

**WORKSHOP ORGANIZATIONAL TECHNIQUE OF ELECTRONICS TECHNICIANS TO ENSURE CUSTOMER SATISFACTION.**

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**Abstract**

Electronics technicians have not in many cases utilized the workshop organizational techniques effectively for operating their workshop activities to ensure customer satisfaction. The expectation of customers is to be satisfied with the quality of services given to them. To facilitate the study, three research questions and three null hypotheses were formulated to guide the study. The instrument titled workshop organizational techniques of electronics technicians to ensure customer satisfaction (WOTETECS) made up of 57 items structured questionnaire was used to collect data from 624 respondents in Imo State. Cronbach alpha reliability method was used to determine the internal consistency of the instrument and reliability coefficient of 0.87 was obtained. Mean and standard deviation were used to answer the research questions, while t-test statistics was employed to test the hypotheses at 0.05 level of significance. The findings revealed that, the techniques in the electronics workshop organization to ensure customer satisfaction which include: personnel control, good workshop keeping, and inventory control systems were not practiced by most electronics technicians in the organization of electronics workshops. It was recommended that Electronics technicians should organize seminars and workshops so as to constantly update their workshop organizational techniques to ensure customer satisfaction.

**Keywords:** *Customer satisfaction. Electronics. Technician. Workshop organizational techniques.*

## Introduction

Customer satisfaction measure how well the expectations of a customer concerning services provided in the electronics service workshop have been met. Shawn (2014) refers customer satisfaction as the extent to which customers are happy with the product and services provided by an electronics technician. These services involve such factors as the quality of service provided by the personnel, the atmosphere of the location and the price of the service. In dealing with customers, there must be interpersonal expectations which reflect the relationship between the customer and the service provider, interpersonal shearing of technical knowledge, ability to solve a problem, ability to communicate, reduced time to problem resolution, courtesy, patience, enthusiasm, helpfulness, assurance that electronics technicians understood the customers' problem and situation, communication skills and customer perceptions regarding professionalism of conduct, often including image and appearance of electronics technicians in their workshop.

Electronics is a field of engineering where power is used to activate other components such as diodes, resistors, transistors, and micro-chips on gadgets like radios, televisions, stereos, video compact discs and of course, computers. The field of electronics engineering according to Trevelyan (2005) involves, the design and testing of circuits that use the properties of components such as resistors, capacitors, inductors, diodes, transistors and integrated circuit to achieve a particular functionality of an electronic gadget. Electronics gadget embodies many devices that are fragile and are arranged in a special order to achieve maximum functionality.

Electronics technicians are trained to maintain electronics equipment. Bureau of labour statistics (2010) stated that, electronics technicians layout, build, test, troubleshoot and repair electronics components and equipment such as computer equipment, radio, television, electron tubes and test equipment. Electronics technicians must have completed three or four years of vocational training, and often must have passed a licensing exam, in order to perform the job. The researchers observed that, most of the graduates turned out by technical colleges every year, acquire little or no practical skills, therefore find it difficult to set up their own workshops. This is in line with Auta, (1997) who stated that to acquire competence in skill training, practice is essential and to perform practice, good organization and effective management of workshop are paramount.

Electronics technicians carry out their activities in the workshop. Workshops which are meant for work to earn a living and for training of technicians should be properly organized. Workshop according to Jibril (2011) is a place, area, room or building where machines, hand tools, workbenches and materials are used in manufacturing or repairing of things. Workshop is therefore a building where tools and equipment are effectively and efficiently manipulated to achieve results. These results can be in manufacturing or maintenance of gadgets or equipment. So to effectively manipulate these equipment, good organization is necessary. Della (2011) stated that, organization is planning and arranging something, so that it is successful or effective. Organization as it relates to electronics workshop, is the proper arrangement of the all human resources, workshop tools and equipment for effective and efficient output. Olaitan and Mama (2001) also defined organization in the workshop context as, arrangement of all requisite resources including, human, workshop tools, utensils and materials in a systematic order. If electronics technicians organize their workshops systematically and orderly, there will be job satisfaction and their customers will also be interested in sending their gadgets to them for maintenance. That is to say, workshop organization is the efficient arrangement/coordination of human and material resources by a manager (trainer/teacher) in the work place to achieve maximum result. Most technicians are not conversant with organizational technique that should be adopted in the workshop to ensure customer satisfaction. This is clearly evidenced by the disorderly way they usually pack customer's electronics appliances in their workshop.

