

Customer Service Management Practices of Tagum Water District: A Case Study

Girlie I. Cadenas

University of Science and Technology of Southern Philippines, Cagayan de Oro, Philippines E-mail: girliecadenas87@gmail.com

Glenne Berja Lagura, DPA

Associate Professor III

Institute of Leadership, Entrepreneurship and Good Governance

Davao del Norte State College, Panabo City, Philippines

ORCID No. 0000-0003-4142-2771 E-mail: glenne.lagura@dnsc.edu.ph

Received: March 16, 2022	Accepted: April 27, 2022	Published: December 12, 2022
doi:10.5296/jpmr.v7i1.2	URL: https://doi.org	org/10.5296/jpmr.v7i1.20539

Abstract

This study identified the Customer Service Management (CSM) practices of Tagum Water District (TWD) from the perspective of its customers and customer service personnel as to how TWD responded and addressed the customers inquiries, requests, and complaints. The Evolution of Customer Service by Blake Morgan serves as the foundation for the study's theoretical framework. Focus groups and in-depth interviews were used to get the data. The findings showed that although both customers and customer service staff agreed that TWD practices good customer service, they also encountered some issues and challenges when processing transactions, such as limited channels for disseminating information and constrained access to its customer service. Thus, it is recommended to provide innovations on its practices that the technology offers to keep up with the evolving needs of its both internal and external customers.

Keywords: customer service, practices, evolution, innovation.

1. Introduction

Due to their similarity in information interchange and the provision of services to both



internal and external customers, the customer service management approach has been largely used in the commercial sector and public administration (Wagenheim, George & Reurink, 1991). Every business or institution depends on its customers, therefore providing them with outstanding and well-managed customer service is crucial. A customer is a person who makes a purchase of products or services from a company or organization (Silver, 2018). Client service is one of the management techniques that focuses on fulfilling customer expectations (Wagenheim et al.,1991).

The ones who manage in giving customer services are the people behind in every Customer Services Division or Office. According to Miller (2018), there are top ten most important customer service duties, they are the following: 1. fostering positive interactions with clients; 2. dealing with irate clients; 3. Understanding your audience; 4. being an advocate for the consumer; 5. Encourage good customer service across the whole business; 6. negotiating contracts with clients that adhere to the organization's policies; 7. collaborating as a team; 8. administration of Customer Relations; 9. learning about the organization's goods, services, and prices, and 10. taking the phone.

Among all these tasks and responsibilities, the customer service personnel attend these, through communicating with their customers. That is why effective and good communication is very vital in every transaction. Strong working relationships and productivity may be achieved and maintained at all organizational levels with the help of effective communication (Page, 2018). Face-to-face interaction between one person and another or a group of people was the traditional method of communication. But today, in the modern times, we can use the technology just like cellphones, emails, and different social media accounts, if we want to communicate to other people specially on those located away from the sender (Munoz, 2018).

Modernization is vital if the government wants to improve the quality of lives of the people. This was the vision statement of Mr. Tony Blair, the UK Prime Minister, in his presentation last March 1999 to the Parliament. In the past decade, various plans for modernization and public innovation have been established in different countries in Europe. At the same time, Information and Communication Technology (ICT) is becoming seen as a significant force for change (Bekkers, Duivenboden & Thaens, 2006). Information and communication technologies refer to the application of technology to provide access to information via telecommunications; it largely focuses on communication are all included (Christensson, 2010).

International, national, and even local businesses and government organizations are embracing innovation in their consumer communications strategies. The success of the B-Unlimited Company is one of the greatest instances of innovative text messaging communication. In the Ozark Mountains of Arkansas, B-Unlimited had its start as a tiny printing business. After more than 20 years of operation, they have earned a reputation as one of Arkansas' finest apparel printing businesses. According to Jonathan Holder, vice president of operations at B-Unlimited, they have introduced a "text marketing solution" to bridge the gap in getting their products in front of Greek Life organizations. In fact, they have been on the Inc.5000 list of the fastest-growing private firms in America for the past three years in a

row (SimpleTexting, 2018). Similar to how Macao Water adopted E-Management in their customer service using e-Bill Service and SMS Reminder Service under the supervision of the Customer Liaison Group, with the objectives to listen to insightful comments and respond quickly to make action for improvement, ICT also plays a very important role in providing services (Macao Water, 2018). Moreover, using Text Blast service is one of the key indicators of Tagum Cooperative in the success of being recognized as the first and only ACCESS (A-one Competitive Choice for Excellence in Service and Soundness) Silver Branded in Asia. Text blasting is use by the Tagum Coop to easily disseminate information to their members, just like informing their latest products and services, schedule of seminars and reminders for the due dates of the existing loans of their members as well as sending birthday greetings that gives positive impacts to their members (Tagum Coop, 2015).

However, in the Tagum Water District a government owned and controlled corporation, the main water service provider of potable water in Tagum City that serves more than 35,000 customers, their Customer Services Division categorizes only on Stage 1 based on Alhomod's Four Stages of Maturity Model of E-government (Fath-allah, Cheikhi, Al-qutaish, & Idri, 2014). It means that they only practice the "presence of the web" in which at this stage the e-portal services give only information to the public and downloading of forms and completing transactions over the web are not applicable such as in applying water service connection, requesting plumbing services, filing of complaints, or paying of monthly water bills on-line. Although now, TWD started embracing using the technology in other aspects in serving their customers such as in paying monthly water bills, in which customers are given the option to pay on the TWD's merchant partners and collecting agents such as Bayad Center and ECPay outlets for their convenience. The electronic customer service system at TWD must be improved and automated to provide more responsive services to their customers and to keep up with the rapid development of technology, especially given that the majority of people who live in cities today are dependent on technology, as stated by our president Rodrigo Duterte in his third State of the Nation Address. The effective management and resolution of the questions, requests, and complaints that the Customer Services Division receives is another important aspect in boosting customer satisfaction.

Additionally, the Republic Act No. 11032, also known as The Ease of Doing Business and Efficient Government Delivery Act of 2018, must be observed by government offices (DOJ, 2018). It is R.A.'s revised version. 9485, sometimes referred to as the 2007 Anti-Red Tape Act. R.A. 11032 was established to allay certain concerns about sluggish government business. Due to more enhanced systems and processes of both national and local government agencies, RA 11032 will make conducting business easier. Though the majority of R.A. 9485 was unaffected by the new R.A. was enacted, certain clauses set it apart from R.A. 9485 and R.A. 11032, but when taken as a whole, both R.A. is all about how to make a government transaction more effective and efficient.

