

## **Relationship between Performance Expectancy and Use of New Media in Scholarly Communication by Academic Staff in Public Universities in Kenya**

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**Abstract:** Scholarly communication is integral to the research process and to the development of knowledge. Traditionally, research has been published in print journals which continue to be the preferred channel, especially in developing countries like Kenya. Lately, the academic publishing industry is grappling with disruption brought about by digital media. Scholarly communication is changing with the growth of new media technologies and these changes are impacting on all members of the academic community and on how they go about creating and maintaining scholarship. The aim of this study was to examine the influence of performance expectancy on the use of new media in scholarly communication by university academic staff in Kenya. The study used the unified theory of acceptance and use of technology (UTAUT) as a theoretical basis to conduct empirical research testing of the influence of performance expectancy on the use of new media technologies in scholarly communication by university lecturers. This was a quantitative survey research. The study population comprised of university lecturers in public universities in Kenya. The target population for the survey was drawn from lecturers from five selected universities which included University of Nairobi, Kenyatta University, Moi University, JKUAT and Egerton University. A self-administered questionnaire was distributed to the lecturers in the five universities for data collection. Findings of the study were analysed using Statistical Programmes for Social Sciences Version 22. A bivariate analysis of the factors associated with use of new media in scholarly communication revealed that performance expectancy had a significant relationship ( $p < 0.000$ ) with acceptance and use of new media technologies in scholarly communication. Further, a logistic regression model showed that performance expectancy ( $p < 0.007$ ) was found to be statistically significant when all other variables were controlled for.

**Key words:** New media Scholarly communication Performance expectancy

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### **I. INTRODUCTION**

The academic publishing industry in Kenya is grappling with disruption brought about by digital new media which is redefining how research is created and disseminated. We are living in a knowledge economy where meaningful development is driven by research and dissemination of the resultant research findings to professionals who in turn use the information to solve social problems for which the research findings are generated. In a knowledge economy, scholarly communication is viewed as one way of producing, sharing and distributing new knowledge. This means that modern societies will develop as a result of having access to relevant research information disseminated through relevant scholarly publications (Chakava, 2012)<sup>1</sup>. To this end, new media technology is increasingly playing a major role in how research is created and disseminated.

Today, scholarly communication is taking on new models as a result of new media technologies which have transformed how knowledge is created and disseminated. This environment has encouraged the emergence of novel publishing models for formal and informal communication among scientists, using Internet technologies for the dissemination and communication of research findings, with capabilities which exceed those of print technologies by far. These new electronic publishing models based on self-archiving, have revolutionised scholarly communication and rendered it more efficient and effective especially in the developed world.

However, studies have shown that scholarly communication declined in many African countries since the 1980's (Ezema, 2009<sup>2</sup>; Chakava, 2007<sup>3</sup>; Ocholla and Ocholla, 2007<sup>4</sup>; and Olukoju, 2004<sup>5</sup>). African scholarship is thus lagging behind the rest of the world in terms of productivity and impact. Several factors,

including neglect of education, sustained political instability, and government intolerance where some scholars were detained for being perceived to be too vocal against the political establishment have been blamed for this decline. In addition, the growing demand for university education and the rapid growth of institutions of higher learning has meant that many scholars are taking on heavier teaching loads and large class sizes and are therefore unable to engage in meaningful research and publishing. These harsh working conditions, coupled with poor pay, are thought to have led to brain drain where a lot of outstanding scholars fled the country in search of better working conditions (Ilieva and Chakava, 2016)<sup>6</sup>.

Another challenge is that the number of scholarly journals available in Kenya has been dropping significantly (Chakava, 2007)<sup>3</sup> and their regularity of publication remains inconsistent. The rising cost of journal publishing is also driving some traditional players out of the less profitable journal publishing business. Commercial publishers are shying away from journal publishing and have left it to university presses; most of which lack the capacity and the networks to publish and distribute journals across the country and abroad. The lack of an organised national bibliography also makes it difficult to account for what Kenyan scholars are publishing.

