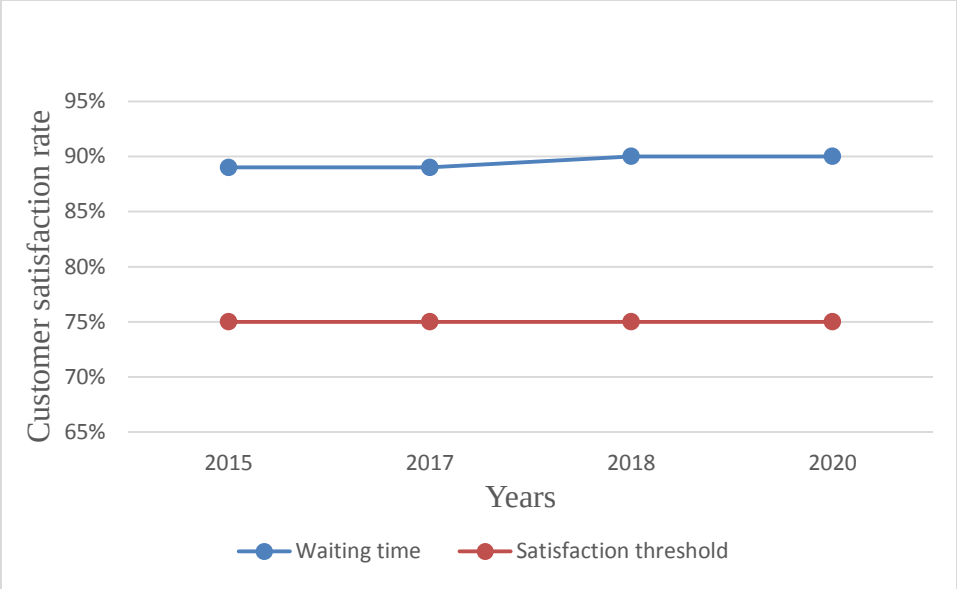

Figure 2:- Customer's satisfaction rate in relation to waiting time.

In 2015 and 2017, the laboratory's customers expressed the same level of satisfaction according to the waiting time which amounted to 89%. This rate has increased slightly by one percent (1%) during the years 2018 and 2020 while remaining the same.

Customer satisfaction rate in relation to the reliability of the results

Figure 3 shows the evolution of customer's satisfaction trends as a function of the reliability of results from 2015 to 2020.

