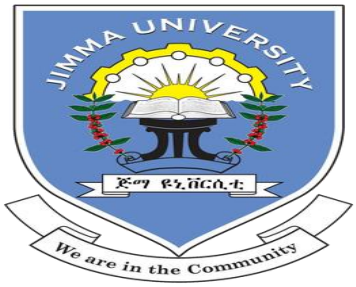

JIMMA UNIVERSITY

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FACULTY OF COMPUTING AND INFORMATICS

DEPARTMENT OF INFORMATION SCIENCE (ELECTRONIC AND DIGITAL RESOURCES MANAGEMENT)

The Effectiveness of Ethiopian Higher Learning Institutions Website Content for Knowledge Creation and Sharing Among Students and Academic Staffs

By:
Eyerusalem Getahun

August, 2020

Jimma, Ethiopia

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A Thesis Submitted in Partial Fulfillment of the Requirements for Degree of Masters of Science in Information Science (Electronic and Digital Resource Management (EDRM)

By:
Eyerusalem Getahun

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As members of the board of examining of the Msc thesis open defense examination of the above title, we members of the board (listed below), read and evaluated the thesis and examined the candidate.

Name and Signature of Members of the Examining Board

Name	**Title**	**Signature**	**Date**
_____	Chairperson	_____	_____
_____	Principal Advisor	_____	_____
_____	Co-Advisor	_____	_____
_____	Internal Examiner	_____	_____
_____	External Examiner	_____	_____

DEDICATION

This work is dedicated to my beloved Daddy Getahun Sitotaw

Acknowledgment

First and for most, I would like to thank the Almighty God for giving me provision of knowledge, wisdom and diligence required for the successful completion of this thesis work of my master‘s program. Next, my special gratefulness and appreciation goes to my advisors, Amanuel Ayde (Assis. Prof, PhD Candidate), for shaping and guiding my thoughts and steps on the right track through his insightful comments. Without his intellectual advice, guidance, encouragement, and regular discussion that were invaluable and inspiring in the processes of my study, this thesis would not have had its end. I would also like to express my warm thanks to my co-advisor, Berhanu Megerssa (Msc) for his comments on my study.

Then I honorably thank my family, especially my mother, whose prayers and care are the continuous sources of my encouragement. In every academic success my mom‘s contribution has been there.

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List of Abbreviations and Acronyms

AU	Addis Ababa University
HLIs	Higher learning Institutions
ICT	Information communication technology
JU	Jimma University
KM	Knowledge Management
KS	Knowledge Sharing
MoSHE	Minister of Science and Higher Education
SD	Standard Deviation
SPSS	Statistical Package for Social Sciences
Web	Website

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ABSTRACT

The study focused on the effectiveness of Ethiopian higher learning institutions' website contents for knowledge creation and sharing among students and academic staffs. The unavailability of adequate researches on the area also contributed its share for this problem. The main objective of this research is to analyze contents of higher learning institutions website for knowledge creation and sharing by students and academic staffs. To conduct this research across sectional survey which included quantitative and qualitative approaches was used. In order to gather the data that answer the research questions, latent analysis, questionnaire and interview were used. Three first generation Ethiopian Universities (Addis Ababa, Hawassa and Jimma) were chosen as study sites. The total sample size was determined using Kothari formula, then 237students and 9 directors were selected using simple random and purposive sampling techniques respectively. The data were statistically analyzed in SPSS by using descriptive and inferential statistics as well latent analysis was interpreted and discussed. The findings of this study revealed that higher learning institutions website 100 % provide collections on their websites. However, the performance/usefulness of the collections available on the websites is under average. 89.9% of contents available on the HLIs websites are not accurate enough to create and share new knowledge. 72.1% the quality of contents in terms of getting knowledge has been rated poor and there is no usage of local languages, interactivity between the users and the directors of repository and contents uploaded without any criteria. Therefore, the research concluded that the effectiveness of the web contents for creating and sharing knowledge were less effective to enable users to create and share new knowledge with others because the contents were not uploaded based on the users' interest and not based on curriculum. Depending on the findings of this study it is recommended that Higher learning institutions need to identify who will be responsible for content measurement and they should follow the web content strategy framework that used to measure usefulness, accuracy, relevance and completeness of web contents in terms of creating and sharing knowledge.

***Key words**: website, content, higher learning institution, knowledge creation and sharing.*

Chapter One

Introduction

The study focused on content analysis of Ethiopian higher learning institutions' website for knowledge creation and sharing by students and academic staff. Content analysis refers to a collection of research techniques used to describe and make inferences about website contents and resource materials through systematic coding and interpretation. It is used to analyze Internet-based communication. This study especially focused on Knowledge management, which is basically about receiving the right knowledge to the right person at the right time. Most higher learning institutions in Ethiopia have inappropriate website contents which enable users to create new knowledge and sharing.

1.1. Background of the Study

Websites are one of the recent technologies used in different businesses to create and share data, information, or knowledge among various levels of workers available in a given organization. Similarly, websites are important for academic institutions to create and share their knowledge for university communities.

The internet is radically changing the traditional way that organizations interact with public. For organizations, the web gives access to a large audience and improves operational efficiency. Websites are becoming key components of an organization's survival in the globalized competition. Website represents an organization, communicating an organization's culture, values, and vision and it act as a delivery mechanism for services that facilitate various tasks a stakeholder needs to perform. Websites serve as a platform through which an organization can interact with its stakeholders (Mentes & Ersin , 2012).

Nowadays, the need for higher education institutions to have a reliable, effective and attractive website is increasing as online technology development. It is becoming an important part of the educational process. The higher education institutions play a vital role in the development of a society while higher education websites have many roles to play. They need to provide information for prospective students, current students, Faculty and alumni (Manzoor et al., 2012).

Knowledge, defined as a fluid combination of outlined experiences, values, contextual information and expert visions that provide a framework for evaluating and combining new experiences and information. It is concerned with the use and development of the knowledge assets of an organization with a view to help meeting its objectives. Knowledge to be managed includes both explicit, documented knowledge and tacit, subjective knowledge. Knowledge management requires all of those processes associated with the identification, sharing and creation of knowledge. It demands that knowledge should be obtained, created, shared, regulated by a stable collection of individuals, processes and information and communications technology (Abalubaid, 2013).

Knowledge management is basically about receiving the right knowledge to the right person at the right time. This in itself may not seem so difficult but it includes a strong bond to corporate strategy, understanding of where and in what forms knowledge exists, creating processes that span organizational functions, and certifying that creativities are accepted and supported by organizational members. Knowledge management includes new knowledge creation or it exclusively focus on knowledge sharing, storage, and modification (Hajric, 2018).

As Kathrin et al., (2015) the use of Websites for knowledge management enable companies to reap large benefits compared with traditional KM system. For promoting products and services, companies can reach much more users and get valuable feedback. Companies have to decide if they build their own blogs, wikis or use existent tools. It depends on the number of employees/customers, because a critical mass of users is necessary.

Abalubaid (2013) states, Knowledge creation and sharing can be seen as a social interaction culture that includes the exchange of employee's knowledge, experiences and skills through the organization. Abalubaid (2013), also identified that for an organization, knowledge is capturing, organizing and transferring experience-based on knowledge which exist in the organization and making it available to others in the organization while knowledge creation and sharing is the exchange of experience, events, thoughts or understanding of anything. People's expectations of knowledge are to gain improved insights and understanding, thereby improving learning and expertise.

The websites contribute for knowledge creation and sharing in academic institutions for better knowledge exchange between students, teachers, and researchers. It is a mutual relationship

between a sender and receivers in which exchange of knowledge gained from experiences is used to support an individual who is working towards a common goal. Knowledge creation and sharing knowledge is positively linked to knowledge management or website, and knowledge creation and sharing is based on individual behavior, as people do not accept the value of creating and sharing knowledge unless they think it is important. Thus, changing people's behavior is the challenge in Knowledge management and knowledge creation and sharing behavior is the central process of Knowledge Management (Hanan et al., 2015).

Higher learning institutions websites play an important role for knowledge creation and sharing practice to satisfy the need of users. Users need knowledge for the purpose of their work and educational purpose. It is important that as a higher learning institutions website should save the time of users and achieve their requirements. They have avital impact on knowledge creation and sharing practice on providing relevant information for users.

Website Content analysis is a widely used research method for objective, systematic and quantitative examination of communication content. The method has been employed not only in the field of traditional communication but also in studies of human computer interaction such as web based applications, norms of behavior and cultural values. It can be useful for discovering and gaining perceptions into users' choice and behaviors as well as into complex social and communicational trends and patterns generated by users (Kim & Jasna, 2014).

The main purpose of this research is on the contents of higher learning institution website for knowledge creation and sharing by students and academic staffs. Because, most of the websites need to create and share resources, academic programs, academic calendars, collection of useful materials, news feed about the institution, occasion's and situation to contact institution. Moreover, the university website are expected to create and share knowledgeable resources like expertise experience, scientific findings, knowledge exchange plat forms ,creativities and community of practice on given subject areas on the websites. Studying knowledge creation and sharing in higher learning institutions website by student and academic staffs will help to improve the contents of the website by creating a link with users.

1.2. Statement of Problem

According to Manzoor et al., (2012), higher education is about taking education to the next level: learning new things and getting to where users want to be. Today, it is completely unimaginable that a university would exist without a websites. Bad, good, awesome, terrible it does not matter, have one. It is expected, demanded, and if did not, it would have a devastating impact on the impression people have. Manzoor et al., (2012), stated that higher education needs to promote institute activities online as well as provide information on its achievement and other programs, which can be achieved through the university website because it gives an identity to the institute worldwide and can be accessible to anyone from anywhere.

Knowledge creation and sharing is the activities of discovering and transferring knowledge from one person, group, or organization to another. It requires the collaboration of individuals and groups for mutual benefits. Understanding the nature of knowledge and KM strategies and training should help to get to the bottom of the knowledge nature related barriers, such as uncertainty of knowledge, difficulties in extracting knowledge, difficulties in identification of valuable knowledge, information overload, difficulties in knowledge evaluation, and incorrect knowledge reuse (Tong & Anthony , 2014). As the researchers knowledge Ethiopian higher learning intuitions websites have lack of detail knowledge content for the users in their academic carrier. This calls the study to be conducted on higher learning institutions websites how much they are providing a good environment for knowledge creation and sharing among university communities and external scientific societies.

As stated by Samson et al., (2009), education has been a fundamental human right, knowledge is considered as a major component of any activity in the society today; both are the driving forces of change and innovation. However, there is inadequate collaboration in knowledge creation and sharing in most higher education institutions. This Indicates that knowledge is freely created and shared in the emerging information architecture that is founded on core principles of Web applications: mix and match, wide distribution, flexibility, ease of use, multi-community and open systems. Ajjan& Hartshorne (2008) suggested that though some faculty members are aware of the potentials of Website and only a few choose to use some of the emerging technologies to improve collaboration of knowledge creating and sharing in and out of classroom for better academic achievement.

According to Hanan et al., (2015) universities in Saudi Arabia are structured in campuses, although geographically dispersed, each campus having a group of related schools with their associated majors and research projects. Thus, universities need to implement a system to provide facilities for communicating among geographically dispersed academics, which have common interests. However, The Universities are lacking management technology systems for the academic process. Consequently, the tacit knowledge of expert academics is lost, as the knowledge has not been documented. Thus, the beginner academics are unable to use valuable information, as no knowledge has been shared for academic staff. The same is true in Ethiopian higher learning institutions as the knowledge of the researcher, so that the universities websites content need to be analyzed to understand and recommend strategies for knowledge creation and sharing for better educational activities and research.

The key factor of KM on website (Kathrin et al., 2015) is the individual aspect to which users contribute with their knowledge. If employees have a basic motivation to use website and take part voluntarily, they will persuade others too. Motivation, trust and perceived usefulness are key issues for individuals. The basis of active usage is usability. The tools should be easy to use and provide good search functionality; enable to filter out relevant knowledge. The content should have a clear benefit for the users. Otherwise people will not use these tools or irrelevant discussions may occur.

Knowledge creation and sharing within an organization is a complex and complicated issue. It is the process by which knowledge of individuals is converted into a form that can be understood and used by other individuals. It also refers to the task to help others with knowledge and to collaborate with others to solve problems, develop new ideas, or implement processes. So the websites have ability to provide a way for creating and sharing knowledge to achieve their objectives. However, to the researchers' knowledge there is no empirical study in Ethiopia on the website content analysis for creating and sharing knowledge by university students and academic staffs (Lajos et al., 2015).

Knowledge creation and sharing has been considered as a significant component of success in KM. However, in most organizations KM is often inadequate when it comes to knowledge creation and sharing. In order to encourage knowledge making and distribution using technology, it is important to know why staff do or do not use website for creating and sharing knowledge (Hanan et al., 2015).

Regarding use of web contents, some studies were conducted; Tizita (2017) for example, stated that most higher learning institutions websites in Ethiopia do not have appropriate design which means inappropriate use of font, color, image and other usability features. The main intent of this study identifies factors that affect usability and accessibility of Higher Learning Institution websites which focused on academic staffs. The study also recommends that further work may carry out with more distributed governmental and private universities with different user groups. Hence, the current work differ from the previous study in which this research focused on the higher learning institution website content for knowledge creation and sharing for users and it include different user groups which help to get better finding.

Another study was conducted in AAU by Yoseph (2018) with ultimate goal of creation of usable, accessible and sustainable Ethiopian e-Government websites. The findings of the study confirm that, Ethiopia e-Government websites have many usability and accessibility gaps. The investigations results are used to provide a clear picture of what needs to be improves from management and user point of views and also from other stakeholders of e-Government services. However, this study couldn't assess the contribution of the contents on websites of the higher learning institutions to creating and sharing knowledge for users and academic staff, which was investigated with the current study.

Consequently, this research focused on the website content analysis of the Ethiopian higher learning institution websites for knowledge creation and sharing by the university community. Most of Ethiopian higher learning institutions websites content have limitations on functions like institutional resources, academic programs, digital repositories, providing valuable contents, news feed about the institution, occasions, situation to contact the institution, providing relevant collections, complexity when accessing resources on the websites, way of communication, the usage of local language, lack of helpdesk on the website, and outdated information are considered. Furthermore, Ethiopian higher institutions websites have deficiency in providing (scientific findings, innovation environment, knowledge exchange method, and sharing academic resources with other institution) for students and academic staffs as the assumption of the researcher. Therefore, these gaps call the research to be conducted on the website contents analysis on higher learning institution websites for knowledge creation and sharing by students and academic staffs.

1.3. Research Questions

- What kinds of collections, facilities and services are provided by higher learning institutions websites for knowledge creation and sharing?
- To what extent the higher learning institutions website contents are effective in creating and sharing knowledge for education and research activities for academic communities?
- What are the criteria and strategies need to be followed by higher learning institutions websites for better knowledge creation and sharing by students and academic staffs?

1.4. Objectives of the Study

1.4.1. The General Objective

The main objective of this study is to analyze contents of higher learning institutions websites for knowledge creation and sharing by students and academic staffs for educational activities.

1.4.2. The Specific Objectives

The specific objectives of this are:

- ✓ To investigate the basic facilities, collections and services provided by the higher learning institution websites.
- ✓ To identify the effectiveness of higher learning institutions website content for knowledge creation and sharing.
- ✓ To identify criteria's and strategies for higher learning institutions websites development.
- ✓ To develop a framework in HLI website for knowledge creation and sharing by students and academic staffs.

1.5. Scope of the Study

The researcher selected AAU, HU and JU first generation higher learning institutions based on their generation and the assumption that they are suitable for the researcher. The researcher focused on the contents of the website collections' effectiveness for knowledge creation and sharing for students and academic staffs, strategies and criteria's need to be followed by Ethiopian higher learning institutions websites. Thus, this study is focused on higher learning institution first year post graduate students and academic staffs in 2020G.C. As to the scope, a framework that help knowledge creation and sharing for university communities was developed on knowledge creation and sharing practice for Ethiopian higher learning institutions.

1.6. Limitations of the Study

The study was restricted to first generation selected universities (Addis Ababa, Hawassa and Jimma). Thus, this study is focused on higher learning institution first year MSC students and academic staffs in 2020G.C.The researcher faced some challenges, mainly during the data collection process. The main challenge is when communicating the respondents, because of the pandemic most of the data were collected by using informal way in this case several (about 58) respondents cannot return the questionnaire at the required time. And the facts that there are only few researches have been conducted on the website content analysis of higher learning institutions at local level, and to the researcher knowledge, none were available in Ethiopia that gave the researcher another challenge due to finding standard reference point. Therefore, most of references in this study were based on researches undertaken from other countries.