On the other hand, Kenya's Vision 2030 envisions intensified application of science, technology and innovation (STI) to raise productivity and efficiency levels across the three pillars of the Vision; Economic, Social and Political. The Vision recognises the role of STI in a modern economy, in which new knowledge plays a central role in wealth creation, social welfare and international competitiveness. Kenya intends to become a knowledge-led economy wherein, the creation, adaptation and use of knowledge will be among the most critical factors for rapid economic growth (Government of Kenya, 2007)<sup>7</sup>. This, therefore, calls for sustained research activity in science and technology and the dissemination of resultant knowledge to user groups. A highly developed and reliable scholarly communication infrastructure is required to perform this role effectively and to deliver the Vision.

To remain relevant, Kenyan academics will need to find newer ways of making their scholarly work accessible. Scholars have argued that new media can help eliminate some of these challenges of research availability and accessibility (Gu and Widen-Wulff, 2010)<sup>8</sup>. With new media technologies, researchers have more options when they develop their scholarly communication by new information behaviours, which extend and enrich the meaning and the environment of social media (Beer, 2008)<sup>9</sup>. New media tools underline features such as openness, interactivity, participatory, and user-centred activities. Indeed, the development of the Internet has had great implications on research dissemination and scholarly publication (Walsh et al, 2000)<sup>10</sup>; especially in the areas of accessibility, availability and performance expectancy. The exploding growth of information has forced individual researchers to become specialised in adjusting to specialised research dissemination forums. Although the distribution of scientific information has retained part of its traditional structures, the ways of scholarly communication and research dissemination have been substantially affected via more convenience, availability and low cost of production of information (Meadows, 2003)<sup>11</sup>.

According to Metcalfe & Esseh, (2009)<sup>12</sup>, the increasing use of online publishing systems and Open Access publishing models holds some promise of increasing access to research published in developing countries like Kenya. But, though the opportunity of giving their publications global visibility through new media technologies has been made possible, the extent to which scholars in Kenya have embraced new media in disseminating their works of scholarship had been largely unknown. Another important question is whether academic staff in Kenya believe that new media technologies provide a better environment for better performance of scholarly communication.

## **II. LITERATURE REVIEW**

A number of studies have been conducted on performance expectancy of use of new media in scholarly communication across the world though the depth of such studies in Kenya is very limited. Vrana (2011)<sup>13</sup> conducted a study in Croatia on the transformation of scholarly publishing in the digital era from scholars' point of view. The study found a strong orientation (88.5%) of scholars towards publishing in the traditional print media, especially the print journal. Only a tiny 7.7% published in electronic journals. However, this study did not look into the reasons why the authors were not adopting new media in their scholarly communication activities. Likewise, the study did not interrogate whether there were enough resources to support the use of new media in scholarly communication in universities in Croatia.

Another study on the impact of computer usage on scholarly communication among social scientists conducted by Costa and Meadows (2000)<sup>14</sup> in Brazil found that major changes were occurring in communication habits of social sciences as a result of increased performance expectancy of new media use. Interestingly, this study attributed these changes in part to pressures from the research community and from the institutional environment. It would appear, from this study, that the advantages of new media over traditional media may not be responsible for the apparent rise in the acceptance of new media in scholarly communication. Another study was conducted in Finland by Gu and Widen-Wulff (2010)<sup>8</sup> on the influence of social media on scholarly

communication. It was aimed at providing an overview of researchers' use of Web 2.0 techniques, and discuss a possible change of information behaviours in the context of scholarly communication. The study found that Web 2.0 tools were well-known to researchers, especially blogs (85.7%), wikis (92%), social networks (91.3%), multi-media sharing (92.9%), and online documents. However, respondents reported to use more multimedia sharing and social networks in everyday life than in research or teaching. The study recommended that researchers need to be enlightened to translate this knowledge into practical use of these Web 2.0 tools to favour their scholarly communication in future. Whereas this study demonstrates the existence of relevant resources to support the use of new media, it did not outline the role of performance expectancy on the acceptance of such new media in scholarly communication. This was the main concern of the present study.

Locally, a study by Darko-Ampem (2003)<sup>15</sup>, investigated the policies and practices of five university presses in Africa, including Kenya. This study investigated how effective the presses have been in terms of what they were set up to do—publish scholarly works. It examined and described their policies and programmes in the face of challenges that confront them as developing country presses, and revealed and explained factors known to stifle growth in African university publishing. The study found that the coping strategies adopted by the African university presses in the face of harsh environmental conditions include the introduction of ICTs in their operations. The other strategies were changes in the treatment of authors, editorial policy on publishing non-scholarly materials, staff levels and use of outsourcing, and approaches to sources of funding. The study recommended the introduction of ICTs, including electronic mail and facsimile, as part of the infrastructure for the exchange of information and the transfer of documents. It argued for the hastening of the introduction of e-publishing and print-on-demand technologies.

