

Received: 11 November 2022 Accepted: 28 March, 2023

DOI: <https://doi.org/10.33182/rr.v8i4.260>

Measuring Service Quality Dimensions through Client Satisfaction in a Science and Technology University

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Abstract

This descriptive-evaluative study measured and evaluated the satisfaction of the clients served by a science and technology university to generate verifiable data and tangible evidence to assist the university in determining the effectiveness of its service delivery. The 740 research participants were the students, alumni, parents and suppliers chosen through stratified random and convenience sampling. A questionnaire for collecting both qualitative and quantitative data was utilized based on the prescribed guidelines by the AO 25 s. 2011 LATEF. S&T university is rated as “outstanding” with, seven service dimensions rated as “outstanding” and one as “satisfactory.” Highest ratings are for integrity, assurance and outcome and the lowest for costs. Females, 18-34 years old, and suppliers were the most satisfied clients. Significant differences were revealed in the dimensions of communication, integrity, assurance, and outcome when clients were grouped according to sex; responsiveness dimension when clients were grouped according to age; and all seven dimensions and outcome when clients were grouped according to type of clients. Suggestions on the improvement of services fell into three overarching themes which were personnel, service delivery and infrastructure.

Keywords: *client satisfaction measurement, service quality dimension, science and technology university*

Introduction

Pursuant to Section 4.4 of Memorandum Circular No. 2021-1 with the subject guidelines on the Grant of PBB for FY 2021 under EO No. 80 s 2021 and EO No. s. 2016 issued by the Inter-Agency Task Force on the Harmonization of the Government Performance Monitoring, Information and Monitoring System in the Philippines dated June 3, 2021, all state colleges and universities in the country were directed to prepare an instrument and conduct the Customer or Client Satisfaction Survey (CSS) for the services provided all its clientele.

Client satisfaction is an assessment of the performance of an organization or company in meeting their client’s expectations. Client satisfaction relies mainly on the general and specific psychological evaluation of a client’s experience on a product or service provided by the organization (Milner,

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2017). Client satisfaction is primarily dictated by the interactions between the service providers and their clients during the transaction, thus, service quality is such an essential component of satisfaction (Mamo, 2018). With this, state colleges and universities place great emphasis in extracting feedbacks from their clients so they could gauge the performance of their services as a way of their continuous process of monitoring, maintaining, improving and guaranteeing the quality of higher education systems.

Measuring client satisfaction proffers a direct, meaningful and objective feedback about clients' preferences and expectations. It is strongly implemented in the higher education institutions because of its extensive legal mandate. Aside from the prime mandate of providing instruction, research and extension to the public, government higher education institutions are indispensable instruments in providing service quality to clients (Sapitula, 2012). An accomplishment of any institution relies on the competence of fore employees as they are considered the main characters to build the first and lasting impressions towards an organization's positive image to its clients (Mengesha, 2015).

Along this line, Section 4 of the Philippine Republic Act No. 6713 (RA5713) clearly enumerates the standards of personal conduct that all public employees and officials must possess in carrying out services delivery, being committed to public interests, practicing the highest degree of professionalism, objectivity and truthfulness as they serve with fair practice and neutrality. They must be responsive to the public, nationalistic and patriotic, committed to the democratic way of living, and living the modest life possible (Section 4, Republic Act No. 6713) with utmost diligence, responsibility, honesty, loyalty and efficiency at all times (Section 1, Article XI, 1987 Philippine Constitution).

Service quality in the field of education and higher learning, in particular, is not only essential, but also a correspondingly important parameter of academic excellence. In assessing service quality, dimensions were used as a criterion in the clients' perspective to substantiate if the service sectors provided quality services to clients (Valdez, 2020; EO No. 8 s 2021). These service quality dimensions could assess the client's satisfaction which could indicate the strengths and weaknesses of services rendered by the university. Client satisfaction survey must capture the client experience and satisfaction with their availed public service in the service quality dimensions of responsiveness, reliability or quality, access and facilities, communication, costs, integrity, assurance and outcome (AO 25 IATF).

The Client Satisfaction Survey (CSS) is one of the identified areas of accountability in the Grant of PBB for FY 2021 with the primary goal of evaluating the performance of agencies with emphasis on the public's satisfaction on the realization of the agencies' performance targets, quality of service delivery, efficiency in the use of resources and strengthened agency stewardship. This survey is also expected to strengthen the role of agencies in ensuring accountability of the university units responsible in the delivery of their services.

The CSS is foreseen as a feedback mechanism encouraged and obliged to be performed by the university to determine the effectiveness of streamlining, standardization, digitization, and other process improvements in easing transactions with the public. The CSS should be anchored on the guidelines provided in Annex A of MC No. 2021 – 1.

