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## Electronic Human Resource Training and Service Quality Delivery in Public Universities in Western Kenya

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### **Abstract:**

*Automating Human Resource (HR) tasks and practices is transforming the traditional paper-and-pencil, labor-intensive HR tasks, into efficient, fast-response activities that enable organizations to minimize operational costs and create a much-needed competitive advantage. Even though the e-training concept is widely used today, there is a missing link between the e-training practice and service quality delivery in public universities in Western Region of Kenya. The study used mixed methods research design which included exploratory, correlational and survey research designs. The target population of this study comprised of 5,467 staff and student leaders drawn from the six (6) public universities. Accessible population comprised of 360 respondents drawn from teaching and administrative staffs. Purposive sampling method was used for sampling Human Resource Officers and student leaders while stratified random sampling was used for sampling teaching and administrative staff. The study used structured questionnaire for data collection from the teaching and administrative staff; interview schedules for collecting data from HROs, while nominal group discussions were used on student leaders. The results indicated that electronic human resource training management had a significant positive influence on service quality delivery ( $\beta = 0.576$ ;  $p < 0.05$ ); and that organizational factors do not have significant moderation effect on the relationship between e-training management practices on service quality delivery ( $\beta = -0.030$ ;  $p > 0.05$ ). The study recommends that management of public universities in Kenya upgrade their commitment towards supporting implementation of e-recruitment practice; review policies so as to align them with the changing technological environment to realize better quality service delivery and also create supportive organizational environment to enhance use of e-training.*

**Keywords:** E-Human resource management, e-training management, service quality delivery

### **1. Introduction**

This section presents background information of electronic human resource training, concept of service quality delivery (SQD) and concept of organizational factors.

#### *1.1. Electronic Human Resource Training (E-HRT)*

Electronic human resource training (e-HRT) is a term covering a wide set of applications and processes, such as web-based learning, computer-based learning, virtual class room, and digital collaboration. It can convey information through such mottled formats as graphics, videos, audios, animations, models, simulations and visualizations (Brown and Charlier, 2013). It includes the delivery of content via Internet, intranet/extranet (LAN/WAN), audio-and videotape, satellite broadcast, interactive TV, CD – Rom, and more. A characteristic of e-learning that can be of advantage over traditional training is that the mentor and the learner do not go through the learning process face-to-face.

According to Renwick et al, (2013), education, training and development are key areas of electronic HRM in an organization. Without proper education, training and development, materializing targeted HR performance of a firm becomes very difficult to achieve. Many companies have realized the importance of electronic education, training and development in their organizational setting. Renwick et al, (2008 and 2013) suggested electronic training and development practices covering HR management aspects such as safety, energy efficiency, waste management, recycling, development of electronic personal skills, and re-training of staff.

Swaroop (2012) observed that there is a general consensus that individuals differ in the ways and styles they use to help learners to learn. Each person has their preference of learning styles and techniques. In general people use a mix of learning styles. Some people may find that they have a dominant style of learning, with minor use of other styles. Others

may find that they use different styles in different circumstances and situations. As a result, e-learning might not be accepted, or at least preferred, by some employees. Brown & Charlier, (2013) further observed that HR officials within an organization must take into account the learning methods that are best accepted and suited to their employees. Moreover, they need to make sure that trained employees possess the necessary computer skills to optimize their benefits from e-learning materials. Also, HR within organizations needs to assess how a shift from traditional training to e-learning will benefit the organization and its employees (Swaroop, 2012).

### 1.2. Concept of Service Quality

The term 'Service Quality' is an association of two different words; 'service' and 'quality'. Service means 'any activity or benefit that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Gefen (2002) defined service quality as the subjective comparison that customers make between the quality of service that they receive and the one they get. In another definition, Kalidas (2007) defined service quality as the ability of a service provider to satisfy a customer in an efficient manner through which he can better the performance of business.

Service quality delivery has widely been discussed since 20<sup>th</sup> century and its idea is still relevant to help today organizations in creating differentiation and gaining competitive advantage in an era of borderless world and globalization (Ismail, et al. (2016). In a quality management literature, quality service delivery is often seen as a multi-dimensional construct as illustrated in the following research studies:

The seminal work on service quality by Parasuraman et al., (1985), identified ten dimensions of service quality from 97 items which were considered important in assessing customer's expectations and perceptions on delivered service. The ten dimensions were; tangibles, reliability, responsiveness, communication, credibility, security, competence, courtesy, understanding, knowing, customers, and access. Later in 1991, Parasuraman and his associates through an empirical test developed five dimensions of service quality based on the ten dimensions he developed in 1985. Factor analysis on a data set of 22 attributes revealed five dimensions which include tangibles, reliability, responsiveness, assurance and empathy. Tangibles include aspects such as the physical facilities, equipment, and appearance of personnel. Reliability is the ability to perform the desired service dependably, accurately, and consistently while responsiveness is the willingness to provide prompt service and help customers. Assurance concerns employees' knowledge, courtesy, and ability to convey trust and confidence to the customers while empathy entails the provision of caring, individualized attention to customers (Parasuraman et al., 1991).

Gronroos (1990), and Lehtinen and Lehtinen (1991) conceptualized three similar classification of service quality. Gronroos (1990), classified quality dimensions as technical quality, functional quality and corporate image while Lehtinen and Lehtinen (1991) conceptualized service quality as physical quality, interactive quality and corporate quality. The technical and functional dimensions by Gronroos and Lehtinen are consistent with Nordic school of thought which holds the view that, effective quality service delivery should have two important dimensions, namely technical and functional quality. Technical quality is what customers receive from services provided by an organization and functional quality is about how an organization delivers its services to customers (Brady & Cronin, 2001). Later, the quality service delivery construct has been modified and simplified by US school of thought where it proposes that effective quality service delivery should have five specific dimensions, namely tangible (physical facilities, equipment, and appearance of workers), reliability (ability to perform the promised service dependably and accurately), responsiveness (willingness to help customer and provide prompt service), assurance (knowledge and courtesy of workers and their abilities to inspire trust and confidence), and empathy (caring, individualized attention the organization provides its customers) (Ismail and Yunan, 2016).

Owlia and Aspinwall, (1996) conducted a factor analysis of 30 items on service quality and extracted 7 dimensions of academic resources, support services, competence, attitude, delivery, content and reliability. The researchers later regrouped the seven dimensions into four dimensions after conducting three validity tests. The four dimensions are of academic resources, competence, attitude and content. The three constructs of support services, delivery and reliability were not valid and were dropped from the service quality measurement framework.

