
Contributions of the Testing Center, AAU, in outreaching the Community

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Abstract: The major objective of this research is to explore the community outreach engagements of the Addis Ababa University Testing Center and assess the level of satisfaction of public and private client organizations/stakeholders that have been getting testing service from the center. The overall strategy is case study design in which perceptions of stakeholders that have been getting testing service from the center are captured. A twelve item likert-type structured customer satisfaction questionnaire and an open-ended item that addressed issues such as testing environment, test staff profile, overall quality service, and concordance between expectations and challenges encountered in the course of service delivery were developed and administered to international test takers. Results indicated that respondents are satisfied with the service delivered. Aggregated professional fees charged for the development, administration and reporting of selection and placement tests and overhead cost charged from the administration of international tests showed that the center has generated a substantial amount of money to the university on top of its professional community outreach services since its inception. Implications for the provision of better-quality service are suggested.

Key words: testing, community outreach service, customers' satisfaction

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Background

The Testing Center is one of the units of the Institute of Educational Research (IER), Addis Ababa University which was established to provide testing and measurement services in areas of personnel selection, recruitment, placement and promotion as well as training to public and private sectors and higher learning institutions. The center also carries out consultancy services, research and training in educational assessment and evaluation. The center is committed to ensure excellence in the development and proper utilization of human resource in all client organizations through the development and administration of systematic and scientific personnel selection instruments. The overall purpose of the testing center is to assist the Addis Ababa University and other client organizations hire the most qualified and competent applicants and thereby improve their organizational performance (“Testing and Measurement Service Unit Operational Manual,” n.d.)

For the past several years, the center has been providing testing service to many governmental and non-governmental organizations (NGOs) including the Addis Ababa University: Department of Human Resource Management. Administration of international tests such as Test of English as a Foreign Language (TOEFL), Graduate Record Examination (GRE), Association for Certified and Chartered Accountants (ACCA), Scholastic Aptitude Test (SAT) and very recently National Licensure Examination for Health Personnel (NLEHP) and conducting research and training in the area of testing and measurement are services provided by the center. Moreover, the center has coordinated the development of the Ethiopian University Entrance Examinations (EUEE) previously named as Ethiopian School leaving Certificate Examination (ESLCE) since August 2002 based on the mandate given to Addis Ababa University, the Institute of Educational Research, by all Higher Learning Institutions and Ministry of Education.

In its five years strategic plan (IER, 2015), the Institute has also clearly delineated excellence in testing and measurement service as one of its strategic themes. One of the strategic objectives along this direction is increasing customer and stakeholder satisfaction locally and internationally. This objective aims at rendering quality testing services to customers and stakeholders locally and international clients like Education Testing Service (ETS). Towards this end the center is obliged to maintain test integrity with utmost ethical standards in administering the tests and shipping international test materials timely and confidentially. Accountability is the guiding principle in realizing this strategic objective. Any test complaint is addressed as humanely as possible without violating the rights of the test takers. This research is meant to explore the contribution of Addis Ababa University Testing Center since its establishment as testing center in 1983 and the level of satisfaction of international test takers and the extent to which the center is engaged in productive community outreach services as stipulated in the Addis Ababa University (2013) Senate Legislation and Strategic Plan.

The importance of customers in the business process has made it vital to conduct research about the level of satisfaction they get from service givers. After a given service is delivered to customers there is a need for evidence. This would enable the institution to change its mode of service delivery and improve quality of service. In order to win the hearts of customers and to stand as competitor in the business world, it is wise to improve services from time to time based on evidence obtained from research. When customers have good perception about the testing and measurement service, it is likely that they will choose the center for the second time. These days there are competing institutions that give testing service to organizations in the country. For the center to stand as competitor and first choice there is a need to research on the level of satisfaction among stakeholders and improve its mode of service delivery. Hence, evidences obtained from this research will enable it to customize its service in line with current

market demand nationally and internationally and win as many clients as possible in the future.

Objectives

The major objective of this research is to explore the professional contribution of the Testing Center in areas of personnel selection, recruitment, placement and promotion tests to the public and private sectors and higher learning institutions and the extent to which it is engaged in productive community outreach services.

Specific objectives of the research

- Identify important milestones in the history of Testing Center of Addis Ababa University;
- Examine the quality of the services provided by the center to customers as perceived by beneficiaries;
- Explore the level of customers' satisfaction with the services delivered by the center;
- Assess the outreach service it rendered to the community in light of the Addis Ababa University Legislation;
- Estimate the income generated by the Testing Center to Addis Ababa University for specific period of time over the course of service delivery.

Review of Related Literature

Brief Historical Review of Testing and Measurement Service Unit

The establishment of the university testing center dates back to 1966 pioneered by USAID expert Professor Charles Langmuir under the auspices of the then AAU Academic Vice President. By then its major objectives were to undertake research on test development and to offer testing service for personnel recruitment, placement and promotion,

and to develop standardized aptitude tests for use in Addis Ababa University.

An important landmark that ushered a new chapter in the history of the Testing Center is its merger with the Institute of Educational Research on April 1987. The impetus for the merging came out from a comprehensive assessment of the achievements of the institute since its inception in 1983 as center for conducting cross cutting educational issues including the development of scientific testing system in the country and for the launching of the Ethiopian Journal of Education. By then the institute has unambiguously outlined the importance of designing, developing and implementing examinations of all types for effective learning-teaching process and quality education in general in its strategic plan document. Although there were for and against arguments on the pros and cons of this merging, according to Yusuf (1989) the issue of integration heralded a new chapter that enhanced the effective implementation of the institutes' objectives.

The testing center has long tradition of preparing local tests and administering international tests. The center had exposure to different forms of intelligence and personality tests as early as the 1960's. Professor Charles Langmuir from Utah University, USA, who was in charge of establishing the university testing center, introduced various forms of intelligence tests as early as the 1960s. Differential Aptitude Tests composed of mechanical reasoning, Space Relations, Language Usage-Spelling, Davis Reading Test; Kuhlmann-Anderson Tests were some of the earliest versions of assessment tools introduced to Ethiopia by Langmuir. However, due to acute leadership problem and lack of well-trained staff, the center was not able to sustain and develop relevant tests to the Ethiopian context (IER, 2001).

In 1993 a multidisciplinary unit composed of individuals with psychiatric and psychological orientation was established within the premise of the Institute of Educational Research with the objective of reducing the wastage resulting from failures of students with mental disorders. The

unit has traveled some distance giving service to students of Addis Ababa University who suffered from anxiety and depression disorders (Menilik, 1995). For reasons not well established the unit ceased to function.