The immediate conduct of the CSS in state college and universities is timely, relevant and highly needed. For a science and technology university whose clients encompass a wide range of linkages and diversity, it could prove more challenging. This report aimed to generate verifiable data and tangible evidence to assist science and technology universities in determining the effectiveness of implemented ease of transaction and process improvements through identified indicators.

Service Quality Dimensions

The CSS must capture the total client experience, expectations and satisfaction in the delivered public service with the following service quality dimensions.

Responsiveness. This refers to the willingness to help, assist, and provide prompt service to clients.

Reliability (Quality). This refers to the provision of what is needed and what was promised following the policy and standards, with zero to minimal error rate.

Access and facilities This refers to the convenience of location, ample amenities for comfortable transactions, use of clear signages, and modes of technology.

Communication. This refers to the act of keeping the clients informed in a language that they can easily understand, as well as listening to their feedback.

Costs. This refers to the satisfaction with the timeliness of the billing, billing processes, preferred methods of payment, reasonable payment method, value for money, the acceptable range of cost, and qualitative information on the cost of each service.

Integrity. This refers to the assurance that there is honesty, justice, fairness, and trust in each service, while dealing with the clients.

Assurance. This refers to the capability of the frontline staff to perform their duties, product and service knowledge, understanding client needs, helpfulness, and good work relationships.

Outcome. This is defined as the extent of achieving outcomes or realizing the intended benefits of government services.

Objectives of the Study

This study aimed to measure and evaluate the satisfaction level of the clients that were served by a science and technology university in FY 2021.

Specifically, it sought to answer the following questions:

1. What is the profile of the clients as to their gender, age, client classification, and purpose of transaction?
2. What is the client satisfaction rating in the 8 service quality dimensions encompassing the areas of responsiveness, reliability (quality), access and facilities, communication, costs, integrity, assurance and outcome? What is the overall agency client satisfaction score?
3. What is the client satisfaction rating in the service quality dimensions encompassing the areas of responsiveness, reliability (quality), access and facilities, communication, costs, integrity, assurance and outcome when participants are grouped according sex, age, and type of client?
4. Is there a significant difference on the satisfaction of the clients on service quality dimensions and overall agency client satisfaction score when they are classified according to gender, age and type of client?
5. What are the suggestions raised by the clients toward the improvement of the university services?

Theoretical and Conceptual Framework

This study was anchored on the Republic Act No. 9485 also named as the Anti-Red Tape Act of 2007 (ARTA). It is a law which main goal is to improve the effectiveness and efficacy in delivering government services to the people by way of casting out bureaucratic red tape and the rigid processes that slow down the processing of certain transaction, and also to stop graft activities in all government and public institutions. This was put into law on June 2, 2007 (Paragraph 1, MC No. 12, Series of 2008, IRR).

Further, this study also adhered to the guidelines set in the MC No. 2021-1 mandated by AO No. 25 s. 2011 on the Grant of the Performance-Based-Bonus for Fiscal year 2021 under EO No. 80 s. 2012 and EO No. 201, S. 2016. This Circular is issued to prescribe the criteria and conditions on the grand of PBB for FY 2021 citing Citizen/Client Satisfaction Result as one of the four dimensions of accountability among government agencies.

The Service Quality Theory was also used in this study. It was introduced by Oliver (as cited by Anjalika and Priyanath, 2018) and argued that when a service provider fails to deliver based on the clients' standards, clients will rate the provider as 'low quality', and if the provider delivers the service as expected or beyond the expectation, clients will rate it as 'high quality'.

The main purpose of conducting the study to gauge the performance in the service delivery of the university was based on RA 9485. The Service Quality Theory also served as a theoretical basis in the concept of assessing the satisfaction level of the service provider based on the clients' standard. The independent variable clients with the socio-demographic characteristics of age, sex, purpose of transaction and type of clients were included based on the MC No. 2021-1 mandated by AO No. 25 s. 2011. This Circular was also the basis in evaluating the eight service quality dimensions

and the overall client satisfaction score of the service availed by the clients.