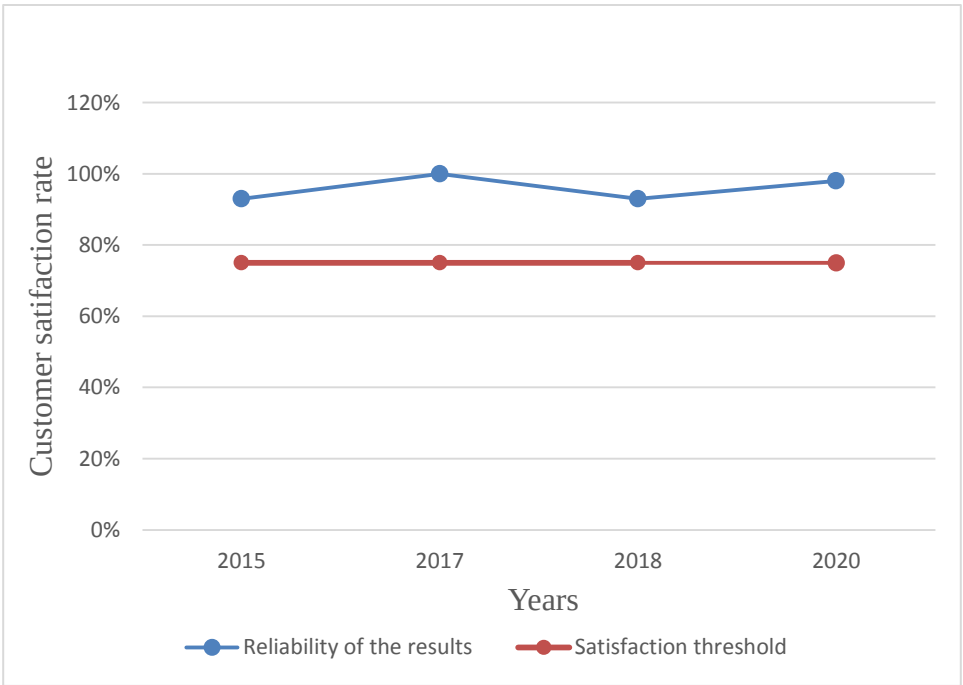

Figure 3:- Customer's satisfaction rate with respect to the reliability of the results.

In 2015, the customer's satisfaction rate with respect to the reliability of the results was 93%. This rate increased by seven percent (7%) in 2017, making total customer satisfactionwith regard to this indicator. This level of total

satisfaction reached in 2017 was not maintained but instead experienced a decline of seven percent (7%) in 2018 and two percent (2%) in 2020.

Customer's satisfaction rate in relation to the deadline for rendering results

Figure 4 shows the evolution of customer's satisfaction trends compared to the Deadline for rendering results from 2015 to 2020.

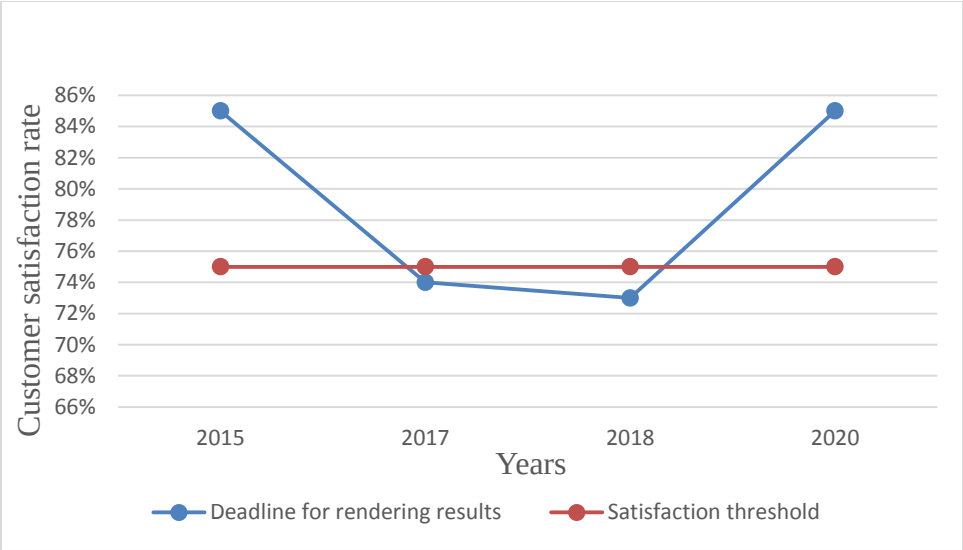

Figure 4:- Customer's satisfaction rate in relation to the deadline for rendering results.

In 2015, the expression of customer's satisfaction in relation to the deadline for delivering results was 85%. In 2017 and 2018, this rate fell below the threshold for satisfaction indicators used by the laboratory (75%). This satisfaction reached 85% in 2020.

Overall customer satisfaction rate in relation to all thesatisfaction indicators

Figure 5 presents the overall customer'ssatisfaction in relation to all the satisfaction indicators from 2015 to 2020.

