Design And Implementation Of Customer Service

Complaint Portal

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***Abstract*—This study investigated the effect of Customer Service Portal and its effects to customer satisfaction at Kano Electricity Distribution Company (KEDCO) Hadejia Business Unit. It is a research based design purposely to give an easier way for receiving marketing and technical complain from the customers through the web portal. Designing the proposed system would enable the faraway customers to render complain easily and swiftly and the system would help the organization to address the issue of proper documentation and retrieval of their customer's complaints. The study adopted descriptive survey design involving quantitative research and targeted customers of the KEDCO Hadejia Business Unit. The customers were classified into two segment that is corporate customers who were 180 and domestic customers who were 460 totalling to 640. Probability random and stratified random sampling techniques were used to select 90 corporate customers and 230 domestic customers for the study sample size. The study used both primary and secondary sources of data using questionnaires and interview schedules as the research instruments. Data were analyzed using descriptive statistics. Therefore, introduction of the computer oriented approach would overcome the challenges faced in the manual based which is expected to eliminate the shortcomings of the existing system.**

Keywords*— *Business, Customer, Distribution, KEDCO, Network, Service

I. INTRODUCTION

In traditional markets, customer complaints are considered an important source of information. Therefore since complaint management is recognized as being central to customer satisfaction, any measure of complaint behavior should consider the degree and quality of the underlying customer satisfaction (Jackson Hole, Wyoming, 2001). Customer Service portal in this research context is a status granted an individual's, typically the customers at Kano Electricity Distribution Company (KEDCO) Hadejia Business Unit by allowing them to have an access to the portal and give them chance to send their complaints via internet wherever they are. However Kano, Katsina and Jigawa State are under Kano Electricity Distribution Company which comprises of ten different Business Units, including Hadejia Business Unit.

The main goal of customer service is to provide better service to the customer when they contact the customer service employees, either through email, or a phone call. This will ensure prompt delivery of responses and satisfaction via correct solution in a timely manner. This is achieved in a proactive manner thereby resolving many issues before the customer even notices any lapses. The customer should notice an improvement in the turnaround time when a help request is submitted, as well as a reduction in the number of times they have to ask for help until the solution provided.

Johnston (2004), cited in Otiso et al (2012), posits that the aim for service excellence does not imply that organizations should continually and always exceed expectations; service excellence is to provide the customers with what they value in order to induce feelings of delight; also as Avgerou (2008) conducted extensive research on discourses on innovation and development in Information Systems (IS) in developing countries.

This proposed study will make an enhancement in the current technical support mechanism used by the KEDCO Hadejia Business Unit technical support department. It will be conducted based on Problem Tracking Technique which help to ensure consistent and quality support, track the information and problems that come into the Help Desk and assign or forward the problems to the appropriate workgroup and follow-up to make sure the problems are corrected or amended.

However, the Electronic Customer Relationship Management (e-CRM) is gaining the attention of e-business managers who are interested in increasing repeat business and customer loyalty Julta, D., Craig, J. (2001).

A. Power Sector

Power sector in Nigeria are the organization responsible to provide the nation with sufficient electricity supply across the country. This sector is being control by the federal government through the power minister. The Nigerian Power Sector (Fig. i) is made up of three (3) major sub - sectors as depicted below.

- Generation (GENCO)
- Transmission (TRANSISCO)

- Distribution (DISCO).

All the above list of companies / subsectors reports to their MD's (Managing Director) at Zonal Headquarter in Abuja who then reports to the Minister of Power and steel. Then the Power Minister reports directly to the Mr. President of the federal republic of Nigeria.

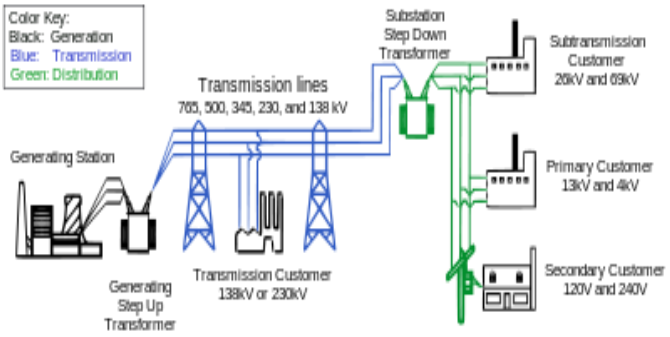

Fig. 1. Power Sector.