TWD's Customer Service Divisions receive and process different transactions daily. To be more specific the following are the identified most common transactions facing everyday by the customer service personnel: a.) receives and process applications for new service connection; b.) entertain customers billing inquiries and other TWD services; c.) complaints

of unreceived water bills, sudden disconnection without further notice, water interruption without further notice and sudden increase of monthly consumptions; d.) request for water meter reconnection. In completing this transaction some customers frequently return to the office to follow-up and to know the status of their request and complaints. In application for new service connections for example, the customer visits the office for an average range of 3 times, before the transaction will be completed, but there are cases that it takes more than multiple times before the completion of a transaction, this will be happened if the applicant is not available or nowhere to find in the location of applied water service connection upon the inspection. In entertaining customers billing inquiries and other TWD services, this will only be possible upon calling the TWD landline and personal appearance of the customer to the TWD office during inquiry. Entertaining through landlines seldom happens since not all customers of TWD had access to telephone, the hugest numbers of processed transactions of Customer Services Division is through personal interaction of the customers. That may reach to an estimated number of more or less 150 customers daily, and an increased number will observe specially during the last two weeks of the month, in which due dates were scheduled. And for sudden increase of monthly consumption and reconnection of water meters there were cases that the customers tend to follow-up for multiple times before the request will be completely acted, this will happen if problems arise during the actual field works of the inspectors. But the in the event of water interruption, most especially if it is an emergency water interruption, number of complaints and inquiries increases in just a span of time, since they are lots of our customers did not aware of the said interruption since the announcements was only done through local Radio Station Programs, official TWD website and TWD bulletin boards.

To make a summary, the following numbers are the totality of the most common transaction received and processed by the TWD Customer Services Division in the first quarter of 2019: application for new service connection – 702; water billing inquiry and other TWD services – 9,000; file complaints for unreceived billing -37; complaints for high consumption/field investigation – 316; disconnected accounts – 1,907; request for reconnection of water meter – 1,749; complaints due to uninformed water interruption schedule – not documented. Water billing inquiry is the state in which the customers inquire their billing to the Customer Services Division and request their account number with the total amount due, to be presented to the cashier upon payment. It commonly happens due to the following reasons: customers have no idea how much their monthly water bill due to un-receipt water bill; customers are unable to bring their water bill upon payment because they failed to do so; and customers misplace their monthly water bill and forget the total amount due. Complaints about the uninformed schedule of water service interruption seldom happen, it only arises during water service interruption since the way on how the information being disseminated is only through local Radio Station Programs, official TWD website and TWD bulletin boards. Though it seldom happens, it gives a big impact to the satisfaction of the TWD customer. For the first quarter of 2019, TWD scheduled nine (9) water interruptions.

This study aims to know the perspective of the TWD customers and customer service personnel on the practices on how the TWD Customer Services Division process and respond to their customers' inquiries, requests, and complaints. And to conduct an interview to be able

to know and document if the practices and procedures in addressing the needs of the TWD customers are still convenient, effective, and efficient on the part of both customer and customer service personnel, especially in this modern time. To add with, since there are no related research that has been conducted in relation to this subject, I consider this as a chance to conduct a study that may be useful in the customer service management of TWD as well as to their both internal and external customers. And may become a tool in realizing one of the missions of TWD to continually improve its services quantitatively and qualitatively towards its customers.

Considering the study's aforementioned goal, this one aims to discover how to fulfill it. The researcher will be led by the following inquiries:

1. What customer service procedures does Tagum Water District (TWD) follow?

2. What issues and difficulties do you encounter with customer service?

3. What suggestions are there to help TWD Customer Service Division deal with its challenges?

The purpose of this case study will be to provide documented information and data on how the customer service personnel of TWD respond the inquiries, request and complaints of their customer and to know if the current procedures and protocols on responding complaints are still convenient, effective and efficient in the perspective of the customers as well as into the customer service personnel. This study may be the basis on proposing innovations on the TWD customer service practices as a part of the TWD's missions to continually improve its services, that may help to improve the daily working transactions of TWD customer service personnel to immediately respond to their customers and address their inquiries, requests and complaints. Also, it may become a documented study that may support TWD management in making decisions in adapting latest and modern ways in the practices of their customer service.

2. Methodology

Method Used. The qualitative research design using case study approach is adopted by this study. Since this study aims to provide documented information, data and customers point of view on the practices on how the Customer Services Division of Tagum Water District (TWD) respond and address their customers request, complaints and inquiries and with the intentions to provide new ideas and practices which is necessary in this modern time. Qualitative research makes the world visible, using a set of interpretive materials that makes the world transform. Denzin and Lincoln (2011) state that qualitative research is the study of things in their natural settings and tries to explain or give meaning to phenomena in terms of how people give those phenomena meaning (Creswell & Poth, 2016). According to Ereaut, Imms, and Callingham (2002), qualitative research includes data collection and analysis as well as ongoing data generation and analysis processes. It also uses data from various sources (Wilson, 2018).

There were various approaches to be chosen in undertaking qualitative research. Some philosophers make a classification and typologies of this research design. This study is



guided by the descriptive case study approach. Case study based on the definition given by Dr. Kenneth Harling, states that it is a holistic inquiry that explores modern or present-day phenomena within its natural setting (Harling, 2002). A descriptive case study describes a phenomenon as it occurs, and it is used to determine and learn more about the features of a certain issue or problem (Muriungi, 2012). According to Borg and Gall (1984), descriptive research entails obtaining information that details the data collection process and displays the events in chronological order (AECT, 2001). It is appropriate for this study because the researcher is attempting to use holistic inquiry, which entails gathering rich, in-depth data from a variety of sources of information including direct observation, interviews, documents, and reports, to investigate the practices or programs that might be used as a phenomenon followed by TWD's customer service. Zaidah Zainal argues that a small group with a very small number of people is sufficient as a subject of research while doing case studies (Zainal, 2007).