Today due to the diversification of professions and professionals that would serve diverse requirements of government and non-government institutions, the number of tests that serve different purposes increased from time to time. New tests that are meant to recruit job applicants that would satisfy job descriptions outlined by the respective employer organizations and institutions are added to the testing pool of the center. Although problems such as shortage of qualified staff, acute leadership problem and other logistic problems that haunted the center in its earlier stage (Yusuf, 1989), is somehow ameliorated these days, the relevance, validity and reliability of these tests that make up the pool are still not evaluated and their appropriateness to local and global conditions not systematically documented.

In addition to its objectives to develop educational, placement and selection tests that would serve different purposes, the center had contributed much in improving the objectives and general format of the Ethiopian School Certificate Examination (ESLCE) that was taken as sole admission criteria to universities (Yusuf, 1989). Although this is not the right place to comment on the appropriateness of ESLCE as a full fledged criteria for admitting secondary complete students to universities, it still remains as an important yardstick in the selection and placement of students to the present public and private higher education institutions and faculties. Its name changed from Ethiopian School Leaving Certificate Examination (ESLCE) to University Entrance Examination (UEE), and very recently to Ethiopian University Entrance Examination (EUEE). In the subsequent years the shift is mainly in naming than in essence.

The administration of foreign tests that have international status have been the mandate of IER/Testing Center for the last three or more decades. Test of English as Foreign Language (TOEFL), Graduate Record Examination (GRE) have been administered to candidates that have been applying to join colleges and universities abroad. Very recently IER/Testing Center started administering the Scholastic Aptitude Test (SAT) to secondary students that aspire to pursue their first degree in American universities. According to Yusuf (1989:77), the TOEFL and GRE tests were beyond the reach of many Ethiopians and the benefit accrued from administering these tests was so minimal. He stated that *the fact that the former Testing center was simply preoccupied with the administration of foreign tests such as TOEFL and GRE, where little professional or material input was gained by the University, was found insufficient for the continued existence of the Center as an independent unit.*

Due to unprecedented increment in student population at all levels of the Ethiopian educational system and continued exposure of the young generation to the outside world, candidates that sit for the aforementioned tests including SAT increased from time to time. This transformation in the Ethiopian Educational system opened opportunity for the young population to look for new ways and venues to be competitive globally. Moreover, as an outreach service it strengthened the link between the center and client organization such as ETS in America. One should mention that the center has been administering these tests with utmost security and integrity maintaining the legal, ethical and moral standards which eventually made the center locally competitive and the choice of new test takers.

Wealth of experience IER/Testing Center accumulated especially in the last decades in developing, administering and reporting of local and international tests enabled it to get wider recognition domestically and internationally. New areas of influence are being identified to exercise the skill and knowledge it deposited in its archives. Very recently the center is engaged in managing the National Licensure Examination

prepared by Ministry of Health (MoH). This examination is a high-stake unique experience in the Ethiopian context meant to qualify new graduates from health institutions before they actually practice the profession. The professional contribution of the staff in IER/Testing Center in the process of test item development and the administration of the Licensure Examination across all higher education institutions were well appreciated by the ministry. This can be taken as an important milestone in the history of the center and worth mentioning community outreach service.

The Addis Ababa University Senate Legislation (2013:156) Article 139, in its Principles section states the importance of making consultancy service to the standard and meeting client needs ethically. It states:

The rendering of consultancy services shall be in line with the mission of the University, and legal and ethical standards. It shall not in particular compromise the quality, extent, and availability of activities for the implementation of which the University is established. Consultancy services shall be deployed to forge relations with industries for mutual benefits and on the basis of principled and transparent negotiations and agreements. The results of the consultancy services shall be used to deliver informed academic services and to enrich teaching-learning and research. Without prejudice to individual intellectual property rights and agreements on confidentiality, the knowledge and skills acquired in the course of consultancy services shall be put to the service of the wider community.

More over the Senate Legislation Article 140.1 (*p.156*) defines consultancy services as:

Any form of professional or technological service rendered to a client by the University or an academic staff of the University in accordance with the rules and regulations of the University as provided in this Legislation or other instruments. The types of consultancy services include research, training, program/project

evaluation, production of materials, advisory or any other service of a professional or/and technical nature.

Still much remains to be accomplished by the center. In order to sustain as an agent in the testing enterprise locally and internationally, better ways of doing things need to be devised and best practices so far achieved should be scaled up. It is high time for the center to revise all placement and selection tests so that they meet global standards. Moreover, it is an urgent task for the center to determine the psychometric properties of these tests and develop test manuals with all the necessary test information. The testing industry is a fast-moving practice and technology supported. It is high time to introduce internet-based testing program in the institute to mitigate problems that are related to test administration and to adequately meet legal and moral standards to be accredited by domestic and international institutions

Theoretical Discourse

The emergence of the different branches of psychology in the 1980s, 1990s, and 2000s gave rise to the extensive use of tests in almost all walks of life for all age groups. It ranges from the Apgar rating scale meant to identify problems related to appearance, heart rate, reflex irritability, muscle tone and respiration of the new born infant to tests designed to measure academic progress or suitability for a certain position in an organization or human enterprise. For example, every year more than 2.5 million students take tests that are designed to measure academic progress or suitability. The SAT alone is given to some 2 million high-school students each year (Kaplan & Saccuzzo, 2005).

Despite the controversies and disagreements hauling on the uses of tests to assign individuals into this or that category, test results still remain to be a tool to arrive at plausible decision regarding human behavior and placement. In fact, the informed decisions on the

placement of personnel are determined by the dependability of the tests and the extent to which they serve the purpose for which they are meant. One of the theoretical concerns that currently shape the testing program includes the dependability of test results (Kaplan & Saccuzzo, 2005). Otherwise there are possibilities for erroneous assigning of candidates which ultimately may harm the test taker and the organization. The problem is not to assign a pass or fail, a plus or minus grade or put candidates categorically. A candidate may fall above the cutoff point which necessarily does not guarantee that he will show the same competency in the position he is assigned. The discrepancy between high test score and incompetency in work place suggests that the test has not fulfilled the purpose for which it was developed. In order to increase the validity of tests, organizations at times employ parallel measures to make the data rich and arrive at sound decision.