Carney (1994) proposed nineteen attributes of measuring service quality in a college. These attributes are student academic qualification, student personal qualities, interaction between faculty and students, quality of instruction, availability of varied courses, academic reputation, class size, career preparation, athletic programs, student social life activities, service rendered to community, facilities and equipment, location, physical appearance of the campus, on campus residence, friendly, caring atmosphere, religious atmosphere, safety on campus and financial costs and aid available. Researchers have acknowledged that most of these variables are highly relevant to the measurement of service quality in university context. Some of these attributes by Carney are similar with Athiyaman (1997), who adopted eight attributes to examine university education services namely; availability of library services, computing facilities, recreational facilities, teaching the students well by faculty, level and difficulty of subject content, workload given to students and student numbers in each class and availability of university staff to be consulted by students.

Hadikoemoro (2002) in a research study that focused on public and private universities captured thirty-five items of service quality after conducting two focus group interviews and after factor analysis seven items were dropped and 28 items remained and five dimension of service quality were extracted as follows academic services, readiness and attentiveness, fairness and impartiality, tangibility and attitudes. Academic services concern the ability of the university to perform services dependably and accurately, and also the completeness of academic-support facilities. Readiness and attentiveness dimension are about the university willingness and attentiveness to help students, and provide prompt service at all times. Fairness and impartiality on the other hand concerns the ability of the university to implement democratic campus regulations and apply discipline to all members. Tangibility is about the appearance of the university

based on complete and modern equipment, physical facilities and neatness of employees. General attitudes cover fairness of grading and courteous handling of student issues.

Hassan, Rahman, & Ghouri, (2012) in their study on Educational Service Quality at Public Higher Educational Institutions targeting research universities and non-research universities in Malaysia concluded lack of significant difference in the importance educational service quality dimensions between research universities and non-research universities. From the student perspective they identified ten dimension of educational service quality namely; reliability, assurance, empathy, responsiveness, tangibles, communication, expertise, secondary services, social responsibility and self-development.

It is evident from the discussed literature that the main concern in developing the dimension of service quality is about the customers targeted customer preferences and context where the study is being conducted. It is also evident that, most studies on service quality conducted in universities target students both at undergraduate and post graduate level as the respondents. Very limited studies have explored the perspective of faculty and administrative staff in universities. There is even more scanty evidence on studies that target to generate data from multiple perspectives of both internal and external customers of universities. Different dimensions of service quality have been used for different industries. However, there are some similarities on some adopted dimensions (Lagrosen, 2004). Extant literature reveals that many authors have developed service quality dimensions according to their customers, customers' preferences and the context of the study and the most utilized dimensions of service quality are those developed Parasuraman and his colleagues. Kang and James, (2004) observe a concurrence in thought that the service quality model developed by Parasuraman and his associates is widely acceptable in the measurement of service quality in different contexts (Parasuraman, Berry, and Zeithaml, 1985). Based on the conceptual gaps identified in literature, the study sought to explore the link between e-HRM and service quality from faculty, administrative staff and student perspectives in public university context.

This study therefore covered five specific dimensions of service quality namely; tangibles which included physical facilities and equipment, reliability which involved consistency and dependability in service provision, responsiveness which involved willingness by the service provider to help customers and provide prompt service, assurance which involved ability to convey trust and confidence, and empathy which involve showing care and individualized attention by the service provider.

customer experience which considered aspects like time taken, resolution of complaints, costs involved, behavior of service givers; tangible factors for instance physical facilities, equipment, and appearance of workers), reliability which involves ability of staff to perform the promised service dependably and accurately; responsiveness which involves willingness to help customer and provide prompt service; assurance which involves knowledge and courtesy of workers and their abilities to inspire trust and confidence in the customers; and empathy which involves caring, individualized attention the organization provides its customers. It also covered the aspects of service culture and employee engagement as measures of quality service delivery.

### *1.3. Concept of Organization Factors*

Stone, et al., (2006) observed that every organization has its own culture which affects its ability to compete and respond successfully to changes in the external environment. The changes in the external environment in turn determine if the organization will succeed or fail. On the other hand, Sole (2009) observed that there are two basic factors which influence performance management systems in public organization. These are internal and external factors. Internal factors include leadership and internal management commitment, internal resources, performance-oriented culture, employee engagement, and maturity of PMS. Leadership is important in designing relevant policies and documenting work procedures that would help in providing guidance and ensuring consistency in decision making. Sole (2009) observed that culture can be thought of as the sum total of beliefs, ideologies, behaviors and values prevalent in organizations, which can influence organization power relationship and their response to change. It could have a great impact on its success if the employees are involved and motivated during the development of the performance measurement and management system. Experience in performance management and measurement systems will affect the system implementation and also its end results.

### *1.4. Statement of the Problem*

Universities are regarded as service organizations. There have been widespread concerns that rapid expansion of higher education has led to a degradation of quality, particularly in the lower-income countries of Africa, Asia and Latin America as manifested variously in poor physical infrastructure, overcrowded classrooms, curricula that do not respond to market needs, academic staff without the required qualifications, or moonlighting in multiple institutions (Tilak, 2013; Altbach et al. 2009; Tetty & PHEA 2009). Mulili, (2014), observed that constrained service delivery contributes to increased customer complaints which are an indicator of customer dissatisfaction. Widespread dissatisfaction of both internal and external customers affects the reputation of universities and its ability to attract and retain customers leading to poor performance (Agarwal 2009; Oketch 2016; Pitan & Adedeji 2012; McCowan et al. 2017). Literature reveals that e-HR training has the potential to improve service quality and as a result improve employee satisfaction and commitment (Bondarouk et al, 2017; Ruel et al, 2007; Kovach et al 2002).

A survey through documented literature reveals that public universities have adopted e-HRT; however, there is limited documentation on the link between e-HRT practices and quality service delivery. Evidence suggest contextual variations on service quality between public and private universities with no significant difference between research and non-research universities from student perspectives (Yusof, Rahman, & Ghouri 2017; Owino 2014). However, studies

focusing on service quality from multiple perspectives are scanty and therefore this study explored e-HRT and service quality from teaching staff, administrative staff and student perspectives.