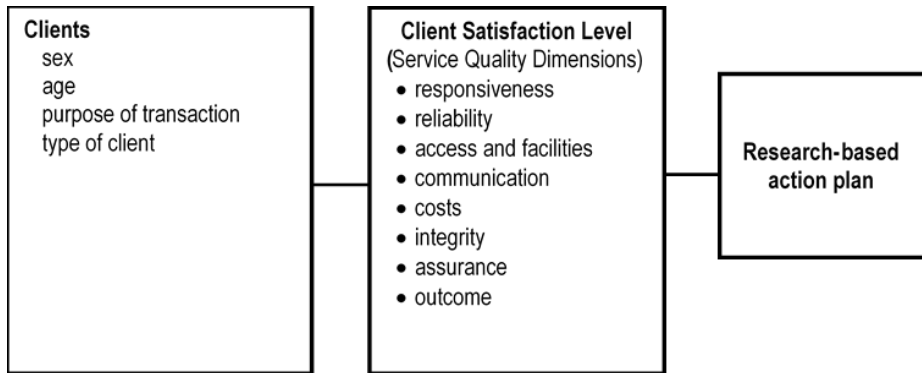


Figure 1. Paradigm of the study

METHODOLOGY

Research Design

This study adopted the descriptive-evaluative research design to measure the level of clients' satisfaction on the services received and experienced in a science and technology university. Quantitative and qualitative data were gathered to assess the variables. Descriptive design was used to determine the general profile of participants and the weighted mean of their level of satisfaction on their availed services. Evaluative research design was used to compare significant differences in the mean responses of the participants when grouped according to gender, age, and client classification. Thematic analysis was used to interpret the qualitative data.

Using survey method in gathering data, this study aimed to determine the opinions of the specified population regarding the services that they had received from the university. Survey research is defined as the collection of information from a sample of individuals through their responses to questions (Check & Schutt, 2012), thus it is aptly suited to be used in this study.

Online survey research was utilized as an approach in the data collection. Online survey forms were distributed through Google forms for faster retrieval and collection of responses. The instrument was crafted based on the specifications provided by the IATF AO 25 s. 2011 stipulated in MC No. 2021-1 following the eight dimensions in service quality assessment.

The antecedent variables were the socio-demographic profile of the clients specified as gender, age, client classification, and purpose of transaction. Frequency, and percentage were used to describe the socio-demographic characteristics. Mean and standard deviation were used to evaluate the service quality with specific dimensions on responsiveness, reliability (quality), access and facilities, communication, costs, integrity, assurance and outcome.

For the inferential statistics, t-test for independent samples was used to determine if there is a

significant difference on the satisfaction of the clients in service quality dimensions and overall agency client satisfaction score when they are classified according to gender. One-way Analysis of Variance (ANOVA) was used to determine if there are significant differences in the satisfaction of the clients on service quality dimensions and overall agency client satisfaction score when they are grouped according to their age and classification as a client. Least Significant Difference (LSD) test was used for multiple comparison of significant differences. All quantitative data were analyzed using the Statistical Package for Social Sciences (SPSS). The level of significance for the statistical result was set at alpha 0.05.

Respondents Criteria

The research participants were the students, alumni, parents and suppliers who had availed of the science and technology university services for FY 2021. Since most of the services for this Fiscal Year were being conducted online, questionnaires were also disseminated via online platforms. For the students, inclusivity criterion was being officially enrolled for the Fiscal Year 2021. Students who had graduated midyear or dropped out from the official list prior to the conduct of the study were not eligible to be part of the sample size. For the alumni, parents and suppliers, they should have conducted transactions in person, through telephone or by online platforms to be considered as a part of the sample size. Transactions should occur within the Fiscal year of 2021 only.

Survey Sampling Coverage

For the student population, stratified random sampling was used to select the participants. The goal of this sampling strategy in survey research was to obtain a sufficient sample and saturation of representative for each cluster of interest. The sample size of 381 student participants was derived from the total of 7,859 officially enrolled population of the university for the FY 2021. The sample size was obtained using Slovin's formula with 5% margin of error.

For the students from satellite campuses, alumni, parents, suppliers, the number of participants were determined based on the accomplished and returned instrument since convenience sampling was used in the study. Researchers considered only those who were available or able to return the instrument on time during the actual conduct of the study as eligible participants (Mamo, 2018).

Sampling Procedure

Two types of sampling techniques were used to select the participants. For the student participants, stratified random sampling was employed. Stratified random sampling involves the division of a population into smaller sub-groups known as strata which are formed based on members' shared attributes or characteristics (Hayes, 2021). In this case, stratification was based on the colleges of the university. This kind of sampling allowed the researchers to obtain a

sample size that best represents the entire population being studied. Dissemination of the survey instrument was channeled through the Dean's Office who were in-charge of informing the students of the purpose of the study and its ethical considerations. Students were assured of the confidentiality and anonymity of the process and the deidentification of all participants. They were also informed of their voluntary participation and that no risks were to be incurred on their part in case of their non-participation or withdrawal of participating in the study. An online link was posted to each college' official page or in any online platform which were easily accessible to the students. This was to give students an option whether to participate or not from the study. After the instruments were returned and collected, they were tabulated in a spreadsheet and stored in an encrypted database. An odd-even scheme for randomization were then employed to select responses from the database.