Ethical issues in testing by far fall on the shoulder of test users and test constructors. These two stakeholders take the lions share responsibility in testing because even the best test that fulfills the required psychometric properties could be abused if used inappropriately. According to APA (2002) statement, a test that is valid and reliable for one group may not be equally valid and reliable for another. In light of this issue, the 2002 version of the APA Code of Ethics has added two subsections that direct psychologists who administer tests. One is to use assessment instruments whose validity and reliability have been established for use with members of the population being tested and second to use assessment methods that are appropriate to an individual's language preference and competence. Whether or not a given test is appropriate or not is primarily judged by the test constructor. This is partly ethical responsibility and partly shaped by technical test construction skill and profound knowledge of the staff in the area.

Current Trends in Testing and Measurement Service

New developments are coming to the testing arena. Professional, moral, social, and even legal issues have shaped today's trends in testing. These trends can be placed into four main categories: the proliferation of new tests; higher, improved technology, and increased objectivity; greater public awareness and influence; and computer and internet applications (Kaplan & Saccuzzo, 2005). The need for developing new tests comes from the pressure to use fair and better assessment tools that are responsive to individual and organizational needs. As new empirical evidences appear from research in the area of organizational theory, it is important to develop new tests that are responsive to new global changes. There is a need to make persistent effort to improve the quality of tests based on new insights and empirical findings from psychological researches.

The computerization of tests is a major trend, in which different sets of test questions are administered via computer to different individuals, depending on each individual's status on the trait being measured (Kaplan & Saccuzzo, 2005). These days tests such as the SAT, GRE, and TOEFL are being administered through adaptive computer programs and individualized testing procedure by reducing total testing time and efficient use of resources. In order to meet these global trends and secure customers satisfaction, IER/Testing Center is obliged to transform its service from paper pencil test administration to internet-based testing modality. Although decisions are staggering, currently new steps are being taken by Addis Ababa University management in availing new technological facilities to transform the testing practice in the institute to an internet-based modality.

Customer Satisfaction

A customer is a stakeholder of an organization that pays money in exchange for the service provided to her/him by the organization with

the aim of fulfilling a need and to maximize satisfaction. When a consumer is contented with either the product or services it is termed satisfaction. Satisfaction can be demonstrated by a person's feelings of pleasure or disappointment that results from comparing a product's perceived performance or outcome with expectations (Kotler, 2000). As a matter of fact, satisfaction could be the pleasure derived by someone from the consumption of goods or services offered by another person or institution or it can be the state of being happy with a situation. Client happiness, which is a sign of customer satisfaction, is and has always been the most essential thing for any organization. Customer satisfaction is also defined as the consumer's response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product or service as perceived after its consumption (Tse & Wilton, 1988). Hence, satisfaction is considered as an overall post-purchase evaluation by the consumer (Fornell, 1992). According to Schiffman and Karun (2004), customer satisfaction is defined as the individual's perception of the performance of the products or services in relation to his or her expectations. Hansemark and Albinson (2004) defined satisfaction as an overall customer attitude towards a service provider, or an emotional reaction to the difference between what customers anticipate and what they receive, regarding the fulfillment of some needs, goals or desire. In general, researchers have tried to define customer satisfaction as transaction process. Oliver (1981) defined satisfaction as a summary of psychological state and Kotler (2000) defined satisfaction as a person's feelings of pleasure or disappointment resulting from comparing a product perceived performance (or outcome) in relation to his or her expectations

From literature review, there are many factors that affect customer satisfaction. Such factors include friendly and courteous employees, knowledgeable employees, helpful employees, accuracy and clarity of billing, billing timeliness, competitive pricing, service quality, good value, and quick service (Hokanson, 1995). Issues like customer satisfaction, service quality, customer perception, customer loyalty, are

the main concerns of the nowadays service companies, which improves organization's performance.

Grewald, Levy and Kumar (2009) suggested three ways of measuring customer satisfaction: a survey where customer feedback can be transformed into measurable quantitative data; focus group or informal discussions orchestrated by a trained moderator to reveal what customers think; and informal measures like talking directly to customers. Possible dimensions that one can use in measuring customer satisfaction include: quality of service, speed of service, pricing, complaints or problems, trust in the employees, the closeness of the relationship and other types of services needed. In today's competitive marketplace, employers in Governmental and Non-governmental Organizations and training institutions are facing the challenge of selecting and attracting the best candidates for job positions and training programs. Selecting and placing the right employee/trainee at the right job/ training program require the collection and use of relevant and objective information about the competence of the applicants. Such objective information to be used in making employment, training or career-related decisions is collected through well-designed assessment tools and procedures to meet customer satisfaction.

Customers are very different nowadays, because of their exposure to information. They are better educated, and more demanding in the products and services they require, and they are more familiar with technology. The 21st century consumer market raises many questions to those businesses that need to respond to this new era of consumerism. These days marketing is a practice that includes all marketing activities directed toward establishing, developing, and maintaining successful customer relationships. Building and maintaining relationships with customers has become a key strategic point with service industries. Therefore, relationship marketing develops long-term relationships and improves service delivery through customer loyalty and customer retention.

Service industries are playing an increasingly important role in the overall economies of the countries of developed and developing countries. Researchers have tried to define services and to explain what constitutes quality service. There are many definitions regarding the concepts of service. Services are deeds, processes, and performances (Parasuraman et al. 1985). Measuring goods quality is easier because it can be measured objectively with indicators like durability and number of defects, but service quality is an abstract item. According to Parasuraman et al., (1985) service quality has three features which are unique to services: intangibility, heterogeneity, and inseparability of production and consumption. Therefore, they suggest that in the absence of objective measures, an appropriate assessment of the service quality of a firm is to measure consumers' perceptions of quality. It is easy for consumers to evaluate purchasing goods because of many tangible cues that help them judge the quality, for example: style, package, color, fit, label, feel, etc., whereas with services fewer cues exist which make it difficult for consumers to judge, and in many cases the provider's physical facilities, equipment, and personnel are like tangible evidence. Quality of services occurs during service delivery, during an interaction between a client and the service firm. From literature review three underlying themes can be suggested in relation to service quality (Parasuraman et, al. 1985):

- Service quality is more difficult for the consumer to evaluate than goods quality;
- Service quality perceptions result from a comparison of consumer expectations with actual service performance;
- Quality evaluations are not made solely on the outcome of a service; they also involve evaluations of the process of service delivery.