B. *Statement of the Problem*

Based on the fact that Hadejia Business Unit is a large organization that covers 13 local government areas of Jigawa State, receiving customer's complaint reports is always being made through only one desk officer (Customer Service or Care) under the Business Unit in Hadejia Town. Customer comes from far and near to table down their complaints or requests manually through only one medium thereby posing the following problems.

- Less efficiency
- Less effectiveness
- Less reliability
- Time consuming
- Waste of material resources.

The proposed new system would takes control of all the above mentioned problems efficiently.

II. LITERATURE REVIEW

Roles of ICT in any Customer Service enterprise system cannot be over emphasized. Basically, ICT describes the technology that enables recording, processing, retrieving and the transmission of information or data. Herselman and Hay (2003) also describe ICT as technologies that support the communication and co-operation of "human beings and their organizations" as well as "creation and exchange of knowledge. Furthermore, Yu (2010) considers ICT as a range of technologies that allow the gathering, exchange, retrieval, processing, analysis and transmission of information. In order words, ICT can be described as any tool that facilitates communication, process and transmit information and share knowledge through electronic means.

Customer service is the lifeblood of any organization, and it is not just a department but must be the attitude of the entire company. Employees can be trained to provide the best service possible to the customer. But if the technology is not adequate, customers and employees will quickly become disheartened and frustrated. A frustrated customer (or employee) can lead to lower company revenues through loss of sales and productivity. However, technology properly used can help employees work more efficiently and ease customer frustrations. There are various ways technology can be used to improve customer service. Bloom et al. (2009) ascertain that ICTs play a major role in networking and communication as firms use these technologies to facilitate communication among employees and reduce co-ordination costs.

According to Hanna (2003), ICT enhances the production process in organizations as monitoring technologies could be used to reduce the number of supervisors required in the process.

A. *Increased Automation*

Contact centers are increasingly using voice recognition and call-routing technologies. The customer can speak to a computer or press keys that will route him or her to the appropriate department to handle the request. Call routing improves customer service by allowing the customer to go straight to the person that can handle his or her needs. This saves the customer from repeating the request to numerous representative and ultimately saves time for the customer and saves money for the organization. Research technologies and consultants can help automate routine processes.

B. *Customer Empowerment& Education*

Online technology also empowers and educates customer. With technology, the customer can get what is needed from the company. Self-checkout lines have become popular in retail outlets. The customer goes into the store to get what is needed and can check out without interacting with the company's associates. The customer is satisfied because he or she can quickly get exactly what is needed, purchase and pay for the item without a long wait. The customer may also choose not to self-checkout and prefer to use a cashier line. This also increases customer service because he or she has an option. The customer has control over how he or she interacts with the organization and also see what the company can allow the customers to access themselves.

III. CUSTOMER SERVICE TECHNOLOGY

There are a few major areas in which technology now is able to help provide key advantages to businesses in engendering customer loyalty by improving customer service.

A. *Websites*

Providing areas on your website where customers can answer their own questions and seek answers from others.

B. *E-mail*

Using e-mail is a way to improve customer service and more quickly respond to certain needs or help requests.

C. *Communication*

Unifying communication so that you know that the customer who left a voice mail also sent an e-mail with the same request a few days ago.

D. *Software*

Better managing customer relationships with more sophisticated data-gathering tools, such as customer relationship management software.

IV. General Analysis of Existing System

The major complains being reported by customers to the Customer Service Office can either be a Technical or Marketing issue.

A. *Technical Complaint*

In this research context, Technical complaint are mostly reported by the customers on Transformer problems such as Fuse cut up from the Feeder's Pillar, Service wire cut or partial contact, and some major problem like H.T (High Tension) and L.T (Low Tension), Pole broken or bent, H.T (High Tension) and L.T (Low Tension), Aluminum conductor wire cut or twisted and others.

B. *Marketing Complaint*

Marketing complain is a problem reported by the customers such as non-picking of Meter reading, non-reflection of payment on new bill, Present bill not received by the customer and other relevant problems which may include: change of name, change of area code and other similar issues.

V. Receiving Customer's Complains Manually

With the manual approach, customers comes physically to the KEDCO's office to present his / her bill for complaint to the KEDCO's Hadejia Business Unit customer service officer. This bill contains details about the customer such as Customer Name, Customer Account Number, Customer Address, Customer Last Payment with Date and other information placed on the Bill. This will enable the customer service officer or care officer to record the customer information in his report book which is then processed later manually. This manually procedures take a very long time to materialized. The adopted old manual format is depicted which is further introduced.