For the students of satellite campuses, parents, alumni and supplier clients, convenience sampling were used in the selection of participants. Convenience sampling is a type of non-probability sampling that involves the sample being drawn from that part of the population that is close to hand or taken from a group of people easy to contact or to reach (Saunders et al, 2012). In this case, they were the clients who were readily available and willing to participate voluntarily without any compensation or risks incurred on their part. Students from satellite campuses were selected through convenience sampling because of the reported difficulty in internet connection in their locality. Participants chosen via convenience sampling were subjected to the same briefing regarding the purpose of the study and the ethical considerations. They were informed of the location of the link thus they also had the same option of participation in the study.

The use of both probability and nonprobability sampling technique had been utilized by Mamo (2018) in his study on the assessment of client satisfaction where both random sampling and convenience sampling were used to select respondents. On a similar context, Perez (2019) also utilized convenience sampling technique in her study of client satisfaction on the quality of frontline services in a government HEI. This makes the sampling technique of the study suitable and acceptable due to prior studies and literature reviews.

Survey Instrument/Questionnaire

The researchers used the university-made structured questionnaire for collecting data in determining the level of clients' satisfaction on their availed or experiences services experienced.

The questionnaire included two parts. Part 1 aimed to gather general information of the respondents relevant to the study, such as age, sex, college, campus, type of client and purpose of transaction. Part 2 dealt with the client's assessment of their level of satisfaction with the different services availed based on the service quality dimensions which are responsiveness, reliability (quality), access and facilities, communication, costs, integrity, assurance and outcome.

A 5-point Likert Summated Scale Rating was used since it is a psychometric response scale primarily used in questionnaires to obtain participant’s preferences or degree of agreement with a statement or set of statements (Valdez et al, 2020). The numerical and adjectival scale was prescribed by the AO 25 s. 2011 IATF. The client satisfactions’ responses in the questionnaire were scored, classified, and given interpretations based on Table 1.

Table 1: Scoring the variable

Numerical Scale	Adjectival Scale	Range	Verbal Interpretation	Spectrum
5	Very Satisfied	4.21 – 5.00	Outstanding service	Positive
4	Satisfied	3.41 – 4.20	Satisfactory service	
3	Neither Satisfied nor Dissatisfied	2.61 – 3.40	Neutral/Undecided	Neutral
2	Dissatisfied	1.81 – 2.60	Unsatisfactory service	Negative
1	Very Dissatisfied	1.00 – 1.80	Poor service	

Validation

To ensure the validity of the instrument, the university-made questionnaire was subjected to face and content validation by experts in management, language, questionnaire preparation, and analysis and interpretation of data. The suggestions and recommendations of the experts were consolidated into the final questionnaire.

RESULT AND DISCUSSION

Profile of the Participants

Data herewith shows the socio-demographic characteristics of the 740 participants in terms of sex, age, type of client, purpose of transaction, and number of students who participated in the study.

Result shows that majority of the participants were female (62.4%) and the rest were males (37.6%). As for the age, majority of the participants belonged to the age bracket of 18-34 (89.7%), followed by 50 and above (5.1%), and 35-49 years old (5.1%) both with equal number of participants turnout. This percentage reflected that majority of the clients who responded to the survey forms were students. Among all the clientele, students are the most frequent in directly dealing with the university services. Thus, their greater turnout as participants is expected. The age bracket as to where students belong also reflects greater number of participants compared to other clients.

As for the purpose of transactions, majority were others (43.9%), followed by

enrolment/admission (28.1%), request for credentials (18.9%), inquiries (5.1%), and business (3.9%) purposes. The “others” signified the many varied purposes that the participants intended to avail in the university. Some of them were mainly about varied concerns with some teachers or their grades, completion of grade requirements, counselling, scholarship and others.

As for the type of client, most of the participants were students (77.2%) followed by alumni (9.7%), parents (8.8%), and supplier (4.3%). Students were the biggest number of clients since they were directly and constantly availing the services provided by the university, thus their high turnout in survey responses.

Table 2. Profile of the participants (N=740)

Category	f	%
Sex		
male	278	37.6
female	462	62.4
Age		
18-34	664	89.7
35-49	38	5.1
50 above	38	5.1
Purpose of transaction		
request for credentials	140	18.9
business	29	3.9
inquiries	38	5.1
enrolment/admission	208	28.1
others	325	43.9
Type of client		
student	571	77.2
alumni	72	9.7
parent	65	8.8
supplier	32	4.3

Service Quality Dimensions

Table 3 presents the clients’ level of satisfaction on the services provided by a science and technology university in its different offices categorized per service area or dimension; responsiveness, reliability, access and facilities, communication, costs, integrity, assurance and outcome.