Other local studies have mainly focused on the use of social networking sites (SNS) in the delivery of higher learning as well as library services. A study by Gichora and Kwanya (2015)<sup>16</sup>, showed that in Kenya, librarians mostly use SNS for delivering services to their users but they hardly engage such users in using these sites for scholarly communication. Nkatha, Kimwele and Okeyo (2015)<sup>17</sup>, studied the extent to which tutors at JKUAT were using SNS to teach their students. They found evidence that tutors were using SNS for teaching at higher institutions of learning. However, they did not report any evidence of use of these sites for scholarly communication.

From the literature discussed in this chapter, it emerged that scholarly communication in Kenya faces major challenges, some of which have been identified by a number of authors (Chakava, 2007<sup>1</sup>, Ochola and Ochola, 2007<sup>4</sup>, Darko-Ampem, 2003<sup>15</sup>). These challenges include severe economic conditions which lead to high costs of publishing, poorly established distribution outlets for scholarly publications, low levels of literacy, lack of clear policy regarding the development of the industry, low structure and size of the publishing industry, and the poor positioning of the academic system in Kenya. But studies elsewhere have shown that new media can help navigate around some of these challenges (Gu and Widen-Wulff, 2010)<sup>8</sup>. Other studies by Beer (2008)<sup>9</sup> have also shown that with new media tools, researchers in Croatia and India have more options when they develop their scholarly communication by new information behaviours, which extend and enrich the meaning and the environment of social media.

Indeed, the development of the Internet has had great implications on research dissemination and scholarly publishing (Walsh et al, 2000)<sup>10</sup>; especially in the areas of accessibility and availability. The exploding growth of information has forced individual researchers to become specialised in adjusting to specialised research dissemination forums. The ways of scholarly communication and research dissemination have been substantially affected via more convenience, availability and low cost of production of information (Meadows, 2003)<sup>11</sup>. New media has the potential to expand local scholarly publications to the global stage. However, the extent to which scholars in Kenya are embracing new media in disseminating their works of scholarship remains unknown.

## **2.1 Performance Expectancy of New Media in Scholarly Communication**

Performance expectancy refers to the degree to which an individual believes that using a new technology will help him or her to attain gains in job performance (Venkatesh, et al 2003)<sup>18</sup>. Ideally, this means that people are more likely to adopt a new technology if they believe that it will help them to perform better in their job. Venkatesh et al. (2003)<sup>18</sup> integrated five concepts from different models to come up with the concept of performance expectancy. These include perceived usefulness, job-fit, extrinsic motivation, relative advantage and outcome expectations.

Scholarly communication has been transformed by the revolution in information and communication technologies (ICTs), especially the Internet. With the emergence of the Internet, publishing has become very easy, quick and cheap in a medium that can be accessed easily by everyone from everywhere (Rao, 2001)<sup>19</sup>. Electronic communication has changed the way scholars and researchers communicate findings (Sawant, 2012)<sup>20</sup>. On one hand, the Internet enables unprecedented dissemination possibilities, providing access to refereed publications and other scholarly documents to anyone in any global location with a network

connection. It has affected scholarly publishing by enabling new publishing models. Such new models are termed to be new because they offer a new genre (or form of presentation), a new mode for interaction, a new business model, a new approach to peer review, or some combination of these (Hahn, 2008)<sup>21</sup>.

The term new media generally refers to those digital media that are interactive, incorporate two-way communication, and involve some form of computing as opposed to old media such as telephone, radio and television (Logan, 2010)<sup>22</sup>. Many new media platforms emerged by combining an older medium with computer chips and a hard drive. Hence the term new media actually refers to a wide range of technological, textual, conventional and cultural changes in media production, distribution and use.