Research Participants. In this study the researcher selected six (6) TWD customers who already experience making transactions of request, complaint and inquiries at the Customer Service Division and four (4) of the customer service personnel of TWD. The selection of 6 (six) customers was based on the following criteria, first they must already try to make a request, complaint, and inquiries on the Customer Services Division of TWD, they personally use the water service connection, and they must be 18 to 50 years of age. The four (4) customer service personnel of Customer Services Division are at least three (3) years in TWD service as of this date wherein the study being conducted and must be a permanent employee

The 6 (six) customers and four (4) employees of TWD undergo the process of interviews to fully get the important information in the phenomenon being studied, questions that were asked were based on the validated Interview Guide Questionnaire. Four (4) TWD customer service representatives participated in a Focus Group Discussion (FGD) session to provide additional information, such as confirmation and validation of the data collected during the In-Depth Interview (IDI). The same set of questions were posed. This made it possible for the researcher to record fresh ideas or concepts as well as discover additional insights that might have gone unnoticed or overlooked in the past (Sargeant, 2012).

Data Gathering Instrument. In-Depth Interview (IDI) and Focus Group Discussion (FGD) were the instruments used by the researcher in the study; the questions posed during the interviews were based on the validated Interview Guided Questionnaire.

Data Collection Procedures. In the conduct of this study, the researcher followed an organized procedure. First, a letter of consent to conduct a study was sent to the Tagum Water District address to their General Manager, after the approval the researcher approached the Division Manager of the Customer Services Division to identify the right informants that are the subject of this study. The participants that have been chosen through purposive sampling. The chosen participants were approached regarding the study conducted by the researcher, a letter of consent was given to the participants to fill up. In the consent it was stated that during the interview the researcher will use a tape recorder, video and audio taped that may help the researcher in transcribing data. The interview was started upon the approval of the participant.



One of the research techniques in conducting qualitative research is through interviewing. As stated by Dornyei, 2007, qualitative data are mostly collected through interviews and questionnaires. However, based on Kvale (2003), interviews as compared to questionnaires are more effective in producing narrative data that gives access to researchers to investigate the subject's view in greater depth (Alshenqeeti, 2014). According to Gill, Stewart, Tresure, and Chadwick (2008), there are three basic forms of research interviews: organized, semi-structured, and unstructured. In this study, the researcher focuses on employing in-depth interviews, also known as unstructured interviews by Legard, Keegan, and Ward (2003). (IDI). In-depth interviews entail lengthy conversations with respondents to learn their viewpoints on a certain subject or circumstance. If you want in-depth information and responses from the respondents, it is quite helpful.

In conducting this study, the researcher conducted an in-depth interview with participants using an interview-guide questionnaire to gain a thorough grasp of the topic under investigation (Obeng, 2016). Six TWD consumers from various regions of Tagum City were interviewed in-depth, and four TWD customer service representatives took part in the focus group discussion. The same set of inquiries were made in accordance with the approved Interview Guide Questionnaire. The researcher's understanding of the processes and procedures followed by the TWD customer service staff in dealing with their clients, as well as their perceptions of the practices, was built on the data collected. That led to a sound proposal, since descriptive case studies may produce a wealth of information that could influence significant recommendations (AECT, 2001).

Data Recording Procedures. Before the interview was conducted, the researcher provided a relaxed atmosphere to the respondents in which the collection of information was performed. Comfortability of the respondents in having a conversation was also the concern of the researcher. The researcher posed questions because this study intends to give recorded information and statistics on how TWD's customer care representatives respond to requests, complaints, and enquiries on the respondents regarding their experiences, feelings and beliefs about the topic being asked by the researcher based on the transactions they have encountered at Tagum Water District (Berg, 2007). Upon the interview, the way on how the data collection of the researcher was guided through the made Interview-Guide Questionnaire (IGQ). This questionnaire was validated by the chosen experts that serve as the panel of this study. The questions used by the researcher to deeply understand the thoughts and the perspective of the respondents. Also, to get their own idea and suggestions or recommendations on how the process of TWD may improve by adapting the latest technology. Talmy (2010) pointed out that the respondents should be given a chance to give comments and questions after the interview (Alshengeeti, 2014). Thus, the IGQ was translated to Visayan dialects to be deeply apprehended by the respondents and to express their feelings more using their own dialect.

After the interviews, the researcher gathered all the instruments being used in the interviews and transcribed all the data collected. Same set of questions were prepared by the researcher in conducting the Focus Group Discussion (FGD) for more clarification and data validation on the initial interview being conducted.

Data Analysis Procedures. After collecting the data, the researcher's next step was to analyze



it. Since data collecting and data analysis are parallel processes in qualitative research, as per Creswell's book (Creswell, 2014). The researcher will assess the information received from the respondents using a procedure called data analysis. It is a procedure where data is organized according to category, examined frequently, and continuously coded. The writings of John W. Creswell served as the basis for the researcher's direction in this investigation.

Creswell (2014) asserts that there is a precise process that must be followed when assessing data from qualitative research conducted for a case study. The data were first arranged and ready for analysis by the researcher. It entails data transcription, encoding of interview notes, and sorting and organizing the data according to the information's sources. The information was gathered via in-depth interviews and focus groups with the selected respondents.

Second, read and examine the data. At this step, the researcher examines all the data gathered and looks at the overall sense of the information and reflects its general meaning. The important points that were looking for are What ideas in general that the respondents are trying to point out? What are the viewpoints that they want to emphasize? What purpose does the whole information serve? According to Guest, MacQueen, and Namey (2012), data analysis involves "winnowing" the data, which is the process of condensing the data into a limited number of themes and ignoring other parts of it, because qualitative interviews most often tend to yield a large amount of information. The researcher then began to record his or her broad conclusions about the data.

Coding all data was the third stage. The researcher employed hand coding of data, which is the practice of manually coding the data, because there was no qualitative computer data analysis tool accessible. Coding is the technique of bracketing data to arrange and organize it. It compiles the text information and images acquired during data gathering and assigns terms to those categories. The researcher used Tesch's eight-step coding process when creating codes (Creswell, 2014). Read all the transcriptions first. Read every interview that was done, take notes about each thought, and write them in the margin. Following this procedure in each interview, compile a list of all ideas raised by the respondents and group those that are similar. Create a table with columns for each subject based on its prevalence, distinctiveness, and remaining topics. The researcher used codes to shorten the topics and then classified them using the most evocative words. To narrow the list of categories, related subjects were grouped together. The codes were then arranged in an alphabetical order in a final line-up of shortened categories. The existing data was initially analyzed and, if necessary, recorded.