Without good organizational technique, electronics technicians cannot function appropriately. There will be too many devices/components/and then gadgets to look for at any point in time. Thus creating chaos, un-coordination and eventual inability to carry out repairs. That is to say, proper workshop organizational technique is a pre-requisite for functional workshop and effective repair of electronics appliance. According to Giachimo and Gallington (1977) and Storm (1979) technique in workshop organization include, personnel organization, safety and accident prevention in the workshop, selection and storage of workshop facilities and inventory control systems. Therefore workshop organizational techniques are those techniques that should be adopted by electronics technicians to function effectively and perform the best they could; these would enable greater and higher productivity and good quality services that should ensure customer satisfaction. The activities in the electronics workshop are supposed to be carried out systematically and technically. In order to obtain desirable objectives of any work, there is need for effective input to proper utilization of workshop equipment which will make production faster and the general goals can be achieved without stress. So the effectiveness of these workshops depend largely on how well the electronics technicians organize their workshops. To do this, Pawalck and Ziefle (1987) identified three techniques to aid trainers in organizing facilities in the workshop, the school shop should be arranged in the manner which permits the teaching and learning most effectively, the workshop should be arranged and organized in such a way that it is a safe place to work for both the trainer and trainee, and the workshop should be organized in such a way that, it presents a pleasing artistic and attractive

appearance. Andrew and Erickson (1976) had earlier noted that, the problem of good workshop organization would be simple, if the owner of electronics workshop has sufficient and competent workshop attitude and organizational techniques. More so, if he is conversant with, the existing organizational techniques adopted in the electronics workshop to ensure customer satisfaction.

Personnel control in the electronics workshop demands conscious efforts by the manager. The functional scopes of personnel control include recruitment, selection, orientation, supervision and evaluation of staff performance (Ndu, 1997). Personnel control entails effective and efficient human resource organization, to achieve greater output in the workshop. The owners of electronics workshops must possess the techniques of controlling the personnel as well as good shop keeping to achieve maximum result. The maintenance of clean environment reflects on our personal cleanliness. This means that if our surrounding is dirty, there is an obvious positive correlation between dirty environment and our personal cleanliness. In this regard, our workshop must be kept clean, if the activities that take place there must be considered healthy and productive. As rightly observed, the general appearance of the workshop is one of the major criterion by which customers assess the workshop. Before maintenance activity is started on any electronics equipment, a conducive work area is needed. The requisites of a good workshop according Yong , (2011) are as follows, the workshop should have 3 pronged (grounded) electrical outlets, good lighting and well ventilated, it should be well-equipped with test instruments, tools and should have sufficient storage space for spare parts and related accessories. Floor material should be anti-static, non-sticky, easily cleaned and non-slipping. It should be kept clean of dust, dirt, webs, and insects. The workshop should have five extinguisher and first-aid kit box. The workbench should be equipped with a complete power strip with surge protectors, fluorescent lighting and a magnifying lamp. The workbench also should have sufficient space for keeping test instrument, tools, soldering iron and set under test. The basis for good shop keeping is organization. Without specific plan, it is mutually impossible to set in motion those practices which produce an attractive working situation. Ross (1988) listed these practices or principles as including the following, clean shop always, good ventilation, heating and lighting. Tools, materials, equipment, instruments and projects storage should conform to standard. Good storage of facilities helps to ease confusion. Personnel involved in the workshop activities may spend a whole day searching for a tool or component, if these facilities are not well stored. Giachimo and Gallinton (1977) and Storm (1979) listed the storage system as open or lockable tool panels which are mounted on the walls or rollers, tool storage room within the workshop, central store which serve numerous shops within an occupational cluster, tool kit which contain a complete set of frequently used tools. Storage facilities are the tool kits, toolboxes, tool panels or drawers, either mounted or constructed together in shelves either kept in a specific location or in a room for easy accessibility and identification of components and tools when the need arises. These facilities have to be well recorded to keep tract of them. Tools and equipment supply must be recorded in an inventory list to ensure safety, keep tract of supplies as well as rate of their usage. Inventory control is the taking and keeping of accurate record of incoming and outgoing equipment, material supplies and their usage in the workshop to ensure good accountability and customer will be satisfied. Bethel (1997) stated that inventory control systems are receipt storage, disbursement, and recording of materials in a manner that supplies the desired degree of services.