In general, the overall agency satisfaction score is “outstanding” with the mean average of 4.2738. The seven service quality dimensions were rated as “outstanding services” by the clients with

“very satisfied” responses basing on the overall scores attained. Only one attained a “satisfactory service” rating with the “satisfied” responses from the participants which is the cost dimension. The service dimension with the highest rating was integrity (M= 4.3489) followed by assurance (M=4.3391) and outcome (M=4.3218). On the other hand, the lowest dimensions were costs (M=4.0060), reliability (M=4.2850), and access and facilities (M= 4.2881).

The integrity dimension, being the highest rated, affirms the full trust of the clients. Integrity reflects the assurance that there is honesty, justice, fairness and trust in the service provided by a science and technology while dealing with all its clients. Science and technology university embodies excellence in all aspects of its performance and the responses of the participants reflect the fulfillment of such commitment.

Assurance, the second highest rated dimension, guarantees the capability of the frontline staff to perform their duties, deliver products and service knowledge, understand client’s needs, and exude helpfulness and good work relationship. Participants realized the benefit that they had reaped out of the services that they had availed and that they had achieved the intended purpose of their transactions. Participants are also assured of the completion of their transaction because of the personnel’s competence, knowledge, courtesy, and empathy extended to all its clients. Participants are also highly satisfied with the responsiveness of the personnel in the service delivery noting that they are willing to help and provide prompt service to the clients.

On the other hand, cost was rated to be the lowest possibly because it entails an additional burden to the clients. Some parents possibly view cost dimension in this study as any school related expenses incurred in the studies of their children, despite the prevailing Tertiary Education Act covering free tuition, other stipulated fees offered to students. Reliability or quality of service is rated as the second lowest though still rated as an “outstanding service.” Participants noted that quality of advice or service could still be improved particularly in the accuracy of information. Access and facilities is still rated as outstanding despite belong in the third lowest rated dimension. Participants believe that the university could further enhance, upgrade and improve amenities and facilities so as to give convenience to the clients.

Table 3: Ranking of the Service Quality Dimensions

Dimensions	Mean	Description	Rank
Integrity	4.3489	Outstanding service	1
Assurance	4.3391	Outstanding service	2
Outcome	4.3218	Outstanding service	3
Responsiveness	4.3015	Outstanding service	4
Communication	4.3000	Outstanding service	5
Access and facility	4.2881	Outstanding service	6
Reliability	4.2850	Outstanding service	7
Cost	4.0060	Satisfactory service	8

Overall Agency Client Satisfaction Score	4.2738	Outstanding service
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Scale: 4.21 – 5.00 – outstanding service (O), 3.41 – 4.20 - satisfactory service (VS), 2.61 – 3.40 – neutral/undecided, 1.81 – 2.60 – unsatisfactory service, 1.00 – 1.80 - poor service

Service Quality Dimensions Score Categorized per Socio-Demographic Characteristics

Table 4 shows the result of the service quality dimensions when they are categorized per socio-demographic characteristics. When clients were grouped according to sex, female clients (M=4.30) gave a higher mean score with “outstanding” rating indicating that they were more satisfied with the quality of the services that they had obtained in the overall scores of the 8 dimensions. The overall score of the male clients (M=4.25) was not far behind with still an “outstanding service” rating equivalent. This result implies that by a small margin, female participants are slightly more satisfied of the services compares to their male counterparts.

When clients were grouped according to age, those who belonged in the age group of 18-34 years old (M=4.30) were more satisfied with their “outstanding service” rating in the all the eight dimensions. The lowest score was indicated by clients aged 50 and above (M=4.08) with a “satisfactory service” rating. Elderly participants have lower satisfaction on the availed services compared to other age groups.

The elderly participants could be reflected by the parents who had difficulty accessing the services of the university since the administration imposes strict transaction protocols and services are mainly restricted during the pandemic. The elderly, in particular, are restricted from the campus or in any other establishments and this could possibly led to their frustrations over not being allowed to transact personally.

As for the types of clients, the suppliers gave the highest rating on all the service quality dimensions among all the group of clients with their “outstanding service” rating (M=4.61), followed by alumni (M=4.49) and students (M=4.26). Parents gave the lowest rating equivalent to “satisfactory” (M=4.06). Suppliers are the most highly satisfied clients with some noting that it is easy to conduct business transactions related to their concerns and that most personnel are approachable and accommodating.