Ethical Considerations. In this study, the letter of consent was sent to the Tagum Water District address to their General Manager to allow the researcher to conduct study into their office and give authority to the researcher to interview their customers and employees. The researcher asked the consent of the chosen respondents to conduct an interview and asked the questions based on the crafted interview guide questionnaire. The researcher assured that the respondents deeply understood about the nature of the study, its purpose and what are the benefits they could get through this study.

Identities of the respondents were kept if they wanted to hide their identity. They are given the permission to express their own ideas and thoughts which were relevant to the study



conducted. After each interview the transcript, data was printed and shown to the respondents to assure that their answers to every question given to them are exact and same to what they are pointing out. This was done to avoid bias on the part of the respondents. Information that was gathered from the respondents will remain confidential. The information was kept and placed in a secured area to avoid unauthorized person use and disclose the information collected.

Reliability and Validity. The researcher established the study's validity and reliability in order to support the queries about the advantages of this qualitative research. As stated by Lincoln and Guba, determining a research study's trustworthiness, reliability, and validity entails determining its credibility, transferability, dependability, and confirmability (Shenton, 2004).

Credibility. The researcher established the implementation of the research approach to guarantee the validity of this study. The researcher personally performed the interviews for this study to learn about each respondent's circumstances, build relationships with them, and ensure that biases were kept to a minimum. Long-term interaction between the researcher and responders is advised, according to Guba and Lincoln. The researcher utilized deliberate sampling, also known as purposive sampling, to choose respondents. A lot of qualitative research uses it. It will recognize and choose a person or group of people with higher expertise or experience about the research being undertaken (Palinkas, Horwitz, Green & Wisdom, 2016).

Transferability. The second trustworthiness criterion, transferability, relates to the researcher's demonstration to the readers that the study findings may be relevant to different situations, contexts, populations, and epochs. The researcher in this study supplied a database of data that might be useful to other researchers. Since it is not the researcher's obligation to produce an index of transferability, it is their duty to provide a database that enables prospective readers or researchers to access transferability judgments (Lincoln & Guba, 1985).

Dependability. The dependable individuals that verified this study thoroughly verify and review it to prove its dependability. The study's team of experts also approved the interview guide questionnaire. The recorded interview is swiftly and accurately transcribed, according to reports. The researcher hired a second expert to oversee the data analysis procedure to assess the data. This investigation was meticulously planned and carried out. Since the study's methodology was apparently described in full to ensure reliability, readers can have a thorough comprehension of the research study (Shenton, 2004).

Confirmability. The stage at which the results were verified or confirmed is the confirmability. The researcher gave a database of information or papers to be utilized for data verification and rechecking while the study is conducted in order to increase confirmability (Trochim, 2006). The researcher used audio and video tape recordings from the interviews she conducted, as well as other sources, to confirm the consistency of the data she presented in this study. The researcher's data collection served as the foundation for the data analysis and recommendations.

3. Results



Practices of Customer Service. Based on the gathered data, four themes were developed that presented the practices of the customer service of Tagum Water District. The following themes will be enumerated in the following discussion.

Customer Care. Most customer service procedures involve taking steps to prioritize how to meet the expectations of its clients by offering them high-quality services. Because of this, the life insurance provider Thrivent Financial was named one of the most ethical businesses in 2017. (Elliot, 2018). Customers said the business genuinely cared about meeting their requirements.

The same situation can be seen at the TWD customer service; in an interview that was done, one of the informants stated that the customer service offers the services that consumers require, much like in his own instance, when he went to TWD to receive the services he needed. The same thing was mentioned by FGDBROWN when he said, "That is our duty, especially in customer service, to deal with the clients, like processing their service requests and complaints." Customer service representatives must interact with clients in this way since it is part of their job description and accountability. To please their consumers, they must do a good job at what they do. According to a 2015 report by FieldAware, corporate clients of the field service sector depend on service providers to deliver convenient and effective assistance to enable seamless operations. Customers may gain trust in the relationship and the customer experience by paying attention to performance metrics including response time, service arrival time, system integrity, and how effectively a service agent can respond to queries without escalating a problem.

Service Delivery Focus. As customers, we have high standards for how services are provided to us. Happy clients may arise if the service provider concentrates on providing service. (Walley & Amin, 1994) assert that providing services should be able to lead to a variety of advantageous results, including decreased costs, greater availability of effective operations, enhanced service quality, and the best possible client experience.

In TWD customer service, Ms. Pink acknowledged that fast accommodation was given to her, when she filed a complaint regarding her high monthly billing consumption, the customer service personnel immediately made a service request and processed her complaint. In order to provide clients with high-quality service, service staff members also work to respond to customer complaints based on the facts. If there are situations that they are unable to explain right away, they will launch a series of investigations (FGDBROWN).

Delivering excellent service is a strong attribute, as evidenced by the fact that FedEx, a consumer shipping firm, won several awards in 2010, including the coveted Ruban d'Honneur award for the finest customer focus company at the event in Paris (Elliot, 2018). Commentary shows that FedEx consumers are happy with the quick arrival and straightforward package tracking.

Good Customer Service Skills. The emphasis should be on the professional aspects of customer service that always connect to what the consumer wants. The abilities and characteristics that a competent customer service should possess are listed in the Customer Service Manual (2006). The first is friendliness, which is the most fundamental quality and is



linked to respect and decency. The second one, empathy, says that the client needs to know that the service provider understands their needs and situation. Fairness, since the consumer wants to feel as though they are receiving appropriate attention and thoughtful responses. Control is the fourth. The consumer wants to believe that his or her desires and suggestions have an impact on the final product. The final option is information, which suggests that customers want to learn more about the goods and services they offer, but in a timely and relevant manner.

American restaurant Chick-fil-A is rated as one of the companies with the finest customer service in the American Customer Satisfaction Index (ACSI) study. Customers praise the staff's professionalism and kindness as being much above that of any other restaurant they have ever visited. Additionally, it was stated that the workers were the politest in their field (Elliot, 2018).

Participants in this undertaking also testify that TWD customer service is good, and they build good rapport with customers in times that they process requests in the TWD customer service. In the statement of FGDPURLE, she also said that it is a part of their training as a customer service personnel to treat customers in a nice way and good manner. Since we all know that the customers are the bread and butter of every company.