Conceptual review revealed conceptual gaps in e-HRT and service quality constructs that calls for more research. The concept of e-HRT lacks convergence on definition, categorization and conceptualization (Ball, 2001; Bondarouk, Harms, & Lepak, 2015; Bondarouk & Ruël, 2009). Scholars agree that service quality is a multi-dimensional construct; however, divergence is evident on the number of dimensions and measures (Yusof et al, 2017; Owino, 2014). Even though the e-HRT concept is gaining acceptance today, there is still a missing link between the e-HRT practices and quality service delivery in public universities and therefore this study sought to contribute in filling the identified gaps.

### 1.5. Purpose

The purpose of this study was to assess the influence of e-HRT on service quality delivery in public universities in the Western Region of Kenya.

### 1.6. Specific Objectives

The specific objectives of this study were:

- To establish the influence of electronic human resource training on service quality delivery.
- To examine the moderating role of organization factors on the influence of electronic human resource training on service quality delivery.

### 1.7. Research Hypotheses

Research hypothesis for this study was:

- H<sub>01</sub>: Electronic human resource training has no significant influence on service quality delivery.
- H<sub>01a</sub>: Organization factors do not have any moderating effect on the influence of electronic human resource training on service quality delivery.

## 2. Methodology

This study was carried out in the following six public universities in the Western Region of Kenya: Masinde Muliro University of Science and Technology (MMUST), Kibabii University (KIBU), Maseno University, Kisii University, Jaramogi Oginga Odinga University of Science and Technology (JOOUST) and Rongo University.

### 2.1. Research Design

This study adopted a mixed methods research approach where explanatory, correlational and survey designs were adopted. Mixed methods research approach presents more than one approach to examining a research problem. The study focused on real life contextual situations in public universities in the Western Region of Kenya, particularly on diverse aspects of electronic human resource management and service quality delivery. It handled both quantitative and qualitative data in assessing the influence of e-HRT practice on service quality delivery which were considered to require the mixed method research approach.

### 2.2. Target Population

The target population of this study was 5,467 teaching and administrative staff, 6 human resource officers, and 42 student leaders from the Students Governing Council (SGC) from the six universities in Western Region. Teaching staff and administrative staff comprised of 1,343 and 4,124 employees respectively.

### 2.3. Sample Size and Sampling Procedures

#### 2.3.1. Sample Size

Sample size for teaching and administrative staff was determined using Equation 1:  
Equation 1: Formula for Determination of Sample Size

$$n_0 = \frac{Z^2 \cdot p \cdot q}{e^2}$$

Where:

n<sub>0</sub> = the sample size

Z = the standard normal deviate at the required confidence level (1.96 for 95% confidence level)

P = the proportion of the target population estimated to be having the characteristic being measured (0.5)

q = 1 – p (0.5)

e<sup>2</sup> = desired level of statistical significance (0.05)

Sample size calculation when the population is finite

$$n_0 = \frac{Z^2 \cdot p \cdot q}{e^2} = \frac{1.96^2 \times 0.5 \times (1-0.5)}{0.05^2} = 385$$

For correction of finite population, the adjusted sample size was calculated using Equation 2 as follows:

Equation 2: Formula for Correction of Finite Population

$$n = \frac{n_0}{1 + \frac{n_0 - 1}{N}}$$

Where:

n = the new sample size

N = the target population of the study

$n_0 = 385$

$$n = \frac{385}{1 + \frac{385 - 1}{5,696}} = \frac{385}{1.0674} = 360$$

(Mugenda and Mugenda, 2003)

The sample size and distribution of the respondents for this study was as indicated in Table 1.

| Name of University  | Strata | Target Population | Sample Size Calculation<br>$n = \frac{n_0}{1 + \frac{n_0 - 1}{N}}$ | Sample Size |
|---|--------|-------------------|--|-------------|
| Masinde Muliro University of Science and Technology         | TS     | 317               | $317 \times 360/5,467$   | 21          |
|   | AS     | 695               | $695 \times 360/5,467$   | 46          |
| Kibabii University  | TS     | 126               | $126 \times 360/5,467$   | 8           |
|   | AS     | 284               | $284 \times 360/5,467$   | 19          |
| Maseno University   | TS     | 300               | $300 \times 360/5,467$   | 20          |
|   | AS     | 1186              | $1186 \times 360/5,467$  | 78          |
| Jaramogi Oginga Odinga University of Science and Technology | TS     | 158               | $158 \times 360/5,467$   | 10          |
|   | AS     | 695               | $695 \times 360/5,467$   | 46          |
| Kisii University  | TS     | 316               | $316 \times 360/5,467$   | 21          |
|   | AS     | 948               | $948 \times 360/5,467$   | 62          |
| Rongo University  | TS     | 126               | $126 \times 360/5,467$   | 8           |
|   | AS     | 316               | $316 \times 360/5,467$   | 21          |
| Total   |        | 5,467             | $5,467 \times 360/5,467$   | 360         |

Table 1: Sample Size and Distribution of Respondents per University

Source: Survey Data, 2019

### 2.3.2. Sampling Procedures

In this study, more than one approach was used in sampling. This is because of certain underlying factors peculiar to the population of the study. For instance, first, the population for the sampling was large. Second, the population varied greatly in its composition. Accordingly, several sampling techniques were used in this study, these were: stratified sampling method (Kothari, 2014); census sampling paradigm (Cohen, Marion, and Marrison, 2005) and random sampling. Several scholars have observed that stratified sampling is acceptable when handling populations that are not uniform (Kerlinger, 2004).

Forty-two (42) Student leaders in the Students Governing Councils from the six universities were targeted and were sampled by census method. Nominal discussion groups were used to collect data. Information gathered from student leaders was used to corroborate information gathered from staff. This was done because if teaching and administrative staff receive service quality in e-training, their satisfaction is enhanced, their loyalty and commitment to their tasks will be enhanced as argued by Bondarouk et al, (2017), Ruel et al, (2007) and Kovach et al (2002). Therefore, students' views can either confirm whether staffs are committed in quality service delivery or not.

### 2.4. Data Collection Instruments

This study used questionnaires, interview schedules and nominal group discussion schedules for data collection. A structured questionnaire with a five-point Likert scale was used to collect data from the teaching and administrative staffs. Structured questionnaire on a five-point Likert scale measurement was used. Open-ended questions were used for instance, to clarify facts, verify information given or control a conversation (Gupta, 2002) and to capture participant's views on the influence of e-training practice on service delivery in universities in Kenya. The questionnaire was divided into sections. Each section tackled an independent variable and dependent variable as listed in the conceptual framework.