There are three important new media forms which affect scholarly communication. These are (1) open access archives, (2) open access publishing and (3) Web 2.0 tools (Sawant, 2012)<sup>20</sup>. Web 2.0 tools identified include: Online documents, multimedia sharing, social networks, tagging, Wikis, RSS, miniblogs, and blogs (Gu and Widen-Wulff, 2010)<sup>8</sup>. The distinct characteristics of new media include: digital convergence; many-to-many communication; interactivity; globalization and virtuality. New media come from the particular ways in which older media are refashioned and the ways in which older media refashion themselves to answer the challenges of new technology. Jenkins and Thorburn (2004)<sup>23</sup> talk about “an accommodation between old and new” and point out that “new media are often heavily reliant on repackaged older media content”. Some scholars have termed this process as remediation (Logan, 2010)<sup>22</sup>.

Despite the many challenges identified in this study, scholarly communication in Kenya can still benefit from the advantages presented by new media to increase circulation of Kenya’s scholarship across the world. New media allows ease of accessibility to other publications across the world which can inform Kenyan researchers in conducting research and writing their scholarly works. Many scholars are able to gain access to studies elsewhere and replicate them in Kenya with much ease and without having to re-invent the wheel. This is made possible by new media technologies which enable faster access to foreign and local publications through using internet search engines (Rao, 2001)<sup>19</sup>. Access to Kenyan publications distributed through new media will also be opened globally hence positioning Kenyan scholarship to wider audiences.

New media makes it easy to publish scholarly work by providing an easier avenue that is able to navigate the traditional barriers to publishing. New media also opens up new unlimited avenues for scholarly communication which would have otherwise been limited by traditional print media. Self-archiving allows authors to skip the lengthy processes of peer review by allowing them to upload their written work on online open access digital repositories. New media saves time in the publishing chain through eliminating such lengthy barriers involved in peer review, sourcing for papers and printing. A journal paper can be issued on demand without having to wait for an issue to have enough quality papers before all can be published in together.

Finally, new media makes scholarly communication less costly (sometimes free). Self-archiving on online digital repositories is often free and does not require that authors pay publishing fees (Omwoha and Gakahu, 2010)<sup>24</sup>. Conducting research is also made cheaper as authors who refer to studies available by open access do not need to pay expensively either to subscribe to or buy their source material. This should enable Kenyan scholars to have unlimited access to as many sources as possible while writing their scholarly works.

## **2.2 Scholarly Communication in Kenya**

Scholarly communication is an important aspect of the process of scholarship. Often, scholarly communication is also referred to as scholarly publishing or academic publishing. The term scholarly communication describes the process of sharing and publishing research works and outcomes (Gu and Widen-Wulff, 2011)<sup>8</sup>. It is the system through which research and other scholarly writings are created, evaluated for quality, disseminated to the scholarly community, and preserved for future use (Sawant, 2012)<sup>20</sup>. Scholarly communication makes it possible for research to be available to a wider academic community and beyond. Hence, it can be simply referred to as the process of publication of peer reviewed or refereed publications. It involves the development of scientific information, interaction between various fields of research and disciplines, evaluation of communication between subjects or areas of specialism, dissemination of the required information and its application for individual user groups, and the ways in which formal and informal features of communication are connected (Mahmood, et al, 2011)<sup>25</sup>. According to Graham, (2000)<sup>26</sup>, the scholarly communication process could be divided into three main stages: the communication in informal networks like social media, the semi-formal dissemination in conferences and preprints, and formal publication of research in scientific journals.

According to Ngobeni, (2010)<sup>27</sup>, formal scholarly communication takes any of the following formats: journal articles; monographs; conference proceedings and books. It is an important means of incorporating research findings into the corpus of knowledge and plays important legitimisation, dissemination and access functions. Semi-formal communication takes place through professional conferences, meetings or lectures. Informal communication describes the communication activities between scholars and scientists in which they interact directly with one another through, for example, face-to-face discussion, telephone, e-mail, blogs, fax,

post, correspondence, personal websites and conferences (Mahmood, et al, 2011)<sup>25</sup>. Björk (2007)<sup>28</sup> and Houghton, et al. (2009)<sup>29</sup>, have identified the following five processes of scholarly communication in modern scholarship: Fund research and research communication; perform research and communicate the results; publish scientific and scholarly works; facilitate dissemination, retrieval and preservation; and study publications and apply the knowledge.