On the other hand, parents are the least satisfied with their availed services with cost dimension being the lowest rated are where parents are undecided or neutral regarding their satisfaction level. Mainly, parents expressed constraints in the payment of incurring fees at the university. The economic crisis brought about by the pandemic could have possibly exacerbate their financial capacity thus leading to their group having the lowest satisfaction among all the other clients.

Table 4. Service Quality Dimensions

Mean	responsiveness	reliability	access facilities	and communication	costs	integrity	assurance	outcome	Overall Score	Desc
Sex										
Male	4.27	4.25	4.21	4.25	4.12	4.31	4.30	4.28	4.25	O
Female	4.34	4.32	4.33	4.35	3.98	4.40	4.38	4.32	4.30	O
Age										
18-34	4.30	4.30	4.27	4.31	4.14	4.37	4.36	4.31	4.30	O
35-49	4.53	4.32	4.58	4.34	3.22	4.51	4.38	4.28	4.27	O
50 above	4.16	4.16	4.32	4.29	3.14	4.28	4.20	4.10	4.08	S
Type of Client										
Student	4.26	4.26	4.20	4.27	4.20	4.32	4.31	4.27	4.26	O
Alumni	4.61	4.55	4.54	4.55	3.92	4.63	4.63	4.48	4.49	O
Parent	4.21	4.12	4.31	4.20	3.17	4.25	4.18	4.06	4.06	S
Supplier	4.83	4.73	4.91	4.75	3.48	4.83	4.72	4.62	4.61	O

Scale: 4.21 – 5.00 – outstanding service (O), 3.41 – 4.20 - satisfactory service (S), 2.61 – 3.40 – neutral/undecided, 1.81 – 2.60 – unsatisfactory service, 1.00 – 1.80 - poor service

Significant Difference on the Satisfaction of Clients on Service Quality Dimensions when Classified as to Sex, Age and Type of Client

Table 5 shows the significant difference in the satisfaction of clients on service quality dimensions when they were classified according to sex. T-test for independent samples was used in analyzing the significant difference between the two sex groups. Result shows that there was a significant difference on the communication (t-value= -2.362, sig= .018), integrity (t-value= -2.536, sig= .011), assurance (t-value= -2.048, sig= .041), and outcome (t-value= -3.060, sig= .002) when clients were grouped according to sex. Based on the previous result, female clients were reportedly more satisfied compared to the male counterparts. This result indicated that each group of gender had significantly different satisfaction level and perception on the quality of the service that they had availed particularly in the dimensions of communication, integrity, assurance and outcome.

This could imply that each gender has varying preferences and opinion with regard to their availed services and that the females are more satisfied compared to their male counterpart. This could reflect the rigid Gender and Awareness programs that most universities are imposing so as to assuage the comfort of the female clients in terms of their usage of school facility.

Table 5: Significant difference in the satisfaction of clients on service quality dimensions according to sex

Quality Service Dimensions	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Responsiveness	-1.458	644	.145	-.07399	.05075
Reliability	-1.614	644	.107	-.07816	.04841
Communication	-2.362	644	.018*	-.11288	.04778
Costs	-1.683	449	.093	-.10661	.06335
Integrity	-2.536	644	.011*	-.12004	.04733
Assurance	-2.048	644	.041*	-.09744	.04758
Access	-1.539	501	.124	-.09541	.06199
Outcome	-3.060	644	.002*	-.15303	.05001

Table 6 shows the significant difference in the satisfaction of clients on service quality dimensions when they were classified according to age. One-way Analysis of Variance (ANOVA) was used to determine if there are significant differences on their level of satisfaction. Result shows that there was a significant difference only on the responsiveness dimension ($F= 3.071$, $sig=.047$) when clients were grouped according to their age. This result indicated that each age groups has their own level of satisfaction and perception on the quality of the service they had availed particularly on the responsiveness of the personnel attending to their transactions. These views significantly differed from those of the other age groups. The most pronounced difference was on the group of older clients who reportedly had lower satisfaction rating compared to the other age groups. This low satisfaction among the elderly could be fueled by their frustration of not being able to directly and easily avail of the university transactions since they are restricted or limited from entering the school premises due to the health protocol imposed by the university.