Customers' complaint of poor and unsatisfying services provided by electronics technicians, in the modern day society is indicating the level of techniques electronics technicians possessed. However, the organization of electronics service workshops, leave much to be desired. Electronics technicians seem to be ignorant about the importance of properly organized workshops, because the equipments and services in their electronics workshops are not properly organized for efficiency and effectiveness. As at now, poor organization of electronics workshops, or lack of it entirely have manifested in production of graduates that cannot set up good and organized workshop. This is because electronics workshops are not properly organized as they had become house of junks for unrepaired equipment; sometimes electronics technicians misplace their customers' equipment because there are no record of inventory. Perhaps, it is time to alter the concept of underdevelopment and think in terms of organization; these would focus the attention on helping unorganized electronics workshops, to improve their organization of electronics service workshops. Customer satisfaction is a strong predictor of customer retention, customer loyalty and product purchase. Effective workshop organization and customer satisfaction focus on creating and reinforcing positive experiences to retain existing customers and also add new customers.

### **Purpose of the Study**

This study is to profess ways of workshop organizational techniques of electronics technicians to ensure customer satisfaction. Specifically, the study sought to identify:

- 1 Personnel control in the electronics workshop to ensure customer satisfaction.
- 2 Good electronics workshop keeping to ensure customer satisfaction.
- 3 Inventory control system for electronics repair facilities to ensure customer satisfaction.

## Research Questions

The following research questions guided the study:

- 1 What are the personnel control in the electronics workshop to ensure customer satisfaction?
- 2 What are the good electronics workshop keeping to ensure customer satisfaction?
- 3 What are the inventory control system for electronics repair facilities to ensure customer satisfaction?

## Hypotheses

- Ho1. There is no significant difference in the mean ratings of the electronics technicians and their customers in the personnel control to ensure good electronics workshop organization and customer satisfaction.
- Ho2. There is no significant difference in the mean ratings electronics technicians and their customers in the good electronics workshop keeping to ensure good electronics workshop organization and customer satisfaction.
- Ho3. There is no significant difference in the mean ratings of the electronics technicians and their customers in the inventory control system for electronics workshop facilities to ensure customer satisfaction.

## Method

Three research questions guided the study, and three null hypotheses were formulated and tested at 0.05 level of significance. Survey research design was adopted for this study. Survey research design according to Ezeji (2004) researcher collects detailed description of existing phenomena with the intent of using data to justify current condition and practices or to make better plan for improving phenomena. The questionnaire titled workshop organizational techniques of electronics technicians to ensure customer satisfaction (WOTETECS) was used to collect data for the study.

The study was carried out in Imo State of Nigeria. A total of 624 respondents which include 312 electronics technicians and 312 electronics repair customers were used for the study. No sampling, hence the population was not too large. A structured questionnaire workshop organizational technique of electronics technicians to ensure customer satisfaction (WOTETECS) was used to solicit responses from the respondents. The WOTETECS was divided into two parts; part 1 and 2. Part 1 is concerned with the bio data of the respondents while part 2 was divided into three sections; section A, B and C, require the respondents response to set of statements that were made to measure electronics workshop organizational techniques and customer care satisfaction.

Section A sought information on the personnel control in the electronics workshop organization to ensure customer care satisfaction, Section B sought information on good electronics workshop keeping necessary in the electronics workshop to ensure customer satisfaction, while section C sought information on inventory control system for electronics workshop and customer care satisfaction. The instrument utilized a 4-point scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD) with the assigned scores 4, 3, 2, and 1, respectively with 57 generated items. The instrument was validated by three experts in the Department of Industrial Technical Education, University of Nigeria, Nsukka. Cronbach Alpha reliability method was used to determine the internal consistency of the instrument through trial testing, were used in computation. An internal consistency reliability estimate of 0.87 was obtained from the items in the instrument.