Methodology

Design of the Research

The overall strategy in this study is case study design. In case study research the researcher is interested for both uniqueness and commonality. The distinctive need for case study in this research arises out of the desire to understand customer satisfaction in a holistic way. In an attempt to investigate the contribution of the Testing Center in outreaching the community, it is important to explore its development overtime. Hence, tracing how the unit came into being, what it looked like at its inception stage, what changes occurred overtime and assessing its current stand against ethical, moral and legal testing standards is important. Although organizational studies do suffer from insufficient sources that would lead to acceptable conclusion (Bogdan & Biklen,1992), the researcher is convinced that the existing resources in the testing center and the lived experience of the researcher and the testing staff would provide a starting point for subsequent research works in the area.

Research Participants

The target population for this study is December SAT and ACCA test takers and one key informant from Addis Ababa University. The ACCA test is administered for a maximum of eight consecutive days depending on the type of test version candidates are registered for. Hence, the questionnaire was administered to this group of candidates that are accessible on particular test day. The SAT is a one-day session test. Although the sample size is adequate to make reasonable inferences, the research participants are portion of international test takers that have been getting testing service from the center. About 64% of the research participants had got twice or more than twice testing service from TMSU. This would reduce respondents' bias when judging the quality of service delivered by the center. Table

1 shows number of times test takers got testing service from Addis Ababa University testing center.

Table 1:No. of times Test Takers got testing service from AAU Testing Center

Number of times Testing Service Obtained	Frequency	Percent
Once	154	36.6
Twice	76	18.1
Three times	22	5.2
Four times	24	5.7
Five times	145	34.4
Total	421	100.0

Data Collection Instruments

A fourteen item Likert-type structured customer satisfaction questionnaire on reception, testing environment, test staff profile, credibility, fairness, skill in test administration, timing, overall quality service, overall satisfaction, future trend to use this center, concordance between expectations and actual encounters was developed and administered to 2018 December SAT and ACCA international test takers. Cronbach Alpha was computed to determine the reliability coefficient of the instrument and was found to be reliable (Cronbach's Alpha =0.813). An open-ended question was also appended to gather the opinion of test takers on the challenges they encountered and their suggestions on improving the overall service delivery. An eight-item interview protocol meant to capture primary data on Quality of Service, Customers' Expectations, and Level of Satisfaction was developed and administered to Human Resource and Management Directorate that served the university for prolonged period of time and qualitative data documented. Different matrices were also developed to fill in with data from the testing center archive about the history of the center and test types.

Data Analyses Techniques

The Chi-Square distribution served as a Statistical tool to assess whether or not the difference between the observed and expected frequencies are significant as discussed under the theoretical discourse to explain differences in perception. One of the conditions that have to be met before applying the Chi-Square test is that the number of observations must be sufficiently large: in statistical terms not less than 30. Assuming that the sample size as big as 436 is normally distributed, it is hypothesized that there will be statistically significant differences between the observed and expected frequencies falling in the upper and lower ends of the continuum of the responses with respect to test takers perception on the various aspects of customer satisfaction measures. Because the sample size in this research is big, (Krejcie&Morgan, 1970) it was found unnecessary to apply Yates' correction for continuity. Qualitative data captured through the open ended item and interview protocol were transcribed and themes were formed and reported using matrix and narratives. Catching statements and phrases were quoted to substantiate data solicited from the quantitative analysis.

Results*Brief Description of the International Tests*

Scholastic Aptitude Test or Scholastic Assessment Test (SAT) is a standardized test for college admissions in the United States. The SAT is owned, published and developed by the College Board, a non-profit organization in the Unites States and scored by ETS. Addis Ababa University Testing Center administers the examination. SAT consists of three major sections. These are critical reading, mathematics, and writing. The test contains 3 hours and 45 minutes of actual timed section although most administrations, including orientation, distribution of materials, and completion of biographical sections and eleven

minutes of time break stretch the testing time to four and half hours duration.

SAT program test center request was sent to ETS management and Addis Ababa University/IER has been registered since October, 2009 and was assigned a username and password for the chief supervisor, with SAT test center name 77303. Immediately after the assignment of a test center number, the chief supervisor by default the director of the institute is required to attend a mandatory online training session prior to administering the test. The chief supervisor enters into agreement with regard to test security and integrity and ensures that IER staff has the required capacity and qualification to strictly follow and implement standard test administration procedures.

The Association of Chartered Certified Accountants (ACCA), is the largest examination body in the world in the accounting field. The examination is administered globally during an eight days period in June and December each year at over 350 centers and is attended by over 130,000 candidates at each session. The candidates fall into three main categories: those sitting for the Technical examination leading to the ACCA's Certified Accounting Technician qualification, those sitting for ACCA's Professional examination scheme, leading to the status of fully qualified accountant recognized by statute in the United Kingdom and many other countries and those sitting for the Diploma Examination whereby managers in industry and commerce can obtain a vital qualification in understanding and presenting financial information. Addis Ababa University Testing Center conducts the examination on behalf of local accounting body as part of joint examination scheme agreement. The administration of ACCA examination is controlled by the examination administration section, within the customer service department in Glasgow, Ireland. Regular International Examination Center Agreement is reached between the customer service department in Glasgow and the IER Director before the center is formally registered. Accordingly, the Director is expected

to agree on a number of test administration agreements in the operation of ACCA examination.

Addis Ababa University Testing Center was registered as a center and entered into contractual agreement with the center number I904/01. Since then, professionals in Addis Ababa and other regions including foreigners residing in Ethiopia took different versions of the ACCA examination. Although no serious departure was so far observed in the administration of the test, it doesn't necessarily mean there were no test complaints by test takers. The overall assessment of the customer service department on the performance of the center in conducting the test however, shows an overall satisfaction by the services so far delivered.

Analysis of Results from the Customer Satisfaction Questionnaire

A twelve item likert-type customer satisfaction questionnaire and one open ended question was administered to December SAT and ACCA candidates. Levy (2009) and Hokanson(1995) showed the multidimensionality of customer satisfaction. As per their suggestion, in order to have a better understanding of the situation and for simplicity of analysis the twelve likert-type items were clustered into four themes. Theme one is composed of two time- related customer satisfaction items. Theme two is composed of three overall satisfaction items. Theme three is composed of five items related to staff behavior and profile. Theme four is composed of two items related to customers' expectations and comparability of service and money paid for the service.