Interview schedule was used to collect data from the HROs. The information gathered was used for triangulation and corroboration of information gathered from the questionnaires. In this study, interview schedules were used to enhance quality of data, confirm and/or solicit some of the uncovered information by use of questionnaires. Nominal group discussions were conducted on Students Leaders to enable the researcher get their views on quality of services received. Student leaders in each university were gathered in a room and guided discussions lasting for about one hour were conducted. The purpose of conducting NGDs on students' leaders was to gather information which will be used for triangulation and corroboration of information gathered from the questionnaires administered to teaching and administrative staff in the universities.

### 2.5. Reliability of the Research Instruments

Internal reliability of the questionnaires for this study was measured and calculated using the Cronbach's alpha coefficient. This study used the Cronbach's Alpha Coefficient test to test for the reliability of the scale used to measure the study constructs. The study adopted 0.7 Cronbach's Alpha Coefficient value as the minimum threshold for deciding whether the scale was reliable; in the early stages of research on hypothesised measures of a construct, reliabilities of 0.70 or higher would be sufficient (Nunnally, 1994). Results for reliability test were as indicated in Table 2.

| Variables (Constructs)   | Number of Items | Cronbach Alpha |
|--------------------------|-----------------|----------------|
| E-Training               | 8               | 0.933          |
| Quality Service Delivery | 20              | 0.881          |

Table 2: Reliability Test Results  
Source: Research Data, 2019

Findings in Table 3.2 show that Cronbach's alpha coefficient for the two constructs were above minimum threshold of 0.7 (Nunnally, 1994); The Cronbach's alpha for E-TM practice was 0.933, and for QSD was 0.881. Therefore, this study concluded that the scale of the items used to measure the constructs was reliable and acceptable for further analysis.

### 2.6. Validity of Research Instruments

Construct validity, content validity, internal validity and external validity of research instruments for this study was determined. For construct validity, the questionnaire was divided into three sections to ensure that each section assesses information for the objective, and the constructs as reflected in the conceptual framework for the study. Factor analysis statistical methods of testing for construct validity were used. Frankfort-Nachmias and Nachmias (2007) describe validity as the degree of congruence between the explanations of the phenomena and the realities of the world. Factor analysis is a term that represents a large number of different mathematical procedures for analyzing the interrelationships among a set of variables and for explaining these interrelationships in terms of a reduced number of variables, called factors (Comrey & Lee, 2013). Factor analysis was conducted on all items for each of the study variables.

Content validity is usually established through expert or researcher judgement (Malhorta and Birks, 2007). Content validity (also known as face validity) is a subjective assessment of the extent of correspondence between the items constituting a scale and its theoretical definition (Malhorta and Birks, 2007). In this study, content validity was assessed through the use of four expert judges (academic members of staff) who examined the questionnaire to determine whether the scale items covered the full scope of the constructs being measured. Each of the four academic staff independently rated the items and confirmed that the content was relevant and measuring the intended purpose.

Construct validity which sought to determine whether the questionnaire accurately measured the study phenomena, was tested using Factor Analysis method. Through factor analysis, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was used to affirm that the number of items used to measure a particular construct (variable) was adequate enough and Bartlett's Test of Sphericity was used to measure if the items were coming from a population with equal variance. The study results were as shown in Table 3.

| Variable           | Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy | Bartlett's Test of Sphericity |                    |         |
|--------------------|---|-------------------------------|--------------------|---------|
|                    |   | Approx. Chi-Square            | Degrees of Freedom | p-value |
| E-HR training      | 0.812   | 2031.887                      | 28                 | 0.000   |
| Quality of Service | 0.623   | 5148.072                      | 190                | 0.000   |

Table 3: Sampling Adequacy and Sphericity Results  
Source: Research Data, 2019

The results in Table 3 indicate that the study met the validity test threshold. The KMO results for sampling adequacy for all the variables were above 0.6 threshold value as established by Saunders *et al.* (2003), that is, the measure for sampling adequacy for E-RM practice was 0.664, for E-Compensation was 0.636, for E-HR training was 0.812 for E-PM practice was 0.687, for organizational factors was 0.699 and for QSD was 0.623. These results indicated acceptable degree of sampling adequacy for all the factors. The significant results of Bartlett's Test of Sphericity show that the sampled items were from population with equal variance; ( $\chi^2(91) = 146.402, p < .05$ ) state for each variable.

Finally, the researcher performed Principal Component Analysis (PCA) to identify and compute composite scores for the factors underlying the version of the five-point Likert Scale that was used in the questionnaire. Communalities were obtained to see if the items were sharing a common variance with other items. Varimax rotation was conducted to provide the best-defined factor structure.

### 3. Results and Discussions

#### 3.1. Quantitative Results

The study sought to determine the perception of respondents towards use of Electronic media for training staff in their respective universities and response were as shown in Table 4.

| Do you think training of staff through electronic media can improve on service delivery in the university? | Count Response | % Response |
|--|----------------|------------|
| Yes  | 259            | 94%        |
| No   | 17             | 6%         |
| Total Response   | 276            | 100%       |

Table 4: Perception towards Electronic –Human Resource Training  
Source: Research Data, 2019

From the findings of Table 4, majority of the respondents, 94% think that training of university staff through electronic media can significantly improve on service delivery in a university in comparison to face-to-face training. E-Training Management practice enables universities to save on costs, increase the number of staff to access training, make it more convenient and flexible for the trainees and sharpen skills for service delivery at the comfort of the trainees. The study, therefore, sought to assess the use of electronic training management practice in public universities in Western Region of Kenya. The responses were as shown in Table 5.