1.7. Significance of the Study

The researcher believes that the findings of this study have the following significances: Assessing the contents of websites for knowledge creation and sharing practice is important to the success of website users in higher learning institutions. It also helps institution to prove better knowledge creation and sharing environment. Because Higher Learning Institutions websites need to contain creativity and distribution of knowledge in the institution, they have important roles on creating and sharing knowledge for users. This research result would be used to provide guidance for institutions by creating a link to know the need of their website users. And this study is useful for not only the institutions included in this research, it's also helpful for other Ethiopian higher learning institutions and for policy makers in other sectors as well.

1.8. Operational Definition of Terms

Websites: A website is a combination of different web pages linked together in a certain technique according to the creator's and institutional need worked over the same domain name server. The developed website is prepared and maintained by a person, group or an organization (Niels, 2009).

Higher learning institution: The Higher learning institution can be defined as a university level education. It offers a number of qualifications ranging from Higher National Diplomas and Foundation Degrees to Honors Degrees and as a further step, Postgraduate programs such as Masters Degrees and Doctorates. These are recognized through the world as representing professional expertise supported by a wide range of skills that is very useful (Manzoor et al., 2012).

Content of website: The key to a successful website is having clear, relevant content that delivers the right message with acceptance. The content on the website should be well organized and target audience need which must inspire them to take action (Elsayed, 2017).

Selected higher learning institutions: Includes Addis Ababa, Hawassa and Jimma public higher learning institutions.

Students: First year regular post graduate students of Addis Ababa, Hawassa and Jimma university students in selected colleges.

Academic staff: Full time workers of Addis Ababa University, Hawassa University and Jimma university research and publication office director, ICT director and digital library director of the respective university.

Chapter Two

Literature Review

2.1. Overview of Website

Website industry has become one of the fastest increasing industries during the former few years in this world. The Internet is radically changed the traditional way that organizations interact with public. For organizations, the web gives access to a large audience and improves operational efficiency. Web sites are becoming key components of an organization's survival in the globalized competition. With rising good open business through worldwide, website development business is playing a major role in this field (Mentes & Ersin , 2012).

Today no one would argument that the Internet has been a significant part of our communicative infrastructure for some years now. However, internet history is a relatively blank page, not to indication the sub-discipline of website history, which can be considered an emerging discipline at the intersection between media history and internet history, and which regards the individual website as the joining entity of the historical analysis. Although the number of website studies of all sorts has been growing for several years, honest historical studies of websites are almost non-existing (Niels, 2009).

According to Germonprez & Zigurs (2005), the World Wide Web has become the modest of choice for the delivery and use of information by individuals, teams, organizations, and communities. Web sites are the collections of web pages that make up the World Wide Web are the fundamental means by which that information is retrieved and spread. Understanding factors that impact the complexity of a web site is a key step toward active retrieval and delivery of information and its final use in cooperative activity.

2.1.1. The Difference between Internet and Website

The terms Internet and World Wide Web are frequently used in every-day speech without much difference. However, the Internet and the World Wide Web are not one and the same. The Internet is a universal data communications system. It is a hardware and software infrastructure that offers connectivity between computers. In contrast, the Web is one of the services communicated via the Internet. It is a collection of interconnected documents and other resources, linked by hyperlinks

and URLs. In short, the Web is an application running on the Internet (Padmannavar & Milind , 2011).

2.1.2. Characteristics of a Good Website

To be good website the website need to fulfil the Customer satisfaction which itis the customer's perception of the degree to which the customer's requirements have been fulfilled. Customer complaints are a common indicator of low customer satisfaction but their absence does not necessarily ensure high customer satisfaction. Even when customer requirements have been agreed with the customer and fulfilled, this does not necessarily ensure high customer satisfaction (George, 2002).

Website has become a tool for business, communication, learning, vacation, and a whole host of expected and unexpected activities across a broad range of the population. Using of the web has led to an enormous creation of data and information available to both the public and private sectors. Information on the web is different things to different people, relevant to some and not others, competitively advantageous to some, but not others, and so on. One critical aspect of whether a web site provides a benefit is whether it is easy to use, and in particular, how complex the web site is. The more complex a web site is, the less likely that relevant information can be obtained from the site or that the site can be used effectively, if at all (Germonprez & Zigurs, 2005).

According to Bozyigit & Erdem(2014), Nowadays Internet is more suitable and important in business. It has many advantages such as reducing business costs and covering target group easier. Universities where which main scientific developments in a society appear can also benefit from the Internet. Universities have different characteristics and audiences compared to companies. With the new generation, Web sites become more important in order to meet and persuade prospective students who grew up with the Internet. From this point of view, a good Website should be up-to-date, fast, interactive and user friendly.

2.2. Higher Education

According to Ekene & Oluoch (2015), Education is a critical tool for the transformation of the individual and the society and the role of institutions of Higher Learning in re-orienting the courses for sustainable development which aims at preparing a holistic and value-oriented individual for useful living within the society cannot be over-emphasised. The idea of sustainable development

is conceived to help create healthy societies that can sustain the present generation as well as those that follow through the judicious use of economic, environmental and cultural resources. It emphasizes the ideas of directing, maintaining, and defining a suitable framework for a desired development that will involve the least risk and loss of humanity.

2.2.1. The Role of Higher Education Website

College and university websites play a significant role in the college search process. The internet plays a great role in the admission practices of higher education institutions. Since the late 1960s, institutions of higher education have used a diversity of electronic media and technology to deliver students with textual and visual images to promote themselves. The development of the internet as a main communication channel opened a new manner, medium, and mode of communication for institution of higher education, as well as for potential students (saichaie & morphew, 2014).

According to Elsayed (2017), College and university websites used to promote an institution's identity and achievements, facilitate the service of prospective students and provide information for current students through content. They are a major source of information and the largest communication tool between the university and internal or external audiences. Therefore, one of the university's main missions is to be planned with its valuable and useful website content and to give it as a serious benefit.

University Websites are regularly the first structured encounter a student has with a probable college or university**.** For colleges, concerning prospective students, the college Website is progressively becoming a sales tool. As with all effective marketing and sales tools, understanding the customer is key to success. When prospective students visit a Web site, they are attractive in information-seeking behaviour (Ford, 2011).

According toManzoor et al., (2012), Higher education is about taking education to the next level, learning new things and getting to where we want to be. Manzoor et al., also mention the following below points clearly demonstrate the need and importance of website for higher education institutions.

- The higher education institute has a need for an effective website to help with attracting new students as well as for helping the needs of existing students.

- Higher education institutes need to make a website to globally in print the occasions provided by their institute so it can be retrieved world widely.
- Higher education institutions and programs can elect to go through a peer reviews process that is coordinated by private and state accredits organizations. These organizations are made up of higher education experts who assess quality based on the organization's established standards.
- One of the goals that can be achieved by authorizing higher education website is to certify that education provided by institutions of specific higher education sees acceptable levels of quality.

Study abroad has become an important aspect in higher education in the United States, as the phenomenon of globalization has grown increasingly important to how universities prepare students for the professional and social world. University websites across the country showcase the important primary values of study abroad, experiencing a local culture, creating cooperative conversations, and enabling students through personal and academic development (Apperson, 2015). Therefore, the higher learning institutions websites are providing required knowledge for the students to be involved in the social world.

2.3. The Content of Higher Learning Institution Website

2.3.1. What is Content?

Content is king, everything is content; it's all about content and content first. These are a few examples of common terms on the web that describe how important content is for any form of publication which also include websites. In the current time the web and social media are changing the way higher education institutions involve their online audiences. But these audiences are irritated and challenging and look web pages to pick information worth reading so content quality is more important than quantity for them (Elsayed, 2017).

2.3.2. What must be the Content of Higher Learning Institution Website?

Educational institutions were the first organizations to develop websites. In the previous times, the goal was to simply have a presence on the web. The success of website is resolute primarily by its content. Eventually, content gains the cases of customers. All other components of website provide a secondary support role. Now, many colleges and universities are trying to include a strong

content combined with information about the school and its educational resources (Astani & Mohamed, 2008).

According to Hannon (2012), every higher learning institution needs a content plan to complete the following goals: certify word with content, produce higher-quality content, improve search engine optimization (SEO), improve the promotion of content; identify what content works best, repurpose content where it makes sense and achieve greater reliability in overall message and movements.

Higher learning institutions create website content on a daily basis, as universities increasingly need to use their websites to communicate official and non-official content, present their resources and services to a various audience and communicate their mission and vision. This has formed rising awareness of the importance of content strategy and many institutions give it high significance as a marketing tool (Elsayed, 2017).

University web content means any content or data created by university faculty and staff and published on the university website to denote the work of the university, school, department or unit. Such content is maintained by the university, with the allowance of intellectual property of the faculty or knowledge which is certified for use by the university. The main thing to a successful website is having clear, relevant content that brings the right message with power and principle. The content on website should target audience, involve them and inspire them to take action. So that, taking action need knowledge and there should be knowledge sharing part on the website for the users (Americanuniversity, 2010).

2.3.3. Who are the Users of Higher Learning Institution Websites?

A university website has two kinds of audience's internal users and external users. Internal users include current students registered at the university, faculty and staff. External users include prospective students, faculty and staff. the content for internal users must to be such as Telephone directory, Library catalogues, News, Internal social groups / clubs activities, Timetable etc. also the content for External users where like Courses offered, Prospectus, Local city information, Mission statement, University contact, Job openings, Support and pay offered to staff and faculty, Entertainment information, Faculty contact information, Faculty research information etc. a search features for university websites would be easier for users to search for specific information they are looking for. Also there are some features common for both internal and external users. For

example, a telephone directory is useful for both internal and external users (Padmannavar & Milind , 2011).

2.4. Web based knowledge Management

According toHanan et al., (2015), Web technology is based on a specific set of technologies allowing users to interact and collaborate with each other in social media, it can be characterized the Social Web, as it includes a strong social component. The key to using web technology for Knowledge Management is that data can be made available by creating online storage of information and that it can be searched recycled and updated as often as required. Communicating internally and sharing knowledge via a Web which is known as the Intranet is becoming the most commonly used technique in many organizations.

Knowledge management is the effective learning process associated with discovering, exploitation and sharing of human knowledge that use the suitable technology and cultural environments to enhance an organization's intellectual capital and performance. Web applications brought significant change to how we use the Internet. Nowadays, companies have started adopting Web applications for retaining knowledge in organizations to create and share knowledge (Bebensee, 2011).

2.5. Knowledge Management

Knowledge management supports companies to be more flexible and knowledge-intensive firm .KM implies an intertwining of the various forms of knowledge: tacit, explicit, individual or collective. Spiral of knowledge and emphasize the fact that knowledge creation involves an iterative conversion from tacit to explicit in four different modes: socialization, externalization, combination and internalization. Also social dimension is key for the whole knowledge creation process (Kathrin et al., 2015).

KM surrounds capturing, storing, creating, sharing and using knowledge whereas knowledge creation and sharing are the process in which an individual create and shares knowledge with others. This knowledge is either created or developed by that individual. Knowledge sharing is talking to a colleague to help them get something done better, more quickly or more efficiently. For an organization, knowledge sharing is capturing, organizing, reusing and transferring experience based on knowledge that exist in the organization and building that available to others in the business (Mobashar et al., 201).

Knowledge is strength for organizations that bring reasonable advantage if it is created, acquired, shared and applied properly. An open communication culture in companies is very important. The company management has to inspire knowledge exchange between employees. Instead of struggling the sharing of knowledge, people are prepared to publish and give their knowledge in order to become an expert. The management should give employees quite of opportunity and time for using Web 2.0 tools to connect and communicate their knowledge (Minwalkulet & Temtim , 2018).

According to Jaleel & Verghis (2015), KM, there are two kinds of knowledge: explicit and tacit. Tacit knowledge is hard to articulate with formal language. Before tacit knowledge can be communicated, it must be converted into words, models or numbers that can be understood, whereas, explicit knowledge can be articulated into formal language. i.e., it can be expressed in words and numbers. Moreover, this kind of knowledge can be distributed as data, scientific formulas, reports, manuals, basic principles, and so on. In short, explicit knowledge refers to the "knowing about" (the objective knowledge), while tacit knowledge involves the "knowing how" (the subjective knowledge).

2.5.1. Knowledge Creation

Knowledge creation is an important factor and remains a source of competitive advantage over knowledge management. Learners learn actively and construct new knowledge based on their prior knowledge. It is about continuous transfer, combination and conversation of different types of knowledge as users practice interact and learn (Hajric, 2018).

According to Jaleel& Verghis (2015), Knowledge can be created through conversion between tacit and explicit knowledge by four different modes. The four modes of knowledge conversion are created when tacit and explicit knowledge interacts with each other. These four modes are referred to as socialization, externalization, combination, and internalization.

According to Kathrin et al., (2016) tacit knowledge resides in the minds of the employees and consists of the know- how and skills that individuals have acquired on the basis of personal experience. Explicit knowledge is knowledge that has been written down in manuals or guides in order to be shared or communicated to other employees in the organization, who will then also possess this knowledge without having to have the same experience

Nonaka and Takeuchi (1995) represent the four modes in the form of a knowledge spiral.

	Tacit knowledge To	Explicit knowledge
Tacit knowledge From	Socialization	Externalization
Explicit knowledge	Internalization	Combination

Table 2.1:Four modes of knowledge creation

1. Socialization involves social conversion to share experience from tacit knowledge to tacit knowledge. This process attempts to share experience and thereby to create and exchange tacit knowledge. Thus, socialization is used in sharing learners' experience and know-how with other learners.

2. **Externalization** involves the conversion of tacit knowledge into explicit knowledge. This process attempts to rationalize tacit knowledge and articulate it into explicit concepts and formal models (e.g., to write instruction manuals).

3. **Combination** converts explicit knowledge into more complex and systematic sets of explicit knowledge. This process involves individuals combining and exchanging different explicit knowledge to explicit knowledge with others. Existing learning information in the databases might be integrated to create new knowledge.

4. Internalization is a process of embodying explicit knowledge into tacit knowledge and internalizing the individual experiences gained through the other models of knowledge creation in the form of shared mental models. Through internalization, explicit knowledge created is shared through an online learning community and converted into tacit knowledge by individuals.

2.5.2. Knowledge Sharing

Knowledge sharing is a process where the tacit or implicit knowledge, which means that knowledge of an individual is converted or transformed into public or formal knowledge in an

organization or institution by a process, called the externalization. It also refers to activities of transferring or disseminating knowledge from one person, group, or organization to another (Bajpai, 2006).

2.5.2.1. Factors Affecting Knowledge Sharing

Knowledge sharing states the activities of removing or distributing knowledge from one person, group, or organization to another. In sharing process of this knowledge there are some factors which affect knowledge sharing. Some of them are mentioned below.

2.5.2.1.1. Technological Factors

Technology has been recognized as an important enabler for managing knowledge and knowledge sharing in organizations. The use of technology has been associated with factors such as functionality and usability takes too much time and effort to contribute, structure of the platform, interface design and users' need and consequently has been identified as a significant factor for employee's knowledge sharing (Matschke et al., 2014).

2.5.2.1.2. Organizational Factors

Organizations should support and encourage their employees to share and create knowledge. Organizational culture is recognized to be an important factor for the adoption of information systems and for the creation of a learning organization. Organizational culture and a friendly relationship among employees may also shape their motivation to contribute their knowledge (Kathrin et al., 2016).

2.6. Web based Knowledge creation and Sharing System

KM practice is often associated with the use of information systems and the effort to share and create knowledge using KM systems. Knowledge sharing and knowledge creation requires time and effort on top of the daily activities of knowledge workers who are the main contributors to the system. It requires a serious mass of active knowledge workers in order to be successful. An active behavior of the users and adoption of knowledge sharing practices are critical success factors for Knowledge Management solutions (Kathrin et al., 2015).

There have been different techniques in developing knowledge management technology as a solution to promote knowledge dissemination, knowledge creation, and knowledge sharing in an organization or community. These approaches have strengths and weaknesses of their own with

detail to technological developments, user's acceptance, adaptability, and success level in the real logic of generating knowledge. The concept of KM has received wide attention from academics and practitioners in the past 10 years. It contains significance on organizations; culture, teamwork, the promotion of learning and sharing of skills, experience and knowledge (Bajpai, 2006).

2.7. Related works

According to Chikkamanju (2017), Libraries are playing an important role in supporting and disseminating information services. The study conducted on website analysis of university of agricultural sciences library in Karnataka state, India. The result of the study indicates that Basic information about the University are available followed by News and events each material, Services and Facilities have been greater than 75% in all 4 Agriculture universities. Finally, the study suggest that a majority of library websites are not updated frequently and University of Agricultural Science library have not given link to in their library website.

Ukwattage (2019) conducted a research on content analysis of academic health sciences Libraries websites in Srilanka. The finding of the study indicates that In Sri Lanka, websites of Academic Health Sciences libraries do not provide instructional materials, tutorials, subject guide as user guide when compared with library websites internationally in respective field. Finally the study suggest that to add such important items into web content is essential to revisit on academic health science libraries websites in Sri Lanka and should convert the current web in to more millennial-friendly websites which can be fulfil information needs of health professionals and scholars with comprehensive content.