Responses for two items that are meant to assess the extent to which SAT and ACCA candidates are satisfied with respect to time spent in getting appropriate response and the length of time taken to speak out their problem to the testing staff were analyzed. Frequencies and percentages that fall along the five categories of responses and Chi-

Square analysis were run to see statistically significant differences between the observed and expected frequencies. Observed distribution of responses for these two items significantly diverge from the expected distribution indicating that test takers showed favorable inclination toward these two time-related satisfaction items. The Chi-Square analysis indicated that the differences between the response pattern of the satisfied and dissatisfied groups were statistically significant. Hence one would safely argue that the SAT and ACCA candidates are satisfied by the service delivered with regard to time related indicators (χ^2 318.598p <0.05 and χ^2 251.403p <0.05) respectively. Results are shown in Table 2.

Table 2: Time Related Customer Satisfaction Items

Items	Very dissatisfied	Not satisfied	Neither satisfied nor dissatisfied	Satisfied	very satisfied	Total	χ^2	p
To what extent are you satisfied by the prompt and quick response given to you by the testing center?	3	14	71	181	166	435	318.598	.000
How long was your wait before speaking your problem to the staff in the center?	Extremely long 16	Quite long 16	Moderately long 136	Slightly long 63	Not at all long 176	Total 409	251.403	.000

Three items that are supposed to assess SAT and ACCA candidates' overall satisfaction by the service delivered by the center were stemmed. Item one asks respondents to rate the quality of service. Item two is about how likely is it that they would recommend Addis Ababa Testing Center to a friend or colleague wishing to take tests that would enable him/her to go to colleges and universities abroad and the

third item captures candidates' perception about the extent to which they are satisfied by the services given by the center. Frequencies and percentages that fall along the five categories of responses and chi-square analysis were run to see statistical significance for differences between observed and expected frequencies. Frequency distributions under the five response categories that measure the quality and their overall satisfaction by the service provided by the center showed that the majority of respondents are to the positive upper end of the scale indicating above average satisfaction level. Despite their overall satisfaction, frequency distributions for the second item are high under the 'Not at all likely' and 'Somewhat likely' categories, indicating that the SAT and ACCA test takers are unlikely that they recommend TMSU for candidates wishing to sit for international tests in the future (χ^2 282.239p <0.05, χ^2 104.518p <0.05 and χ^2 229.420p <0.05). Results are shown in Table 3.

Table 3: Overall Satisfaction Items

Items	Very low quality	low quality	Neither nor quality	high low	High quality	Very high quality	Total	χ^2	P
How would you rate the quality of the service provided by the Addis Ababa University testing center?	5	13	108		191	101	418	282.239	.000
	Not at all likely	Somewh at likely	undecided		Very likely	Extremely likely	Total		
How likely is it that you would recommend Addis Ababa University testing center to a friend or colleague wishing to go to colleges and universities abroad?	44	153	107		57	52	413	104.518	.000
	Very dissatisfied	Somewh at satisfied	Neither satisfied nor dissatisfied		Satisfied	Very Satisfied	Total		
Overall, to what extent are you satisfied by the services given to you by the Addis Ababa University testing center?	4	70	47		186	117	424	229.420	.000

Staff behavior and their composure is an important indicator of customer satisfaction. The quality of the service is measured by the respect and professional behavior shown by the testing staff, their sensitivity to customers' problems and needs, competency in test administration, in the clarity of information and more over the help and support given to them by the testing staff. Both frequency distributions and Chi-Square analysis showed that SAT and ACCA test takers are satisfied with respect to these five indicators of customer satisfaction (χ^2 431.839p <0.05, χ^2 210.386p <0.05 and χ^2 210.386p <0.05, χ^2 368.699p <0.05, χ^2 263.640p <0.05). Results are shown in Table 4.

Table 4: Staff Behavior and Profile Related Items

Items	below average	average	above average	Very good	excellent	total	χ^2	p
How do you rate the respect and professional response given by the testing staff to your questions?	23	57	74	25	256	435	431.839	.000
	Not at all eager	Slightly eager	Moderately eager	Very eager	Extremely eager	Total		
How eager and sensitive were the staff in the testing center to listen and solve your problems	4	28	97	163	123	415	210.386	.000
	Not at all knowledgeable	Slightly knowledgeable	Moderately knowledgeable	Quite knowledgeable	Extremely knowledgeable	Total		
How knowledgeable and competent is the staff in the center in test administration?	6	25	93	169	124	417	210.386	.000
	Not at all clear	Slightly clear	Moderately clear	Quite clear	Extremely clear	Total		
How clear was the information given to you by the staff in the testing center?	2	12	47	171	183	415	368.699	.000
	Not at all helpful	Slightly helpful	Moderately helpful	Quite helpful	Extremely helpful	Total		
How do you rate the help and support given to you by the testing staff	4	19	85	179	135	422	263.640	.000

Theme four is about the extent to which customers' expectation is in agreement with the quality of actual service delivered and to what extent the money they paid is comparable to the level of their satisfaction. Frequencies and percentages were computed and a Chi-Square statistics was run to estimate statistical significance between the observed and expected frequencies. Results showed that there is statistically significant difference between the frequencies falling under the different response categories (χ^2 315.414_p <0.05, χ^2 206.991_p <0.05). Results are shown in Table 5.

Table 5: Customers' Expectation and the Actual Service Delivered

Items	Extremely well	Very well	Somewhat well	Not so well	Not at all	Total	χ^2	p
<i>How well do the services in the testing centre meet your needs?</i>	4	13	96	216	118	437	315.414	.000
	Very High	Above average	average	Below average	Excellent	Total		
<i>How would you rate the services given by the center against the money you pay?</i>	4	51	167	33	86	351	206.991	.000

The customer satisfaction questionnaire administered to SAT and ACCA December test takers included one open ended item. The item requires respondents to write their views and suggestions on the services delivered to them by the center and suggestions for improving the service delivery in the future. Qualitative data were transcribed from the questionnaire and read by the researcher to have an overall understanding of the contents. Four themes were derived from responses. Non-repeating statements, phrases and catching words are clustered around these four themes and presented in tables. Some catching statements are directly quoted from the transcriptions and shown to have a better understanding of the level of customers' satisfaction. Results are shown in Table 6.