The ability of the TWD customer service personnel can also test in times that they encounter irate customers. Most especially in the disconnection section, in which customers complain about the disconnection of their service connection line. But then, as the participants in the conducted FGD said that, though the customer was angrily complaining, they do their very best to explain to the customer in a calm and in pleasant way to avoid the increasing anger of the customer. For those in customer service, patience is essential. If you deal with consumers on a regular basis, make sure to be understanding when they approach you perplexed and upset. However, you should also be sure to take the time to genuinely determine what they need. According to Meenasian (2019), a patient customer care representative is more likely to have a composed client than one who is being irate. For a variety of reasons, being able to truly listen to customers is essential to offering excellent service. It's crucial to pay attention to each customer's experience, but it's also crucial to be aware of and receptive to the feedback you get from consumers.

Abide Protocols and Policies. Transaction processes are extensively utilized around the world, dependent on the system of process the system is employing, claim Amin, Mohammad, and Azad (2012). The Anti-Red Tape Act of 2007 or Republic Act (R.A.) 9485, which aims to promote integrity, accountability, proper management of public affairs and public property as well as to establish effective practices aimed at the prevention of graft and corruption in government, governs how transactions are processed in government offices in the Philippines. To cut down on bureaucratic red tape and processing times, the act requires all offices and agencies that offer frontline services to routinely conduct time and motion studies, evaluate and improve existing transaction systems, and, if required, re-engineer such systems and processes.

R.A. was revised in 2018, and President Rodrigo Duterte signed it. 9485. The Ease of Doing

Business and Efficient Government Service Delivery Act of 2018 (R.A. No. 11032) was established to reduce a few complaints about sluggish government transactions. Due to more enhanced systems and processes of both national and local government agencies, RA 11032 will make conducting business easier. Although, in essence, the majority of R.A. 9485 was not altered by the passage of the new legislation, a few clauses make R.A. 11032 from 9485.

Tagum Water District as a government-owned and controlled corporation, strictly adheres to and implements what is mandated by the Philippine government. They even have their own established Implementing Rules and Regulations (IRR) that itemized different protocols and policies in doing different transactions. To maintain consistency and the same high standard of service, they adhere to policies and processes when providing their services to consumers. A clearly stated and documented customer service policy is like a set of guidelines and a roadmap that, when followed, will empower the staff and guarantee that customers are generally happy with the company's services. A customer service policy must thus be clear and straightforward so that empowered personnel can quickly resolve issues if customers do have cause for complaint (Newman, 2015).

Problem and Challenges Encountered. On the conducted interviews of the researcher, results are gathered and emerged five major themes that showed problems and challenges encountered by the TWDs customer service management, namely:

Information Deficiency. Every significant piece of information from one person or institution is frequently shared in the hopes that it will help people learn more and enable them to make better decisions or insights in the future. However, if the methods used to spread it are insufficient, it might lead to future issues. It should be possible to get the necessary information in conventionally acceptable methods. Early disclosure of the project's advantages and disadvantages gives people time to reflect on the situation, weigh the implications, and form opinions. Understanding the trade-offs, being able to effectively contribute to project design, and having higher trust in the project proponent are all benefits of an informed public (Biamah & Kogo, 2013).

However, in the TWD customer service practices, it encounters problems on how to disseminate important information to its customers. As what Mr. Gray said on the conducted interview, he was not aware that there is an on-going bulk water project of TWD that can affect the pressure of the water in their area. The said project produced high water pressure in their water service connection line, which resulted in inside plumbing pipe leakages. And the effect was his high-water billing consumption for that month. Which is a very high amount than their usual monthly billing.

Related situation also experiences by the TWD employee, in the focus group discussion FGDORANGE shared, that the common complaints they received are those customers said that they are not aware of the disconnection schedule in their area, because they did not receive their monthly billing. In the practices of TWD, the schedule of the disconnection is indicated in the printed monthly billing that distributed by the meter reader upon the reading schedule on the specific area. Yet, usual scenario was that customers blaming that the unreceive water bill is the reason why they got disconnected.



ISSN 2377-3294 2022, Vol. 7, No. 1



Swan (2015) made the point in his writings that an organization would miss out on many potentials for growth if knowledge became locked and was unable to spread throughout it. Most importantly, if you can't provide the right information to your clients, you face the danger of losing them due to a breakdown in communication.

Additionally, Ordoez & Serrat (2017) highlighted the significance of distribution in the interactive process of interacting with target audiences in order to leverage it to spur change. The difficulty is in making desired knowledge more readily available to the people it is meant to reach. This entails making the product physically accessible to as much of the target market as feasible and making it understandable to those who get it.

Limited Access to Customer Service. In most companies, aside from their quality products, they also maintain the good standard of their customer service. Since, most of us, if we buy products we should always ask about its warranty periods and products service center. Because as customers we don't want to experience hassle if we wanted to ask or complain on the products or services we avail. What we want is just a one call or one click away customer service that is suited to our daily busy schedule. Just like the practices of Buffer Company, it is a software provider that offers online, and mobile applications made specifically for managing social network accounts. They created a program that is as simple for their customers to utilize as possible. Every page has an indicator that enables users to locate solutions quickly and easily to problems they are having (Cortese, 2019). But what will happen if access to customer service is limited? Surely, it will be a problem and cause unhappy customers. In TWD customer service one of the pointed-out problems and challenges encountered is the limited means on how the customers can interact with their customer service. The situation brought up by Ms. Pink is that she encounters difficulty in contacting TWD customer service, to make some follow-ups regarding the complaints she filed. Because according to her it should be necessary to personally visit the TWD office to follow-up her request. Since, the only contact number given to her is a telephone number which is of no use, because she doesn't have a telephone at home.

MSPURPLE, a TWD customer service representative, said that she only provided consumers with the company's landline number since direct contact methods like mobile numbers are still not accessible. And according to a 2017 study report from the US Center for Disease Control National Health Information, as of December 2017, 42.8% of American homes still used landlines. And since 2010, it has been falling by 3.6% year on average (Burke, 2017).

And even in the Philippines, most Filipino choose to use mobile phones because it is more accessible and cheaper compared to landline calls ("The Report The Philippines 2012 -Google Books," 2012).

Factors Affecting Both Internal and External Customers. Consumer experience comprises the emotional, physical, and psychological components of how a customer feels about a firm at the time of contact. It encompasses the full customer lifecycle and each touchpoint a consumer has with a good or service; it is not a one-time encounter (Morgan, 2018).