According to Kumar & Mahendra (2017), on the work of their study they try to analyses and compare the content and usability of central universities of central zone of India library website. The finding of the study shows that Most of the university websites having all services which is helpful for users to fulfill their query and the study also observed that the university library websites are good medium to know the service available in library without going. The study also suggest that a study on the websites will help to analyses contents need to add on the site.

Tizita (2017), also conduct a research on Usability study of higher learning institutions website on academic staffs in selected public universities. The findings of this study exposed usability factors identified from the analysis of the results reliability, efficiency, understandability, content, interactivity and design layout. Finally the study suggests that the developers of higher learning

institution websites should consider the above issues and common usability problems need to recognize in order to improve usability of the universities websites.

Another research done by Kumbhar (2017) aimed to analyze the library web portals of University libraries in Maharashtra in order to enhance the effective use of library websites. The result shows that, 75 % of university library websites contains the library rules and 66.67% university libraries has provide information of library history, about library and contact us features. Very few university libraries have given information of administrative activities, library statistics and feedback on their websites.

Irene (2011), also conducted a study on Indonesian Hotel Website. The purpose of this study was to develop a content model for Hotel Tentrem's website. To fulfil this purpose, content analysis was conducted to address the strengths and weaknesses of five-star hotel websites. The result of the study found that five-star hotels in Indonesia have utilized their websites accordingly in terms of property's identity functionality, sales and marketing functionality, communication means functionality, and transactional means functionality. However, five star hotel websites in Indonesia were not excelling on essential functions of customer relationship and informational means. The study also recommended that another study can be conducted to measure the effectiveness of this content model and to analyse.

Reza et al., (2015), conduct a research on the content of website football premier league clubs in Iran. The finding of the study shows that soccer teams provided few services on their websites for their online sport marketing and the websites had little contribution to their income, increasing brand loyalty and fan participation and brand awareness. In general, major league soccer teams may not have adequate knowledge about the efficacy of various services provided on websites. As a result, they lose several marketing opportunities via the Internet and blindly manage their websites. The study also recommended that online marketers should understand the significance of special online services in marketing strategy.

Additionally, related studies show that the contents of websites are becoming important things for knowledge creation and sharing to give quality service and information usage. However, none of studies until now conducted in Ethiopia on the contents of higher learning institutions websites for knowledge creation and sharing practice as mentioned above in statement of the problem.

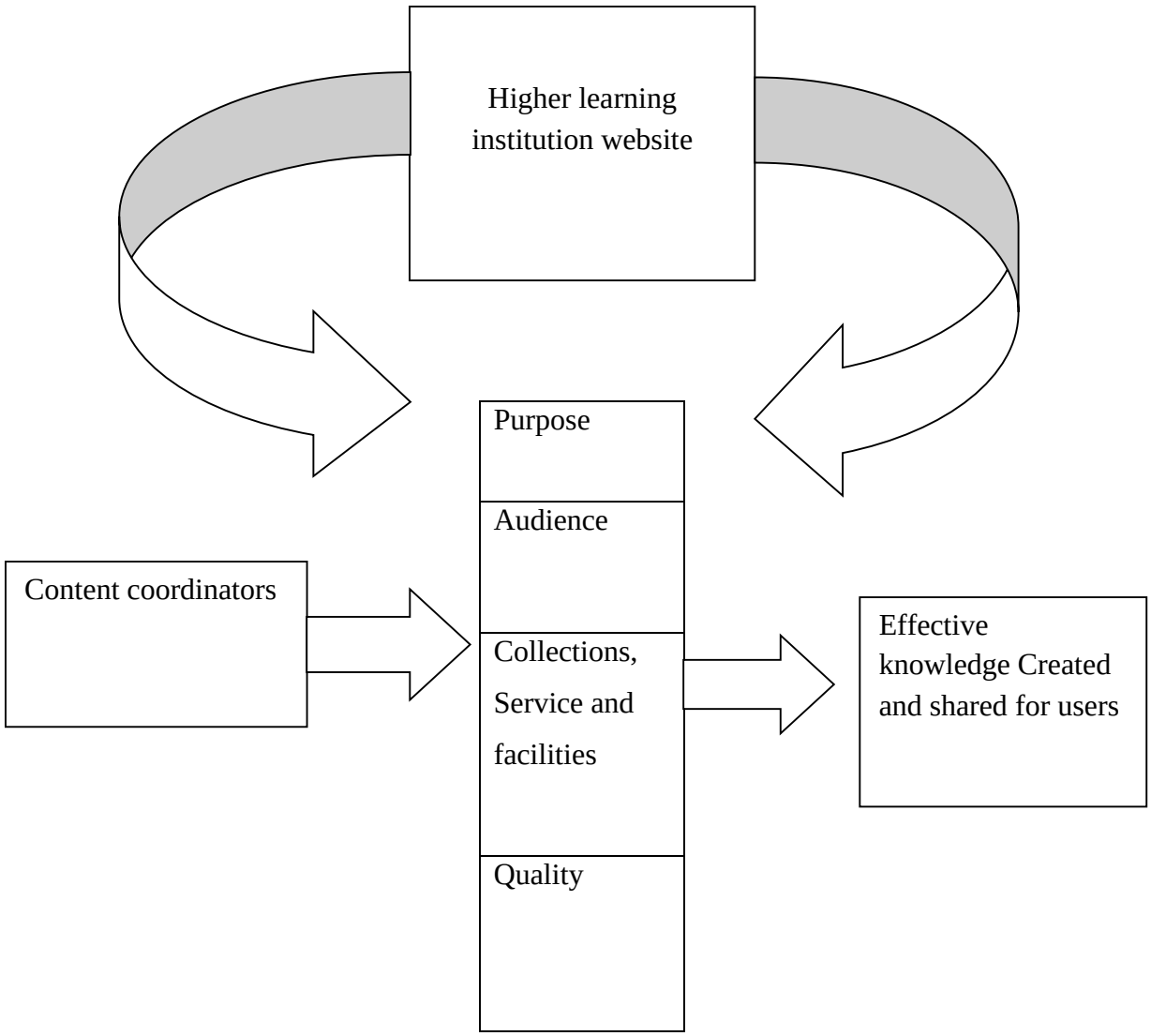
However, some literature of other countries is addressing the issue of website content analysis, website for knowledge creation, sharing and website for knowledge management. They focused on the same group of users' but the current study was focused on websites content for knowledge creation and sharing in higher learning institutions to access the usage of educational resources by students and academic staff's. The researcher applied parallel methodology to collect data that makes it unique from the former studies which is cross sectional survey and content analysis research method.

2.7. Conceptual Framework

HLI websites host a vast quality of content, aimed at a diverse audience. HLI are huge organizations, often operating as isolated departments of facilities. As competition grows within the HE sector, nationally and internationally applicants are becoming more and more discerning. Increasingly HLI are pressured to quantify the value of studying in terms of employment and return on investment. An efficient and successful content must combine the substance and structure of content with the workflow and governance that make the content manageable.

Content is only as valuable as it is visible. Therefore, content must consider what prospective users searching for, and where they expect to find it and HLI must improve what they have (Reza, 2019).

The conceptual framework (as in figure 2.1), shows what need to be include in websites to develop contents of the web, purpose, audience, collections, quality, producers and users' which used for effective use of creating and sharing knowledge through the HLIs' websites.



Source: Adopted and modified model fromTersa, (2004)

Figure 2.1: Conceptual Framework of the Study

The following sub categories added to estimate the contents of higher learning institution website for knowledge creation and sharing by students and academic staffs. The modified model differ from the original one by its sector. The previous model done on health website and it include audience and quality of content.

Purpose which content coordinators need to understand the purpose of their website.

Audience refers to knowing the audience of website is used to add useful contents which help users to create and share effective knowledge. The website illustrates commitment to supplying contents regarding a particular group. The design of the audience category was grounded in the assumption of that a website providing a link to a specific audience or group.

Collections, services and facilities Indicates help full collections, better services and facilities must be included on the higher learning institution website for effective knowledge creation and sharing for university community.

Quality of contents play avital role to create and share knowledge.

To create effective knowledge on website Higher learning institution consider the purpose of the web, the need of audience, collections, facilities, service and quality of contents. Its structured plan for web which used to know how creating content, why it will be creating and for whom it will be creating into the buying process.

Chapter Three

Methodology

3.1. Description of the Study Site

This study was conducted in selected Ethiopian public universities. There are 45 universities recognized in different parts of Ethiopia that have been certified by Ethiopian Ministry of science and higher education. These universities are categorized based on their year of establishment. Ten universities categorized in to first generation, eleven universities are categorized into second generation and twenty four universities are categorized in to third generation. Hence, in this study three universities selected from first generation universities purposively. The three first generation universities considered in this study are Addis Ababa University (AU), Hawassa University and Jimma University (JU). These universities have experienced professionals and established website contents as the experience of the researcher and what is observed on their websites.

Addis Ababa University (AAU) was established in1950 as the university college of Addis Ababa (UCAA), is one of the oldest and largest higher learning and research institution in Ethiopia. The university has been the leading center in teaching learning, research and community service. It is found in Addis Ababa city (www.aau.edu.et).

Hawassa University (HU) was established in 1976.It is residential national university in Hawassa, SNNPR, in Ethiopia. It is approximately 278 kilometers south of Addis Ababa, Ethiopia. The Ministry of Science and Higher Education admits qualified students to Hawassa University based on their score on the Ethiopian higher education entrance examination (www.hu.edu.et).

Jimma University (JU) is the largest higher learning institution established in 1999 by the union of Jimma College of Agriculture (founded in 1952), and Jimma Institute of Health Sciences (established in 1983). Jimma is the town of Jimma zone, which is one of 18 zone of the Oromia Regional State found at 352 km from Addis Ababa, the capital city of Ethiopia, in the South western part of the country(www.JU.edu.et).

3.2. Research Design

The research method was cross sectional survey and content analysis research methods. The researcher used both cross sectional survey and content analysis method in parallel. Therefore, across sectional survey was used to conduct this research which included quantitative and

qualitative approach to gather data that answers the research questions. Because using a mixture of quantitative and qualitative methods is vital to determine knowledge creation and sharing practice on higher learning institution website by creating a link between the needs of users and the institution. Cross sectional survey is mainly used to obtain reliable data that make possible to generate, conclude, and create new hypotheses that can be investigated with new research (Juliana et al., 2018). After investigating knowledge creation and sharing practice by cross sectional survey a content analysis research method was followed to analyze the content of higher learning institutions websites. Content analysis method is used to identify and record the meaning of documents, websites and other forms of communication in a systematic and quantitative way.The researcher was use latent analysis techniques. The researcher was use latent analysis technique to describe collections available on the website of HLI and to see the qualities of the contents to give explanation. Therefore, the above characteristics and advantages of content analysis proved to be suitable for this research to evaluate the contents of higher learning institution website for knowledge creation and sharing by students and academic staffs.

3.3. Study Population

According to (2012) registrar office the population of universities students data in AAU, HU and JU respectively reflected in table 1, which indicated 627students which are actively involved in teaching-learning. In Addis Ababa university school of information science is under college of natural science therefore, the population number where added on college of natural science.

Table 3.1: Name of Universities and the Total Population

No	Name of Institutions	College		Total Population
		Natural Science	School of Computing	
1.	Addis Ababa University	320		320
2.	Hawassa University	145	16	161
3.	Jimma University	90	56	146
Total		555	72	627

Source: Own Survey (Registrar office of AAU, HU and JU; 2020)

3.4. Sampling Method

Purposive and simple random sampling techniques were used to select the study sample. In this study, purposive sampling was used to select the study institutions, students of first year MSC on selected colleges, academic staffs for the interview. Totally the interview was conducted with nine respondents. Specifically, one digital library director in each institution, one ICT director in each institution, one research and publication center director of the respective universities, Msc students selected from the college of natural sciences and college of computing and informatics. Since the researcher believed that it is supportive for the study. In addition, simple random sampling technique was considered to select sample of individuals/students for questionnaire to ensure different respondents from the universities. However, because of covid-19 it is impossible to get students randomly. Because of this reason the data collected from respondents by using casual way.

3.5. Sample Size Determination

The total population for the study was (627). However, it is difficult to collect data from the total population in the given time or this study the representative sample size of population was taken into consideration for statistical process. The researcher had to find the correct balance between the reliability of the result and cost of obtaining the results. Having the population of each university students the total sample size was determined using ***(***Kothari, 2004***)*** formula as follows:

$$n=\frac{no}{1+\frac{no}{N}} \quad no=Z^2\frac{pq}{C^2}$$

Where

n = sample size

N = total population of students

P= proportion of population

z=confidence level (95%)

c=confidence interval

q = 1-p Where: c = 0.05, p = 0.5, z=1.96, N=627

$n_o = \frac{1.96^2 * 0.5 * 0.5}{(0.5)^2}$ $= 384.16 \approx 384$

Considering the population correction factor into account the sample size is:

$$n = \frac{384}{(1 + (\frac{384}{627})}$$

$= 238.21 \approx 238$

Therefore, the total sample size was 238 post graduate students for this study. To proportionally allocate the samples for each universities total sample size of all universities were multiplied by the ratio population size of the proportional to the total population.

That is:

nh = (Nh/N)*n

Where:

nh = sample size for the proportion

Nh = the population size for the proportion

N = Total population

n = total sample size

The sample of students from AAU, HU and JU can be calculated as follows:

$AAU = \frac{320}{627} * 238 = 121.46 \approx 121$

$HU = \frac{161}{627} * 238 = 61.11 \approx 61$

$JU = \frac{146}{627} * 238 = 55.41 \approx 55$

The sample of students from college of natural science in AAU, HU and JU can be calculated as follows:

AAU=$\frac{320}{627} * 238 = 121.46 \approx 121$

HU=$\frac{145}{627} * 238 = 55.03 \approx 55$

JU=$\frac{90}{627} * 238 = 34.16 \approx 34$

The sample of students from school of computing in HU and JU can be calculated as follows:

HU=$\frac{16}{627} * 238 = 6.03 \approx 6$

JU=$\frac{56}{627} * 238 = 21.25 \approx 21$

Table 3.2: Summarized Population and Samples Size

No	Name of institution	Total population	Sample of natural science college	Sample School of computing	Total Samples
1.	Addis Ababa university	320	121		121
2.	Hawassa university	161	55	6	61
3.	Jimma university	146	34	21	55
Total		627	210	27	237

3.6. Data Collection Methods

To conduct the study the researcher systematically collected data from a set of texts which were written, oral or from books, questionnaire, interviews, and websites observation. The data was collected from respondents by using questionnaire, latent analysis on the website and semi structured interviews. However, on the proposal the researcher said data also collect by using focus group discussion but because of covid-19 it is impossible to collect data through this mechanism. The questionnaires were created by using suitable questions modified from related researches and individual questions articulated by the researcher. The researcher used both primary and secondary data sources.

Questionnaire and semi-structured interview were employed as the major method to collect data from students and academic staffs. This technique helped to get information that is not restricted or limited to the experience of the researcher. Positively, it also helped the respondents to be more open when sharing their experiences with the interviewers and questioners.

3.6.1. Questionnaire

As stated by (Roopa & Rani, 2017) questionnaire is a series of questions asked to individuals to obtain statistically useful information about a given topic. When correctly constructed and responsibly managed, questionnaires become a vital instrument by which statements can be made about specific groups or people. It is basically a list of printed questions that is completed by respondents to give their opinion. It is a valuable method of collecting a wide range of information from a large number of individuals, often raised to as respondents. For this study a combination of both close ended and open ended questions were prepared by the researcher and distributed to 237 post graduate students. Based on the core research questions, the questionnaire was prepared in English language.

3.6.2. Latent Analysis

Web content analysis is a form of content analysis that deals with internet based communication. It is used to describe and make inferences about the material collections and resources available on websites. According to Bengtsson (2016), the researcher has to choose whether the analysis is to be a manifest analysis or a latent analysis. In a manifest analysis, the researcher describes what the informants actually, says, stays very close to the text; use the words to contrast them whereas latent analysis is extended to an informative level in which the researcher seeks to find the underlying meaning of the text, document or website is being talked about. Therefore, the researcher selected latent analysis to quantify the occurrence of certain collections, materials, subjects and concepts of the websites of the HLIs.

3.6.3. Semi –Structured Interviews

According to Easwaramoorthy & Fataneh (2015), in semi-structured interview, the interviewer used a set of predetermined questions and the respondents answered in their own words. The interviewer used a topic guide that serves as a checklist to ensure that all respondents provide information on the same topics. The interviewer can review areas based on the respondent's answers. Semi-structured interviews are useful when there is a need to collect in-depth information

in a systematic manner from a number of respondents or interviewees (e.g., teachers, community leaders).For this study semi-structured interview was one of the instruments used for data collection. In this study the interviewed individuals were academic staffs of higher learning institutions. Directors of ICT, digital library, and research and publication center from each selected HLI, totally nine individuals participated in the interview.