The product of the scholarly communication process is, therefore, scholarly literature. Scholarly literature is what communicates new academic findings by researchers to their peers, mainly primary literature or volumes that contribute to the store of knowledge in a culture or to the advancement of such knowledge (Bgoya, 2007)<sup>30</sup>. Scholarly publications include publications of research findings, pioneering works in different academic disciplines, and bibliographical and data compilations. According to Bgoya, (2007)<sup>30</sup> and Horowitz and Curtis (1995)<sup>31</sup>, to qualify as scholarly, a publication must have three qualities simultaneously: it was written by a scholar (primarily for other scholars), that it was peer reviewed by an acknowledged authority in the area covered, and that it covers a recognisable area within a continuing scholarly debate or inquiry about a subject.

Kenya has one of the most vibrant scholarly communication activity in Africa even though the country has faced similar challenges of underfunding and brain-drain as have many African countries. Scholarly communication in Kenya, rose significantly at independence but began to decline in the mid 1970's due to underfunding, brain-drain, over enrolment and government censorship (Chakava, 2007)<sup>3</sup>. The result was that some scholars disappeared mysteriously, many were sent into exile while some were either demoted or dismissed. Since then, scholarly publishing in Kenya has continued to decline. Today, the state of scholarly research publishing in terms of output and sustainability is still very poor. Challenges identified include market unavailability, editorial incompetence, poor quality of research papers, cost and dependency on developed countries (Chakava, 2007)<sup>3</sup>.

Despite the challenges, Kenya still ranks among the top ten African countries with the highest concentration (75%) of scholarly communication activity in Africa (Quarshie and Oisefuah, 2010<sup>32</sup>; INASP, 2012<sup>33</sup>). In its ranking, the UNESCO Science Report (2015; 286)<sup>34</sup> puts Kenya at position three behind South African and Nigeria respectively in terms of science publications. The other African countries with notable scholarly communication activity are Cameroon, Tanzania, Ethiopia and Uganda respectively.

### **III. THEORETICAL FRAMEWORK**

This study used the Unified Theory of Acceptance and Use of Technology (UTAUT). The UTAUT model was developed by Venkatesh, Morris, Davis, and Davis in 2003. Initially there were several models which attempted to explain how technology comes to be accepted by users. In the process, different characteristics put forward by different theorists were relied on causing a lot of confusion. In response to this confusion, and in order to harmonise the literature associated with acceptance of new technology, Venkatesh et al. (2003)<sup>18</sup> developed the UTAUT model that brings together alternative views on user and innovation acceptance.

These scholars have attempted to synthesize eight user acceptance and motivation models to propose UTAUT. The eight theories which have been unified are the Theory of Reasoned Action (TRA), the Technology Acceptance Model (TAM), the Motivational Model (MM), the Theory of Planned Behaviour (TPB), a combined theory of Planned Behaviour/Technology Acceptance Model (C-TPB-TAM), the Model of Personal Computer Utilisation (MPCU), Innovation Diffusion Theory (IDT), and Social Cognitive Theory (SCT) (Akbar, 2013)<sup>35</sup>.

According to UTAUT, four constructs are direct determinants of technology acceptance (behavioral intention) and use (behavior): Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions. The theory argues that the effect of these constructs is moderated by four other variables: age, gender, experience and voluntariness of use. This theory was selected for this study because it provides a framework for understanding how new media has transformed scholarly communication by illustrating how Performance Expectancy (PE) has influenced the acceptance and use of new media in scholarly communication in Kenya.

Performance expectancy is defined as 'the degree to which an individual believes that using a new technology will help him or her to attain gains in job performance' (Venkatesh *et al.* 2003)<sup>18</sup>. The key constructs of performance expectancy are (1) perceived usefulness (PU), (2) extrinsic motivation, (3) the job fit, (4) relative advantage, and (5) outcome expectations. PU is derived from TAM and is defined as 'the degree to which a person believes that using a particular system would enhance his or her job performance' (Venkatesh *et al.* 2003). Extrinsic motivation is derived from the motivational model and is defined as 'the perception that users will want to perform an activity because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself, such as modified job performance, pay, or promotions. The job fit is derived from the MPCU and is defined as 'how the capabilities of a system enhance an individual's job

performance. Relative advantage is derived from the innovation diffusion theory and is defined as ‘the degree to which an innovation is perceived as being better than its precursor. Outcome expectations are derived from the social cognitive theory and are differentiated into performance and personal outcomes. Performance outcomes deal specifically with job-related outcomes, whereas personal outcomes address individual esteem and the sense of accomplishment. The UTAUT model proposes that gender and age moderate the relationship between performance expectancy and behavioural intentions.