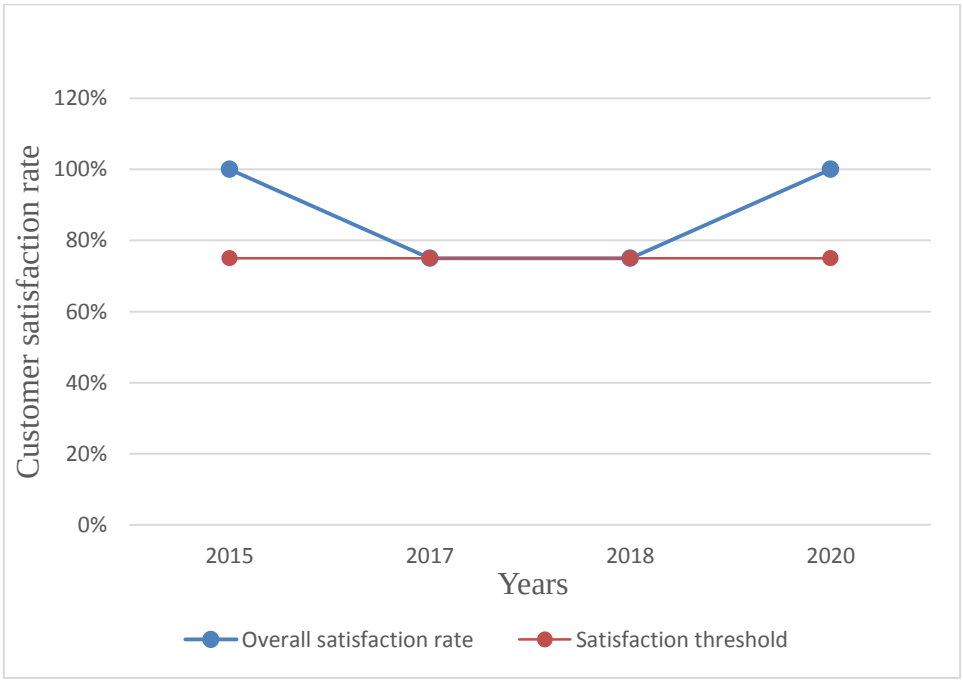

Figure 5:- Overall rate of customer's satisfaction in relation to all the satisfaction indicators.

In 2015, the level of overall customer satisfaction in relation to all the indicators of satisfaction was total. In 2017 and 2018, this rate fell and was limited to the threshold satisfaction indicators (75%). In 2020, it has seen an increase again to be at100%.

These results of the satisfaction indicators presented above relate to data for the period from 2015 to 2020. The results for the period from 2012 to 2014 were not presented because thedata for this period is not available. It is the same for the results of the management of customer'ssuggestions.

Presentation of the results of the management of customer complaints
Table II presents the situation of the results of the management of customer's complaints from 2012 to2020

Table II:- Situation of the management of customer complaints.

Settings	Years					Total
	2012	2013	2018	2019	2020	
Number of complaints	1	2	3	1	4	11
Number of closed claims	1	2	3	1	3	10
Rate of closed claims %	100	100	100	100	75	91

Throughout this period from 2012 to 2020, the water and foods microbiology laboratory of NIH recorded eleven (11) customer complaints with an overall rate of closed claim of 91%. All registered and settled claims were made inthe expected timeframe.

Presentation of the results of the management of customer suggestions
Forty-three (43) suggestions recorded during the period from 2012 to 2020 are distributed in table III.

Table III:- Breakdown of customer's suggestions according to survey years.

Settings	Years			Total
	2017	2018	2020	
Number of suggestions	10	15	18	43

During these three years, and out of the forty-three suggestions made by customers, three customer suggestions came back identically. Table IV shows the nature of these suggestions and their frequency of occurrence.

Table IV:- Presentation of identical customer's suggestions and their frequency of occurrence.

Wording of suggestions	Years			Total	Frequency in %
	2017	2018	2020		
Reduce the cost of analyzes	7	4	13	24	56
Provide sampling teams with personal protective equipment (PPE)	1	1	1	3	7
Shorten the deadline for delivering results	2	1	1	4	9

Discussion:-

This part, which is devoted to the discussion of the results, presents the relevance of the elements monitoring retained by the National institute of Hygienics' food and water microbiology laboratory in Lomé.