Table 6: Significant difference in the satisfaction of clients on service quality dimensions according to age

Service Quality Dimensions	Sum Squares	of df	Mean Square	F	Sig.
Responsiveness					
Between Groups	2.417	2	1.209	3.071	.047*
Within Groups	253.011	643	.393		
Total	255.428	645			
Reliability					
Between Groups	1.378	2	.689	1.916	.148
Within Groups	231.215	643	.360		

Total	232.593	645			
Communication					
Between Groups	.039	2	.020	.056	.946
Within Groups	227.578	643	.354		
Total	227.618	645			
Costs					
Between Groups	.055	2	.027	.061	.941
Within Groups	201.327	448	.449		
Total	201.381	450			
Integrity					
Between Groups	1.145	2	.573	1.655	.192
Within Groups	222.488	643	.346		
Total	223.633	645			
Assurance					
Between Groups	1.132	2	.566	1.624	.198
Within Groups	224.057	643	.348		
Total	225.189	645			
Access and facility					
Between Groups	1.805	2	.902	1.929	.146
Within Groups	233.857	500	.468		
Total	235.662	502			
Outcome					
Between Groups	.985	2	.493	1.267	.282
Within Groups	249.851	643	.389		
Total	250.836	645			

Table 7 shows the significant difference in the satisfaction of participants on service quality dimensions when they were classified according to type of client. One-way Analysis of Variance (ANOVA) was used to determine if there were significant differences on their level of satisfaction.

Result shows that there was a significant difference on all the service quality dimensions when participants were grouped according to type of client in the dimensions of responsiveness ($F=7.462$, $sig=.000$), reliability ($F=7.982$, $sig=.000$), communication ($F=6.060$, $sig=.000$), costs ($F=3.708$, $sig=.012$), integrity ($F=6.749$, $sig=.000$), assurance ($F=7.299$, $sig=.000$), access and facility ($F=4.663$, $sig=.003$) and outcome ($F=6.559$, $sig=.000$). This result indicated that each group of clients had significantly varying level of satisfaction and perception among all the seven areas of the service quality dimensions.

Table 7. Significant difference in the satisfaction of clients on service quality dimensions according to type of client

Service Quality Dimensions	Sum of Squares	df	Mean Square	F	Sig.
Responsiveness					
Between Groups	8.606	3	2.869	7.462	.000*
Within Groups	246.821	642	.384		
Total	255.428	645			
Reliability					
Between Groups	8.364	3	2.788	7.982	.000
Within Groups	224.229	642	.349		
Total	232.593	645			
Communication					
Between Groups	6.268	3	2.089	6.060	.000
Within Groups	221.349	642	.345		
Total	227.618	645			
Costs					
Between Groups	4.889	3	1.630	3.708	.012
Within Groups	196.492	447	.440		
Total	201.381	450			
Integrity					
Between Groups	6.838	3	2.279	6.749	.000
Within Groups	216.796	642	.338		
Total	223.633	645			
Assurance					
Between Groups	7.427	3	2.476	7.299	.000
Within Groups	217.762	642	.339		
Total	225.189	645			
Access and facility					
Between Groups	6.427	3	2.142	4.663	.003
Within Groups	229.235	499	.459		
Total	235.662	502			
Outcome					
Between Groups	7.459	3	2.486	6.559	.000
Within Groups	243.377	642	.379		
Total	250.836	645			

Suggestions on the Improvement of Service

In the qualitative aspect of the survey questionnaire, clients were asked if they have any further suggestions on how services could be improved. Out of the 646 respondents, only 447 indicated

their responses while the rest left the question unanswered due to its optional setting.

Using thematic analysis, areas that needed further improvement based on the suggestions of the clients were identified namely; personnel, service delivery and infrastructure. Majority of the clients did not have any further suggestions or comments on the services that they had availed. The unanswered responses by some clients could also be interpreted as having no further suggestions. This indicates that majority of the clients were satisfied with the services that they had availed and would simply suggest for the sustainability of this standard.

There were a few suggestions that were worthy of considerations although only a small percentage of clients aired them out. They were on the following areas:

Personnel. A few clients suggested that some personnel should be more positive, patient, approachable, kind, understanding and fair in dealing with students. Clients suggested that personnel could also be more attentive and responsive in dealing with online transactions. Student clients were also asking for understanding regarding their situation particularly on the financial and technical aspect. Some comments were:

“Always possess positivity and wear your smile.”

“[Personnel] need to be patient in dealing with the feedback or inquiries of the clients.”

“Make the communication of personnel to client be equal to all.”

Continue to provide the same level of service, but be more approachable, as some employees are intimidating and appear irritated when asked.”

Service. Few clients also noted suggestions in the delivery of services. Common themes were faster responses, and clearer instructions to be followed by the clients during their transactions. One client was also requesting for a more detailed direction when they are instructed to proceed to a certain area or building in the campus. Some were also requesting for faster responses on online transaction specifically on the confirmation of enrollment. Some alumni were also requesting for walk-in transactions in lieu of an online appointment in getting their credentials due to some unforeseen circumstances. Clients were also requesting to accomplish their request on the same day.