Table 6: Themes Derived from the Qualitative Data

<i>Theme one: Testing room facilities and furnishings</i>	<ul style="list-style-type: none"> • Chair size not compatible with table height. Although classrooms are somehow good, chairs are not comfortable to sit for extended time • Please, improve toilet and sanitation facility services • Classrooms are old and not tidy please replenish them • Install generator so that candidates get adequate lighting. We need more light in testing rooms and it is also very cold in the rooms • Air conditioning needed • Let the classrooms be conducive for testing
<i>Theme two: Staff Behavior and competence</i>	<ul style="list-style-type: none"> • I am satisfied because I am supervised by gentlemen and well-disciplined people. • Supervisors are professionals and competent please keep it up • It was a good service given by the supervisor, with good assistance and clear instructions. • Let supervisors slow down when they talk and read instructions to test takers • Let supervisors be not emotional and help test takers by repeating instructions; because some test takers are new to the testing environment
<i>Theme three: Testing environment</i>	<ul style="list-style-type: none"> • When there is holiday celebration in the university there is noise pollution (example: Nations and Nationalities day November testing)
<i>Theme four: Overall satisfaction</i>	<p>Catching words used by research participants to describe their overall satisfaction: all the time happy, keep it up, we are on your side, this is the fifth time to me so far I haven't faced any problem</p>

Quotes taken from the Open-Ended Item

This is the fifth time to sit for ACCA examination in this center. All the time there is problem of light. At one time you attribute the problem to power interruption. At another time you say the windows are old. In general, I suggest change in the testing rooms (ACCA candidate).

It is wrong to place a test taker in a theatrical arts hall. At any cost it is inconvenient for testing. The space allocated per test taker is so small and it is not facing to the front. If I were in the waiting list, that would have been OK. I was registered long before but still I am assigned in a

room not to the standard. I lost my opportunity. I am not demanding too much. There is no enough space to look at consecutive two pages at a time. I am really sorry how a theatrical arts hall can serve as a testing room (ACCA candidate)

Dim light, untidy rest rooms, switched on mobiles of supervisors and proctors; all these made the center un-conducive. If it were within my mandate, I would have changed the center. Please let silence be observed around the testing center, better toilets and place digital timers in the testing rooms (ACCA candidate).

Overall, I am satisfied by the service. Yet it is important to place landmarks right from the gate to the testing center so that new candidates and late comers can easily reach their respective testing rooms. At least arrows printed in bold and posting them at every other corner of the nearby buildings can solve the problem (ACCA candidate)

Good. And yet there are things to be improved. For example, take note of testing time management, to the standard rest rooms, strict adherence to test administration rules and regulations (in the room I am assigned, there were students engaged in cheating). In general, you give modest service (SAT candidate)

Interview data

Addis Ababa University is the major stakeholder of the center. For all vacant positions of the non- academic staff, personnel selection and placement tests are planned and developed based on job descriptions spelled out by the respective sections or by the human resource directorate office of the university. Tests are tailored to these job descriptions and administered to candidates. The Institute of Educational Research draws appropriate specialists from faculties, schools and department units of the university. At times professionals from other institutions and organizations are recruited and assigned to develop the selection tests. The interviewee served as human resource

and property director, purchase and property directorate, and finally at the post of human resource and management director of the university. Initially the researcher communicated to the central human resource management team leader and through small ball sampling techniques he was advised to contact the director for his wealth of experience in the human resource and management section for several years. An eight-item interview protocol was developed and due to space constraint brief summary of the data presented here.

One of the interview questions the researcher posed to the interviewee was about his views and understanding of what quality testing service may mean. Accordingly, he noted that even though the term quality is a slippery concept it is possible to explain it within a given context. To him quality service is meeting the best satisfaction of individuals and groups. Quality is also understood in terms of accessibility and availability of the service readily when wanted by client organizations and institutions. The maximum satisfaction any institution or organization can get from the center accordingly is measured in terms of selecting appropriate personnel who has the required knowledge and skill to suit the job description spelled out by the employer organization and institution. The respondent noted that it is because of the institution's personnel selection tests that AAU was able to recruit an appropriate person for the vacant position and it is because of this fact that the Human Resource Management Directorate has been working in close collaboration with the center for the last many years.

The other interview item was about the level of overall satisfaction with the services delivered by the Testing Center. The interviewee stated that so far the center is working hard to meet the demands of Addis Ababa University. Despite some irregularities, personally I did not face any serious problem. Testing staff in the center and all academic staffs in the institute are well coming and showed willingness to accommodate requests of the university with matters related to the preparation of personnel selection and placement tests. Accordingly, once tests are administered, results are reported timely ranking

candidates in their order of merit. On top of reporting tests scores, at times additional information and data are provided by specialists in the institute that would enable the Human Resource Department to make reasonable decisions. It is interesting to note that the tests had the power to select would be employees that have the required skill and knowledge. A quote taken from the transcribed data substantiates his stand.

- *During my stay in the human resource department, those employees selected by the Testing Center through rigorous testing procedures enabled to identify appropriate personnel that would meet the job description stated by the specific section in the university. Honestly speaking AAU in general and Human Resource Directorate in particular are beneficiaries of the services delivered by the testing center (HRM director).*

Profile of Placement and Selection Tests Documented in the Testing Center for the Last Six Years

Three different matrices were developed to fill in with data from the testing center. Before engaging into the data collection activity an approval was solicited from the current IER director to get access to the documentation center. A contractual agreement was signed between the testing staff and the researcher and duties and responsibilities of the center staff and the researcher were clearly spelled out in this agreement. Special statement was inserted into the contractual agreement on test integrity and confidentiality matters. The purpose of the first template was to synthesize data on selection and placement tests developed by the center for different purposes and qualification levels. Test name, the purpose of the test, year at which it was developed, format of the test whether the test is objective or subjective type, number of items , time allowed to complete the test, whether or not the test has been revised since its first edition were filled into the matrix rows and column. Different types of tests serving

different purposes were developed and administered to test takers from the year 2004 to 2009 E.C. Major categories include: Finance and budget, program coordinator, expertise positions for the civil service sector, sales and procurement, media, sport sciences, transport, policy, culture, law, statistics, banking, insurance, ICT and many other sub specialties are addressed by the placement and selection tests.

Except in few cases like sport sciences almost all tests are paper and pencil tests and the formats are objective, subjective and both types. The time for administering these tests ranges from thirty minutes skill-based audio-visual test for the selection of an audiovisual worker to a three- and half-hour test for highly technical positions in engineering, law, top management, banking and insurance. Number of items as well range from three subjective type items to one hundred fifty-eight objective type test items. Over the course of service delivery, unfortunately no serious engagement has been undertaken to revise the tests although some rudimentary customization attempts have been made to suit specific needs of client institutions and organizations.