Customer's numbers and sample sizes
The food and water microbiology laboratory provided services during 2015, 2017, 2018 and 2020 to corporate partner clients, whose staff amounted respectively to52, 61, 63 and 66. At the same time, these services are provided to individual clients whose headcount for the years 2017, 2018 and 2020 were respectively 657,734 and 929. The monthly average of individual customer's numbers indicates individual customer's numbers average of 54, 61 and 77 respectively for the years 2017, 2018 and 2020. The sum of the number of corporate customers and the average individual customer's numbers made it possible to obtain the size of the sample that a satisfaction survey can take

into account, over a period of one month carried out at the intention of the laboratory's clients in the years 2017, 2018 and 2020; which corresponds respectively to 115, 124 and 143. However, the sample sizes of the satisfaction surveys carried out by the laboratory during the years 2015, 2017, 2018 and 2020 were respectively 27, 38, 29 and 62. These data therefore show that there is a gap between the number of clients taken into account by the satisfaction surveys and the statistically required staff for the surveys. So, we can say that the reliability of the results of these surveys is insufficient for statistically acceptable conclusions. However, the effectiveness of these investigations indicates the will of the laboratory to improve its services and customer satisfaction (NF EN ISO / IEC 17025,2017).

Satisfaction indicators

Quality of reception facilities

The food and water microbiology laboratory has not escaped the rule by choosing as an indicator of satisfaction the quality of reception facilities which corresponds to the second part of the reception, to measure the satisfaction of its customers in relation to its reception facilities. The surveys for 2015, 2017, 2018 and 2020 showed satisfaction rate of over 86% with respect to this indicator. What is far above the satisfaction threshold retained by the laboratory (75%).

Indeed, the reception, as an element of communication, participates in the construction of the image of companies, since it crystallizes a visitor's first impression. The reception is at the both the process of receiving people from outside, directing them so that they find what they came looking for and the site where the first meeting takes place between the visitor and the organization. Caring for hospitality means caring for your image with your customers and retain them. It is also reducing tensions and improving the climate relational of the organism. Hospitality is therefore a source of customer satisfaction and must therefore remain a priority for companies (Lapeyrat, 2010).

Waiting time

The National institute of Hygienics' food and water microbiology laboratory assessed the satisfaction of its customers in relation to waiting time using measurement levels such as: short, medium and long which correspond respectively to very satisfactory, satisfactory and not satisfactory. Surveys for 2015, 2017, 2018 and 2020 showed rates of more than 89% satisfaction with this indicator; which also largely exceeded the satisfaction threshold. However, in order to better measure the waiting time in the laboratory, a survey should be carried out to assess the actual waiting time in order to better understand customer's perception of this indicator.

Waiting time reflects the time between the arrival of a client in the reception room and the payment of the analysis invoice. It should be measured in minutes elapsed between the hour arrival in the reception room and the time of payment of the analysis invoice. This time is of paramount importance for customers as a relatively short waiting time will allow the customer to spend less his working time and use it to increase his production.

Reliability of the results

Analysis of survey reports from 2015; 2017, 2018 and 2020 showed rates more than 93% satisfaction with the reliability of the results. Which therefore reflects the quality of the work carried out by the laboratory in relation to the satisfaction threshold that it has set for it self. This parameter is measured with customers through the confidence they place in the laboratory results. This confidence is explained by the fact that the laboratory has the ISO /IEC 17025 accreditation that it has maintained since 2012 (Almeida et al., 2018).

Deadline for rendering results

The surveys for 2017 and 2018 showed satisfaction rates below the threshold of satisfaction retained by the laboratory. This shows customer dissatisfaction with this indicator. This dissatisfaction was also confirmed through customer's suggestions, formulated in connection with this indicator which have never ceased to come up with each satisfaction survey.