3.7. Data Collection Procedure

The data for this research was collected by using an interview, latent analysis on the website, and questionnaire. The questionnaire and interview was created by using appropriate questions adjusted from related research and individual questions articulated by the researcher and approved by the advisors. To collect data from the respondents, the researcher received official letter from the Department of Information Science requesting for help from institutions of all study sites of the study. Then the researcher submitted permission letter to the institutions of the study site to get permission of students address because of the pandemic it is impossible to get students randomly to conduct the questioner in formal way.

3.8. Pre-Test of Data Collection Instrument

The purpose of a pre-test exercise was to check consistency and validity of the data collection instruments. The pilot study was used to determine the feasibility of the study protocol and identify weakness of the study. The study has demonstrated the effectiveness of a pilot study in identifying flaws in questionnaire and interview. It has also provided better understanding of how to implement the survey; the researcher provided occasional help with the questionnaire on students different from selected college of the study to check item completion and from advisors for the interview. Pre-test was set to check whether the questions were clear, appropriate, and if there were other questions that could be asked. It was conducted at Jimma University. Seven first year post graduate students, three from school of law and four from college of social science Journalism department were chosen to complete the pre-test. All respondents could return their test and appropriate amendments were then made properly on the basis of the findings of the pre-test.

3.9. Data Quality Control

A brief orientation was given to the data collectors. The questionnaire was distributed at first time to some respondents and necessary adjustments was done based on the feedback of respondents from pilot study. The completeness and consistency also checked at the site by the researcher. The

missing data, outliers, completeness and consistence was checked before data analysis. This increased the validity of the research.

3.10. Techniques of Data Analysis

Data analysis is the procedure of taking arrangement and implication to the collected data. After the required amount of data received from the field, it needs to be organized. To analyze this data statistical software (i.e. SPSS version 20) was used and the data were analyzed by using both inferential and descriptive statistics by the researcher. According to (Arkkelin, 2014) SPSS (Data analysis statistical software) used because of its popularity within both academic and business circles, making it the most widely used package of its type. It is also a versatile package that allows many different types of analyses, data transformations, and forms of output. Also data were analyzed by using descriptive and linear regression statistics model. Furthermore, the study tried to evaluate the contents of higher learning institution website for knowledge creation and sharing on available collections, services and facilities provided on websites. To analyze the contents of the websites a latent analysis technique was used for data collection. After the interpretation of data, a summary report was developed to identify the major themes by charts, percentages, and tables which are used to present the finding of the research.

3.11. Ethical Consideration

To inform the interviewee on the estimated time spend for each before they agree to participate for my studies. The term of participation has agreement that there would be recording of audio during the interviews. I disclosed these facts to the interviewees before they agreed to take part in my studies. The interviewees would be needed to fulfill the terms and conditions which I have to disclose them to reach agreement from both sides. Besides, the sign on the agreement also indicates that the interviewees were volunteer to participate in the interview and had control over what they disclosed to during the interview. The identity of each interviewee was collected and remained not identical in the research. Volunteer Information and Permission Form was sent to the interviewees to seek for their acknowledgement, agreement and signature prior to the interview.

Chapter Four

Results and Discussions

4.1. Response Rate

The data were gathered from two faculties (colleges); College of Natural Science and School of computing, which are found in the three selected Universities such as -Addis Ababa, Hawassa and Jimma Universities. They were obtained through latent analysis, questionnaires and interview. Most of the questionnaires were self-administered; this was done to increase the quality of data collected and the response rate. Meeting respondents in person helped to better clarification, explanation of the objectives and importance of the research. However, because of covid-19 it is impossible to meet respondents in person for questioner. The total number of distributed questionnaires were237 out of which 179 were filled and returned. These number shows that above 75.5 % were filled and returned. The rate of data is minimal because of the pandemic and the situation of internet disappearance. Those entire 179 questionnaires were filled properly and found appropriate for analysis. On interview question one ICT professional, digital library, and research and publication center of the three selected HLI were participated. Totally nine interviewees were selected for interview and provided the required data for this study.

The distributed questions and collected questionnaires were presented in the following table 4.1 under respective higher learning institutions.

Table 4.1: Number of Distributed and Collected Questionnaire

No	**Name of the Institution**	**Number of Questionnaires**		**Percentage (%)**
		Distributed	**Collected**	
1	Addis Ababa University	121	88	72.72%
2	Hawassa University	61	46	75.41%
3	Jimma University	55	45	81.81%
Total		237	179	75.53%

Table 4.1 shows that 72.7 % of selected respondents from AAU, 75.4% of respondents from HU and 81.8% of respondents from JU who filled and returned the questionnaires. Totally from 237 selected respondents 179 (75.5%) properly completed and returned the questionnaires.

4.2. Demographic Characteristics of the Respondents

The participants of this study were first year MSC students from selected first generation higher learning institutions; they were from Addis Ababa, Hawassa and Jimma Universities. Specifically they were identified from two colleges-Colleges of Natural Science and School of Computing and informatics.

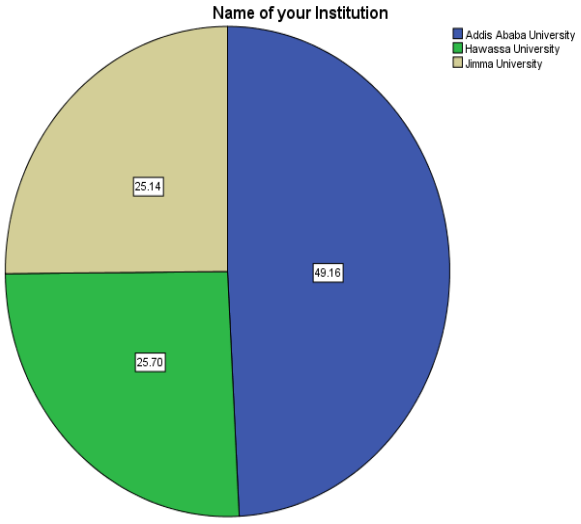


Figure 4.1: Name of the Institutions

Table 4.2: Name of College

College	Frequency	Percent
College of Natural Science	161	89.9%
School of computing	18	10.1%
Total	179	100.0%

As shown in figure 4.1, 88 (49.16 %) of the respondents were from AU, 46 (25.70%) and 45 (25.14%) were from HU and JU respectively. With regards of the colleges the respondents participated in the study are, depicted in table 4.2 Most of the respondents 161(89.9%) were studying in the college of natural sciences while some of them i.e., 18(10.1%) were studying in faculty of computing and informatics. This shows that small number of students are joining faculty of computing and informatics. In addition, as it is shown in figure 3 below, the majority of the participants from the three higher learning institutions in gender :- 116 (64.8%) were male and the rest 63 (35.2%) were female.

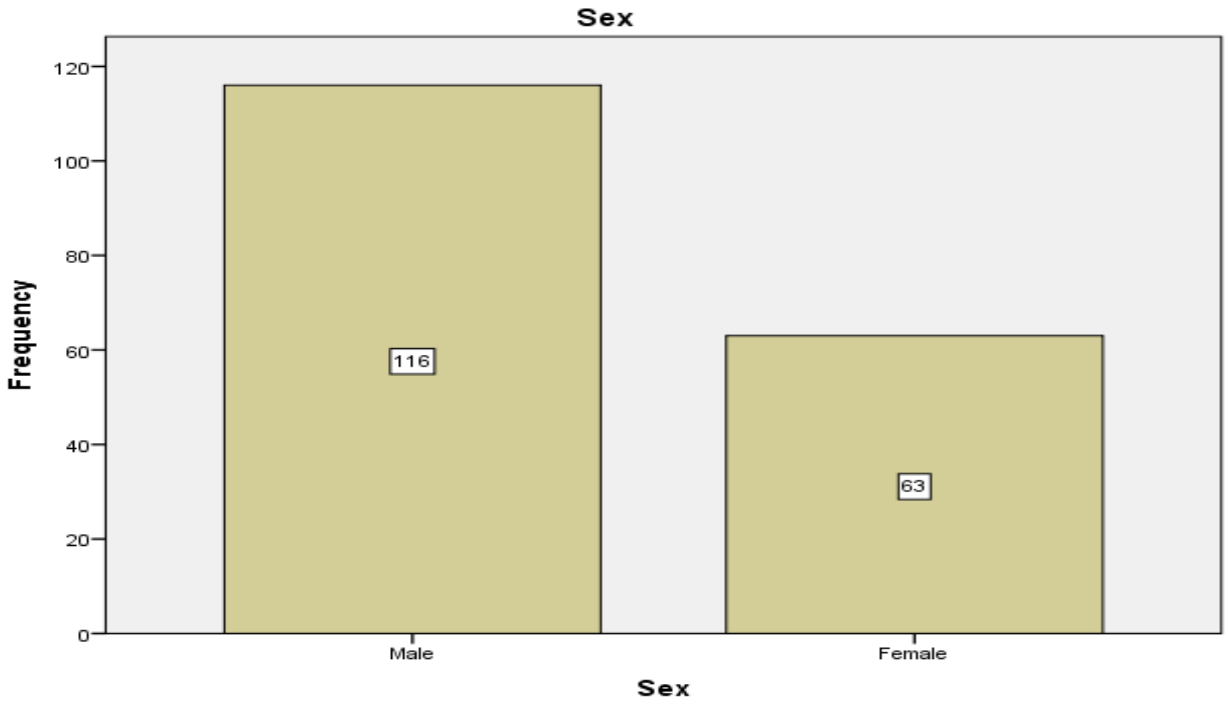


Figure 4.2: Gender of the Respondents

With regards to the gender distribution of the respondents as shown in figure 4.2, 63 (35.2%) of the participants were female while the majority 116 (64.8%) were male. To some extent this made the distribution of participants varied.

4.3. Result and Discussion of Students' Questionnaire responses

4.3.1. Students' Practice of Visiting Websites

Obviously, students (users) are required to visit their institutions' website to share information or knowledge. They need to regularly visit the websites of the institution they are studying in. If they do so they can get the required current information and new knowledge for their academic purposes and research activities. Therefore, the respondents were asked to explain how often they do visit the website of their institutions, and the result has been stated in the following figure.

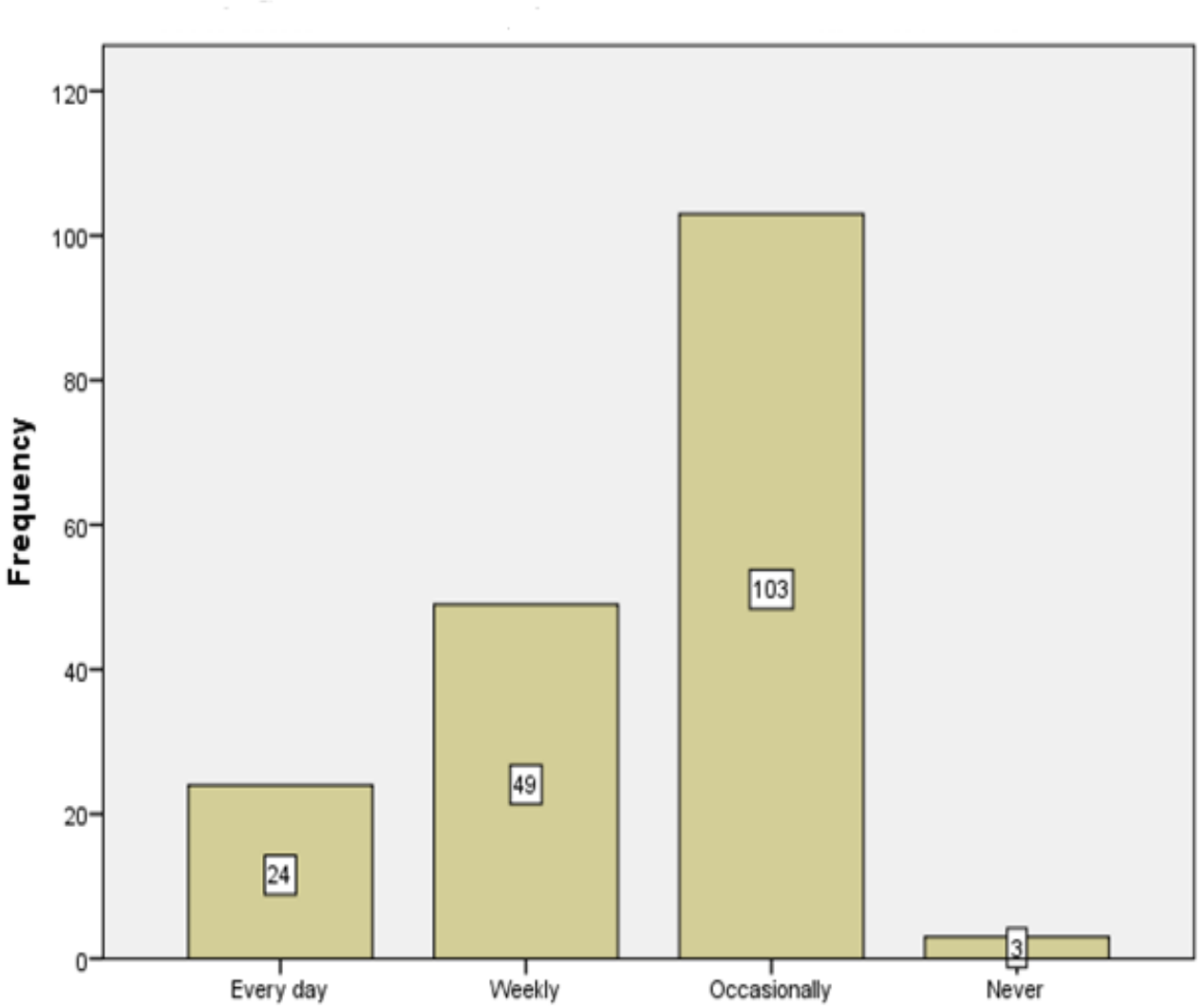


Figure 4.3: Students' Habit of Visiting their Institutions' Website

When we see the students' habit of visiting a website in the institutions, as shown in figure 4.3, few students, (1.7%) replied that they never visit the websites and only 24 (13.4%) respondents visit their institutions' website every day. More than half, 103 (57.5%) of the students visit the websites occasionally and 49 (27.4%) of the students visit once a week. This can be concluded that the students' habit of visiting the website of their higher learning institutions to some extent low and not periodic.

4.3.2. Purpose of Visiting Websites

The ultimate purpose of Websites of higher learning institutions is to strengthen the capacity of users or students in academic aspects and research activities through providing easy and fast

service that enables the users to get new knowledge and share with others. The websites are also used to inform users the overall activities of the institutions and current information, or news. The participants' purpose of visiting their institution's website is stated in the figure below.

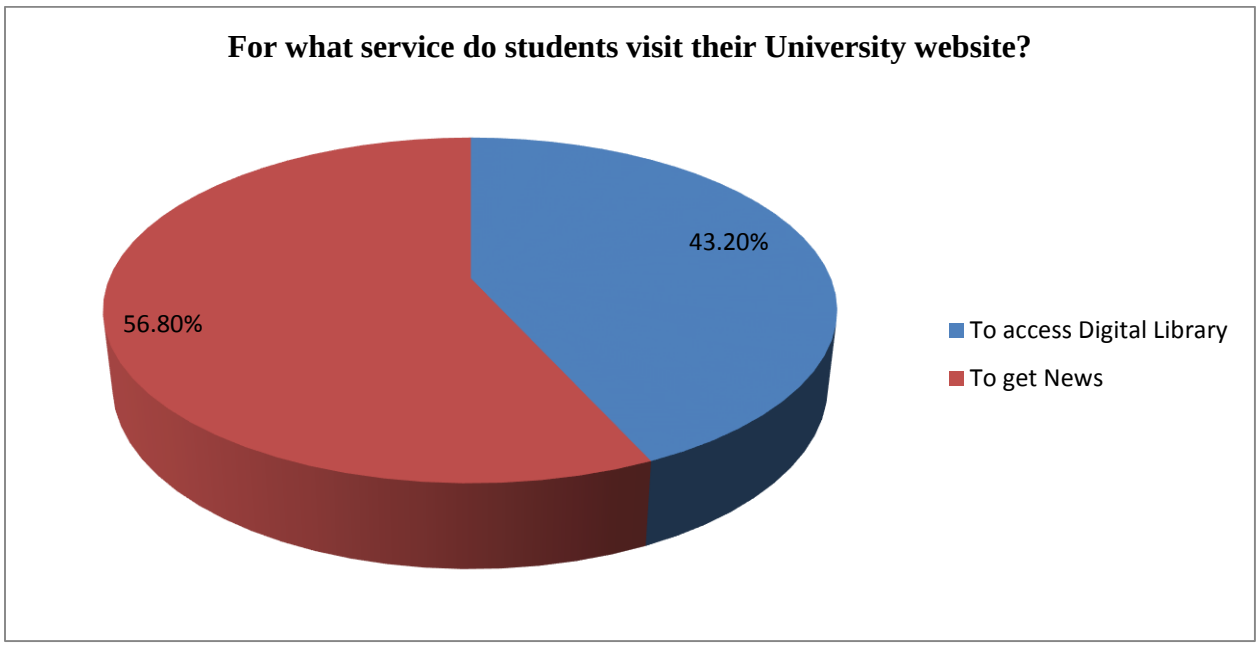


Figure 4.4: Purpose of Visiting Websites

Figure 4.4 shows that less than half, 76 (43.2%) of the respondents visit the websites of their higher learning institutions to access digital library; in contrast more than half, 100 (56.8%) of them visit the websites to get new information or news. So that, using the websites for their academic purposes to gain knowledge and access the information which contribute for the knowledge creation and sharing.