Six hundred and twenty four copies of questionnaire were administered with the help of five research assistants. All the copies were retrieved and analyzed using mean and standard deviation to answer the research questions while t-test statistic was used to test the null hypotheses at 0.05 level of significance.

## Results:

The result of the data analyzed in this study is presented below;

### Research Question 1

What are the personnel control in the electronics workshop to ensure customer satisfaction?

**Table 1:** The mean ratings of respondents on personnel control in the electronics workshop to ensure customer satisfaction.

S/No	Items	Mean	Std. D.	Decision
1.	Apprentices/learners are inspired to the electronics service workshop.	2.67	0.94	Agreed
2.	Workshop product customers are always communicated effectively.	2.32	0.95	Disagreed
3.	Willingness to seek advice from other technicians.	2.50	0.95	Agreed
4.	Difficult customers are effectively handled.	2.46	0.93	Disagreed
5.	Task in the workshop is always defined.	2.57	0.92	Agreed
6.	Performance of apprentices are always monitored to ensure task accomplishment.	2.67	0.85	Agreed
7.	Possess the technique in sustaining long hours of work	2.39	1.04	Disagreed
8.	Work is accomplished as at when due.	2.34	1.01	Disagreed
9.	Work is accomplished even under stressful condition.	2.38	0.90	Disagreed
10.	Desire to set high standard in job performances.	2.72	0.88	Agreed
11.	Orderliness in the workshop is always ensured.	2.92	0.79	Agreed
12.	Equipments are repaired on first come first serve basis.	1.87	0.63	Agreed
13.	Equipments are tested in the presence of the customers before commencing repairs.	2.62	0.98	Agreed
14.	Equipments brought customers are handled with care.	2.64	0.93	Agreed
15.	Customers is communicated effectively immediately faults are detected.	2.34	0.93	Disagreed

The data presented in table 1 above in research question 1 indicates that the respondents agreed with items 1, 3, 5, 6, 10, 11, 12, 13, and 14 in all items. Generally, it is interesting that the respondents need all these technique for the personnel control in the organization of their electronics workshop to ensure customer satisfaction.

### Research Question 2

What are the good electronics workshop keeping necessary in the electronics workshop to ensure customer satisfaction?

**Table 2:** The mean rating of respondents with regards to the good electronics workshop keeping to ensure customer satisfaction.

S/No	Items	Mean	Std D.	Decision
16.	Equipment is always turned off and the electric chord unplugged before beginning to work.	2.21	0.69	Disagreed
17.	Safety notices depicting 'danger' conspicuously displayed.	2.40	1.01	Disagreed
18.	Electric live wire is protected.	2.75	1.05	Agreed
19.	Fighting and playing in the workshop are prohibited.	3.16	0.37	Agreed
20.	Workshop is swept every day before work.	2.80	0.80	Agreed
21.	Workshop is swept every day after work.	2.61	0.91	Agreed
22.	Tools and materials are not littered on the floor.	2.66	0.88	Agreed
23.	The surrounding of the workshop is always kept tidy	2.78	0.84	Agreed
24.	Workshop floor is always kept dry.	3.20	0.40	Agreed
25.	The workshop is properly ventilated.	2.44	0.99	Disagreed
26.	The workshop is properly illuminated.	2.48	0.98	Disagreed
27.	Tables/chairs are properly arranged in their assigned portion of the workshop.	2.39	0.97	Disagreed
28.	Large portion of the workshop is set aside as storage area.	2.47	0.85	Disagreed
29.	Frequently used tools are kept on the work bench.	2.75	0.83	Agreed
30.	Incoming gadgets are arranged separately on the panels (shelve).	2.21	0.84	Disagreed