The deadline for delivering results reflects the time between sample collection and receipt of the results by clients. This time is strongly influenced by the incubation time of the germs looked for in samples which goes up to seven days for some germs. This incubation time may be prolonged if the result obtained is inconclusive (if the culture is not well done). The customer also, for reasons of decision-making concerning the state sanitary conditions of its product, in order to quickly sell it on the market, would have wanted this delivery time of the results to be as short as possible. This makes it a little tricky to manage customer perception in relation to this indicator and therefore demonstrates its importance to be determined.

To remedy this situation of customer dissatisfaction with this indicator, the laboratory must focus on communication with them in order to provide more clarification on the reasons for the delays in rendering results based on the analyzes to becarry out.

Overall, the satisfaction surveys for 2015, 2017, 2018 and 2020 have showed customer satisfaction rates of over 75% against all indicators of satisfaction. This testifies the quality of the work carried out by the water and food microbiology laboratory of National institute of Hygienics in a continuous improvement process in which it engaged himself.

However, the non-representativeness of the samples from the various satisfaction surveys decreases the degree of reliability of these results. In addition, the lack of data from some periods and with respect to certain parameters, would conceal useful information which could allow us to better appreciate the satisfactory performance of which the laboratory makes proof. Improving data availability with samples statistically sufficient will allow a better appreciation of the laboratory's performance in the future.

To this end, to find solutions to all these shortcomings, the laboratory must take into account all the partner company customers during the satisfaction surveys and ensure that the survey can cover the majority of individual customers by extending the period investigation. It must also better manage data so that from now on the research work that will follow our own can have more reliable data to better appreciate the performance of the laboratory.

Customer's complaints

Customer's complaints, as outlined in ISO 9000 (2015), represent any expression of dissatisfaction addressed to an organization regarding its services, for which a response is implicitly or explicitly expected. To improve its services in order to meet customer's expectations, the water and food microbiology laboratory of National institute of Hygienics has made the efficient management of customer's complaints one of its priorities. A management plan has been set up for this purpose and takes place according to the PC05 / 01 procedure as specified in the MAQ11: 2018 quality manual of the laboratory.

From 2012 to 2020, the laboratory recorded a total of eleven (11) customer's complaints with a 91% overall rate of closed claims. Closed claims were made within the deadline expected resolution. This always testifies to the commitment of the laboratory in the process of continuous improvement.

Customer's suggestions

Customer's suggestions allow the laboratory to learn about customers' wishes in relation to the services they receive. A good management of customer suggestions allows the laboratory to meet their requirements which today remain in continuous growth.

During the years 2017, 2018 and 2020, a total of forty-three suggestions were made by customers. To take these suggestions into account, the laboratory has put in place a plan action that it communicates to customers. The laboratory, through an analysis of the suggestions, distinguishes two types of suggestions: relevant and irrelevant suggestions. The plan action therefore allows the implementation of the relevant suggestions. Concerning the irrelevant suggestions, the laboratory communicates on these suggestions to bring the customers to understand and accept the non-fulfillment of these suggestions.

However, three customer's suggestions came up identically in each satisfaction survey. This shows customers' dissatisfaction with these three suggestions. The unavailability of defined action plans regarding the implementation of the suggestions has not allowed to analyze the different types of suggestions defined by the laboratory and to identify their management situation. Nevertheless, dissatisfaction with these three suggestions indicates an insufficiency either in the implementation of the relevant suggestions or in the level of communication on irrelevant suggestions.

In general, the analysis of the various results from the available data collected indicated that the performance of the water and food microbiology laboratory has been satisfactory since its accreditation in 2012 with a downward trend between 2017 and 2018 and a growth from 2018.