In the confession of Mr. Gray, he said that he experiences sleepless nights, thinking on how to pay his monthly billing due to the inside plumbing leakages. Also Mr. Black shares that, as a



businessman, he needs to cancel some of his meetings, just to personally process his disconnected water meter. With these stories, as a researcher I can say that not all the time, customer service can avoid inconvenient experiences encountered by their customers even in their own employee.

Frontline employees deal with challenging customer service situations every day, as Riaz (2016) noted. The most difficult of these is dealing with disgruntled consumers. The same thing that FGDWHITE confronts when angry customers complain about water disruption activity in their neighborhood. Although FGDWHITE informs the customer that the shutdown was an emergency one, he still has power over the client's ability to express their feelings and indignation over the circumstance.

Some of these irate clients threaten your front-line personnel and shout at them in order to express their rage. It might be challenging to maintain composure and make things right in such dire circumstances. Customer care representatives should always remain composed and sympathetic while dealing with irate consumers in person. Giving irate customers the impression that you are paying attention to their complaints will probably make them feel better. Giving them a prompt resolution to their grievances will also right wrongs. Lebed (2018) said that working in customer service might occasionally be difficult. It's difficult to deal with many individuals and strive to live up to their expectations. You must be prepared to deal with irate clients if you want to work in customer service.

Customer's Displeasure. People today seek services that are handy for them in addition to services that are of high quality. They are looking for a convenience that will allow them to save time, money, and effort (Kaura, 2013). Customers overwhelmingly recognize the convenience services that the businesses offer. Basically, a service convenience is one that saves the customer time and effort while still providing the service (Berry, Seiders & Grewal, 2002). Opposite situation experienced by Ms. Pink, as she complains that she already spends big fare expenses, visits TWD office to follow-up about her complaints. Similar insights of Mr. Blue, he uttered that when he went to TWD office to make a query about their monthly bill, he uses his own motor vehicle as his mode of transportation. But he said that if his wife does the query at TWD office, it will cost a high amount of fare expenses, because she pays double or higher than regular fare, since their house is located far from TWD office.

Not all expenses to transportation are the additional expenses encountered at TWD customer service. Since, TWD customer service has not yet, service mobile phones that may be used to contact customers, customer service personnel may use their own mobile phones to communicate the customers and shoulder the load expenses. Just to inform customers about the result of their request and to know that their request was already acted on.

According to the writings on the article of CarrerBright.com, having an inconvenient experience like the slow delivery of service, inability to contact and poor accessibility are included in the list of the common causes that leads to dissatisfied and unhappy customers (CareerBright, 2016).

Unutilized Full Potential of Technology. According to Koojimans (2012), technology is playing a bigger part in people's everyday lives, and we are growing more reliant on



computers. Business transactions are becoming increasingly automated. Businesses may boost the dynamism of a transaction through instrumentation that records events, analyzes the data they are linked with, and proactively engages with the client to enhance the customer experience thanks to technological paradigms like Web 2.0 and business event processing.

However, the full potential of technology is not felt by the TWD customer service. Results in the conducted survey shows that participants are complaining and hungry for the innovation of TWD customer service that may adopt the use of advanced technology for faster and easy access transactions. Just like the use of Facebook, Geographical Information System (GIS) and automated billing system.

It is true that the service industry is a people business, but technology may be used to improve services or even replace some tasks, according to Stokbroekx of InfoWorld. Like how technology enables a digital transformation, it may significantly affect how services are delivered and how customers are treated (Stokbroekx, 2017).

Recommendations to be Able to Cope up Challenges Encountered. On the problems and challenges cited above, as a result of the conducted study, the following are the themes that emerged that serve as a recommendation to be able to cope up with the identified challenges encountered of TWD customer service.

Improvement of Service Delivery. Customer satisfaction should be guaranteed in all corporate operations, including production, sales, and customer service. Because they may assist to raise client satisfaction in regard to the services they provide, customer services are always crucial and relevant. Services might be considered a source of revenue for a business (Kaovsk á, 2010). Customer service, according to McQuerrey (2019), is a crucial aspect of business operations that may have an influence on your bottom line and how the public perceives your organization. It goes beyond simply being kind to consumers. In recent months, a number of well-known companies have made headlines due to their subpar customer service practices.

In the case of TWD customer service, participants simply wanted to improve the delivery of their services to make an easier transaction and meet the customers' needs especially in this modern time. This may increase customer satisfaction and to decrease if not to eliminate numbers of customers complaints. Improvement of the delivery of services may include adopting new practices to keep up with the evolving customers' needs. Information sharing and the emotional component of customer contact may need to be stressed more in order to improve customer service.

According to Hauser (2017), there are many reasons to improve service delivery, including internal searches for more efficient and organized methods of doing things as well as external demands from customers and companies for higher quality or more accessibility.

Establish Customer Service Hotlines. The goal of the customer service hotline, according to Chan, Lin, and Wang (2008), was to respond appropriately and quickly to consumer requests and complaints. However, establishing a customer service hotline is absent in the TWD customer service. An outside call is directed to the General Manager's Office and calls will be transferred to customer service if the call is intended to them. But then if the OGMs'



telephone is busy there is no other way that the customer can contact customer service using a telephone.

Due to this scenario, participants aimed that the TWD must establish customer service hotlines, that may use as a direct contact and establish constant communication between the customers and TWD. They are aiming not just only for a landline but also for a cellphone number of hotlines. Since, most Filipinos nowadays use cell phones as the easiest and cheapest ways to communicate ("The Report_ The Philippines 2012 - Google Books," 2012). Barbier (2019) concluded that using the phone for customer support also offers business opportunity.

In the success story of Amazon (Elliot, 2018), an internet retailer company that is transforming the way on how goods are bought and sold all over the world, having its own customer service hotlines and center, gives a big impact to its operation. Amazon has a reputation for communicating effectively and efficiently to its suppliers and customers. By the various Amazon's help and customer service hotlines and official customer support page, they are able to manage their millions of customers all throughout the world.

Establish Text Blast Messaging. To address the customers complaints regarding unreceived water bills, unaware disconnection and water interruption schedule and having no idea on the on-going projects of TWD, participants recommended that the TWD must launch its own text blast messaging to disseminate faster information.