| Statement  | SD     | D      | SWA            | A   | SA                 | Mean | Std. Dev. |
|--|--------|--------|----------------|-----|--------------------|------|-----------|
| The university encourages use of intranet to facilitate electronic training  | 7      | 18     | 34             | 151 | 69                 | 3.92 | 0.922     |
|  | 3%     | 6%     | 12%            | 54% | 25%                |      |           |
| Staff in our university always share their training materials with other staff via email and approved social media platforms | 2      | 93     | 61             | 45  | 73                 | 3.34 | 1.219     |
|  | 1%     | 34%    | 22%            | 16% | 27%                |      |           |
| In our university, information on available training opportunities is relayed to staff Electronically                        | 8      | 20     | 41             | 151 | 55                 | 3.82 | 0.934     |
|  | 3%     | 7%     | 15%            | 55% | 20%                |      |           |
| The university sources for Electronic training materials and sends to staff in respective departments.                       | 14     | 15     | 130            | 83  | 36                 | 3.4  | 0.955     |
|  | 5%     | 5%     | 47%            | 30% | 13%                |      |           |
| The university has established links with training institutions for Electronic training services for its staff               | 8      | 9      | 117            | 81  | 68                 | 3.68 | 0.967     |
|  | 3%     | 3%     | 41%            | 29% | 24%                |      |           |
| The university has developed Electronic modules for training staff and students  | 8      | 15     | 118            | 54  | 82                 | 3.68 | 1.047     |
|  | 3%     | 5%     | 43%            | 19% | 30%                |      |           |
| Electronic training has helped our university to cut costs on training   | 13     | 94     | 52             | 72  | 49                 | 3.18 | 1.205     |
|  | 5%     | 34%    | 19%            | 26% | 18%                |      |           |
| Electronic training in our university helps staff to utilize their time effectively  | 5      | 107    | 45             | 53  | 71                 | 3.28 | 1.257     |
|  | 2%     | 38%    | 16%            | 19% | 25%                |      |           |
| The university has developed a portal for Electronic training on its website   | 9      | 121    | 38             | 76  | 40                 | 3.06 | 1.177     |
|  | 3%     | 43%    | 13%            | 27% | 14%                |      |           |
| The staff in our university share social skills via internet and social media platforms                                      | 87     | 45     | 37             | 73  | 40                 | 2.77 | 1.474     |
|  | 31%    | 16%    | 13%            | 26% | 14%                |      |           |
|  | Mean   | % Mean | Std. Deviation |     | Std. Error of Mean |      |           |
| Average Satisfaction level in E-HR Training Management Practices   | 3.4092 | 68%    | .77407         |     | .04593             |      |           |

Table 5: Descriptive Statistics for E-HR Training Management  
Source: Research Data, 2019

Results in Table 5 revealed that 3% of the respondents strongly disagreed that the university encourages use of intranet to facilitate electronic training, 6% disagreed, 12% somewhat Agreed, 54% agreed and (25%) strongly agreed, with the statement. One per cent (1%) of the respondents strongly disagreed that staff always share their training materials with other staff via email and approved social media platforms, 34% disagreed, 22% somewhat Agreed, 16% agreed and (27%) strongly agreed, with the statement. Three per cent (3%) of the respondents strongly disagreed that

information on available training opportunities is relayed to staff electronically, 7% disagreed, 15% somewhat Agreed, 55% agreed and (20%) strongly agreed, with the statement. Five per cent (5%) of the respondents strongly disagreed that the university sources for electronic training materials and sends to staff in respective departments, 5% disagreed, 47% somewhat Agreed, 30% agreed and (13%) strongly agreed, with the statement. Three per cent (3%) of the respondents strongly disagreed that the university has established links with training institutions for electronic training services for its staff, 3% disagreed, 41% somewhat Agreed, 29% agreed and (24%) strongly agreed, with the statement. Three per cent (3%) of the respondents strongly disagreed that the university has developed electronic modules for training staff and students, 5% disagreed, 43% somewhat Agreed, 19% agreed and (30%) strongly agreed, with the statement. Five per cent (5%) of the respondents strongly disagreed that Electronic Training practice has helped our university to cut costs on training, 34% disagreed, 19% somewhat Agreed, 26% agreed and 18% strongly agreed, with the statement. Two per cent (2%) of the respondents strongly disagreed that electronic training practice in our university helps staff to utilize their time effectively, 38% disagreed, 16% somewhat Agreed, 19% agreed and 25% strongly agreed, with the statement. Three per cent (3%) of the respondents strongly disagreed that the university has developed a portal for electronic training on its website, 43% disagreed, 13% somewhat Agreed, 27% agreed and 14% strongly agreed, with the statement. Thirty-one per cent (31%) of the respondents strongly disagreed that the university has developed a portal for electronic training on its website, 16% disagreed, 13% somewhat Agreed, 26% agreed and 14% strongly agreed, with the statement.

On average, the satisfaction level in the electronic human resource training management practice in the public universities in the Western Region of Kenya was 68% (mean = 3.4092, Std. Dev. = 0.77407), rated moderate as shown in Table 5. There was no mean of 4 or 5 on any of the items in the questionnaire. This means that the level of satisfaction with e-training management practice in public universities in the Western Region of Kenya was moderate. It is an indicator that though universities in the region are transiting from traditional face to face training management practice, respondents are moderately satisfied with e-training. E-training management practice gives employees of the respective universities opportunities to upgrade their job performance skills as they work concurrently. Once provided with e-training platforms, employees of the universities can make arrangements and schedule their activities such that they spare some time within their busy schedules to undertake their trainings without necessarily leaving their work stations. This in essence helps both the employees and the employer in saving on time and money. Another advantage of E-HRTM practice is that it enables the employees to affect the learnt skills without delay. Since the training could be carried out at the workstation, it is easier for the employees to practice the new skills immediately and this helps in proper conceptualization and understanding of the knowledge acquired. However, there were some employees who felt that E-HRTM practice denies them opportunities to socialize and limits their exposure. Others expressed their dissatisfaction with E-HRTM practice due to institutional challenges. Discussion with HROs revealed that the pace of transiting from face to face to e-training has been slowed down by inadequate funding. This challenge had affected the establishment of ICT infrastructure on which e-platforms could be mounted to facilitate e-training.

These results concur with Wixom and Todd (2005) who posit that with respect to employee demand and supply forecasting, training needs analysis and post training evaluation, deciding when training and skill development is required, post training evaluation, forecasting staff training needs, improving training processes, decreasing training expenses and decreasing time spent on training. Ascertained usefulness is limited to how individuals believe that applying an e-training management system would improve their job performance (Wixom and Todd, 2005).

### 3.2. Hypothesis Testing

#### 3.2.1. Tests for Regression Assumptions

The study sought to test for the assumptions for linear regression between e-training management practice and service quality delivery. These included tests for Normality, Linearity, Homoscedasticity and presence of outliers.

#### 3.2.2 Test for Normality

The study sought to assess whether the scores for the E-HRT practices variable were normally distributed. To achieve this, the study used the Shapiro-Wilk Test and the findings were as shown in Table 6.

|                | Shapiro-Wilk Test |     |         |
|----------------|-------------------|-----|---------|
|                | Statistic (W)     | Df  | p-value |
| E- HR Training | .938              | 286 | .059    |

Table 6: Results for Normality Test

Source: Research Data, 2020

From the results of Table 3, the p-value for the variable was greater than 0.05 level of significance: e- HR Training (W= 0.938, p-value = 0.059 > 0.05). The study concluded that the scores for the variable were significantly normally distributed.