Relevance of the surveillance elements selected by the laboratory

The regular organization of satisfaction surveys by the laboratory to monitor the perception of its customers on the level of satisfaction of their needs and expectations as required standard NF EN ISO 9001, 2015 in paragraph 9.1.2, is a strong commitment which requires very active involvement in the laboratory. The laboratory's commitment has further materialized through the proper management of customer complaints and customer suggestions through:

1. the establishment of a quality policy strongly focused on the continuous improvement of customer's satisfaction through attentive listening and an analysis of their needs;
2. the organization of a regular meeting with customers after each customer survey satisfaction;
3. the implementation of an adequate tool for managing complaints;
4. the establishment of an action plan for the implementation of the suggestions.

This commitment remains essential for the continuous improvement in the performance of the laboratory services (FD X 50-172, 1999). Indeed, the results of the analysis of data and information from monitoring and determining the level of satisfaction allow it to evaluate:

1. the conformity of services;
2. the level of customer's satisfaction;
3. the performance and efficiency of the quality management system;
4. the efficiency with which the planning was implemented;
5. the need to improve the quality management system (NF EN ISO 9001,2015).

Conclusion And Perspective:-

The general objective of this study was to contribute to the monitoring of continuous improvement in performance of the food and water microbiology laboratory, based on the satisfaction indicators. The results obtained revealed an overall satisfaction rate greater than 75%, considering most of these satisfaction indicators. In this laboratory, we note that customer's complaints are over 75% cleared. Claims cleared were made within the expected resolution timeframe. Customer's suggestions are taken into account through the establishment of appropriate action plans. This satisfactory performance laboratory is marked by shortcomings such as the non-representativeness of samples various satisfaction surveys and the unavailability of certain data due to allow for a more relevant analysis. However, analysis of the available data has allowed to achieve conclusive results. This work will serve as a basis for the appreciation of compliance of laboratory services with customer's requirements. It will also allow the laboratory to become aware of its shortcomings in order to improve them and be more competitor. On this depends the continuous improvement of the health of our populations.

In perspective, it is necessary to continue this study by taking into account other quality indicators such as compliance of laboratory services with normative requirements. The analysis of the results clearly showed that the customers' perception of the services of the National Institute of Hygienics' food and water microbiology laboratory is satisfactory even if it is not growing. This then confirms our research hypothesis.

Recommendations:-

The analysis of the results of the available data made it possible, through this study, to identify certain shortcomings which deserve to be improved. The following recommendations may then be formulated at the location of the water and food microbiology laboratory of the National institute of Hygienics.

1. Strengthen data management to improve their archiving so that their availability can contribute to the reliability of analyzes on the performance of laboratory services during subsequent studies;
2. Strengthen communication with customers on suggestions none relevant to customers to promote a better understanding of the merits of none implementing of these suggestions;
3. Evaluate the real waiting time of customers, and if possible, compare it to other structuresat the same international level to better appreciate the perception of customers atwith regard to this indicator;
4. Make available the action plans for the implementation of suggestions for abetter analysis and better monitoring of the implementation of these suggestions.
5. Take into account all corporate and individual customers and increase the investigation period at twelve weeks (3 months), in order to make the survey samples statistically sufficient in the interest of improving data reliability.

Acknowledgment:-

We would like to express our sincere thanks to the Director of the National Institute of Hygienics for accepting that this study be carried out in her institution.