A text blast messaging or a SMS text message is a message that was sent from one single source to a large group of people simultaneously ("Using Text Blast Software to Reach Your Audience," 2020). It is often used in the retail industry and considered as the most effective way for businesses to connect with customers. Research found that most people tend to check their cellphones as soon as the tone for an incoming messages alert.

According to Burke (2015), texting is the most effective technique to provide clients with the experiences they want. Nobody has to be concerned about being placed on hold or if their email was received. What people want is something quick and convenient, like texting. Bolden-Barrett (n.d.) remarked that texting has made it easier for companies to interact with their clients. By sending quick product updates and notifications to consumers and potential customers, news feeds, and blogs, businesses may increase brand loyalty. A cheaper, more immediate alternative to pricey print, web, and magazine advertising is texting.

Text blast is widely used by companies in collecting and informing and reminding the clients to pay their obligations. In local settings, the Tagum Cooperative, one of the largest cooperatives in Mindanao, as it is identified by the Cooperative Development Authority of the Philippines, and ACCES Silver Branded in Asia. Use text blast service as one of their key indicators on their successful achievement. They use text blasting in sending information to their members about their latest products, services, reminders for the due dates of their loans and even simple birthday greetings that give positive impacts to their members (Tagum Coop, 2015).

Utilize Technology in its Potential. Lucas (2009) characterized customer service as covering the ideas and abilities required for success in corporate jobs, such as technology usage, verbal



and nonverbal communication skills, and listening strategies. According to Blake Morgan (2016), in her study on the Evolution of Customer Service, she stressed out that every customer service must evolve, since generations nowadays don't want to experience the traditional way of transactions or manual type process. She even predicted what customer service would be in the future. And first on her list is that "technology makes experience better". In the future technology offers better options that may help customers to do and process much more simple transactions.

According to Farzin & Rostamabadi (2014), technological advancements help businesses enhance their relationships with their consumers in a variety of ways. include an awareness of the fast rise of business-to-business e-commerce. For instance, businesses may interact with their clients by offering them technological portals that function similarly to how Facebook and mobile technology do. or even utilizing cutting-edge technologies and systems like GIS in a business' everyday operations.

Mobile technology has obtained its popularity due to its convenient use, speed and efficiency. It takes communication to a whole new level. Mobile technology can even improve workplace productivity, since it offers various ways on how to integrate it into the workplace. On the other hand, According to Geierhos (2011), social networking websites like Facebook, Twitter, MySpace, or Foursquare will serve as the channel between customers and businesses because customers are more likely to share their problems with a community on these platforms before approaching a business directly. Because of this, it is anticipated that social networks will develop into a widespread channel for communication, facilitating exchanges not only between people but also between clients and businesses. By including social media as a customer interaction management (CIM) tool, the company will be able to track broad trends in online customer opinions while also recording two-sided communication for customer service management and delivering the company's response through the customer's preferred social networking site.

Same positive impact in adopting Geographical Information System (GIS) GIS in a business operation. According to Ginther (2007), Using GIS in the utility industry has various benefits. Eighty to ninety percent of the data a utility collects has some connection to geography. The locations of all pipelines, valves, pumps, meters, and other infrastructure must be known to utilities. They also need to be aware of where their clients are located and how they use water. They also need to be aware of the locations where their crews are working and the facilities that require maintenance. When no other relationship is available, GIS enables users to query and analyze data based on its location and its spatial relationship to other features. In order to prioritize pipe replacement and rehabilitation operations, GIS technologies can also help identify patterns in water main breaks. These projects are often evaluated using a number of weighted factors, including pipe material, diameter, age, local soil conditions, proximity to important places (including hospitals and schools), main-break history, water quality, and collaboration with other public works projects.

24/7 *Customer Service Availability.* Today, your capacity to provide unbroken 24/7 service and support to your clients is what really counts. This is a crucial distinction since it improves the whole customer experience and enables you to seize crucial chances for pro-active client



involvement. Customers see continuous accessibility as one of an organization's most significant assets and being able to offer them service and assistance on demand helps to foster loyalty and customer retention.

Participants in the previous discussions also expressed a wish for TWD customer service to be available around-the-clock to address their questions, concerns, and requests. Liu (2016) said that understanding that excellent customer service and assistance are not just given during business hours is necessary in order to showcase a customer-centric corporation.

Just like the practices of the Davao City Water District (DCWD), they have their own call center department that opens 24/7. DCWD call center agents take calls concerning the water services such as billing and connection concerns, water interruption inquiry, leak reports, water availability updates, water quality status, and others. With this, the DCWD management aims that its customers will find it easier and convenient to avail the DCWD services.

4. Conclusion

Implications for Practice. As a government-owned and -controlled corporation, Tagum Water District abides by Republic Act No. 9485, also known as the Anti-Red Tape Act of 2007, which aims to establish effective procedures for the prevention of graft and corruption in government as well as to promote integrity, accountability, and proper management of public affairs and property. All offices and agencies that offer frontline services are required by the act to perform time and motion studies on a regular basis, evaluate and improve their transaction systems and procedures, and re-engineer those systems and procedures if it is deemed necessary to cut down on bureaucratic red tape and processing times.

The Ease of Doing Business and Efficient Government Service Delivery Act of 2018 (R.A. 11032), which was established to reduce numerous complaints about delayed government transactions, was updated in 2018 and strengthened the Anti-Red Tape Act. Because national and local government services have more enhanced processes and procedures, this RA will be easier.

The current scenario revealed that, customers services practices of TWD were rated both with the positive and negative points by the participants of this study. On their practices, most of them said that TWD has good customer service personnel that entertain and accommodate its customers' requests, complaints, and inquiries. However, if we talk about the innovation of practices, TWD customer service can be classified only on stage 1 based on the Alhomod's Four Stages of Maturity Model of E-government. It means that they did not widely use the positive advantages that modern technology offers. This is what mostly the participants pointed out on determining what are the challenges and problems encountered in doing different transactions in TWD customer service. There are answers that mostly can be connected to the use of technology. It can be denied since most of us nowadays, prefer to do automated and easy transactions.

With this, TWD must improve their services to align with the Philippine government mandate on Republic Act No. 11032. Recommendations was identified by the participants in this study.



TWD management can refer to the given recommendations to improve the delivery of their service and to increase customer satisfaction. And to use this study as a basis on proposing innovations on the TWD customer service practices.