VI. Distribution Network

Electrical distribution systems are primarily designed to meet the consumer's demands for energy. This is achieved by taking energy from primary substations and delivering it to various customer substations through either underground cables or above ground lines, the line can either be a H.T (High Tension) or L.T (Low Tension). Each distribution transformer has its own name and location in every environment that has a power supply

The single line color coded which indicate the voltage level of each line starting from **330KV=Black**, **132KV=Blue**, **33KV=Green**, **11KV=Red and 0.415KV= yellow**, this will enable the user to know the capacity of voltage in every networks as shown in Fig. ii and Fig. iii below for the 33KV single line and 11KV single line distribution network respectively.

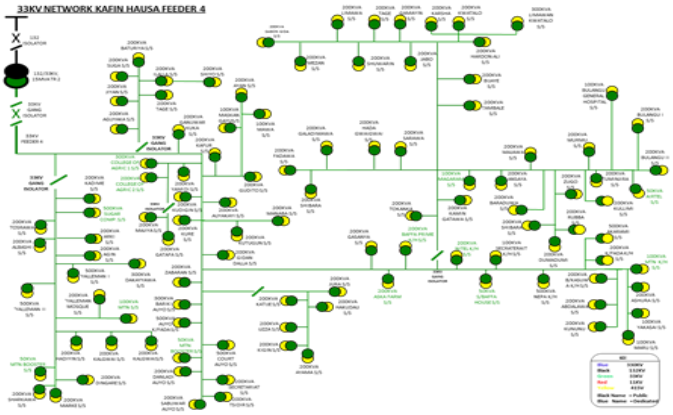

Fig. 2. 33KV Single line diagram of Distribution Network.

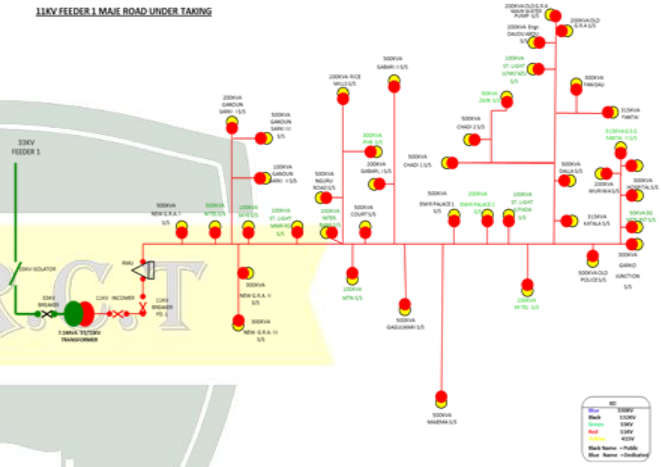

Fig. 3. 11KV Single line diagram of Distribution Network.

VII. Proposed System Data Flow Diagram

A data flow diagram (DFD) is a graphical representation of the 'flow' of data through an information system, modeling and its processing phase. A DFD is often used as a preliminary step to create an overview of the system, which can later be elaborated. DFDs can also be used for the visualization of data processing (also known as structured design).

DFD shows what kind of information will supplied (input be to) and output from the system, where the data will come from and go to, and where the data will be stored for appropriate use (Fig. 4).