References:-

1. Almeida D., Pradhan N. et Muniz Jr J.(2018): Assessment of ISO 9001: 2015 implementation factors based on AHP: case study in Brazilian automotive sector. International journal of quality & reliability management, 35(7), 1343-1359.
2. Appiah-Adu k. (1998): Market orientation and performance: Empirical tests in a transition economy. Journal of strategic marketing, 6(1), 24-45.
3. Avenir-Togo (2020) : Démarche qualité : Bonne performance des entreprises togolaises. Disponible en ligne sur :https://www.togo-economie.tg/demarche-qualite-bonne-performance-des-entreprises-togolaises/ (page consultée le 18/04/2021).
4. Barry P. (2018) : La qualite n'a pas de prix pour François Kpakpo – ATN. Disponible en ligne sur :https://www.h-atn.com/la-qualite-na-pas-de-prix-pour-francois-kpakpo/ (page consultée le 16/04/2021).
5. Berrada N. (2013) : PDCA, la roue de Deming. Disponible en ligne sur :https://www.kaizen-skills.com/pdca-la-roue-de-deming/ (page consultée le 03/12/2020).
6. Bravi L., Murmura F. et Santos G. (2019): The ISO 9001: 2015 quality management system standard: companies'drivers, benefits and barriers to its implementation. Quality innovation prosperity, 23(2), 64-82.
7. Dumel B. (2019) :Outils de pilotage et de planification de la démarche qualité. Disponible en ligne sur :https://www.google.com/url?sa=t&source=web&rct=j&url=https://qualsimp.sciencesconf.org/data/program/5_Outils_de_pilotage_et_de_planification_de_la_de_marche_qualite_Baptiste_DUMEL.pdf&ved=2ahUKEwjlg5HRgPDvAhUSg_0HHV6vCd4QFjABegQIBBAG&usg=AOvVaw3BdZsAsU5U7nwa0In0S-0q (page consultée le 09/04/2021).
8. FD X 50-172 : 1999 : Management de la qualité - Enquête de satisfaction des clients. AFNOR, 33p.
9. Fekari A. (2011) : La certification ISO et le changement organisationnel dans la PME Marocaine : résultats d'une enquête auprès de 100 PME. Revue management & avenir, 3(43), 164-178.
10. Georgiev S. et Georgiev E. (2015): Motivational factors for adoption of ISO 9001 standards in Eastern Europe: the case of Bulgaria. Journal of industrial engineering and management, 8(3), 1020-1050.
11. Institut National d'Hygiène (INH, 2018) : Manuel Assurance Qualité (MAQ 11), 29p.
12. Institut National d'Hygiène (INH, 2019) :Plan Qualité(PQ-MA 10), 16p.
13. ISO 9000 : 2015, Système de management de la qualité – Principes essentiels et vocabulaire, 4ème édition, Genève, 53p.
14. Katawa G., Kpotra A., Karou D., Eklou M., Tayi K. et de Souza C. (2010) : Contribution à la miseen place d'un systèmed'assurance qualite dans cinq laboratoires de bactériologie médicale au Togo. Disponibleenlignesur :https://link.springer.com/article/10.1007/s13149-010-0104-6 (page consultée le 16/04/2021).
15. Lapeyrat C. (2010) :L'accueil dans les organisations. Disponible en ligne sur :https://www.creg.ac-versailles.fr/l-accueil-dans-les-organisations(page consultée le03/12/2020).
16. Ministère de la Santé et de l'HygiènePublique (MSHP, 2019) : Promotion de la qualité au Togo : « Des laboratoires sous-programmementorat, récompensés ». Disponible en ligne sur :https://sante.gouv.tg/node/595 (page consultée le 16/04/2021).
17. NF EN ISO 9001 : 2015, Système de management de qualité – Exigences, version corrigée, Saint-Denis, AFNOR, 29p.
18. NF EN ISO/IEC 17025 : 2017 : Exigences générales concernant la compétence des laboratoiresd'étalonnages et d'essais. Saint-Denis, AFNOR, 29p.
19. OMS (2011): Laboratory-Quality-Management-System, Lyon, France, 243p.
20. Ponnaiyan S., Ababneh K. et Prybutok V. (2021): Determinants of fast-food restaurant service quality in the United Arab Emirates. Quality management journal, 28(2), 86-97.
21. Siltori P., Rampasso S. I., Martins V., Anholon R., Silva D., Pinto S. J. et Filho L. W. (2021): Analysis of the motivations for ISO 9001: 2015 adoption in the Brazilian business context. Quality management journal, 28(2), 76-85.
22. Valmohammadi C. et Kalantari M. (2015): The moderating effect of motivations on the relationship between obtaining ISO 9001 certification and organizational performance. The TQM journal, 27(5), 503-518.