#### 3.2.3. Test for Linearity

To achieve test for linearity between the service quality delivery and e-training variable, the study used Normal P-P Plot and the residual scatterplot. The findings were as shown in the Figure 1.



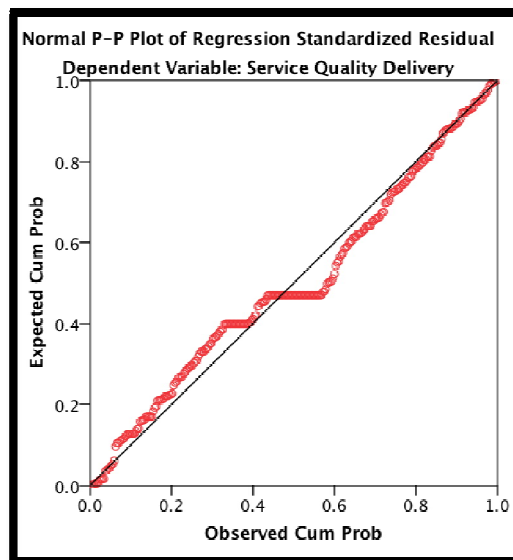


Figure 1: Normal P-P Plot for E-HR Training  
Source: Research Data, 2020

In Figure 1 the points lie in a reasonably straight diagonal line from bottom left to top right; this was an indication that there was a linear relationship between e-HR training and service quality delivery.

3.2.4. Test for Homoscedasticity

Homoscedasticity refers to the assumption that the dependent variable exhibits similar amounts of variance across the range of values for an independent variable. To achieve test for test for homoscedasticity, the study used the residual scatterplots and the findings were as shown in the Figures 2.

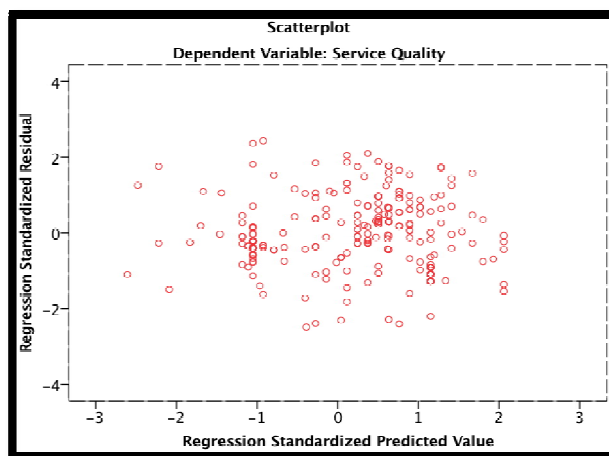


Figure 2: Scatter Plot of Standardized Residuals for E-HR Training Practice  
Source: Research Data, 2020

In the Scatterplot shown in Figure 2 shows that the residuals are roughly rectangular distributed, with most of the scores concentrated in the centre, thus an indication that the assumption of homoscedasticity holds.

3.2.5. Multicollinearity Test

The study adopted the use of Variance Inflation Factor (VIF), tolerance values and correlation coefficients to detect multicollinearity are shown in Table 7. The study utilized the centering of independent variables and moderator variables prior to computing interaction terms to counter multicollinearity (Hayes 2013). This was tested through the visual inspection of variance inflation factors which revealed acceptable values which were all below the set values of -10 to 10. To further confirm that there was no multicollinearity, tolerance values were checked and it was established that they were all below 1.0 which is the accepted standard according to Hayes (2013).

| Variable       | Tolerance (1/VIF) | VIF   |
|----------------|-------------------|-------|
| E- HR Training | 0.279             | 3.582 |

Table 7: Multicollinearity Test Using Variance Inflated Factor (VIF)  
Source: Research Data, 2020

The correlation analysis results were based on threshold by (Moore, 2004). According to Moore, a bivariate Pearson correlation coefficient above 0.9 indicates multicollinearity. Therefore, for the independent variables, the study indicates that there was no multicollinearity among the independent variables thus supporting the Variance Inflation Factors (VIF) findings of Table 8.

|                        |                     | <b>Service Quality</b> |
|------------------------|---------------------|------------------------|
| Electronic HR Training | Pearson Correlation | .670**                 |
|                        | p-value             | .000                   |

*Table 8: Correlation Matrix*  
 \*\*: Correlation is significant at the 0.01 level (2-tailed)

From the results of Table 7, E-HRTM practice had a significantly strong positive relationship with service quality delivery ( $r = 0.670 > 0.5$ ,  $p = 0.000 < 0.05$ ). A coefficient ( $r$ ) between +0.5 and +1 or -0.5 and -1 indicates a strong relationship based on the argument by Lyndsay and Durrheim (2009), therefore, the study concludes that e-HR training management had a significantly strong positive relationship with the service quality delivery among the universities in Western Kenya.

### 3.2.6. Results for Simple Linear Regression Analysis

Model 1 represents the results of the simple linear regression for e-recruitment. Model 1 represents the results of the simple linear regression for e-human resource training management Practice.

| <b>Model Summary</b>                 | <b>Model 1</b> |
|--------------------------------------|----------------|
| R                                    | 0.670          |
| R Square                             | 0.449          |
| Adjusted R Square                    | 0.447          |
| Std. Error                           | 0.49307        |
| <b>ANOVA</b>                         |                |
| Degrees of freedom ( <i>a,b</i> )    | (1, 277)       |
| F- statistic, <i>F(a,b)</i>          | 226.112        |
| p-value for F- statistic             | 0.000          |
| <b>Regression Coefficients</b>       |                |
| Intercept                            | 1.335          |
| $\beta$ (Unstandardized coefficient) | 0.576          |
| Standardized Beta Coefficient        | 0.670          |
| <i>t</i> ( $\beta$ )                 | 15.037         |
| p-value ( $\beta$ )                  | 0.000          |
| <i>t</i> (Intercept)                 | 9.963          |
| p-value (Intercept)                  | 0.000          |