Addis Ababa University is the major client of the Testing Center. Every other vacant position ranging from top managerial position to the lower echelons of the structure are filled by individuals selected by the above-mentioned tests. Apart from the selection and placement tests meant to recruit legible individuals as per the job description, the center is also preparing, administering and reporting large scale testing services such as AAU Entrance Examination for the Extension Program.

Template two was structured to collect data on the type of testing service provided to various departments and sections of the university. A ten by seven (10x7) matrix was developed and data were entered to the respective cells. Against each department or section, the year at which service was rendered, the purpose of the test, number of candidates sat for that particular purpose, proposed budget and

expected amount that should have been paid as overhead had the service been given to outside stakeholders are documented. As can be observed from Table 7 the Information Communication Technology, Human Resource Department, Budget, Procurement, Finance, Continuing Education, Science and Technology Institute, and Credit Association are the major beneficiaries of AAU served by the Testing Center. For Information Communication Technology, Human Resource Department, Budget, Procurement and other divisions over the course of five years from 2005 to 2009, about One Hundred and Fifty Five sessions were conducted and seven hundred sixty two candidates sat for placement and selection tests. The Addis Ababa University Testing and Measurement Service Unit manual which was produced early in the eighties was revised and service charges as per number of candidates sitting for specific test are ear marked. Unless and otherwise specified for large scale testing services such as extension program, Addis Ababa University is not charged by the center for the service delivered. If it were an agency external to Addis Ababa University, the center would have charged these client departments thousands even millions of Ethiopian Birr. Apart from the technical service being provided by the center, one could imagine the income generated from this important outreach community service. Addis Ababa University Continuing Education Department is the major beneficiary of the service. The center has been developing, administering and reporting subject-based and Aptitude tests and the department admits extension program students on competitive basis based on test results. From year 2003 to year 2009, Ten Thousand Five Hundred Eighty-Five candidates including Addis Ababa Science and Technology Institute sat for the extension and regular program entrance examination. Table 7 shows major stakeholders of the center and projected overhead generated from the service delivered to the different departments and sections.

Table 7: Test Administration Services Offered to the Different Departments and Sections of Addis Ababa University (2003-2009 E.C.)

<i>AAU/Departments</i>	<i>Year</i>	<i>Purpose</i>	<i>No. of sessions</i>	<i>No. of candidates</i>	<i>Proposed budget</i>	<i>Amount paid</i>	<i>Overhead to AAU</i>
<i>and sections</i>							
ICT, HRM, Budget,	2005	Selection, Placement	1	10			
	2006	Placement	74	395			
Procurement,	2007	selection	22	60		49,000.00	
	2008	Selection	42	283		44,520.00	
	2009	Selection	16	14			
Cost sharing							
AAU Entrance Extension	2003	Placement	1	*		203,951.00	33,991.86
AAU Entrance Extension	2005	Placement	2	1738			
AAU Entrance Extension	2006	Placement	2	1620		30,000.00	
AAU Entrance Extension	2007	Placement	2	1810			
AAU Entrance Extension	2008	Placement	2	2182			
AAU Entrance Extension	2009	Placement	2	1894			
AAU Entrance Extension	2005	Placement	1	667		134,463.00	6,403.00
AAU, Credit Association.	2006		1	5		2000.00	
AAU, Credit Association.	2007		1	9		3450.00	

**data not available*

A separate matrix was developed to synthesize data pertaining to institutions/ organizations that have been getting testing and measurement service from the center. Data pertaining to the year service delivered, number of candidates sat for a particular institution/organization, total amount charged for the service and overhead generated to Addis Ababa University is shown. Thirty-seven institutions and organizations that have high stake with the center were identified from documents. It does not mean that these

institutions/organizations are a one-time customer of the center. Some organizations like ARRA (Administration for Refugees and Returnees Agency) have been getting service consecutively for the last five or more years. Data for each institution/organization were aggregated based on the number of years since they became customers of the center. From 2000 to 2009 a total of 9,372 candidates took different types of tests developed for different purposes. As per the regulations of Addis Ababa University, overhead is calculated and client institutions and organizations were charged a total amount of 6,974,428.17 Birr for the university. Data pertaining to external client organizations, number of candidates that took the tests, total amount of Birr paid by customer institutes and the overhead paid to the university are all shown in Table Eight.

Table 8: List of Institutions/Organizations that got service from the Testing Center

List of Institutions/Organizations that got service from TMSU	Year (Eth. C)	Purpose (selection, placement)	Number of candidates sat for the test	Total amount paid for the service	Overhead paid to the University
Airports enterprise	2008,2007,2006	Selection	94	77,170	32,970
Athletics Federation	2008	Selection	69	68,000.00	6,400.00
Cooperative Bank of Oromia	2008	Selection	444	46,200	4,200
Commercial Nominee	2006	Selection	4	4000	1000
Commercial Bank of Ethiopia sport Association	2008,2007	Selection	33	81,000	6 000
Catholic Relief Services	2008	Selection	8	10,000	5,000
Ethiopian Electric Utility (EELPA)	2008	Selection	455	252,796	22,981
Evangelical Church Mekaneyesus	2007	Selection	2	6,000	
Graduate Assistant	2008,2007	Selection		747,615	86,615
Insurance Corporation	2007	Selection	10	25,000	5,000
Horticulture Development Agency	2007	Selection	3	7000	1,000
Hilina enriched Food Processing Center Pvt. Ltd. Co.	2006	Selection	3	2,500	2,500
Lame Dairy	2005	Selection	3	1,000	1,000
Merchandise Wholesale & Import Trade Enterprise (GENAD)	2006	Selection	6	2,975	2,975
MOHA Soft Drinks	2007,2006,	Selection	15	9775	
Ministry of Cultural & Tourism	2007,2006	Selection	157	53,427	11,577
MOENCO	2008,2007	Selection	32	33,000.00	13,000
Ministry of Health	2008,2007,2006,2003	Selection		520,861.5	152,361.5
Ministry of Education(PGDT)	2008,2007	Placement		1,108,409	111,400
Refugee	2008,2007,2006,2005,2004,2003	Placement	4514	1446690	154,390
Strategic Food Reserve Agency	2008,2007	selection	74	155,000	48,000
Trans Ethiopia PLC	2008	selection	4	10,000	5,000
National Archives and Library Agency	2007	selection	9	12,000	3,000
Urban Job Creation and food Security Agency	2009,2008	selection	31	78,000	33,000
Nib Bank	2007,2005,2004,2003,2001	selection	1782	186725	24,475