31. Repaired gadgets are also arranged separately on the panels (shelve)	2.21	0.84	Disagreed
32. Junks are packed at different part of the panels (shelves).	2.09	0.73	Disagreed
33. Tool panels are used to store tools.	2.10	0.79	Disagreed
34. Small chippings from leads, wire and solder sucker refuse are gathered in a small desktop cup/containers.	2.04	0.74	Disagreed
35. Waste disposal dustbin are placed at strategic locations in the workshop.	2.35	0.94	Disagreed

Table 2 in the research question 2 indicates that the respondents disagree with all the items except items 18, 19, 20, 21, 22, 23, 24 and 29. This indicates that good electronics shop keeping practiced by the electronics technicians in the organization of their workshops should be enhanced to ensure that life of personnel working in the workshop and equipment are protected.

### Research Question 3

What are the inventory control system for electronics workshop to ensure customer satisfaction?

**Table 3:** The mean rating of respondents with regards to the inventory control system for effective organization of electronics workshop to ensure customer satisfaction.

S/No	Items	Mean	Std. D.	Decision
36.	Supplies are ordered only when needed for a particular purpose.	2.62	0.82	Agreed
37.	Record of incoming gadgets are kept.	2.10	0.89	Disagreed
38.	Record of gadgets with identified faults are kept.	2.04	0.91	Disagreed
39.	Record of gadgets with unidentified faults are kept.	2.30	0.85	Disagreed
40.	Record of finished gadgets are kept.	2.20	0.82	Disagreed
41.	The drawers/boxes are labelled.	2.41	0.59	Disagreed
42.	The kits are labelled.	2.51	0.73	Agreed
43.	Components supply record is carefully maintained to ensure continued supply.	2.40	0.63	Disagreed
44.	Card are used to write the names of items in the workshop.	2.58	0.90	Agreed
45.	Record of returned equipment to customer is kept.	2.09	0.56	Disagreed
46.	Record of description of fault of an equipment is kept.	2.06	0.60	Disagreed
47.	Record of repairs are kept.	2.06	0.67	Disagreed
48.	Record of listing of parts ordered for a particular job are kept.	2.17	0.72	Disagreed
49.	Record of schedule of service performed by all apprentices are kept.	2.03	0.69	Disagreed
50.	Equipments are repaired within two weeks.	2.51	0.74	Agreed
51.	Customers always complain of lost equipments.	2.04	0.91	Disagreed
52.	Lost equipments are always replaced for the customer.	2.01	0.90	Disagreed
53.	Customers provide money for the purchase of the bad parts.	2.87	0.86	Agreed
54.	Bill for bad parts and workmanship are paid together.	2.62	0.82	Agreed
55.	Notice of uncollected repair is always sent to customers.	1.94	0.68	Disagreed
56.	Invoice or receipt is always giving to customers.	2.02	0.68	Disagreed
57.	Equipments are tested before the customers collects their equipment.	2.92	0.64	Agreed

Table 3 in research question 3 shows that the respondents agreed only on items 36, 42, 44, 50, 53, 54 and 57 which shows that these techniques were not practiced by electronics technicians in the electronics workshops to ensure customer satisfaction. It implies that respondents do not know the importance of recording keeping which must be practiced to reduce confusion, in coordination, and misplacement of equipment.

**Statistical Significance of Hypotheses.****Hypothesis 1**

There is no significant difference in the mean ratings of the electronics technicians with several and more numbers of apprentices in the personnel control to ensure good electronics workshop organization and customer care satisfaction. Data for testing this hypothesis are presented in Table 4

**Table 4:** t-test scores of the means responses of the respondents on personnel control in the electronics workshop to ensure customer satisfaction.