**IV. DATA COLLECTION INSTRUMENTS**

This study used a questionnaire as the main data collection instrument to collect data from lecturers. The questionnaire was administered to 130 lecturers who were purposively selected from five public universities in Kenya. The five universities were selected based on two reports by independent international bodies which ranked the universities based on their research output, among other parameters. The first report by International Availability of Scientific Publications (INASP, 2012)<sup>33</sup> indicated that University of Nairobi, Kenyatta University, Moi University, Egerton University and Jomo Kenyatta University, in that order, were the leading institutions with notable scholarly communication activity in Kenya and Eastern Africa. The second report by Webometrics (2017)<sup>36</sup> ranked University of Nairobi, Egerton University, Kenyatta University, Jomo Kenyatta University of Agriculture and Technology and Moi University as the five leading universities in Kenya by research output as well as web presence.

The questionnaire contained mostly closed ended questions as this was a quantitative study. Bird (2009)<sup>37</sup> argues that closed ended questions provide the survey with quantifiable and in-depth results. He adds that closed questions produce results that are easily summarised and clearly presented in quick-look summaries.

Venkatesh et al (2003)<sup>18</sup>, used survey items from the previous eight models in drawing up UTAUT. Each construct had between 3-5 items. This study adopted these survey items from the original study of UTAUT but with minor modifications to fit the context of scholarly communication. Hence, based on the original instrument designed by Venkatesh et al (2003)<sup>18</sup>, this researcher designed an instrument to capture the influence of performance expectancy on scholarly communication as shown in Table 1 below.

**Table 1: Performance Expectancy of New Media in Scholarly Communication.**

For each of these statements, please tick one choice to indicate whether you agree on a scale of 1-5 where:1= Strongly Disagree, 2= Disagree, 3 = Not Sure, 4 = Agree, 5 = Strongly Agree.

Performance Expectancy of new media in scholarly communication	1	2	3	4	5
1. I find new media useful in my scholarly communication.					
2. Using new media enables me to accomplish my scholarly communication tasks more quickly					
3. Using new media increases my scholarly communication productivity					
4. Using new media improves the quality of my scholarly communication.					
5. Using new media enables me to publish more scholarly work than would otherwise be possible.					

**V. DATA ANALYSIS AND RESULTS**

The study found the following on use of new media in scholarly communication in relation to performance expectancy.

**5.1 Use of New Media in Scholarly Communication**

Respondents were presented with eight new media technologies (Gu and Widen-Wulff, 2010)<sup>8</sup> to rate the extent to which they used them in their scholarly communication activities. They rated the tools on a five-point likert scale ranging from 1 to 5 (where, 1= never, 2 = less frequent, 3 = fairly frequent, 4 = frequent and 5 = very frequent). The higher the score, the higher was the frequency of use in scholarly communication activities, and vice versa. Table 2 depicts the distribution of their responses. From the findings, online publishing was the most preferred tool for scholarly communication by respondents with 59.2% reporting using it very frequently. A further 39.2% also reported using multimedia sharing very frequently while 27.7% were using social networks very frequently. On the flipside, RSS reported the least usage with 35.4% never having used it in scholarly communication. Other new media tools that reported high rates of not usage in scholarly communication include wikis (27.7%), miniblogs (26.2%) and blogs (25.4%) as shown in Table 2.

**Table 2: Frequency of use of new media tools in scholarly communication**

Tools	Response (%)				
	Never	Less frequent	Fairly frequent	Frequent	Very frequent
Online publishing	4.6	6.9	20.8	8.5	59.2
Multimedia sharing	13.8	12.3	23.8	10.8	39.2
Social networks	21.5	20.0	20.8	10.0	27.7
Blogs	25.4	20.0	18.5	10.8	25.4
Miniblogs	26.2	19.2	18.5	12.3	23.8
Wikis	27.7	26.2	16.9	13.1	16.2
Tagging	30.0	25.4	16.2	11.5	16.9
Rich site summary	35.4	26.2	14.6	10.0	13.8

N = 130 Sources: Research Data

The responses to each media tool were scored on a scale of 1, indicating none use, to 5, indicating highest frequency of use. The individual statement scores were summed up to form a frequency of use index score for each respondent. The index score varied between 8, indicating the least frequency of use of new media, and 40, indicating the highest frequency of use of new media in scholarly communication. The higher the score, the higher was the level of frequency of use of new media in scholarly communication, and vice versa. The index score was later collapsed into three ordinal categories in order to differentiate between the levels of frequency of use of new media in scholarly communication among the sampled respondents. This included a score of 8-18 (low frequency), 19-29 (average frequency) and 30-40 (high frequency). Table 3 summarizes the levels of frequency of use of new media in scholarly communication.