*Table 9: Results of Hypotheses Testing*

The hypothesis for the study was,  $H_{01}$ : Electronic Human Resource training management practice has no significant influence on quality service delivery in public universities in the Western Region of Kenya. The Coefficient results in Table 9 showed a positive significant influence ( $\beta = 0.576$ ,  $t = 15.037$ ,  $p=0.000 < 0.05$ ). The study therefore rejected the null hypothesis and concluded that e-human resource training had a statistically significant influence on the service quality delivery in public universities in the Western Region of Kenya. E-HR training management practice had a positive standardized beta coefficient value of 0.670 as shown in the coefficients results in Table 5; this indicated that a unit improvement in the E-HRTM practice was likely to result to an improvement in the service quality delivery in public universities in the Western Region of Kenya by 67%. The ANOVA results as shown in model 1 of Table 5 were,  $F(1, 277) = 226.112$ ,  $P = 0.000 < 0.05$ ; this was a clear indication that the linear regression model was a good fit to the dataset. The model (E-HR Training Management) was able to explain 44.9% of the variation in the quality service delivery in public universities in the Western Region of Kenya as indicated by the R Square value of 0.449 as shown in Table 9. The following was the Linear Regression model to predict the service quality delivery in public universities in the Western Region of Kenya when given the level of effectiveness of the E-HR training management:  
 Quality Service Delivery =  $1.335 + 0.576$  E-HR Training Management Practice

E-human resource training management practice gives ample time to employees in the public universities in the Western Region of Kenya to attend to their work and get more knowledge and skills related to what they do without necessary going through the inconvenience of breaks that would cause interference. It also gives the trainees in the institutions a choice to train in time they consider appropriate and enable them to train in the comfort of their chosen training venues while juggling between training and continuation of service provision to customers. In this case E-HRTM practice presents both the trainees, who are employees, customers being served and the universities with a win – win

scenario; the trainee will achieve his/her training goal and the customer will receive quality service provided by the employee, and the universities in saving time and resources spent on the trainings. E-HRTM also enables the trainees/employees to instantly put into practice the new skills they acquire. Respectively, each of these benefits of E-Training contributes to improved provision of services.

The findings under this objective of the study agree with Sels (2002) and Way (2002) who observed that e-training influences employees to initiate the development of new skills and behaviors coupled with the motivation to apply those skills and behaviors in their task and contextual activities at work. Flexibility in electronic training management creates in staff freedom to interact with training materials sent to them online. It also gives room to employees to create flexible schedules for own training hence allowing them to balance between work and training without necessarily interfering with their work schedules. According to Swaroop (2012), individuals differ in the ways and styles they use to learn. Each person has their preference of learning styles and techniques. Equally, the findings in this study revealed that staff in public universities use a mix of learning styles, where some find that they have a dominant style of learning whereas others may find that they use different styles in different circumstances and situations.

### 3.2.7. Moderated Hierarchical Linear Regression Analysis

This sub-section presents results and discussions on moderation effect of organizational factors on the relationship between E-HR training, and service quality delivery in public universities in the Western Region of Kenya.

The second objective of the study was to determine the moderation effect of organizational factors on the relationship between e-HR training management and service quality delivery in public universities in the Western Region of Kenya. The study adopted the use of hierarchical linear regression analysis to assess the moderation effect. The variables were centred in order to avoid potentially problematic high multicollinearity with the Interaction terms created (Lyndsay, 2009); the Interaction term (I) is the Interaction effect between the independent variable and the moderator. Lyndsay (2009) further concluded that a significant interaction effect indicates presence of the moderation effect. The findings were as summarised in 9.

#### 3.2.7.1. Results for Moderation Analysis

Model 2 presents the results for moderation analysis for E-HR training management using hierarchical linear regression.

| Model Summary                        | Model 2  |
|--------------------------------------|----------|
| R                                    | 0.671    |
| R Square                             | 0.451    |
| Adjusted R Square                    | 0.447    |
| Std. Error                           | 0.49341  |
| ANOVA                                |          |
| Degrees of freedom (a,b)             | (2, 276) |
| F- statistic, F(a,b)                 | 113.211  |
| p-value for F- statistic             | 0.000    |
| F-Change statistic                   | 0.620    |
| p-value for F- Change statistic      | 0.432    |
| Regression Coefficients              |          |
| Intercept                            | 1.378    |
| $\beta$ (Unstandardized coefficient) | 0.570    |
| Standardized Beta Coefficient        | 0.664    |
| $t(\beta)$                           | 14.651   |
| p-value ( $\beta$ )                  | 0.000    |
| $t$ (Intercept)                      | 9.517    |
| p-value (Intercept)                  | 0.000    |
| Interaction Effect                   |          |
| $\beta$ (Unstandardized coefficient) | -0.032   |
| Standardized Beta Coefficient        | -0.036   |
| $t(\beta)$                           | -0.787   |
| p-value ( $\beta$ )                  | 0.432    |

Table 10: Results of Moderation Analysis  
Source: Research Data, 2020 (see detailed results of Appendix B)

Hypothesis H<sub>01a</sub> states that there is no significant moderating effect of organizational factors on the relationship between E-HR training management and service quality delivery. Based on the findings Table 4.26, model 7 shows that the interaction effect for E-HR training management had no significant influence on service quality delivery as indicated by insignificant beta and p values ( $\beta = -0.032$ , p-value = 0.432 > 0.05). Therefore, the study failed to reject the null hypothesis and concluded that Organizational factors had no significant moderation effect on the relationship between E-HR training management and service quality. The ANOVA results as shown in model 2 of Table 10 were significant as indicated by the

F-Statistic,  $F(1, 276) = 113.211$ ,  $P = 0.000 < 0.05$  which indicated that the moderated hierarchical linear regression model was a good fit to the dataset. The overall model was able to explain 45.1% of the variation in the quality service delivery as indicated by the R Square = 0.451 (Table 10).

Electronic training management provides a platform for training which may not be controlled by management. Once the training materials are made available electronically, the rest is left at the discretion of staff. Thus, one will decide whether to access the material and go through for skills development or not. At some level, staff may be unwilling to attend this training for the mere reason that the monetary aspect is highly minimised. Others may not be willing to embrace this mode of training because it has removed human interaction aspect and subjected one to interact with technology. This observation concurs with Poisat and Mey (2017) who established that the notion that the implementation of e-HRM would lead to improved organizational productivity was commonly assumed; however, empirical evidence in this regard was found to be limited.