S/No	Items	$\bar{X}_1$	SD1	$\bar{X}_2$	SD2	t	Sig	Decision
1.	Apprentices/learners are inspired to the electronics service workshop.	2.80	0.87	2.45	1.01	2.92	0.00	Rejected
2.	Workshop product customers are always communicated effectively.	2.35	0.95	2.28	0.94	0.71	0.77	Accepted
3.	Willingness to seek advice from other technicians.	2.56	0.85	2.39	1.07	1.70	0.00	Rejected
4.	Difficult customers are effectively handled.	2.60	0.86	2.25	0.99	3.30	0.12	Accepted
5.	Task in the workshop is always defined.	2.62	0.87	2.49	0.99	1.17	0.02	Rejected
6.	Performance of apprentices are always monitored to ensure task accomplishment.	2.78	0.78	2.51	0.96	2.75	0.00	Rejected
7.	Possess the technique in sustaining long hours of work.	2.44	1.02	2.32	1.06	0.99	0.63	Accepted
8.	Work is accomplished as at when due.	2.44	1.01	2.18	1.01	2.23	0.42	Accepted
9.	Work is accomplished even under stressful condition.	2.49	0.82	2.20	0.97	2.91	0.05	Accepted
10.	Desire to set high standard in job performances.	2.87	0.77	2.50	0.99	3.68	0.00	Rejected
11.	Orderliness in the workshop is always ensured.	3.04	0.70	2.72	0.88	3.51	0.00	Rejected
12.	Equipments are repaired on first come first serve bases.	1.92	0.59	1.82	0.70	1.42	0.01	Rejected
13.	Equipments are tested in the presence of the customer before commencing repairs.	2.79	0.87	2.34	1.07	4.01	0.00	Rejected
14.	Equipments brought by customers are handled with care.	2.72	0.90	2.53	0.96	1.76	0.09	Accepted
15.	Customers are communicated immediately faults of an equipment is detected.	2.39	0.92	2.28	0.94	0.98	0.95	Accepted

The data analysis in table 4 revealed that the above levels of items 1, 3, 5, 6, 10, 11, 12, and 13 which have scores less than the stated 0.05 level of significance therefore the null hypothesis is rejected. However, the significance level other items are greater than 0.05 therefore the null hypothesis is accepted.

**Hypothesis 2**

There is no significant difference in the mean ratings of electronics technicians and customers in good workshop keeping, to ensure good electronics workshop organization and customer satisfaction. Data for testing this hypothesis are presented in Table 5.

**Table 5:** t-test scores of the means responses of the respondents on the safety measures to ensure good electronics workshop and customer care satisfaction.

S/No	Items	$\bar{X}1$	SD1	$\bar{X}2$	SD2	t	Sig	Decision
16.	Equipment is always turned off and the electric chord unplugged before beginning to work.	2.15	0.73	2.27	0.65	-1.47	0.37	Accepted
17.	Safety notices depicting 'danger' conspicuously displayed.	2.28	1.03	2.79	0.92	-4.61	0.14	Accepted
18.	Electric live wire is protected.	2.40	1.12	3.09	0.86	-6.12	0.00	Rejected
19.	Fighting and playing in the workshop are prohibited.	3.13	0.34	3.18	0.39	-1.20	0.02	Rejected
20.	Workshop is swept every day before work.	2.66	0.88	2.94	0.70	-3.21	0.00	Rejected
21.	Workshop is swept every day after work.	2.54	0.93	2.69	0.89	-1.40	0.24	Accepted
22.	Tools and materials are not littered on the floor.	2.52	0.97	2.79	0.77	-2.64	0.00	Rejected
23.	The surrounding of the workshop is always kept tidy.	2.68	0.87	2.87	0.80	-1.97	0.03	Rejected
24.	Workshop floor is always kept dry.	3.17	0.38	3.22	0.42	-1.15	0.02	Rejected
25.	The workshop is properly ventilated.	2.22	1.02	2.64	0.92	-3.83	0.01	Rejected
26.	The workshop is properly illuminated.	2.31	1.00	2.64	0.94	-2.99	0.16	Accepted
27.	Tables/chairs are properly arranged in their assigned portion of the workshop.	2.34	0.93	2.41	0.99	-4.44	0.23	Accepted
28.	Large portion of the workshop is set aside as storage area.	2.33	0.91	2.58	0.78	-2.59	0.01	Rejected
29.	Frequently used tools are kept on the work bench.	2.59	0.95	2.88	0.69	-3.19	0.00	Rejected
30.	Incoming gadgets are arranged separately on the panels (shelves).	2.28	0.84	2.16	0.84	1.28	0.42	Accepted
31.	Repaired gadgets are also arranged separately on the panels (shelves)	2.21	0.87	2.21	0.83	0.00	0.57	Accepted
32.	Junks are packed at different part of the panels (shelves).	2.07	0.76	2.10	0.72	-0.42	0.66	Accepted
33.	Tool panels are used to store tools.	2.12	0.82	2.09	0.76	0.31	0.27	Accepted
34.	Small chippings from leads, wire and solder sucker refuse are gathered in a small desktop cup/containers.	2.07	0.76	2.02	0.72	0.52	0.46	Accepted
35.	Waste disposal dustbin are placed at strategic locations in the workshop.	2.21	0.84	2.47	1.00	-2.39	0.00	Rejected