4.3.3. Contribution of Website Collections for Knowledge Creation

Higher learning institutions are highly expected to develop websites that involve various collections and resources which encourage users to create knowledge. Hence, to what extent the websites initiate the students/users in the HLIs to innovate new knowledge is a basic question about contribution of websites for knowledge creation. Regarding this the participant's response has been described in the Figure below.

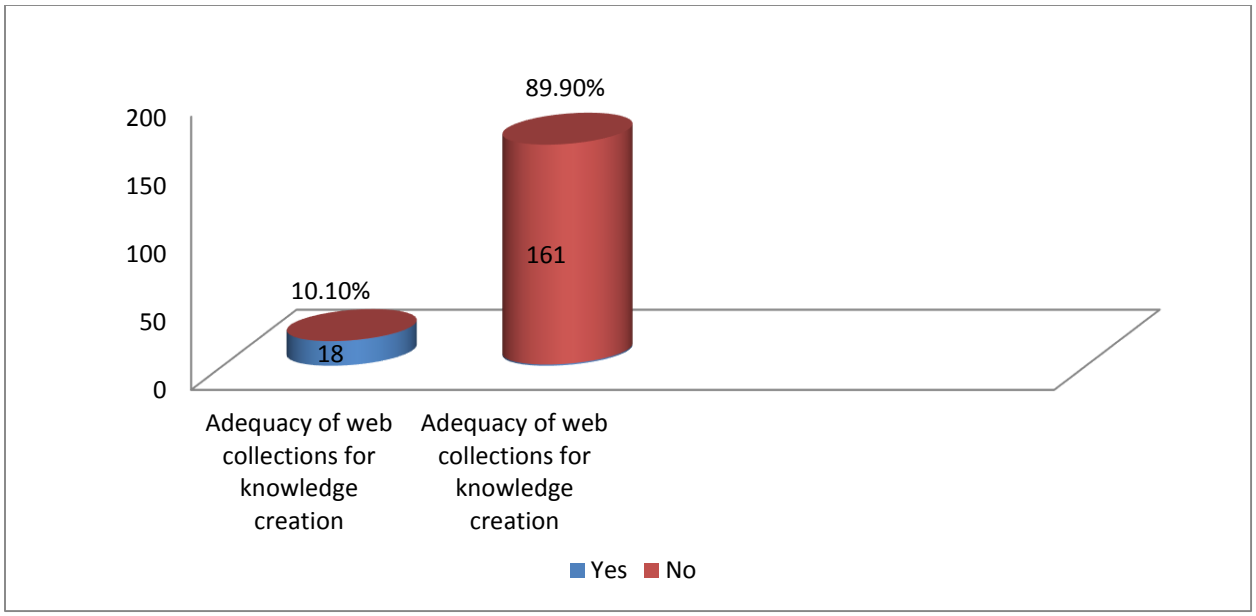


Figure 4.5: Website Collections and Knowledge Creation

As it is described in figure 4.5, few respondents, 18 (10.1%) stated that the collections are available on the websites of higher learning institutions are enough to create new knowledge and on the other hand, most of them, 161(89.9%) replied that the collections available on the websites of the three higher learning institutions are not enough to create new knowledge. Even though the data obtained from the latent analysis shows that there are adequate collections on the websites of each HLIs, this result confirms the collections are ineffective to create knowledge. In the websites of the three higher learning institutions there are enough collections that enable users to access diverse information easily at a time using computers and other electronic devices. For example, in the digital library, students have the opportunity to access the same books simultaneously using their own computers or other electronic materials. However, these collections are not helpful for users in terms of creating and sharing knowledge.

Therefore, the above description revealed that on their websites the universities have adequate collections but they do not enable users to create new knowledge and share the available collections for knowledge sharing.

4.3.4. Contribution of Website Contents for Getting Knowledge

The role of websites of HLIs is not only for creating knowledge but also for getting additional or new knowledge. The contents available on the websites have to be capable enough to provide users knowledge.

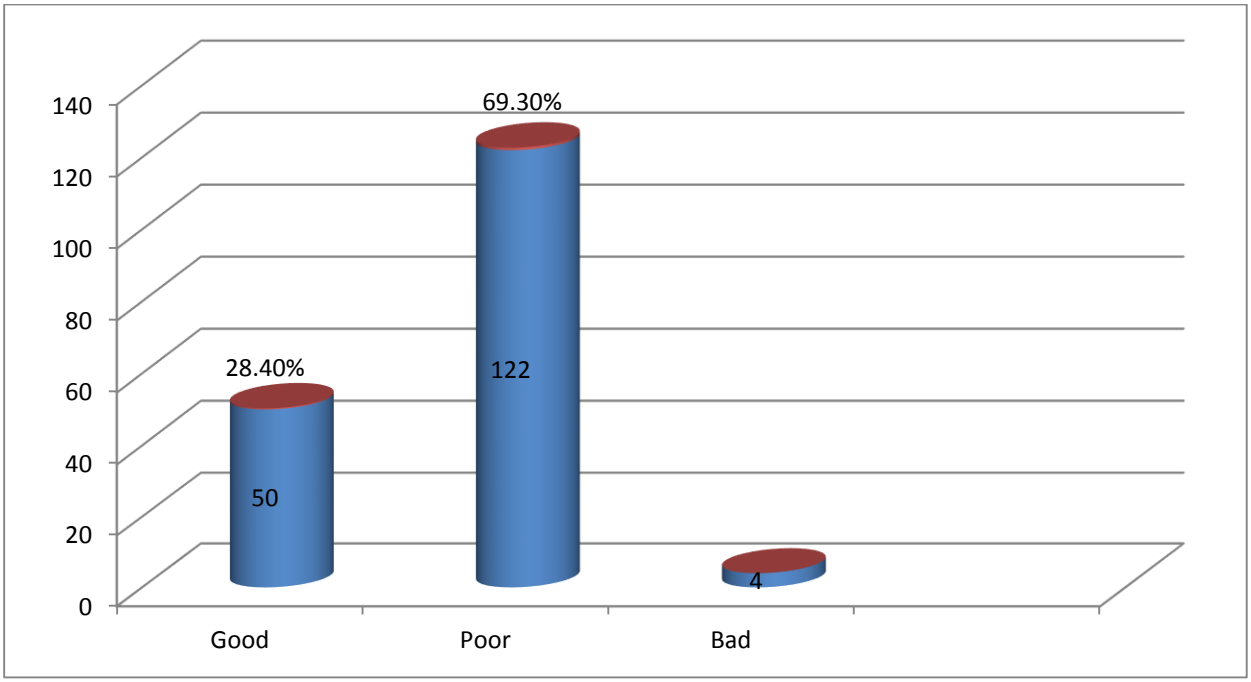


Figure 4.6: Website Contents for Acquiring Knowledge

The quality of the contents on the websites of the universities in terms of getting knowledge, as depicted in figure 4.6 shows that: - very small number of respondents rated the contribution of the contents appear on the websites for getting knowledge as bad. Several respondents, 50 (28.4%) replied that the contribution of the contents for getting knowledge was said to be good, whereas the majority, 122(69.3%) of the respondents evaluated as it is poor.

From this data it can be concluded that the contents available on the websites of the higher learning institutions have poor contribution for getting knowledge. The required contents are available on the websites, the results obtained from the latent analysis also confirmed, but they do not provide opportunities to innovate and share new knowledge among users or students.

4.3.5. General Information about the Website Collections

The status of the collections on the websites of the HLIs can be determined through the users or students perspective. The users/students' perception towards the quality service of the websites was required for this study. Thus, the participants' opinions about the website information given have been analyzed below in table 4.3.

Table 4.3: Information about the Website Collections

Item	Strongly Disagree(1)		Disagree(2)		Fair(3)		Agree(4)		Strongly Agree(5)		Mean	SD
	F	%	F	%	F	%	F	%	F	%		
The repository of the website is easily accessible everywhere	1	0.6	25	14.0	64	35.8	72	40.2	17	9.5	3.44	0.868
I can easily access materials on the website			27	15.1	117	65.4	33	18.4	2	1.1	3.06	0.616
The search engine is attractive to get materials	11	6.1	81	45.3	62	34.6	25	14.0			2.56	0.807
The website connect us to other universities repository in the country and outside	4	2.2	77	43.0	79	44.1	16	8.9	3	1.7	2.65	0.745
I can get educational link easily on the website	1	0.6	40	22.3	130	72.6	8	4.5			2.81	0.506
The website provide useful collections			37	20.7	107	59.8	35	19.6			2.99	0.636
The collections are helpful to make new knowledge	6	3.4	45	25.1	90	50.3	38	21.2			2.89	0.768
Grand mean											2.91	

Table 4.3 deals with the general information about the website collections in the students 'perspectives. Regarding items 1 and 2 which refer to the easy accessibility of the websites' repository everywhere and student's ability to access materials on the websites. About half which is 89 (49.7%) of the respondents agreed and 64 (35%) of them replied fair and the rest 26 (14.6%) respondents disagreed on the former item, and 35 (19.5%) agreed and the majority, 117(65.4%) had not bad not good position, the rest 27(15.1%) of the respondents disagreed on the latter item. In both cases, the majority of the respondents have partial position.

With regards to their mean and standard deviation, they are 3.44: o.868 and 3.06:0.616 respectively. Since the mean values of the two items are above the expected mean (3), the perception of the students on the ideas of the repository of website is everywhere and students can easily access materials on the websites is moderately positive.

The items 3 and 4 correspondingly which refer to the attractiveness of the search engine to get material and the possibility of the websites to join users to other universities inside and outside the country. The result shows that only 24 (14%) agreed that the search engine on the website is attractive to get material and 62 (34.6%) said fair but more than half 92 (51.4%) disagreed on items. The mean value (2. 56) is also below the expected value. In the case of item 4, 19 (10.6%) of the respondents showed agreement on the idea, the websites connect users to other universities inside and outside the country. 79 (41.1%) were on the mid position and 81 (45.2%) of the respondents disagreed on the idea. It's mean and SD are 2.65 and 0.745 respectively, and the mean value is less than expected mean. So the results of these items show that the search engine on the website is said to be unattractive to get material, and the websites cannot connect users to other universities repository in the country and outside the country.

The next items, 5 and 6 deals with students' ability to get educational link easily on the website and the websites provide useful collections. In the item, only 8 (4.5%) respondents agreed, majority of them130 (72.6%) replied fair, and 41 (22.9%) of them disagreed on the idea, students can get educational link easily on the website. In the latter item, 35 (19.6%) respondents agreed, majority of them 107 (59.8%) replied fair, and 37 (20.7%) of them disagreed on the idea, the websites provide users with useful collections. Then mean value and SD of these items are 2.81/0.506 and 2.99/0.636 respectively. As the mean values of the two items are below the

expected mean, it is possible to say that students were less likely to get educational link easily on the website and the websites' provision of useful collections to users was below average.

Regarding Item 7, 38 (21.2%) participants agreed, half of them, 90 (50.3%) replied fair and 51 (28.5%) of them disagreed on the idea, the collections were helpful to make new knowledge. Then mean value and SD of this item are 2.89/0.768, and they show the collections' helpfulness to make new knowledge was less than average.

In general, as the grand mean (2.91) of the above items is below the expected mean (3), it shows the performance/usefulness of the collections available on the websites (as the points /information stated above) is below average, which indicates the collections are not helpful to make new knowledge.

4.3.6. Relevance of Contents on the Websites

It is obvious that the web contents of higher learning institutions have to be relevant in terms of users/students need. The participants 'opinions about the relevance of the contents they found on the websites of HLI. For this reason, they were asked for what extent the contents available on the websites are relevant to their study, curriculum basis, getting additional knowledge, new idea and innovation, users need/interest, and academic and research activities in general. The result has been presented and analyzed below in table 4.4.

Table 4.4: Relevance of Contents Provided on the Websites

Item	SD (1)		D (2)		F (3)		A (4)		SA (5)		Mean	SD
	F	%	F	%	F	%	F	%	F	%		
The website provide related materials for my study	1	.6	50	27.9	82	45.8	46	25.7			2.97	.749
The collections in the website added based on curriculum			40	22.3	138	77.1	1	.6			2.78	.427
I get contents that provide detail knowledge for my study			22	12.3	151	84.4	6	3.4			2.91	.386
The material in the website motivate me to innovate new idea			68	38.0	109	60.9	2	1.1			2.63	.507
The resources in the website is actual to creating knowledge			9	5.0	138	77.1	32	17.9			3.13	.462
I get recent collections			13	7.3	159	88.8	7	3.9			2.97	.334
The range of contents in the website is high			4	2.2	77	43.0	96	53.6	2	1.1	3.54	.563
I get benefit from materials provided on the website			5	2.8	85	47.5	87	48.6	2	1.1	3.48	.574
The materials is effective for creating and sharing knowledge			67	37.4	97	54.2	15	8.4			2.71	.613
My university website is my first choice to get resource for my study	71	39.7	107	59.8			1	.6			1.61	.521
Grand mean											2.87	

Table 4. 4 shows the contents provided on websites of the universities and the items dealing with the appropriateness and usefulness of the contents available on the websites for creating and sharing knowledge. In the student's perspective, the results have been analyzed as follows.

In case of the first two items, such as materials provided on the websites for students/users' study and their curriculum basis. 46(25.7%) of the respondents agreed that the materials on the websites were related to students' study, and 82 (45.8%) replied that the material were fairly related to the

students ‘study whereas more than 50 (28.5%) of them disagreed on the idea. Next, the students hardly agreed that the collections on the websites were added based on the curriculum. The majority, 138 (77.1%) of the respondents were on the partial position (fair) while 40 (22.3%) them disagreed on the items.

The mean and SD values of these items are 2.97/0.749 and 2.78/0.427 respectively. These indicates that that the relationship towards for students study and the materials available on the first generation higher learning institution website are not satisfactory because the obtained mean values are below the expected ones.

Items 3 and 4 are correspondingly associated with detail knowledge provision of the contents to students and the strength of the materials on the websites to motivate students/users to create new idea. For this reason, only 6 (3.4%) agreed and the majority 151(84.4%) of the respondents replied that they could get contents that fairly provide them with detail knowledge for their study but 22 (12.3%) of the respondents disagreed on this idea. On the other hand, the participants could not support that the materials on the websites motivated students/users to create new ideas, and 109 (60.9%) were on the mid position, but 68 (38%) of them disagreed on the materials motivated users to create new knowledge.

Therefore, it is noticeable to say that the existing phenomenon of detail knowledge provision and motivation of contents and materials on the websites for users' study and creating new ideas is under average since the mean values with SD (2.91/0.386 and 2.63/0.507) of the two items respectively are below expected. Although the data obtained from the observation show that there were enough contents and materials on the websites of the higher learning institutions, and the result of item 5(mean 3.13) shows that the resources are moderately actual for creating knowledge, the possibility of the materials to initiate students/users to innovate new ideas and the usability of the contents for students' study are said to be low.

With regard to items 6 and 7, they are related to the latest and range of the contents on the websites of the universities. In case of the former item, only 7 (3.9%) of the respondents agreed and 159 (88.8%) of them fairly agreed that they could get recent collections while a few, 13(7.3%) of them could not accept the idea of getting recent collections on the websites of their universities. In the latter item on the other hand, more than half, that is 96 (53.6%) agreed and less than half 77 (43%)

partially agreed that the range of the contents on the websites were high, but only 2 (2.2%) rejected this idea.

Therefore, it is difficult to the students or users to get recent contents on the websites of their higher learning institutions since the obtained mean (2.97) is less than an expected mean value. Besides the perspective of the participants (0.334) is said to be similar. However, based on the mean value (3.5), it is possible to say that the range of the contents on the websites of the higher learning institutions was high.