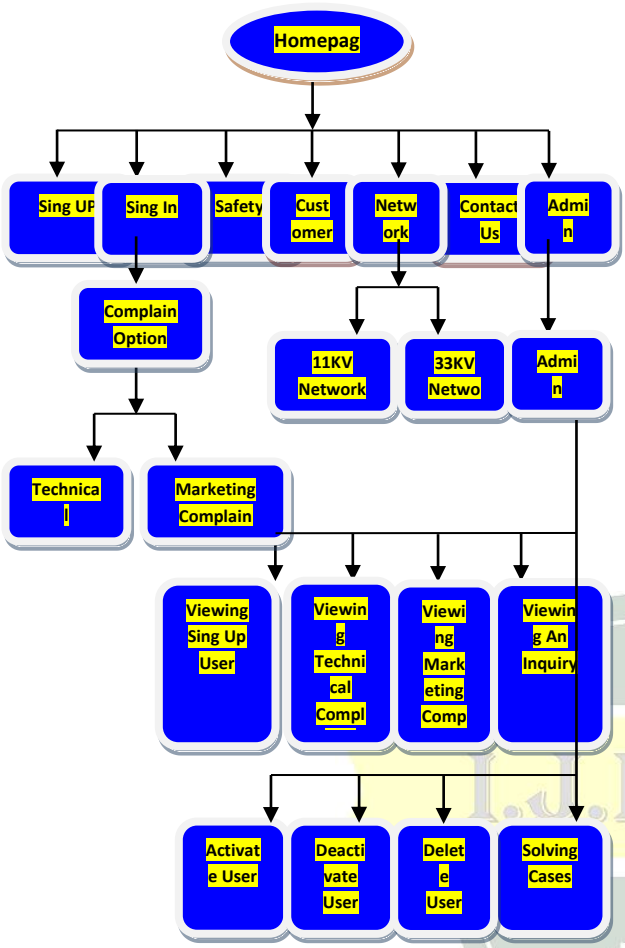

Fig. 4. DFD of the new system.

VIII. Materials and Methods

The study was conducted at the Kano Electricity Distribution Company (KEDCO) in Hadejia Business Unit. It adopted explanatory research design. Specifically, the study targeted customers of the Kano Electricity Distribution Company in Hadejia Business Unit. The customers of the KEDCO were classified into two segments: i.e. corporate customers -180 and domestic customers who were 460 bringing it to a total of 630 (KEDCO Information Desk, 2015).

The respondents were randomly selected after considering factors such as accessibility and the significance of the study information to the researcher and other stakeholders. Therefore, these target population provided the required sample size for the study. Stratified sampling technique was however adopted and used for both primary and secondary sources of data. The instruments of data collection comprises of Questionnaires, Oral Interview schedules and personal observatory analysis; and the collated data then analyzed quantitatively. A Microsoft excel2010 was used to analyze the descriptive statistics and presented in form of frequency distribution tables and pie charts.

IX. Results and Discussion

Items related to customer satisfaction with Customer Complaint Portal Delivery includes: Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree. This results were eventually arranged into four categories: (1) satisfaction with KEDCO's services; (2) fulfilment of expectations, and (3) disappointment. The respondents age grouped and their gender were also shown in the results.

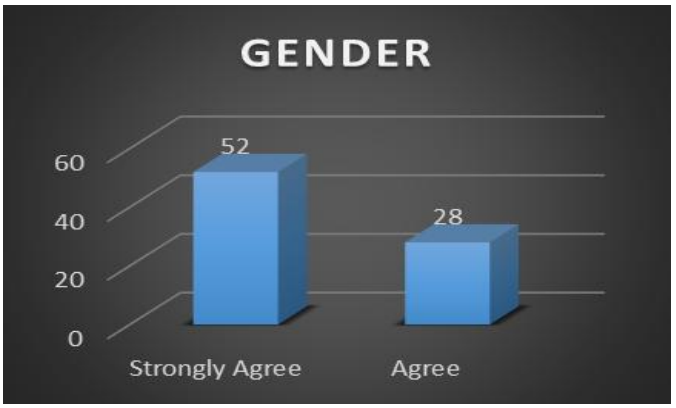

Fig. 5. Gender.

The figure above shows that 90 percent of the respondent's gender are male while 10 percent are females.

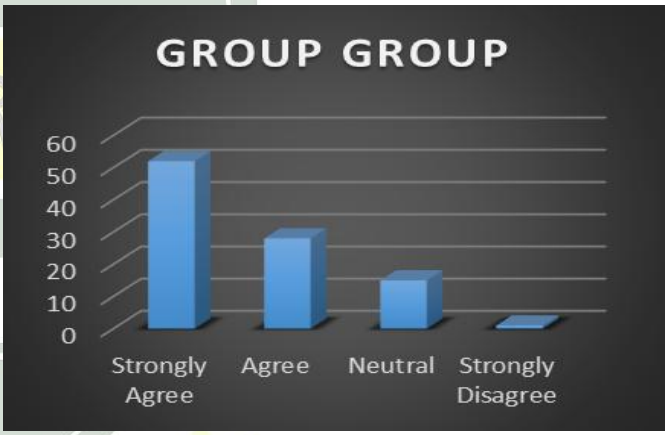

Fig. 6. Disappointment.