The data analysis in table 5 revealed that the levels of items 18, 19, 20, 22, 23, 24, 25, 28, 29, and 35 with scores less than the stated 0.05 level of significance therefore the null hypothesis is rejected. However, the significance level of items 16, 17, 21, 26, 27, 30, 31, 32, 33, and 34 are greater than 0.05 therefore the null hypothesis is accepted.

### Hypothesis 3

There is no significant difference in the mean ratings of the technicians with few and many customers on the inventory control system for electronics workshop facilities to ensure customer satisfaction.

Data for testing this hypothesis are presented in Table 6.



**Table 6:** t-test scores of the means responses of the respondents on inventory control systems for electronics repair facilities to ensure customer care satisfaction.

S/No	Items	$\bar{X}_1$	SD1	$\bar{X}_2$	SD2	t	S	Decision
36.	Supplies are ordered only when needed for a particular purpose.	2.54	0.86	2.78	0.73	-2.49	0.00	Rejected
37.	Record of incoming gadgets are kept.	2.05	0.89	2.19	0.87	-2.57	0.81	Accepted
38.	Record of gadgets with identified faults are kept.	1.99	0.91	2.14	0.91	-1.41	0.71	Accepted
39.	Record of gadgets with unidentified faults are kept.	2.24	0.89	2.39	0.77	-1.41	0.71	Accepted
40.	Record of finished gadgets are kept.	2.17	0.81	2.27	0.87	-1.03	0.39	Accepted
41.	The drawers/boxes are labelled.	2.40	0.57	2.43	0.59	-0.50	0.60	Accepted
42.	The kits are labelled.	2.61	0.78	2.35	0.64	2.97	0.00	Rejected
43.	Components supply record is carefully maintained to ensure continued supply.	2.37	0.59	2.48	0.68	-1.48	0.01	Rejected
44.	Card are used to write the names of items in the workshop.	2.54	0.88	2.66	0.93	-1.16	0.18	Accepted
45.	Record of returned equipment to customer is kept.	2.11	0.53	2.07	0.62	0.62	0.18	Accepted
46.	Record of description of fault of an equipment is kept.	2.09	0.55	2.02	0.66	1.04	0.12	Accepted
47.	Record of repairs are kept.	2.05	0.67	2.09	0.66	-0.47	0.10	Accepted
48.	Record of listing of parts ordered for a particular job are kept.	2.22	0.69	2.08	0.76	1.59	0.85	Accepted
49.	Record of schedule of service performed by all apprentices are kept.	1.98	0.70	2.09	0.68	-1.37	0.86	Accepted
50.	Equipments are repaired within two weeks.	2.61	0.78	2.35	0.64	2.97	0.00	Rejected
51.	Customers always complain of lost equipment.	1.98	0.91	2.14	0.91	-1.41	0.71	Accepted
52.	Lost equipments are replaced for the customers.	1.97	0.90	2.11	0.90	-1.29	0.10	Accepted
53.	Customers provide money for the bad Parts.	2.81	0.88	2.99	0.88	-1.77	0.06	Accepted
54.	Bill for bad parts and workmanship are paid together.	2.55	0.85	2.77	0.74	-2.38	0.00	Rejected
55.	Notice of uncollected equipment is sent to the concerned customer.	1.94	0.67	1.96	0.71	-0.21	0.41	Accepted
56.	Invoice or receipt is always giving to to customers.	2.05	0.66	3.04	0.70	1.08	0.40	Accepted
57.	Equipments are tested before the customers collect their equipment.	2.92	0.62	3.04	0.67	-1.67	0.43	Accepted

The data analysis in table 6 showed that the significance level for items 36, 42, 43, 50 and 54 were less than the stated 0.05 level of significance therefore the null hypotheses were rejected. This follows that whatever difference that existed between the mean responses of electronics technicians on inventory control systems for electronics repair facilities to ensure customer satisfaction were statistically significant in most of the cases.