On the benefits and effectiveness of the materials on the websites (stated in items 8 and 9 respectively), the respondents indicated that about half 88 (49.7%) of the participants and 85 (47.5%) fairly agreed that they could get benefit from the materials on the websites but only 5 (2.8%) of them replied contradict idea. So it can be concluded that the materials appear on the websites can give benefit to users. The mean value (3.48) with nearly similar level of agreement (SD-0.574) strengthens this idea. Regarding the effectiveness of the materials for creating and sharing knowledge, only 15 (8.4%) supported the idea; the materials are effective to create and share knowledge. More than half, 97 (54.2%) remained at the mid position but 67 (37.4%) cannot share the idea. The mean value (2.71) with variation of (SD-0.613) shows that the perspective of the students/users towards the effectiveness of the materials for creating and sharing knowledge is below expected. Based on this data, the materials on the websites of the higher learning institutions need improvement. So that they can effectively make students or users create and share knowledge.

The last item dealt with the students' preference on their universities to get resources for their study. Almost all 178 (99.4%) of the students are not making their university websites first choice to get resources for their study.

4.3.7. Accessible Resources on the Websites

The websites have to be fit to access resources like E-learning service, video tutorials, special or new arrival books, etc. Regarding this point, the position of the participants has been displayed in the table 4.5 below.

Table 4.5: Access to Resources

Item	Strongly Disagree(1)		Disagree(2)		Fair(3)		Agree(4)		Strongly Agree(5)		Mean	SD
	F	%	F	%	F	%	F	%	F	%		
I get active E-learning service	14	7.8	88	49.2	76	42.5	1	.6			2.36	.632
I need to see video tutorials suggested by instructors					1	.6	98	54.7	80	44.7	4.44	.509
I can easily get additional Special Collections like videos and rare books	25	14.0	65	36.3	88	49.2	1	.6			2.36	.724
Grand Mean											3.05	

Table 4.5 deals with access to resources on the websites. Regarding items 1and 2, 76 (42.6%) participants partially agreed that they could get E-learning services but more than half, 102 (57%) showed opposite position. So the students couldn't have the opportunity to get E-learning service. The obtained mean (2.35) confirms this idea. On contrary, the students have higher desire to get video tutorials arranged by their instructors. More than half of the participants, 98 (54.7%) and 80 (44.7%) respondents agreed and strongly agreed respectively on the need to see video tutorials. The mean (4.4) also shows they have great need to see video tutorials on their HLIs website.

In general, the access to resources in the higher learning institutions as the grand mean (3.05) shows, it is said to be on average.

4.3.8. Effectiveness of the HLIs' Websites

Websites of HLIs are said to be effective if they are easy to find resources, if they offer new or recent materials, giving service of digital library at any time, and if they have accurate collection

of materials, if they enable users find what they want within accurate time and rate materials they used on the website. In this regard, the respondents put their level of agreement as analyzed under table 4.6 below.

Table 4.6: Effectiveness of the Universities' Website on Accessing Resources

Item	Strongly Disagree(1)		Disagree(2)		Fair(3)		Agree(4)		Strongly Agree(5)		Mean	Std. Deviation
	F	%	F	%	F	%	F	%	F	%		
It is easy to find resources in the website			1	.6	176	98.3	2	1.1			3.01	.130
The website offers recent materials			91	50.8	88	49.2					2.49	.501
I can access the digital library at any time	40	22.3	114	63.7	25	14.0					1.92	.598
The websites provide accurate collections of materials			16	8.9	162	90.5	1	.6			2.92	.297
It is possible to find what I want within accurate time					83	46.4	96	53.6			3.54	.500
I can rate the material I use on the website	29	16.2	61	34.1	89	49.7					2.34	.742
Grand Mean											2.70	

As shown in table 4.6, the ease of finding resources on the websites (item 1), is not as much as needed. Almost all, 176 (98.3%) of the respondents fairly agreed that it was less easy to find resources on the websites and the mean (3.01) confirms it is on an average level. Moreover, the students/users couldn't access the digital library at any time (item 2). Out of the 179 respondents, 40 (22.3%) totally rejected, 114 (63.7%) disagreed on the idea, and only 25 (14%) replied fair. In

case of item 3, Most of them (about 86%) stated that they couldn't use or digital library. The obtained mean value (1.92) is much far from the expected one, and the perspective or attitude level (0.598) is moderately similar.

With regards to the accuracy of the material collections (as stated in item 4), most of them 162 (90.5%) couldn’t' agree or disagree; they were just remained on the fair position, but only 16 (8.9%) and 1 (0.6%) agreed that the websites provide users with accurate materials. The mean (2.9) shows that the accuracy of the material collections provided on the websites is below the expected level. The SD (0.297) also shows the respondents' almost the same perception level about the issue.

In general, since the grand mean (2.7) is less than expected, it enables to say that the effectiveness of university websites on accessing resources is not as expected. The users may face difficulties to easily find resources, the websites have limitation to offer recent material, users rarely use digital library at any time, the accuracy of material collections is at a low level, but the students/users can rate the materials they use on the website.

4.3.9. Interactivity

With regard to the service of websites in higher learning institutions, necessarily there should be interactivity between the users and service providers. Users need to give feedback for the materials they use on the websites, they should easily contact with the directors, they have to get helpdesk easily, and they need to get support in local language. Regarding these views, the participants were asked to forward their point of views which is displayed as follows in table.

Table 4.7: Interactivity and Local Language Support

Item	Strongly Disagree(1)		Disagree(2)		Fair(3)		Agree(4)		Strongly Agree(5)		Mean	SD
	F	%	F	%	F	%	F	%	F	%		
I give feedback for the material I use	89	49.7	60	33.5	30	16.8					1.67	.748
It is easy to Contact the directors of repository	27	15.1	119	66.5	33	18.4					2.03	.580
It is easy to get Helpdesk	27	15.1	119	66.5	33	18.4					1.69	.600
I can easily get support in local languages	95	53.1	83	46.4	1	.6					1.47	.512
Grand Mean											1.72	

Table 4.7 deals with interactivity and local language support. The first two items state the feedback given by users and the possibility to contact the directors of repository. Regarding the former item, about half 89 (49.7%) of the participants absolutely rejected and 60 (33.5%) of them disagreed on the idea, they can give feedback for the material they use. In case of the latter item, on the other hand, almost all 146 (81•6%) of the respondents cannot accept the idea, they could easily contact the directors of repository, but 33 (18.4%) of them replied fair.

The mean and SD values of these items correspondingly (1.67/0.748 and 2.03/0.580) reveal that the opportunities of giving feedback and contacting directors of repository were considered as impossible.

The last two items are associated with helpdesk and use of local language. 146 (81.6%) of the respondents replied that it was not easy to get helpdesk, more than half 95 (53.1%) respondents completely rejected and 83 (43.4%) disagreed on the idea that students used to get support in local languages. Correspondingly, the mean and SD (1.69/0.60 and 1.47/0.512) values also confirmed that the students/users couldn't easily get helpdesk and couldn't use local language on the websites.

From this data, it can be generalized that in the higher learning institutions, there were no interactivity and use of local languages between the users and the directors of repository. Additionally, the grand mean (1.72), which is far from expected which strengthens this conclusion.

4.3.10. Link and Retrieve Interface

To what extent the websites of the higher learning institutions provide effective link searches and retrieve interface which was the final important question provided to the respondents. The respondents forwarded their perceptions as depicted in the table 4.8 below.

Table 4.8: Link Searches and Retrieve Interface

Item	Strongly Disagree (1)		Disagree (2)		Fair(3)		Agree(4)		Strongly Agree(5)		Mean	SD
	F	%	F	%	F	%	F	%	F	%		
I can easily get a link of digital library on the website					89	49.7	90	50.3			3.50	.501
The website provide important links to outside collections			29	16.2	112	62.6	38	21.2			3.05	.611
I can easily Download materials			11	6.1	42	23.5	126	70.4			3.64	.595
I can get a link of other search engines easily on the website			8	4.5	100	55.9	71	39.7			3.35	.565
I can easily get a link of social networking sites	1	.6	8	4.5	63	35.2	107	59.8			3.54	.611
Grand Mean											3.42	

Table 4.8 refers to the links and retrieve interface of the websites. The students can easily get a link of digital library on the websites. The mean value (3.5) confirms that the higher learning institutions have link of digital library on their websites. To some extent the websites also provide important links to outside collections. The majority of the respondents 112 (62.6%) fairly agreed

and 38 (21.2%) of them agreed that the websites provide to outside collections. The mean value (3.05) also showed that the provision of the websites to the outside collections is said to be on average. Some of the respondents 42 (23.5%) partially agreed and many of them which mean 126 (70.4%) accepted the idea, they indicated that they can easily download materials, but only11. (6.1%) replied that they cannot download materials from the websites. Nonetheless, based on the mean value (3.64), it is noticeable to say that the users/ students can download materials on the websites. Regarding the link of other search engines, more than half of the respondents, 100 (55.9%) replied they can fairly get the links and 71(39.7%) accepted the idea and they can get a link of other search engines easily on the website, but a few respondents 8(4.5%) disagreed on the idea. Generally, the users/students, as the mean (3.35) shows can get a link of other search engines easily on the website. In addition, more than half 100(59.8%) of the participants agreed that they can easily get a link of social networking sites, but only 9 (5.1%) disagreed on the idea. And the rest 63 (35.2%) were remained on the mid position.

In general speaking the link searches and retrieve interface, as the grand mean (3.42) shows the students can easily access the link searches and retrieve interface. On the websites, they can get a link of digital library, links to outside collections, can easily download materials, and can get a link of other search engines and a link of social networking sites.

4.3.11. Comparison of HLI Website Collections and Services Effectiveness for Knowledge Creation and Sharing.

Table 4.9: ANOVA table on collections and service provided at higher learning institutions website

One way ANOVA was used to see whether or not there were differences among the universities' collections and service provided at higher learning institutions website. General information about the university website was calculated by seven items with five Likert scale. There were significant mean score differences among the institutions with p-value of 0.0001(table 4.9).

Contents provided on the website were calculated using 10 items with 5 liker scale. There were significant mean differences among institutions with p value less than 0.0001(table 4.9).

Also, the higher learning institutions access to E resource was calculated by using three items with five Likert scale. There were significant mean score difference among the institutions with P-value less than 0.0001(table 4.9).

Variables	AAU		JU		HU		F-value	P-value
	Mean	SD	mean	SD	Mean	SD		
general information about web site	20.25	2.679	15.05	1.022	15.00	1.011	150.204	0.0001
content provided on website	32.05	1.893	25.58	1.253	25.46	1.394	358.492	0.0001
access to E resource	9.87	.424	8.47	.727	8.48	.782	116.795	0.0001

Table 4.10: ANOVA table that shows the effectiveness of higher learning institutions web site for knowledge creation and sharing

The Effectiveness of the institution website on accessing resource was calculated by using six items with five Likert scale. There were significant mean score difference among the institution with P-value less than 0.0001(table 4.10).

The interactivity and local language supports among institutions were calculated by using four items with five Likert scale. There were significant mean score among the institution with P-value less than 0.0001(table 4.10).

Link search and retrieving interface among the institutions were calculated by using five items with five Likert scale. There were no significant mean score among the institution with P-value greater than 0.05(table 4.10).

Variables	AAU		JU		HU		F-value	P-value
	Mean	SD	mean	SD	Mean	SD		
Effectiveness	17.17	1.167	15.04	0.878	15.48	1.005	74.25	0.0001
Interactivity and local language support	6.16	1.507	7.49	1.101	7.63	1.181	24.77	0.0001
Link search and retrieving interface	17.19	1.545	16.98	1.306	17.00	1.764	.391	.677

4.4. Result of the Latent Analysis

The researcher used the presence of websites collections and service to determine concepts to give qualitative data. By using latent analysis the researcher quantify and analyze the presence of certain contents appeared in the three higher learning institutions website - Addis Ababa University, Hawassa University and Jimma University which were selected as study areas. The result has been analyzed as follows.

4.4.1. Information about Higher Learning Institutions

The years of foundation and website URL's of the selected first generation higher learning institutions have been stated in following table 4.11.

Table 4.11: Establishment and URL's Information

No.	**Names of the Universities**	**Abbreviated Name**	**Year of Establishment**	**University Website URL's**
1.	Addis Ababa university	AAU	1950	www.aau.edu.et
2.	Hawassa university	HU	1976	www.hu.edu.et
3.	Jimma university	JU	1952	www.ju.edu.et

As it can be seen in table 4.11 above, the universities (study areas) are long aged institutions. Addis Ababa and Jimma University were founded in 1950 and 1952 E.C respectively. They served more than 60 years to date. After 26 years from AU, Hawassa University was found and serviced more than 36 years up to now. Moreover, it was confirmed through the observation that the universities have their own functional URL extension with.edu.et which is used for academic institutes of Ethiopia.

4.4.2. General Information Available on Websites of Higher Learning Institutions

Focusing at the availability of the general information such as about libraries, mission statement, local language usage, copyright, visitor, etc. the researcher has done analysis on the websites of the selected higher learning institutions. as shown that, the three higher learning institution (AAU, HU and JU) websites 100% provide users with all necessary general information about the institutions, i.e., about library, all of the higher learning institutions have digital libraries that can

enable the users at any time. However, only users get the service of digital library only in the compass of the institution. On the websites there is also copyright which reveals the contents available on the websites cannot be easily copied. Date of update is also present on the websites of HLIs. This helps the users to identify updated materials on the websites. Other important information like Visitor and Hit Counter are also available. However, the researcher analyzed that all websites of the Universities do not support local language. All information on the websites is described in foreign language that is English.

4.4.3. Collection of Information on Websites

The researcher set and analyze a list of E-resources whether or not they are available and the quality of contents if they were relevant for target audiences of the websites in each selected higher learning institutions. The analyzed resource collections are presented as follows. The collections on the universities' website are available like e-books, e-journals, newspapers, video collections, and institutional repository is a form of digital publication which published and readable on computers or other electronic devices. However, only the collections where available on HLI website but it hard to say the collections are relevant or useful to create new knowledge because the researcher analyzed there are many collections available on the digital library that have not source, single page pdf document, not activated journals, less video resources related to academic area, putting resources which is not similar to the colleges, back number published resources in technological colleges area, providing less amount of collections. Its accordance that non book materials and E- resources used to solve the space problem, in one time several users can use the same electronic resource on their electronic device. However, the result obtained from the latent analysis showed that the quality of e-resources available on higher learning institutions websites is under question. Because of this reason also students' questionnaire (25.7%) showed that the existing phenomenon of detail knowledge provision of contents and materials on the website for creating new idea is under average. Additionally the item allocated with the students' preference on their universities to get resources for their study (99.4%) of the students are not making their university websites their first choice to get resources for their study.

In general, there are many collections available on the higher learning institution website. However, the higher learning institutions website provide less quality of collections which is relevant for users.

4.4.4. Link Searches and Retrieve Interface

The commonly used link search and retrieve interface listed by the researcher during the analyzation were downloading, news, suggested books, contacts, helpdesk, search engine and direct link with library. The researcher explored the availability and functionality of these link searches. The result shows that link searches, and retrieve interfaces are provided by the higher learning institution websites. And it shows that all of these interfaces provide the university society and outside users with news and download facility, but all University websites don't provide book suggestion and all higher learning institutions have contacts on their website, on the other hand, HU and JU have no helpdesk on their websites.

4.4.5. Social Networking Sites

Social networking sites are essential on the websites of higher learning institutions. They provide the institutions with various opportunities that can simplify the HLIs' over all activities and communications, and strengthen their relationships with the society. Therefore, the researcher analyse whether or not the HLIs have the particular social networking sites. The finding implies that all of the higher learning institutions 100% linked social networking sites. Thus it is possible to say that the universities have the possibility to have strong social relationship with inside and outside users. However, they are not using their social Medias to promote audiences to use their website services, most of them use to announce news of their institutions.

4.5. Result of the Interview

Academic staffs (the digital library, research and publication center directors, and ICT directors of the three higher learning institutions) were provided with a semi structured interview to clearly put their opinion on the contents of higher learning institution websites. There are several issues from academic staffs had raised and the results have been analyzed as follows.

The ICT directors of the three universities replied that when their website is created they take the goals and preferences of their institution. The directors stated that the university websites also need feature functionality and information appeals for different target audiences.

The ICT Directors of the three universities agreed that the university websites are the most important investments in higher education market.

One participant from HU explained the importance of websites in this way:

> *"The University websites are very important investments if it is worked correctly. They can change the biography of the institution to be worldwide competent (HUP1, 2020)."*

However, the respondents argued that some sites and links are obstructed in the websites as well as the websites are not frequently updated; most of the data were outdated. Besides, the websites were not attractive. Because of this, it is possible to see the ranking level of the HLIs' websites in Africa according to webometrics ranking of world universities; in this case AAU and JU were listed in 20th and 94th level respectively according to ranking web of universities in Africa.