References

- AECT. (2001). *Descriptive Research Methodologies*. Retrieved from http://members.aect.org/edtech/ed1/41/41-01.html
- Alshenqeeti, H. (2014). *Interviewing as a data collection method*. Sciedu Press. https://doi.org/10.1016/S0001-2092(06)61533-0
- Bekkers, Victor, Duivenboden, Hein and Thaens, M. (2006). Information and Communication Technology and Public Innovation Assessing the ICT-Driven Modernization of Public Administration Volume 12 Innovation and the Public Sector Edited by: V.J.J.M. Bekkers, H. Van Duivenboden and M. Thaens July 2006, Ios, New Publication, Press.
- Burke, K. (2017). *How Many People Still Use a Landline Phone in 2018_New Research Finds.* Retrieved from https://www.textrequest.com/blog/how-many-people-still-use-landline-phone/
- CareerBright. (2016). Major Causes of Customer Dissatisfaction and How You Can Prevent Them. Retrieved from https://careerbright.com/entrepreneur/major-causes-customer-dissatisfaction-can-prevent
- Christensson, P. (2010). ICT (Information and Communication Technologies) Definition. *Sharpened Productions*. Retrieved from http://techterms.com/definition/ict
- Cortese, C. (2019). 20 Examples of Companies with the Best Customer Service. Retrieved from https://www.bluleadz.com/blog/companies-with-the-best-customer-service
- Creswell, J. and Poth, C. (2016). *Qualitative Inquiry and Research Design Choosing Among Five Approaches* - (Fourth Edi). SAGE Publications. Retrieved from https://books.google.com.ph/books/about/Qualitative_Inquiry_and_Research_Design.ht ml?id=gX1ZDwAAQBAJ&printsec=frontcover&source=kp_read_button&redir_esc=y# v=onepage&q&f=false
- Creswell, J. (2014). *Research Design 4th Edition. SAGE Publications* (4th ed., Vol. 39). California: SAGE Publications.
- DOJ. *Memorandum Circular No.016* (2018). Retrieved from https://www.doj.gov.ph/files/2018/MC/MC016-2018
- Elliot, C. (2018). *These Companies Have the Best Customer Service*. Forbes. Retrieved from https://www.forbes.com/sites/christopherelliott/2018/07/11/these-companies-have-the-be st-customer-service-heres-why/#53eb67ebb80a
- Fath-allah, A., Cheikhi, L., Al-qutaish, R. E., & Idri, A. (2014). E-G OVERNMENT M
ATURITY MODELS: International Journal of Software Engineering & Application
(IJSEA), 5(3), 71-91. Retrieved from



http://airccse.org/journal/ijsea/papers/5314ijsea06.pdf

- Gill, P., Stewart, K., Tresure, E., & Chadwick, B. (2008). Methods of data collection in qualitative research. *British Dental Journal*. https://doi.org/10.1038/bdj.2008.192
- Harling, K. (2002). An Overview of Case Study, 1, 1-7.
- Miller, I. (2018). *Top Ten Customer Service Duties*. Retrieved from https://www.customerservicemanager.com/top-ten-customer-service-duties/
- Munoz, R. (2018). *The Evolution of Communication through the Centuries MobileCon*. Retrieved from https://www.mobilecon2012.com/the-evolution-of-communication-through-the-centuries /
- Muriungi, R. (2012). The Effectiveness of Communication on Customer Service: a Case Study of the Kcb Bank Group.
- Obeng, R. (2016). An Exploration of the Case Study Methodological Approach through Research and Development an Exploration of the Case Study Methodological Approach through Research and Development by Raymond Obeng Northeastern University College of Professional Studies EDU 7215 – Proposal Development: Qualitative Research, (September). https://doi.org/10.13140/RG2.2.18359.11684
- Page, M. (2018). *Why Communication is Important in Change Management*. Retrieved from https://www.michaelpage.co.uk/advice/management-advice/development-and-retention/i mportance-good-communication
- Palinkas, L., Horwitz, S., & Green, C. (2016). Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research. Adm Policy Ment Health, 42 (5)(10), 533–544.
- Sargeant, J. (2012). Qualitative Research Part II: Participants, Analysis, and Quality Assurance. *Journal of Graduate Medical Education*. https://doi.org/10.4300/JGME-D-11-00307.1
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative Google Search, 22, 63-75. Retrieved from https://www.google.co.uk/search?q=Strategies+for+ensuring+trustworthiness+in+qualita tive&sourceid=ie7&rls=com.microsoft:en-gb:IE-Address&ie=&oe=&rlz=&redir_esc=& ei=t_DxUMKID43M0AXLwYGwCA
- Silver, C. (2018). *Customer.* Retrieved from https://www.investopedia.com/terms/c/customer.asp
- SimpleTexting. (2018). *How B-Unlimited Uses SimpleTexting to Increase Merchandise Sales*. Retrieved from https://simpletexting.com/b-unlimited-success-story/
- Stokbroekx, H. (2017). *Eight Ways Technology is Changing the Service Industry* _ *InfoWorld*. Retrieved from https://www.infoworld.com/article/3227548/eight-ways-technology-is-changing-the-serv



ice-industry.html

Swan, E. (2015). The Power of Information Sharing in Your Business _ eFileCabinet. Retrieved from

https://www.efilecabinet.com/the-power-of-information-sharing-in-your-business/

- TagumCoop.(2015).Silverbranded.Retrievedfromhttp://www.tagumcooperative.coop/tagum-cooperative-awards/
- The Report_ The Philippines 2012 Google Books. (2012). *Oxford Business Group*. Retrieved from www.oxfordbusinessgroup.com
- Trochim, W. M. K. (2006). Social Research Methods Knowledge Base Qualitative Validity. *Research Methods Knowledge Base*. https://doi.org/10.1016/S0304-4203(00)00082-7
- *Using Text Blast Software to Reach Your Audience.* (2020). Retrieved from https://www.eztexting.com/text-blast
- Wagenheim, George and Reurink, J. (1991). Public Administration Review. *Public* Administration Review, 51(3), 263-270.
- Water, M. (2018). *Macao Waters*. Retrieved from https://www.macaowater.com/index.php?r=aboutus%2Findex&purl=customer_liaison_g roup#
- Wilson, K. (2018). Customer service and relationship management, (April).
- Zainal, Z. (2007). Case study as a research method. Jurnal Kemanusiaan., 9, 1-6. https://doi.org/10.1177/15222302004003007

Copyright Disclaimer

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/4.0/)