### Discussion

The main purpose of this study concerned workshop organizational techniques of electronics technicians to ensure customer are satisfaction. The findings related to personnel control in the electronics workshop to ensure customer satisfaction revealed that the technicians need to adopt most of these techniques as it would permit smooth operation and organization of the electronics workshop. It was observed that personnel control ensures better workshop organization since the electronics technician should not rely entirely on his own effort to ensure good workshop organization to ensure customer care satisfaction. To ensure safety of lives and properties, the word 'safety' must not be

taken seriously. Electronics technicians who operate with hazardous unseen but felt electricity are still ignorant of the danger they are exposing their lives and equipments. This indicates that good workshop keeping practiced by the electronics technicians in the organization of their workshops to ensure customer satisfaction need to be enhanced to ensure that life of personnel working in the workshop and equipment are secured. On storage system, the findings revealed that, the storage systems suggested by Giachimo and Gallington (1977) and Storm (1979) include: Open or lockable tool panel, which is mounted on the wall or rollers, tool storage room within the workshop, central storeroom and tool kits which contain frequently used tools. Despite the findings seemly disagreement with experts views, the fact still holds that effective storage techniques are indispensable for effective organization of electronics workshops and customer care satisfaction. It is pertinent to say that, electronics technicians do not practice inventory control in their workshops, those that operate only manage it as a casual technique without knowing that inventory control system if practiced will save them from danger of total eradication of confusion, misplacement of components/ equipments and in coordination.

The findings of the hypotheses revealed that was no significant difference in most of the mean ratings of electronics technicians and their customers in the personnel control to ensure good electronics organization. This indicates that personnel control must be improved to ensure effective and efficient electronics workshop organization to ensure customer satisfaction. Also on the mean ratings of the electronics technicians and their customers in the good electronics workshop organization to ensure customer satisfaction. There was an indication that significant difference existed in half of the mean ratings of the responses which implies that adequate care must be taken among the electronics technicians to protect lives and properties. Difference that exist between the mean ratings of electronics technicians and their customers on inventory control systems for electronics repair facilities to ensure customer care satisfaction were statistically significant in most of the cases. This indicates that electronics technicians do not effectively practice inventory control system to eliminate confusion in the workshop.

### **Conclusion**

Based on the findings of this study, the following conclusions were made:

Techniques for the personnel organization and customer care satisfaction were identified. If efforts are made towards adopting those identified techniques and learning new ones, the burden of workshop organization will go a long way in achieving maximum result. The good workshop keeping in the electronics workshop to safe guide lives and properties were also identified. If these good workshop keeping are adopted by electronics technicians, apprentices will not be apprehensive of workshop activities but will have their interest stimulated in practical activities in the electronics workshop. Electronics technicians lack most of the modern inventory control system as techniques necessary for improving workshop organization to ensure customer satisfaction. They also lack efficient customer communication system to reach out to customers when need arise. If the electronics technicians improve on these techniques to remove their deficiencies in techniques practiced to enhance workshop organization and customer care satisfaction, the workshop organization will be fashioned to achieve efficient and effective results.

### **Recommendations**

Based on the findings of this study, subsequent discussions and their implications, the following recommendations were made:

1. Electronics technicians should organize seminars and workshops so as to constantly update their workshop organizational techniques to ensure customer satisfaction.
2. Where skills are lacking, appropriate routine training on these techniques should be adopted.
3. Effective customer care control system should be maintained by electronics technicians.
4. Service centre software management packages are needed, which will serve as a data bank of faults, their remedies and can also provide an instant reference to a particular customer, generates invoices and progress reports.

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