Regarding the attractiveness of the websites one interviewee from AAU said:

> *"Having attractive websites is used to get more visitors and the University have the opportunities to working and design new websites which are accessible everywhere (AAU P1, 2020)."*

The designs of the institutions' websites were dynamic, in this case web pages are returned by the servers which are processed during runtime means they are not prebuilt web pages but they are built during runtime according to the users demand with the help of server side scripting language. In addition, the contents of the web page can be changed and interacted with database is possible, the contents were changed when the page is loaded and they include features of content management system. According to the ICT directors the websites are methods to deliver information for their users. They have also their own server and access counter speed which counts the number of visitors on the website.

The digital library directors of the three universities replied that websites have much more benefits for institutions. They give various services to users/students. However, according to the directors, the users/students most probably focus on different information or news occasionally appear. The directors similarly stated that they use the websites of their universities to have digital library service and to easily address the users/students service.

The directors on the other hand, confirmed that to support the academic aspects, there has been activities done a significant work through the websites. The digital library, as much it gives service,

hasn’t been given emphasis yet. Especially, in Hawassa and Jimma Universities, the digital libraries have got less emphasis than in Addis Ababa University.

An interviewee from JU explained the less emphasis of digital library as follows:

> *“The digital library service doesn't get enough support from the institution. Also there is no stated system to identify the users’ interest. We have more than 3100 collections of pdf resources and basically the digital library used text format and users start using it within these 2 years* (JU P1).

In the universities there is no stated system to identify the users' interest to use resources on the websites. According to the digital library directors from the three universities, there had not been any need assessment of users towards using resources on the websites. This shows the resources uploaded on the websites are not based on the users demand and the resources uploaded on the websites are simply forwarded from the Universities and Ministry of Science and Higher Education. And there are several pdf books and magazine uploaded by the universities available on the website.

Another interviewee from AAU confirms the above idea as follows:

> *“The resources added on website are forwarded from colleges, ministry of science and higher education, and from local and global university who have link with them (AAU P2, 2020).*

However, the collections are simply added without measurement. This can be considered as a problem. There are no clear criteria to select and upload the resource collections on the website. The resources are abruptly directed by Ministry of Science and Higher Education and the University departments without clear instructions. It is also difficult to say they are not curriculum based.

It the Universities, except Addis Ababa, there are no workers or experts who measure and upload the resource collections on the website. Relatively, there is better performance in Addis Ababa University.

Another participant from HU put his agreement on the above idea in this way:

> *"There is no content specialist who measures the quality of content. It is also difficult to say it is based on curriculum. And the some of the website service worked only in the compass of their institution on the future they are working to make intuitional repository accessible. And there is no promoting activity done by them for students to access the service (HU P2, 2020)."*

In terms of the students' practice of using website, they cannot use it properly and regularly. There must be something forcing them to do so. The students usually ask for books which are expensive and not available on the website. They also come to the website to use research papers recommended by their instructions. Therefore, it can be noticed that the website of the institutions have not many users.

On the websites of the universities there are formats that enable students/users to give feedback. However, the users/students have not shown the habit of giving feedback about the service they get.

Creating awareness about the importance of the HLI website for users is not available. It only happens at the begging of the year, when students enter University, in September or some other months but this is a great weakness. Primarily, much promotion about the benefits and services of website has to be given for the students to create and share knowledge.

In the research and publication centers, the website are used to announce new conducted researches, and users use them to easily get evidences and information during their study. The coordinators of the research and publication argued that it is difficult to say that there are various collections. Additionally, the resources are collected through researches by the coordination of the research and publication office. Furthermore, the researchers conducted in the colleges are shared from other Universities and released from the Ministry of Science and Higher Education and at the center reserved on the digital library.

Before the conducted researches are published, they are evaluated by the concerned bodies, and added to the institutional repository. In the higher learning institutions, there are evaluators or subject specialists who can check and approve any conducted research before provided to the repository.

Regarding researches, the centers make an announcement and communication with colleges through websites. The universities get on other local and international Universities, and create relationships of various aspects. They also carry out different researches together with international institutions.

The Directors of the research and publication centers also stated that the availability of websites has many advantages: it helps to access global researches, it changes or enhances performance level of Universities and it helps share various investigations from time to time.

In general, some website service in three Universities give provision only in their compass because of copyright issues, but in Addis Ababa University it is possible to get institutional repository service inside and outside the compass. Moreover, the contents to be uploaded on the websites are not curriculum based. Even though there are research experts who evaluate and approve any conducted research in each University, among the workers there are no experts who can measure the contents or resource collections in the digital libraries. Regarding this, a measurement has to be done so that users can get useful sources that enable them to create new idea or knowledge.

4.6. Discussion of the Findings

4.6.1. Kinds of Collections, Facilities and Services on Websites of HLIs

There are various kinds of e- resource collections available on the websites of all selected HLIs'. Those are a form of digital publication which published and readable on computers or electronic devices. Therefore, the collections, services, and facilities are available on the websites of the three higher learning institutions for the students/users as the researcher analyzed and (89%) of students confirmed. This result is in accordance with Jayaprakash (2019).

However, the researcher analyzed there are many collections available on the website that haven't source, single page pdf document, not activated journals, less video resources related to academic area, putting resources which is not similar to the colleges, back number published resources in technological colleges area and providing less amount of collections. Its accordance that e-resources used to solve the space problem, in one time several users can use the same electronic resource on their electronic device. This is in agreement with the results achieved from earlier research Pratibha & Chaitrali (2015). However, the result obtained from the latent analysis showed that the quality of e-resources available on higher learning institutions websites is under question

On the websites of the HLIs there are also link searches, and retrieve interfaces provided by the institutions. These interfaces provide the university society and outside users with news and download facility; however, all University websites do not provide book suggestion and all higher learning institutions have contacts on their websites. On the other hand, HU and JU have no helpdesk on their websites.

All of the higher learning institutions have linked social networking sites. So the Universities have the possibility to have strong social relationship with inside and outside users. This analysis supports the idea of (Geeta, 2017). However, they are not using their social Medias to promote audiences to use their website services, most of them use to announce news of their institutions. This result is in also in accordance with the findings of Reza et al., (2015).

4.6.2. Effectiveness of Web contents in Creating and Sharing Knowledge for users

The effectiveness of the web contents of the HLIs is at lower level (grand mean 2.7).This shows that the usefulness of University websites on providing resources is not as expected.

The users may face difficulties to easily find resources, the websites have limitation to offer recent materials; and they rarely use all the service at any time. Although there are available collections; however, their accuracy is said to be less, but the students can't rate the materials they use on the website. This result is in similar with the findings of Ukwattage (2019). As 89.9% of participants confirmed, the collections available on the websites of the HLIs are not accurate enough to create and share new knowledge. In addition, 72.1% of participants indicated the quality of the contents on the websites of the institutions in terms of getting knowledge, has been rated poor. This result is agrees with those Mohamad & Mohd (2013). Having attractive website with great visuals and design is important. However, a well-designed academic website with quality content is basically irresistible. The more relevant and updated content on academic website will be more functional. Good quality of content have a great role on creation and sharing knowledge for users.

Based on the above discussion it is possible to include the contents and collections available on the websites of the higher learning institutions have poor contribution for getting, creating and sharing knowledge. The required contents available on the websites obtained from the latent analysis also confirmed that the website do not provide opportunities to create and share knowledge among users or students.

In the higher learning institutions, there were no interactivity and use of local languages (grand mean 1.72) between the users and the directors of repository. This also indicates the websites are poor in supporting the users to create and share knowledge for better educational activities.

4.6.3. Criteria and Strategy for Web content Selection

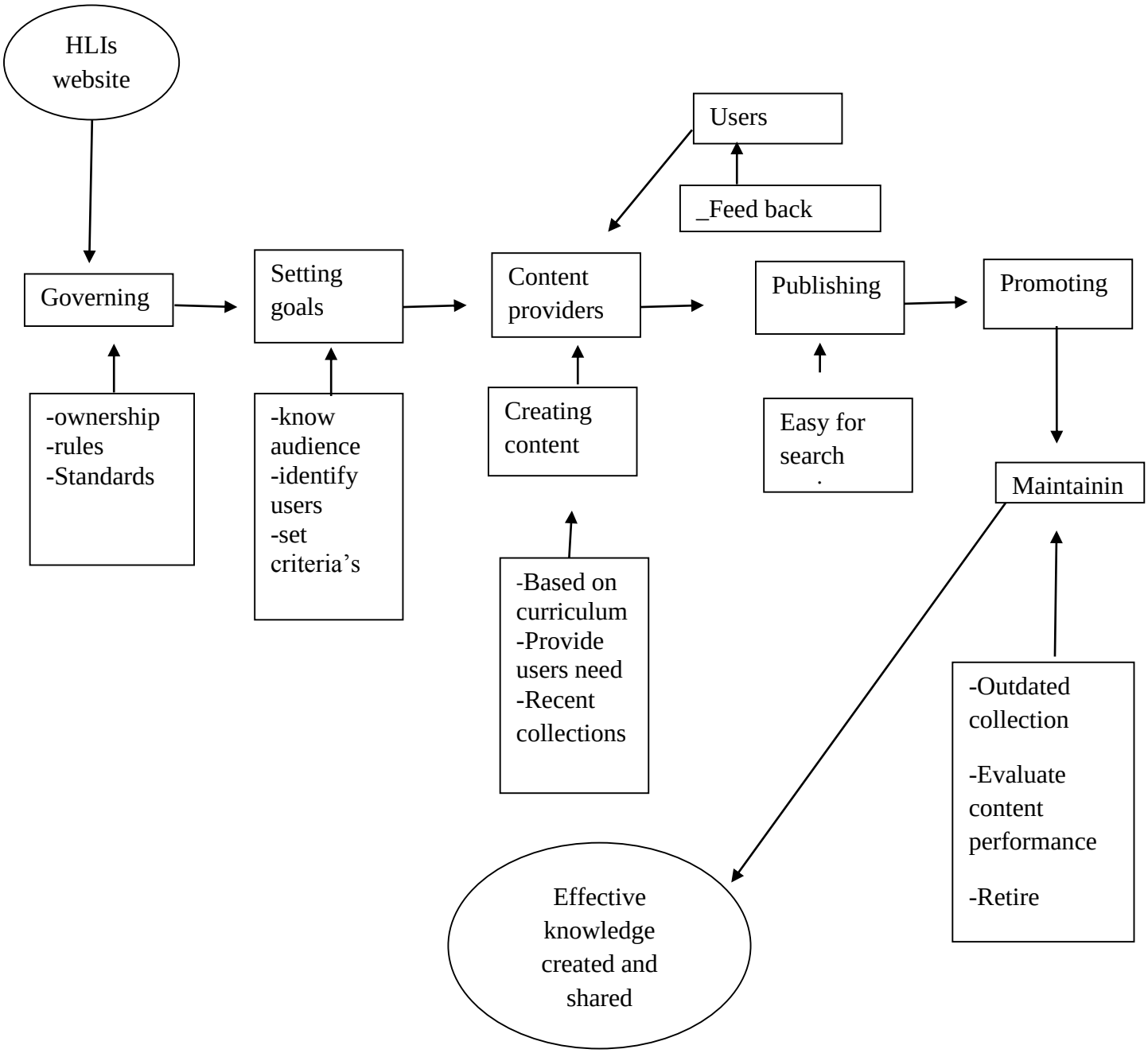
In the HLIs there is no clearly stated system to identify the users' interest to use resources on the websites (digital library directors). The directors from the three universities also confirmed that there was no need assessment on user's interest towards using resources on the websites. There are no clear criteria to select and upload the resource collections on the website. This result opposes what Benjamin (2019) say, Website visitors are goal oriented. They visit websites to complete tasks. Also a content strategy framework allows institutions to create high-quality of content on website by establishing an effective and efficient content which used to create useful, usable, and findable knowledge for users. This result support the idea of Elsayed, (2017), it is also a discipline responsible for satisfying business requirements through content creation and distribution.

The resources are abruptly directed by Ministry of Science and Higher Education, and the University departments without any criteria and measurement. Moreover, the contents to be uploaded on the website are not curriculum based (Mean, 2.8). Even though there are research experts who evaluate and approve any conducted research in each University, among the workers there are no experts who can measure the contents or resource collections in the website. On the other hand, the HLIs have not set website content strategy framework.

4.7. Proposed Framework for the Contents Appear on HLIs' Websites

After understanding the existing situation and issues on the contents of HLIs website through a suspicious study using questionnaire, interview and latent analysis, the proposed website framework was developed. This framework combined an editorial content strategy and a technical content strategy which is used to deliver accessible, useful and usable content to target audience requirements.

Figure 4.7: Framework Developed To Create Effective Knowledge on HLI Website



The major findings such as, less effectiveness of web contents for knowledge creation and sharing: low students' habit of visiting website; no criteria for selecting contents; uploading contents without curriculum basis; no interactivity between users; promoting the service for users; and maintenance of outdated collections.

Having a website is a lot to communicate with audiences easily; each requires the governor to taking care of it. It's important to periodically evaluate how HLI website is performing and take steps to make changes or adjust strategy as necessary. Apply elements concerning content responsibilities and ownership to the HLI guide for publishing electronic content on the university website. HLI may consider creating a calendar to plan for when certain sections of their website should be evaluated, who will be responsible for making changes and identify who will be responsible for content measurement.

During creating a new content on website it's important to evaluate why the content was created or why it should be created. Content providers should meet the goals of the HLI and the goals of the website visitor's. Because the users are why the HLI website exists.

Depending on HLI goals, content can serve countless purpose from brand awareness to closing deals and every step between. Also they need to know their audiences, understand their users need, define audience's requirement, and identify content needs which must be inventory for users.

Content providers need to create content based on the curriculum of higher learning institutions and provide primarily intended of users requirement which include recent collections related to academic sector. Also At this stage, the content in HLI website is still under development. They might try to create original in house generated content or curate relevant contents from their sources. While they need to think about the message of contents for their target audience and they need to optimize the content for search engine

Any content is designed and created to be published somewhere and to be read by some audiences. Content providers of HLIs publish and distribute their content to their audience by using their website after creating their content**.**

Every year new batches of students are admitted in the Institution, they are not well competent with the existing service of the website. Therefore it is a responsibility of the institution to work out the planning of promotion of website services at the beginning of the academic year and it

should be strictly followed according to plan. Also in this stage HLI must make sure that the content is visible to the majority of their target audience. This one helps to reach customers in the shortest possible time. There are many choices to promote the service of HLI website by promoting in to social media, by Organize talks of experts, seminars, cultural programs etc. to attract users.

Furthermore, the most relevant content will not stay relevant forever. Because of this, HLIs need to check the content relevance from time to time. Therefore, the relevance checking is considered as one of the most important aspects of content maintenance. At the same time they have to try to measure and evaluate performance of their website content. HLIs may need to edit it because of the latest changes in the search engine or to adapt it to newer contents they have published. Also every content would have an expected life time; and sooner or later it will be no use, or at least its maintenance cost would exceed its benefits. There are choices for retiring pieces of contents by deleting and forgetting the unnecessary content or blocking the public access to the content, by archiving the content and letting the others reach it.

An efficient and successful content must combine the element and structure of content with the work flows that make the content manageable. Working on such a volatile situation must embrace effective working practices in HLIs website and finding a way to create effective knowledge need to stand out from the noise. A clear content helps to achieve effective knowledge creation and sharing for users of web.

Generally, to solve the problem of website content in HLI the proposed framework has been approached after the result presentation and enhancement idea of the respondents. From the current result, collections, services and effectiveness of HLI website contents for knowledge creation and sharing are the main input for accessing the website contents of higher learning institutions. The goal of this modified framework is to create meaningful and sustainable contents which would be used to create and share knowledge for audiences through the website s of HLIs.

Chapter Five

Conclusion and Recommendation

5.1. Conclusion

This study made website contents analysis for knowledge creation and sharing by students and academic staffs in three higher learning institution from the viewpoint of 179 students and nine academic staffs. Then, it comprehensively evaluated the availability and effectiveness of website contents of the higher learning institutions using by the data instruments.

The collections, services, and facilities are available on the websites of the three higher learning institutions for users as the researcher analyzed and (89%) of students confirmed. The effectiveness of the web contents of the HLIs is at lower level (grand mean 2.7).This shows that the usefulness of University websites on providing resources is not as expected. 72.1% of participants indicated the quality of the contents on the websites of the institutions in terms of getting knowledge, has been rated poor. 89.9% replied that the collections available on the websites of the three higher learning institutions are not enough to create new knowledge.

Regarding the students/users' habit of using the websites of their HLI, they could not use the websites regularly and could not use them for their academic purposes. Also, 57.5% of the students visit their institution websites occasionally, more than 56.8% of them visit the websites to get new information or news. The contents, on the other hand, were not uploaded based on the users' interest and the curriculum. There was no clear criterion set to identify contents to be uploaded on the digital libraries. The contents uploaded on the websites were less effective to enable users to create new ideas and share knowledge with others.