The figure above shows that 20 percent of the respondents are at the age of 20-25, 50% of the respondents aged group are 26-35 which makes them as highest respondents while 20% are at the age of 36-45 and 10% of the respondents are at the age of 46 and above.

The number of respondents in which a particular item on customer satisfaction was involved is as reported in Fig. 7.

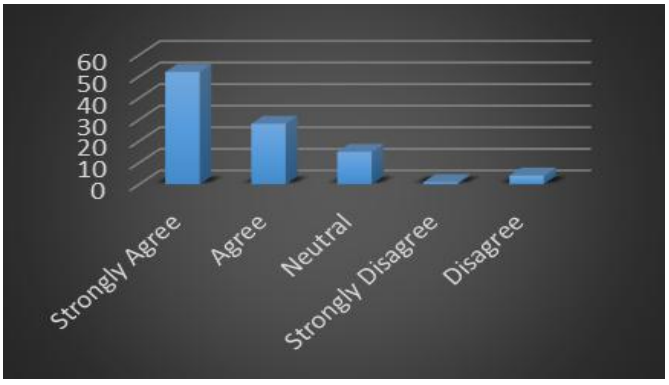

Fig. 7. Fully satisfied with KEDCO services.

As shown from the figure above, 1% of the customers strongly disagreed with being satisfied with KEDCO services, 2% just disagreed. On the contrary, 45% of the customers strongly agreed that they were fully satisfied with KEDCO services; 40% agreed. Consequently, a cumulative percent of 12 tended to be neutral to being fully satisfied with KEDCO's services.

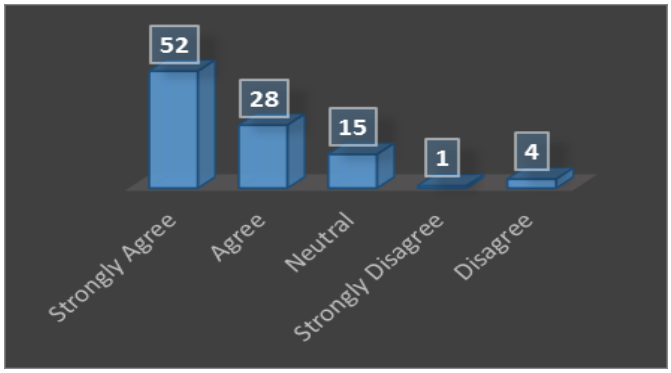

Fig. 8. Fulfilment of expectations.

The above figure shows that close to 1 percent strongly disagreed to KEDCO fulfilling their expectations, 2 percent disagreed, 35% agreed to KEDCO fulfilling their expectations and 49 percent strongly agreed. Thus a total of 13% were neutral to their expectations being fulfilled against a cumulative total of 48% who agreed.

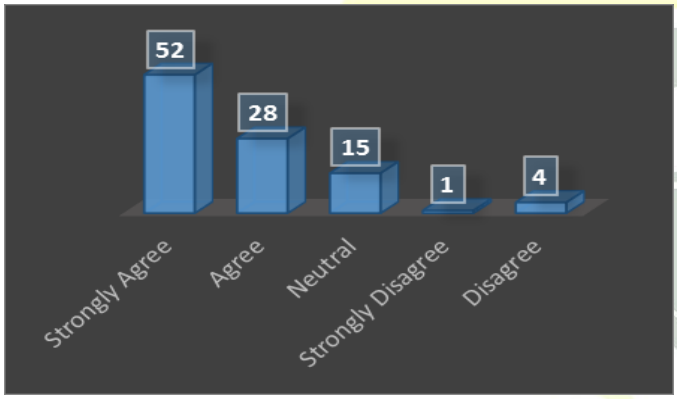

Fig. 9. Disappointment.

Similarly, the figure above shows that 1 percent strongly disagreed that KEDCO has never disappointed while 4% disagreed. This gives a cumulative total of 5% who disagreed with the motion that KPLC has never disappointed. On the contrary, 52% strongly agreed that KPLC has never disappointed while 28%agreed. Thus a total of 15% were neutral to the motion that KEDCO was never disappointed.

X. PROPOSED SYSTEM MODULAR DESIGN

Modular design is a design approach that subdivides a system into smaller parts called modules or skids that can be independently created and then used in different systems. This research is made up of eight main modules that contain some basic components such as data storage, data call, user identity, certification, data security and lots more. However the eight basic modules of this very system are: Sing Up, Administrator, Sing In, Technical complain, Marketing complain, Contact Us, Network and Safety.