“Tani mas dasig pa gid ang pagsend sang confirmation of enrollment sa amon . Pro da best man ang subng pro mas better kung mapa-improve pa gid. Thank you.”

“Detailed directions for students when they are required to go to a certain area in ISAT U.”

“Clear instructions and considerations on phone transactions and fast response on online portals.”

“I suggest that when giving instructions to clients, I hope it is clear because sometimes it causes

confusion to clients.”

“They may cater walk-ins when getting credentials in the registrars. There are unexpected circumstances and important matter to do but it caused delay when doing an appointment via messenger.”

Infrastructure. Clients also suggested for an improvement in the access and facilities. One suggested that student services should be placed in one or close proximity locations. Clients found it cumbersome in going to various locations just to have all their varied transactions accomplished. A number of students were also requesting for an upgrade on the VLE.

“I hope that all student's services are in one location along with the cashier that doesn't need to go to other building. It is time consuming. Thanks.”

“It is very struggle to pay for your RF and get grades in the other building.”

“My suggestion is to expand the VLE MB so that we can access immediately when we pass the activities and other school projects.”

This study established that a science and technology university could excel in its services extended towards its clients and upholds superior quality in all dimensions of service delivery. Frontline personnel are exemplary in their service and performs outstanding client service to the clients.

However, services that could be further improved due to low satisfaction rating are on costs, reliability and access and facilities. Clients view the existing fees on the procurement process and academic credentials as burdensome and further exacerbated their economic constraints during the pandemic. The construction and renovation of offices that regularly cater to the needs of the clients could have caused confusion to the alumni and students who were already accustomed with their previous locations.

Female, and younger clients are more satisfied with the services compared to their counterparts. Younger clients particularly the students are more adaptable to the new processes of the university on the online transactions, thus they have fewer complaints. However, elderly clients struggled with some of the office locations or usage of technology which served as the latest means of communication and transaction adapted by the university during the pandemic.

Suppliers are the most satisfied group of clients while the least are the parents. Suppliers are satisfied with the manner as to which the university is enacting its policy in terms of handling transactions and business with outside sources. However, the parents are least satisfied possibly due to the drastic shift of the mode of teaching delivery to their children and the challenges of using technology in both the education and service transactions of the university.

Majority of the clients did not have any further suggestions or comments on the services that

they had availed. Few suggestions for further improvement on services fell into three overarching themes which were personnel, service delivery and infrastructure.

RECOMMENDATION

Basing on the result of this study, the following are recommended:

1. Costs is the lowest rated dimension. Science and technology university is suggested to employ means in informing the clients about the imposition of such fees. Other options in terms of payment could also be adapted. Lowering of fees could also be considered if applicable and feasible.
2. Capability and skills training in dealing with clients is recommended to be conducted regularly so as to enhance and enrich the interpersonal skills and client relations of frontline personnel. This is to further improve the reliability or quality of service delivered by the personnel.
3. Access and facilities on the tangibles, technology and other facility could be continuously improved. Online platforms and applications utilized by the university should be continually updated to meet the demands of the growing clients. In terms of infrastructure, it is suggested that all student/client services be located in close proximity so transactions could be done efficiently. Service delivery in all modes of transactions is suggested to be enhanced particularly in online transactions which is now the common trend of communication due to the pandemic. Information campaign should be strengthened so as to broaden the audience's awareness with regard to the online transaction provided by the university.
4. Parents and older clients have the lowest satisfaction rating compared to other groups of clients. The university could consider conducting consultation with these group so as to get their pulse with regard to the improvement that they could suggest.
5. Continuous monitoring and evaluation on the performance of service delivery in all offices and areas is suggested to be sustained using the revised Client Feedback Instrument utilized in this study since it is suggested by the AO 25 IATF on the Harmonization of National Government Performance Monitoring, Information and Reporting System. It is the latest guidelines for the granting of PBB starting SY 2021 under EO No. 80 S. 2021 and EO No, 20, S. 2016.
6. Further and continuous study with regard to client satisfaction be implemented for the continuity of monitoring and evaluation of the service quality of the university.

Conflict of Interest

The authors have no conflict of interests to declare. All co-authors have seen and agreed with the contents of the manuscript and there is no personal financial interest to report. Though they

are members of the funding institution, the authors ensured that the result of the study reflected accurate data and information, since these could be the basis on projects and programs to be implemented for the improvement of the services of the university.

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