**Table 3: Levels of frequency of use of new media in scholarly communication**

Levels of frequency	Frequency	Percent
Low	47	36.2
Average	40	30.8
High	43	33.1
Total	130	100.0

Source: Research Data

Table 3 indicates that 36.2 % of the respondents recorded a low frequency of use, 30.8% recorded an average use while 33.1% recorded a high usage of new media in their scholarly communication. Cumulatively, therefore, 63.9% of the respondents recorded average and high level of frequency of use of new media in scholarly communication. This suggests that university academic staff in Kenya’s public universities were increasingly embracing new media technologies in their scholarly communication. This could be attributed to the fact that academic staff in Kenya may be beginning to realise that new media makes it easy to publish scholarly work by providing new unlimited avenues for scholarly communication which would have otherwise been limited by traditional print media (Meadows, 2003)<sup>11</sup>.

**5.2 Relationship between Performance Expectancy and Use of New Media in Scholarly Communication**

The study sought to determine whether performance expectancy of new media technologies influences their use in scholarly communication by academic staff in Kenya’s public universities. In this study, performance expectancy was assessed from a series of 5 statements seeking respondent’s agreement or disagreement with its various dimensions. These five statements were based on the original UTAUT model of Venkatesh et al (2003)<sup>18</sup> (Table 1) but with some modifications to suit the academic nature of the current study. Responses to these statements were measured on a five-point likert scale ranging from 1 to 5 (where, 1= strongly disagree, 2 = disagree, 3 = not sure, 4 = agree and 5 = strongly agree). The higher the score the higher was the influence of performance expectancy on scholarly communication, and vice versa. Table 4 shows the distribution of the responses on the statements.

**Table 4: Performance expectancy of new media in scholarly communication**

Tools	Response (%)					Total
	SD	D	NS	A	SA	
Using new media increases my scholarly communication productivity	9.2	15.4	17.7	46.9	10.8	100
I find new media useful in my	13.1	12.3	15.4	46.2	13.1	100

scholarly						
Using new media enables me to publish more scholarly work than would otherwise be possible	10.0	14.6	19.2	43.8	12.3	100
Using new media enables me to accomplish my scholarly communication more quickly	10.8	14.6	16.2	47.7	10.8	100
Using new media improves the quality of my scholarly communication	10.0	15.4	19.2	43.8	11.5	100

N = 130 Sources: Research Data

The responses to each constituent dimension of performance expectancy were scored on a scale of 1, indicating least level of influence of performance expectancy in scholarly communication, to 5, indicating highest level of influence of performance expectancy in scholarly communication. Generally, respondents agreed with each of these statements with some degree based on the mean scores. Generally, more than 50% of the respondents agreed with all the statements as shown in Table 4.

The individual statement scores were further summed up to form a performance expectancy index score for each respondent. The index score varied between 5, indicating the least level of performance expectancy, and 25, indicating the highest level of performance expectancy of new media in scholarly communication. The higher the score, the higher was the level of performance expectancy of new media in scholarly communication, and vice versa.

**Table 5: Levels of performance expectancy**

<i>Levels of performance expectancy</i>	<i>Frequency</i>	<i>Percentage</i>
Low	32	24.6
Average	25	19.2
High	73	56.2
Total	130	100.0

Source: Research Data

Table 5 indicates that 56.2 % of the respondents recorded a high level of influence of performance expectancy of new media in scholarly communication, 19.2% recorded an average performance expectancy score while 24.6% recorded a low score of performance expectancy. This result indicates that majority of the respondents believe that using new media will help them achieve better gains in their scholarly communication activities.