Fig. 10. Homepage.

A. *Sign up Module*

This is the part whereby the customer register or create new account that will help him/her have a full access to the customer service portal (Fig. 11).

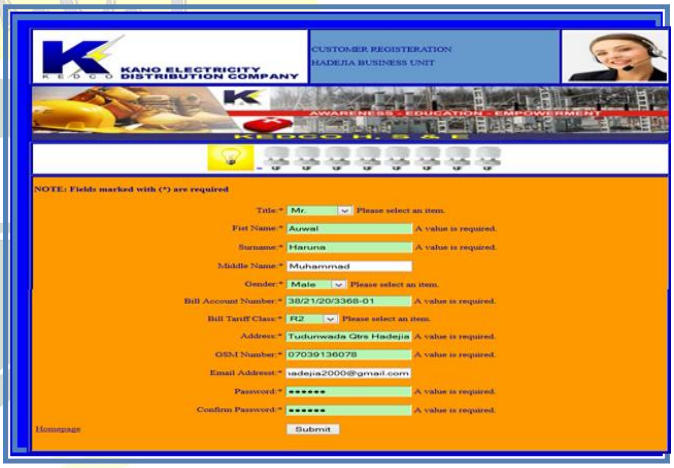

Fig. 11. Customer's Registration.

B. *Administrator Module*

This is one of the most important part of this system, this is the part that allows the system administrator to manage users (customers). He can activate user, deactivate user, and delete any user. It also allows the admin to view the communication that occur between customer and customer service and the cases that have been solved or resolved (Fig. 12).

Fig. 12. Admin Log in.

C. *Sign in Module*

The Sign In module is where the registered customer with valid meter's account number will be able to select the appropriate option: technical or marketing complain and fill all the information required, then click on submit (Fig. 13) to be able to send their complain to the customer service database.

Fig. 13. Customer's Log in.

D. *Technical complain Module*

Here is one out of the two option in which the customer make use of their KEDCO's electricity bill information to fill all the required information specified in the text fields. Technical complain deals with issues with transformer, high and low tension networks problems (Fig. 14).

Fig. 14. Technical Complain.

E. *Marketing complain Module*

Here is another option in which the customer make use of their KEDCO's electricity bill information to filling all the required information provided in the text field. Marketing complain deals with bill problems and cash collection issues (Fig. 15).

Fig. 15. Marketing Complain.

F. *Contact Us Module*

This is an inquiry module that allows customers to make enquiries and also ask questions associated with electricity supply and other service connection matters (Fig. 16).

Fig. 16. Inquiry module.

G. Network Module

This module is use to guide the customer to learn or know the single line diagram of electricity voltage level because most of the distributional substations voltage level of customer were 33KV (Fig. 2) and 11KV (Fig. 3) network, also this will enable the customer to follow the network map to know their voltage level of provider and the actual location of his distributional transformer.

H. Safety Module

This module provides guidelines to customers using electricity supply in different locations on how they can take care of their appliances, control them and other safety measures associated with electricity thereby protecting them from danger.

CONCLUSION

Evidently, the poor customer service delivery affects customer satisfaction. Considering how fast the world are moving in the development, procurement and of information and communication technology, KEDCO Hadejia Business Unit should make immediate step to catch up with the new technological trends involving the adoption of customers service complaints portal to keep tracks of customers' needs. This research however has clearly stated this out and can bring in alot of advantages with great impact on human and business daily life. We can therefore categorically states that ICT development is the best choice in helping KEDCOto stay on track to maintain and improves their productive moves in the future ahead.

With this development, the proposed Online Customer Service Portal would solve the associated problems with traditional system which is the entirely manual. With the present ICT evolutionary trend, many customer services are now beginning to advice and discuss issues with their customer using the internet which is a web-based medium. One important area of application of the web technology is in the development of a web based consultation portal. Therefore the use of computer based for online customer service system for receiving customers complain should forms the basis of the KEDCO's management decision. It aims at providing the management with adequate, effective, well documented and prompt up-to-date and efficient planning and decision making for a better customers satisfaction. It however improves the quality of internal and external communications thereby improving the operational efficiency and flexibility via an improved customer – service management relationship.

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