Wegagen Bank	2006,2005	selection	482	69,173.5	3888.5
Zemen Bank	2007,2006	selection	1063	189,805	27,775
The Motor & Engineering co. Of Ethiopia (MOENCO) S.C.	2004	selection	17	9740	
Fantu& Family Trading & Industry PLC	2005	selection	10	5000	2000
Pathfinder International	2003	selection	17	9,000	
MOHA Soft Drink	2004	selection	5	1800	
Anbessa Shoe Share company	2004	selection	4	1800	
Ministry of Urban Development and construction	2004	selection	22	10,268	
College entrance Examination for TVET graduates	2001,2000	selection		503,065	65,617.2
Ethiopian National Licensing Examination for Health Professionals (HPLED)	2016-2017	Licensure		20,851,251.00	2,085,125.10
Ethiopian National Licensing Examination for Health Professionals (HPLED)	2018-2019	Licensure		29,000,000.00	3,480,000.00
EUEE	2009,2008,2005 ,2007,2006,200 4,2003	selection		4,371,567.11	576,177.87
				Grand total	6,974,428.17

International Tests

The client institutions make an assessment of facilities and furnishings and the capacity of the testing staff to handle the standardized procedures in administering international tests. As indicated above, by default the director of the institute is chief supervisor and all academic staffs act as associate supervisors. The administrative staff in the institute plays the role of proctor. The supervisor and associate supervisors are expected to undergo online training before their entitlement. Once they take the online training and assessment, certificates are issued and their capacity is ensured by ETS and ACCA home office. Data with regard to test type, day/month/year of administration, and number of candidates registered and appeared in the test is compiled by testing staff in the center. Overhead for Addis

Ababa University and honorarium payments for the supervisor and associate supervisors are set at the outset. The overhead for Addis Ababa University is fixed per test taker. The overhead paid per candidate has been fluctuating over the years and is not consistent across all test types. The overhead per candidate for TOEFL, SAT and GRE tests was USD 3, USD 2.5 and currently USD 2 over the years while for ACCA it is £ 4/test taker. Data for the last fourteen years 2004 to 2017 were compiled and entered to SPSS. Table 9 shows frequency distribution and percentage compositions of these tests from 2004-2010.

Table 9: Frequency Distribution of International Tests Administered From 2004 -2010

International Tests	Frequency	Percent
ACCA	16	12.4
GRE	9	7.0
SAT	32	24.8
TOEFL	71	55.0
Total	129	100.0

Table 10 shows the number of candidates that took the four international tests over a period of fourteen years. Over those years the center has generated a big sum of hard currency to the university. When the total amount of hard currency paid to the university was exchanged to local currency ETB, 3009175.1708 was paid as overhead to Addis Ababa University.

Table 10: Candidate that Attended International Tests and Currency Generated to the University

Test Name	Day/Month/Year of administration	Number of candidates for the test	Overhead /candidate paid to the University	Total hard currency generated (USD)	Income generated/Current exchange rate in Birr
TOEFL	March 13,2004-June 2017	6445	USD-2	12880	12880X27.5317=354608.296
GRE	October17,2015-February 04,2017	116	USD-2	232	232X27.5317
SAT	November,2009-January,21,2017	3336	USD-2	6672	=6387.3544 6672X27.5317=183691.5024
ACCA	December,2010-March,2017	17091	£ 4	68364	68364X36.0495=2464488.018
Grand Total		26988			3009175.1708

Discussion and the Way Forward

Discussion

The overall objective of this research was to explore the professional contribution of the Testing Center in developing and administering tests that have national and international significance and to what extent the center is engaged in community outreach services as per the university Senate Legislation. Different data collection instruments were developed and both quantitative and qualitative data were collected to address research questions. The overall trend showed that stakeholders seem to be satisfied by the service delivered by the center. This does not necessarily mean that the center is accomplishing its mission with utmost standard and perfection. Data obtained through customer satisfaction questionnaire from SAT and ACCA candidates showed that test takers are satisfied with respect to time related services and with respect to staff behavior. These being the case test takers seem to be disappointed by the inferior quality of facilities and furnishings that do not meet modern test requirements and standards. This is one possible explanation for them not to

recommend the center for colleagues or other stakeholders. Customer satisfaction is a multidimensional construct influenced by a number of factors as Hokanson(1995) suggested. Hence, clients that seek service from the center could be satisfied by the intangible component of quality such as relationships but may be disappointed by the overall physical setting of the testing environment. It would not be surprising if test takers feel discontented when one really looks into outmoded testing rooms and examination halls built some five or more decades ago. Yet, despite the ups and downs, one could possibly argue that the center has been seriously engaged in productive outreach community service since its establishment as testing center. Its long tradition in administering international tests with acceptable standard, the Addis Ababa University Testing Center not only opened a glimmering opportunity for Ethiopians that wish to pursue their education in the western universities but also secured wide recognition from international agencies like ETS and moreover generated substantial income to the university. The fact that the center is engaged in the development and administration of high stake examinations that have national significance such as the Ethiopian University Entrance Examination and the National Licensure Examination for Health Professionals are its worth mentioning activities.

The way forward

- Wealth of experience IER/ Testing Service accumulated especially in the last decades in developing, administering and reporting of local and international tests enabled it to get wide recognition domestically and internationally. New areas of influence should be sought to exercise the skill and knowledge it deposited in its archives.
- In order to sustain as an agent in the testing enterprise locally and internationally, better ways of doing things need to be devised and best practices so far achieved should be scaled up. It is high time for the center to revise all placement and selection

tests so that they meet local and global standards. Moreover it is an urgent task for the center to determine the psychometric properties of these tests and develop test manuals with all the necessary test information. Hence, the research component of the center should be strengthened.

- The testing industry is a fast moving sector. It is high time to introduce internet-based testing program in the institute to mitigate problems that are related to test integrity and confidentiality, to be cost effective and to adequately meet legal and moral standards to be accredited by domestic and international institutions. The Addis Ababa University management seems reluctant to respond to this fast moving industry in terms of capacitating the center technologically and with the necessary infrastructures. This is high time for the university to work in close collaboration with the institute.

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