**Table 6: Relationship between performance expectancy and frequency of use of new media**

level of performance expectancy	Level of frequency of use			Total	Number
	low	average	high		
Low	71.9%	12.5%	15.6%	100.0%	32
Average	48.0%	44.0%	8.0%	100.0%	25
High	16.4%	34.2%	49.3%	100.0%	73
Total	36.2%	30.8%	33.1%	100.0%	130

Pearson Chi-Square Value: 38.812; df 4; p-value 0.000

Source: Research Data

Scores of performance expectancy were further correlated with those of level of usage of new media in scholarly communication as shown in Table 6. Results indicate that respondents who recorded a low level of performance expectancy also reported low usage (71.9%) of new media in scholarly communication (p value 0.000). On the other hand, respondents who recorded a high level of performance expectancy also tended to report a high frequency of usage (49.3%) of new media in their scholarly communication ( $p < 0.05$ ). This suggests the existence of a significant relationship between performance expectancy and the use of new media in scholarly communication by university academic staff.

This shows that performance expectancy of new media technologies was a key determinant of acceptance and use of new media in scholarly communication by academic staff in the sampled public universities. This agrees with Akbar (2013)<sup>35</sup> who found that performance expectancy had a significant influence on technology acceptance and that its effect was moderated by gender and age. Akbar's study sought to conduct empirical research testing the factors that influenced student's acceptance and use of technology in their



academic environment. Another study by Tung and Chang (2008)<sup>38</sup> found that when learners perceive e-learning as useful, they were more likely to accept and actually learn online. They also found that educators were likely to use e-learning since they found it easy to use in terms of greater control over their work, improved job performance, time saving, accomplishing tasks more quickly and enhancing effectiveness.

## **VI. CONCLUSIONS AND RECOMMENDATIONS**

This study sought to determine how performance expectancy of new media technologies influences their acceptance in scholarly communication by academic staff in Kenya's public universities. Results revealed that respondents who recorded a low level of performance expectancy also reported low usage of new media in scholarly communication. On the other hand, respondents who recorded a high level of performance expectancy also tended to report a high frequency of usage of new media in their scholarly communication. Further, a logistic regression model was fitted using all the independent variables that were statistically associated with the dependent variable. Performance expectancy recorded an impressive statistical significance (p 0.007). This suggests the existence of a significant relationship between performance expectancy and the use of new media in scholarly communication by university academic staff.

The study thus concludes that university academic staff in Kenya who are using new media technologies in scholarly communication believe that using such media will help them to attain gains in their scholarly communication. This implies that performance expectancy is a key determinant of use of new media technologies in scholarly communication by university academic staff in Kenya's public universities. This finding agrees with a survey conducted by Rowlands *et al.*, (2011)<sup>39</sup> on use of social media in research flow at the university college of London. It was indicated that social networks have found serious application at all points of research life cycle, from identifying research opportunities to disseminating findings at the end. The study also found that the most popular tools for scholarly communication are those that allow collaborative authoring, conferencing, scheduling and meeting tools. This suggests that performance expectancy of new media technologies was a key determinant of acceptance and use of new media in scholarly communication by academic staff in the sampled public universities.

This result also agrees with Akbar (2013)<sup>35</sup> who found that performance expectancy had a significant influence on technology acceptance. Akbar's study sought to conduct empirical research testing the factors that influenced student's acceptance and use of technology in their academic environment. Another study by Tung and Chang (2008)<sup>38</sup> found that when learners perceive e-learning as useful, they were more likely to accept and actually learn online. They also found that educators were likely to use e-learning since they found it easy to use in terms of greater control over their work, improved job performance, time saving, accomplishing tasks more quickly and enhancing effectiveness.

In conclusion, this study found that performance expectancy is a key determinant of acceptance and use of new media technologies in scholarly communication by university academic staff in Kenya. Performance expectancy refers to the degree to which an individual believes that using a new technology will help him or her to attain gains in job performance (Venkatesh, et al 2003)<sup>18</sup>. This indicates that university academic staff believe that using new media will help them attain gains in their scholarly communication. There is therefore need to invest in more diverse new media technologies at the institutional and national level. New media technologies have the potential to put Kenya on the world map in terms of research dissemination. The study found that academic staff do not only believe that new media technologies will help them to publish more but also to produce quality publications. Kenyan universities should invest heavily in infrastructure that will increase the use of new media technologies in scholarly communication. These facilities include sufficient internet bandwidth, adequate computers and competent human resources to support academic staff in using these facilities.

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