### 3.3. Qualitative Data Analysis

#### 3.3.1. Findings from Human Resource Managers

The findings on E-HR training from HROs in the sampled universities indicated that the universities had linked up with library services departments in creating links with other institutions for accessing training materials. In two universities, HROs confirmed of having mounted training of staff by pension scheme service providers via zoom platform. In another two universities HROs confirmed of mounting trainings on their quality management system (QMS) via Google meet platform. HROs explained that the main challenge facing the universities in full implementation of E-training services was insufficient ICT infrastructure. They reported that only a fraction of university staff has access to continuous access to internet facilities, training and retraining of staff in various areas has not been sufficiently done and other technical challenges related to implementation of E-HR training. They also reported that employees would prefer face to face training especially where trainings were conducted outside universities for monetary gain in terms of allowances paid to the as facilitation to attend the trainings. However, each HRO in the six respective universities confirmed that use of E-HR training method was more efficient as it enabled employees to train from their workstations and it was less costly to the universities. They preferred use of electronic system to hard copy transactions.

These findings corroborate the findings of the questionnaire. In the questionnaire, the mean for most of the questions was 3.41 which indicates that majority of the respondents somewhat agreed with the statements, an indication that implementation of E-HR training and service quality delivery in the universities was moderate. In the questionnaire it was also observed that there was no mean of 4 and 5 on any of the questionnaire items. This indicates that universities still had a lot to do in linking E-training management to service quality delivery.

#### 3.3.2. Findings from Nominal Group Discussion with for Students Leaders

The findings from nominal group discussions with students revealed that students were moderately satisfied with the physical facilities in their respective universities. The students held the opinion that insufficient physical facilities in their universities affected the service offered to them by staff. However, they appreciated efforts made by the universities in improving physical facilities as time went by.

Students leaders observed that though universities had made effort to provide ICT equipment to staff, there was still a challenge since not all staff had been facilitated to get ICT Equipment that would enable them provide quality service. They observed that staff were using the limited ICT equipment available to provide electronic services. This had improved flexibility in staff work environment and had made staff to improve the quality of services they received from staff. In all the universities, student leaders observed the internet coverage was a big challenge as internet could only be accessed in certain areas and not others. They explained that non-resident students could not access internet services in their areas of residence unless they came to the universities. The findings indicated that employees in the universities were most of the times in official wear. The staff looked neat and they were warm to them as time progressed.

On rating rate university employees' ability of to perform the promised service dependably and accurately student leaders observed that not all university employees had the ability to perform their duties dependably and accurately. They cited cases where some staff both in teaching and administrative positions promised to deliver certain services but reneged on the promises at the last minute. They indicated that even in the top management of the university, some managers delivered better than others. Issues that came out conspicuously were related to teaching and handling of student welfare issues.

Student leaders were asked how they would describe university employees' willingness to help customer and provide prompt service. Responses to this line of discussion indicated that willingness of staff to help students fluctuated with staff being more willing at end and beginning of the month, but they also observed that it was difficult to even tress some staff on dates that fall in the middle of the months, leave alone whether they were willing to help or not. However, some student leaders observed that staff generally helped them whenever they presented issues. Other student leaders confirmed that staff in the university were generally cordial in their relationship with students, were fair in their dealings, appeared neat and were welcoming to students.

Student leaders were asked if the university employees inspire trust and confidence in students through their work performance. This line of discussion elicited mixed reactions in most of the responses received. Half of the student leaders observed that there was trust and confidence inspired by the teaching and administrative staff in the universities. They reported that there were cases of trusted staff both in teaching and administrative positions. However, they indicated that

there were reports of staff who had even conned students of their monies. Other responses indicated that some teaching staff did not inspire confidence in the students as they missed lectures and involved themselves in malpractices with students. However, the student's leaders lauded other staff who went beyond requirements of their line of duty to help students. They cited cases of staff who did extra work with students, provided adequate learning resources and facilitated students to get requisite learning materials. Such staff won the trust of students wholesomely.

Student leaders were also asked to describe the way the university treated the concerns raised by the students. They observed that on academic matters, the universities addressed their concerns moderately well. However, they expressed dissatisfaction in the way departments addressed issues of missing marks. They indicated that some students in the universities failed to graduate because their marks could not be traced. On student welfare, students indicated that universities did not meet the expectations of students. They cited cases where they had raised concerns about security of non-resident students, meals provided at the dining hall, games and sporting facilities, in two universities student leaders cited the bedbugs menace that had not been addressed over a period of time.

Student leaders indicated that since introduction of electronic services in the universities, the staff improved in the performance of their duties. Students confirmed that the level of accuracy in performance of services had steadily increased. In addition, student leaders confirmed that they had observed that staff were more willing to provide services than in the past. They further confirmed that as time progressed, and as staff were getting used to integrating ICT in the operations, they were winning trust and confidence of students.

Student leaders also reported that though the universities were registering improvement in how they provided service to students, there were still areas where students concerns had been raised but were not addressed as fast as was anticipated. For instance, they observed that there were cases of missing marks that made some students not to graduate on time. They also reported that though they could receive details about their fee payment through electronic messages, they still noted that there were cases of irregularities in their statements thus making some of them to be denied chance to sit for their examinations.

These results agree with the observations made in the findings in the questionnaire and in the interview schedule for the HROs. In the questionnaire, it was noted that staff were moderately satisfied with e-recruitment operations and service quality with an average mean of 3.22.

#### 4. Summary of Findings

This section presents a summary of the findings as per the study objectives, hypotheses and variables. The objective of this study was to assess the influence of e-HR training management practice on service quality in public universities in the Western Region of Kenya. From the results in Table 4.25, it is evident that e-human resource training practice had a significantly strong positive relationship with the service quality delivery ( $r = 0.670$ ;  $p = 0.000 < 0.05$ ). A coefficient ( $r$ ) between  $+0.5$  and  $+1$  or  $-0.5$  and  $-1$  indicates a strong relationship based on the argument by Lyndsay and Durrheim (2009). ANOVA test showed a positive significant influence of e-human resource training management on service quality delivery  $\beta = 0.576$ ,  $t = 15.037$ ,  $p = 0.000 < 0.05$ .

#### 5. Conclusion

Based on evaluation of the hypotheses and on the findings of this study, it was concluded that e-human resource training management had a significantly positive influence on service quality delivery in public universities in the Western Region of Kenya.

#### 6. Recommendations

The study recommended that public universities in the Western Region of Kenya should embrace e-human resource training management practice for improved quality service delivery. Another recommendation was that public universities in the Western Region of Kenya should commit enough resources for continued improvement of e-HR training practices in order to improve on quality of service delivered. Finally, the study also recommended that Government through the Ministry of Education and other education stakeholders should consider increasing funding for ICT infrastructure in universities so as to enable provision of e-training services.

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