Therefore, the above description revealed that HLI have collections on their website but they do not enable users to create and share. However, HLIs were expected to arrange their contents according to their user's expectation rather than the organizational structure of the institution. Therefore, the study proposed strategic framework that would be used as a guide for suitable website content organization that contribute for knowledge creation and sharing within the higher learning institutions and other organizations working for enhancement of knowledge creation and sharing.

5.2. Recommendation

Based on the findings of this research, the researcher strongly agreed on the need of the following recommendations. In order to improve the users' interest in using websites and through which they can effectively use the websites of HLIs for their academic purpose, i.e. to create and share knowledge, the following recommendations were forwarded.

- The higher learning institutions should be responsive of the structure and must follow the future changes in order to be competitive. Since the future technological growths for Web would bring new opportunities to strengthen their position in academic market and knowledge as strategic assets.
- The HLIs should follow the web content strategy (as shown in figure 6) Planning, governance, setting goals, creating content, publishing, promoting, maintaining and measuring, and retire
- Higher learning institutions need to identify who will be responsible for content measurement and need to perform usability testing for contents on their website. Subject specialists should be there to measure the contents to be uploaded on the websites.
- The HILs should design and use a content quality checklist to measure usefulness, accuracy, accessibility, relevance, and completeness which related to curriculum of the departments in different collages.
- The HILs should invite website audiences to suggest changes to the website through a content change request form, or use a user feedback system. They also need to conduct users' need assessment to motivate the users to use websites to create and share their knowledge.
- The students/users, on the other hand, should be active in using the websites of the HLIs especially for their academic purposes.
- The researcher suggested that the manager or designer of the University of higher learning Institution Website should consider users' need analysis to enhance the students'/users' frequency of using of the university's web for academic purpose and other information.

5.3. Future works

Regarding the future work, the research has raised some ideas and suggestions for future work that can be developed in further studies.

- Further work may be carried out with more distributed governmental and private universities with different user groups are recommended for other researchers.
- In addition the future research would be carried out to design the framework for the possibility of using it to other sectors and find out it is appropriate, for example in government and business sectors website.
- Although further works were find out any other suitable technologies which would be used to create and share knowledge for users in academic sector.

REFERENCES

Abalubaid, M. (2013). Using Web 2.0 Technology to Enhance Knowledge Sharing in an Academic Department. *Procedia - Social and Behavioral Sciences,* 406 – 420.

Ajjan, H., & H. R. (2008). Investigating faculty decisions to adopt Web 2.0 technologies: Theory and empirical tests. The Internet and Higher Education. *11*, 71-80.

Americanuniversity. (2010). Responsible use of university web site and content management system. Retrieved from http://www.american.edu/technology.on 25/11/2019 at 2:30pm.

Apperson, G. (2015). How University Websites Portray Study Abroad? *Elon Journal of Undergraduate Research in Communications, 6*(2).

Arkkelin, D. (2014). Using SPSS to Understand Research and Data Analysis. Retrieved from http://scholar.valpo.edu/psych_oer

Astani, M., & Mohamed, E. (2008). An Empirical study of university websites. *IX*(460).

Bajpai, B. (2006). Information and Knowledge Sharing through Intranet. *Shri Dadaji Institute of Technology & Science*.

Benjamin, E. (2019).what is content strategy. Retrieved from http://www.distilled.net.on 14/07/2020 at 6:27pm.

Bozyigit, S., & Erdem, A. (2014). Linking Universities to the Target Market via Web Sites: A Content Analysis of Turkish Private Universities' Web Sites. *Procedia - Social and Behavioral Sciences, 148*, 486 – 493.

Ciesielska, M. (2018). Observation Methods. Retrieved from https://www.researchgate.net/publication/321806239.on 16/12/2019 at 5:50pm.

Easwaramoorthy, M., & F. Z. (2015). Interviewing for research. Retrieved from www.imaginecanada.ca.on 21/12/2019 at 4:30pm.

Ekene, O. G., & Oluoch, E. (2015). Role of Institutions of Higher Learning in Enhancing SustainableDevelopment in Kenya. *Journal of Education and Practice, 6*(16). Retrieved from http://www.iiste.org. on 16/11/2019 at 4:30pm.

Elsayed, A. M. (2017). Web content strategy in higher education institutions: The case ofKing Abdulaziz University. *journals.sagepub.com/home/idv, 33*, 479–494. doi:10.1177/0266666916671387

Ford, W. G. (2011). Evaluating the Effectiveness of College Web Sites for Prospective Students. *Journal of college admission*. Retrieved from http://www.nacacnet.org.on 10/12/2019 at 5:30pm.

George, N. (2002). website Quality Evaluation Criteria and Tool. *Elsevier Science, 34*(3), 247-254. doi:10.1006/iilr.2002.0205

Germonprez, M., & Z. I. (2005). Causal Factors for Web Site Complexity," Sprouts: Working Papers on Information Environments. *Systems and Organizations, 3*(2), 107-121. Retrieved from http://sprouts.case.edu/2003/030205.on 14/07/2019 at 2:30pm.

Hajric, E. (2018).Knowledge Management System and Practices.

Hanan et al., .. (2015). Adoption of Web based Knowledge Sharing Systems amongst Academic Staff.

Hannon, H. (2012). Content strategy: considerations for higher education (white paper). Retrieved from http://www.hannonhill.com/resources/white-papers/index.on 18/12/2019 at 4:50pm.

Jayaprakash, G. (2019). Content Analysis of Engineering College Library websites in Goa. *Library Philosophy and Practice (e-journal).*

Jeremey ,M.(2020). How to build a content strategy framework that doesn't flop. Retrieved from http://www.getcodeless.com. On16/07/2020 at 3:57pm.

Juliana et al. (2018). Research methodology topics: Cross-sectional studies. *Journal of Human Growth and Development, 28,* 356-360.

Kathrin et al. (2016). What Factors Influence Knowledge Sharing in Organizations? : A Social Dilemma Perspective of Social Media Communication. *Journal of Knowledge Management, 20.*

Kathrin et al., .. (2015). New Forms of Interaction and Knowledge Sharing on Web 2.0.

Kim, I., & J. K. (2014). Applying Content Analysis to Web based Content.

Kotari, C. (2004). Research Methodology Metods and Techniques.

Kulaklia, A., & S. M. (2014). Knowledge creation and sharing with Web 2.0 tools for teaching and learning roles in so-called University 2.0. *Procedia - Social and Behavioral Sciences,* 648 – 657. doi:10.1016/j.sbspro.2014.09.084

Kumbhar, K. (2017). Content analysis study of state university libraries websites in maharashtra. *International Journal of Information Movement, 2*(IV), 16-23.

Lajos et al., .. (2015). Exploring the Role of Social Media in Knowledge Sharing. *Electronic Journal of Knowledge Management , 13* (3).

Levy, M. (2009). WEB 2.0 implications on knowledge management. *Journal of knowledge managemet, 13,* 120-134. doi:10.1108/13673270910931215

Mohd, F. & Mohd, H. (2017). Academic Website Usability Characteristics and Satisfaction

Manzoor et al., .. (2012). The Importance of Higher Education Website and its Usability. *International Journal of Basic and Applied Sciences*.

Manjunatha,K.(2016).Content Analysis of Special Library Websites: An Analytical Study**.***International Journal of Next Generation Library and Technologies*, 2(2).

Matschke et al. (2014). Motivational factors of information exchange in social information spaces", Computers in Human Behavior,. *36*, 549- 58.

Mentes, A., & E. C. (2012). The usability of university websites – a study on European University of Lefke. *Int. J. Business Information Systems, 11*.

Minwalkulet, F., & T. A. (2018). Survey on Factors Affecting University-Industry Knowledge Sharing Practices: The Case of Addis Ababa University College of Veterinary medicine. *Journal of Information Technology & Software Engineering*.

Mobashar et al. (2011). Review of Factors Affecting Knowledge Sharing Behavior. *International Conference on E-business, Management and Economics, 3.* Hong kong.

Nejati et al. (2011). Corporate social responsibility and universities: A case study of top 10 world universities' Web sites. *African Journal of Business Management, 5*, 440-447.

Niels, B. (2009). Website history and the website as an object of study. *New Media & Society, 11*, 1-2.

Nonaka I, Takeuchi H. The knowledge-creating company. New York: Oxford University Press; 1995.

Patil, k., & P. P. (2014) Library promotion practices and marketing of Library services: A role of Library professionals. *Journal of Procedia - Social and Behavioral Sciences*, 133, 249 – 254.

Padmannavar, S., & M. J. (2011). A Survey Analysis of National and International University Websites Contents. *international Journal of Computer Applications, 33*(49), 0975 – 8887.

Parveen, H., & N. S. (2017). Content Analysis. Retrieved from https://www.researchgate.net/publication/318815342.on 19/12/2019 at 2:44pm

Pratibha, S., & Chaitrali S. (2015). Design of an academic web portal providing e-facilities. *International journal of computer science engineering and information technology research*, 3(1), 85-90.

Reza, S. (2019). Content strategy and the content life cycle. Retrieved fromhttp://www.webmindset.net. On 16/07/2020 at 2:40pm.

Sacha, C. (2019). Content strategy for higher education institution. Retrieved fromhttp://www.ctidigital.com. On 17/07/2020 at 2:25pm.

saichaie, K., & morphew, c. (2014). What collage and university websites reveal about the purposes of higher education. *The Journal of Higher Education, 85*, 499-530. doi:10.1353/jhe.2014.0024

Samson et al., .. (2009). A Conceptual Framework for Knowledge Sharing in Higher Education Institutions Using Social Web Approach.

Setia, M. S. (2018). Methodology Series Module 3: Cross-sectional Studies. *Indian Journal of Dermatology*. Retrieved from http://www.e-ijd.org.on 17/11/2019 at 1:30pm

Thomas B et al. (2016). Exploring the Impact of Web 2.0 on Knowledge Management. doi:10.4018/978-1-61350-195-5.ch002

Tizita, G. (2017). Usability study on higher learning institutions‟ website: the case of academic staff in selected ethiopian public universities.

Tong, C., & A. W. (2014). The Impact of Knowledge Sharing on the Relationship between Organizational culture and Job Satisfaction: The Perception of Information Communication and Technology (ICT) Practitioners in Hong Kong. *International Journal of Human Resource Studies, 5*(1).

Yoseph, Z. (2018). Ultimate goal of creation of usable, accessible and sustainable Ethiopian e-Government websites.Retrieved fromhttp://localhost:80/xmlui/handle/123456789/14213. On14/07/2020.

Jimma University
Jimma Institute of Technology
College of computing
Department of Information Sciences
Questionnaire for Students

Appendices

Appendix I: Students' Questionnaire

Dear respondent,

This questionnaire is planned at gathering information for MSC thesis. The aims of the study is to investigate the contents of Ethiopian higher learning institution website for knowledge creation and sharing by students and academic staffs. The research will have benefit for students, academic staffs and for higher learning institutions. There is no physical effect participating in this study. Please answer the questions with all honesty by ticking the letter on the given box. In advance I would like to thank for your contribution.

Section A: Personal information

For each of the following questions, please indicate your response by wright (X)in the appropriate box.

1. Name of your Institution

Addis Ababa University ☐

Hawassa University ☐

Jimma University ☐

2. Name of your Collage

Collage of Natural science ☐

School of computing ☐

3. Sex Male ☐ Female ☐

Section B: Services of higher learning institution website for knowledge creation and sharing

Please indicate your agreement by wright one of your response by wright (X)in the appropriate place.

1. How often habitually do you visit your institution website?

   Every day_____ Weekly_____

   Occasionally_____ Never _____

2. For what service do you visit the website?

   To access Digital library_____ News _____

   Entertainment _____ Other _____

3. Do you think the service of your university website collections is enough for your study to create new knowledge?

   Yes ☐ No ☐

4. How do you rate the contribution of your university website content for getting knowledge for your study?

   Bad ☐ Poor ☐ Good ☐ Excellent ☐

Section C: Collections, facilities, and services provided on higher learning institution website.

Please provide your opinion on the collections, facilities and services of your university website offers by wright (X) in the appropriate place.

1= strongly disagree, 2= disagree, 3= fair, 4= agree, 5= strongly agree

No		1	2	3	4	5
1	**General Information about the website Collections**					
	The repository of the website is easily accessible everywhere					
	I can easily access materials on the website					
	The search engine is attractive to get materials					
	The website connect us to other universities repository in the country and outside					
	I can get educational link easily on the website					
	The website provide useful collections					
	The collections are helpful to make new knowledge					
2	**Contents provided on the website**					
	The website provide related materials for my study					
	The collections in the website added based on curriculum					
	I get contents that provide detail knowledge for my study					
	The material in the website motivate me to innovate new idea					
	The resources in the website is actual to creating knowledge					
	I get recent collections					

	The range of contents in the website is high					
	I get benefit from materials provided on the website					
	The materials is effective for creating and sharing knowledge					
	My university website is my first choice to get resource for my study					
3	**Access to E- resources**					
	I get active E- learning service					
	I need to see video tutorials suggested by instructors					
	I can easily get additional Special Collections like videos and rare books					

Section D: Provides your opinion on the Effectiveness of Higher learning institution website for knowledge creation and sharing.

Please provide your opinion on the collections, facilities and services of your university website offers by wright (X) in the appropriate place.

1= strongly disagree, 2= disagree, 3= fair, 4= agree, 5= strongly agree

4	**Effectiveness of your university website on accessing resources**	1	2	3	4	5
	It is easy to find resources in the website					
	The website offers recent materials					
	I can access the digital library at any time					
	The website provide accurate collections of materials on the college and department					
	It is possible to find what I want within accurate time					
	I can rate the material I use on the website					
5	**Interactivity and local language support**					
	I give feedback for the material I use					
	It is easy to Contact the directors of repository					
	It is easy to get Helpdesk					
	I can easily get support in local languages					
6	**Link searches and retrieve interface**					
	I can easily get a link of digital library on the website					
	The website provide important links to outside collections					
	I can easily Download materials					
	I can get a link of other search engines easily on the website					
	I can easily get a link of social networking sites					

Appendix II: Interview for Academic Staffs

Interview Question for Library Directors

1. What is the purpose of website for your institution?
2. What kinds of service are provided through the website to support academic activities in your institution?
3. How do you measure/ know the need of your website users?
4. What content of themes appear in your university website?
5. What measures did you take to insure that the content you choose to include was relevant to your target audience?
6. What kind of criteria you follow to add contents on the website?
7. Who are the subject specialists that measure the quality of resources provided through the website?
8. To your knowledge how much the students are using the university website for their academic purpose/activities?
9. Do you have any means to collect feedback from users?
10. How often you advertise the library and other service within a year for students through the website?

Interview question for research and publication Directors

1. For what service you use your institution website?
2. What kind of resource collections do you have?
3. Where do you collect them?
4. What kind of criteria you follow to add resources on the website?
5. Do you have subject specialist who measure the quality of resources?
6. How do you communicate with collages?
7. How do you create a link with other institutions locally and globally?
8. Is there any kind of benefits after having website to host research outfits for users?
9. Is there any ways to motivate users to use the library resource?

Appendix IIII: Latent Analysis Checklist

No	Analyzed	Name of institution					
		Addis Ababa university (AU)		Hawassa university (HU)		Jimma university (JU)	
		Existing	activeness	Existing	Activeness	Existing	Activeness
1.	Link searches and retrieve interface						
2.	Primary information about higher learning institutions website						
3.	collections of higher learning Institutions websites						
4.	services of higher learning institution websites						
5.	Access to electronic resources						
6.	Social Networking Sites						

Appendix IIII: Anova Table

ANOVA

effectiveness sum score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	166.927	2	83.464	74.253	.000
Within Groups	197.833	176	1.124		
Total	364.760	178			

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
general information about web site	Between Groups	1222.818	2	611.409	150.204	.000
	Within Groups	716.411	176	4.071		
	Total	1939.229	178			
content provided on website	Between Groups	1907.378	2	953.689	358.492	.000
	Within Groups	468.209	176	2.660		
	Total	2375.587	178			
access to E resource	Between Groups	87.998	2	43.999	116.795	.000
	Within Groups	66.303	176	.377		
	Total	154.302	178			

ANOVA

link search and retrive

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.876	2	.938	.391	.677
Within Groups	422.694	176	2.402		
Total	424.570	178			

	AAU		JU		HU		F-value	P-value
	Mean	SD	mean	SD	Mean	SD		
Effectiveness	17.17	1.167	15.04	0.878	15.48	1.005	74.25	0.0001
Interactivity	6.1591	1.50773	7.4889	1.10005	7.6304	1.18056	24.77	0.0001
Link search and retrieving interface	17.1932	1.54517	16.9778	1.30539	17.0000	1.76383	.391	.677