Organizational Factors Influencing the Adoption of Electronic Publishing Among Book and Journal Publishers in Kenya

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Abstract
This study examined organizational factors influencing the adoption of e-publishing among book and journal publishers in Kenya. Using descriptive survey design and stratified random sampling, data was collected from 20 publishing firms using questionnaires, personal interviews, and content analysis of their websites. The research findings revealed that majority of the respondent firms were engaged in the e-publishing activities of online production, distribution, marketing, sales and customer service. Very few publishers have fully adopted e-book or e-journal publishing technologies and even though the majority of those which have adopted these technologies have their e-publications in Portable Document File format. Organizational factors influencing the adoption of e-publishing among the respondent firms were; existence of innovation champions, availability of funds and market demands for e-publications. Yeas in existence, staff sizes and threat of competition from other publishers were not considered significant influencing factors. The major challenges to the adoption of e-publishing in Kenya are; high implementation cost of e-publishing, lack or high cost of electricity, inadequate awareness of the existence and use of e-resources and low Internet skills among potential customers. Resistance by both authors and readers, fears of piracy and low market demands for e-publications were identified as impediments to the success of e-publishing in Kenya. The researchers recommend that Kenyan publishers should be more proactive so as to embrace e-book technology, reliable security codes to counter piracy are used. Mass media should play a key role in disseminating information on the operations, advantages and attributes of e-publishing. The Government of Kenya through the Ministry of Education should provide computers to public schools. The government should expand Internet access and electricity supply especially in rural areas. Local publishers should devise mechanisms for partnerships with foreign publishers who have successfully embraced e-publishing technologies.

Keywords: electronic publishing; electronic publications; publishers; organizational factors.

Introduction

The advent of e-publishing has revolutionized the way manuscripts are developed, and how books, journals and newspapers are produced, distributed, sold and accessed in the world. Scupola (1999) defines e-publishing as the use of computer and Internet-based technologies to redesign as many publishing processes as possible for the market space. Scupola adds that e-publishing entails online production, distribution, marketing, selling and customer support

for publications. Therefore, as Hahn and Schoch (1997) acknowledge, e-publishing involves a cluster of innovations and this makes it a process innovation. E-publishing involves change in the procedures and methods of publishing documents, particularly from print to e-format.

Publishers are gradually adopting e-publishing for the unique advantages it has over traditional printing. E-publishing provides for easy editing, transmission and connection with other documents and unlimited capacity of replication and copying (Aparicio, 2009). E-publications can be disseminated worldwide without the costs of distribution or reprinting. The publishers of e-publications also have opportunities to interact effectively with their users or buyers. This enables them to obtain important market research data cheaply.

As Aparicio (2009) explains, African countries should make their voices heard in the context of global information and make their publications known and respected. This is realizable if publishers in Kenya adopt the latest technologies in publishing. Katebire (2008:9) advises that "the African journal publisher risks descending into irrelevance in the 21ˢᵗcentury publishing and being relegated to the backyard of publishing history, unless he/she creatively embraces and harnesses the power of ICTs." The scientific and academic community in Africa can tap into the advantages of e-publishing by creating, receiving and circulating relevant information that can help in the social development of African countries (Aparicio, 2009). In his contribution, Ezema (2010) acknowledges that e-publishing helps stimulate the production and dissemination of knowledge. Scupola (1999) opines that e-publishing contributes to the overall profitability of the publishing business hence gaining a competitive advantage over other publishing businesses that have not adopted it.

With respect to e-journal publishing, Fidczuk and Beebe (2007) assert that it provides significant cost advantages, the ability to change content in response to readers' needs and it speeds up the process of publishing. Odlyzko (1997) notes that the cost advantages in e-journal publishing accrue from the faster editing and production cycles. He adds that by eliminating editing, binding, shipping and storage, a publisher can produce a journal with little capital. The costs of storage and bandwidth are also transferred to the readers of the journals.

The benefits accruing from the introduction of e-publishing have fostered its continued adoption among traditional print publishers. New publishers specializing in only online publishing have also sprung up. The Kenyan publishing industry has slowly begun to adopt e-publishing. Organizational factors such as a publisher's years in business, staff size, availability of funds and market forces are among the factors that influence the adoption of e-publishing.

Statement of the Problem

Despite the increased awareness of the benefits of e-publishing, book and journal publishers in Kenya exhibit a slow adoption of this innovation. This slow uptake of e-publishing is likely to expose the country into the fast increasing negative consequences of the digital divide. It will also reduce Kenya's contributions to the global knowledge economy. The slow adoption of e-publishing can be attributed to organizational factors within Kenya's publishing industry. Therefore, this study examined the organizational factors influencing the adoption of e-publishing among books and journals' publishers in Kenya.

Research Questions

   (i)   What is the extent of adoption of e-publishing among publishers of books and journals in Kenya?

   (ii)   What is the influence of years in operation, availability of human and financial resources and market forces on the adoption of e-publishing among publishers of books and journals in Kenya?

   (iii)   What are the challenges faced by publishers in adopting e-publishing in Kenya?

   (iv)   What recommendations can be adopted to overcome the challenges faced by publishers in adopting e-publishing in Kenya?

Literature Review

Development of e-publishing

The growth of modern e-publishing is closely linked to the development of the Internet, World Wide Web (WWW) and other new Information and Communication Technologies (ICTs) such as computers, e-readers and Personal Digital Assistants (PDAs). According to Wills and Wills (1999), e-publishing uses computers to capture and disseminate knowledge

and information and that parties that are at the beginning, middle and end of the e- publishing process need computers to converse with one another.

The origins of the Internet can be traced back to the 1950s when Russia launched a satellite called Sputnik, escalation of the Cold War and the development in the U.S. of Advanced Research Projects Agency Network (ARPANET). However, the Internet really took off in the 1980s when the National Science Foundation used ARPANET to link its five regional supercomputer centers. Wolpers and Mo (1997) recognize that the greater adoption and use of the Internet can be traced to the 1990s, when Tim Berners-Lee invented WWW and Mosaic Web browser and when it became globally and freely accessible to the public. In the early days of the Internet, some form of e-publishing took place through e-mailing lists and circulation of working papers to a few people in some academic fields.

In Africa, the history of e-publishing dates back to the 1990s when its growth and spread strongly impacted access to information (Aparicio, 2009). In many African countries, dissemination of data in e-formats became the most common practice and today, some publications now exist only in e-format. On e-journal publishing, Ezema (2010) contends that its growth has continued since 1999s when some of the African countries adopted it as a new way of stimulating production and dissemination of knowledge and its popularity.

Growth of E-Publishing in Kenya

The relationship between e-publishing and the Internet is emphasized by Odero- Musakali and Mutula (2007) who contend that the revolution of new ICTs and particularly the Internet has profound effects on information- based services. E-publishing focuses on the production and dissemination of information in e-format. Therefore, it is rational to trace the history of e-publishing in Kenya by closely examining the period when the Internet was introduced into the country. Mweu (2000) indicates that the Internet first became available in Kenya to a small group of technical enthusiasts in 1993. Mutula (2001), Odero- Musakali, and Mutula (2007) assert that although the history of Internet connectivity in Kenya dates back to1994, it was until 1996 that Kenya became connected to the Internet. Due to the inconsistencies in the exact year the Internet became available in Kenya, this study chose the earliest year 1993, as the working date for the introduction of Internet in Kenya.

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Information on the actual adoption period of e-publishing in Kenya is inadequate. There are very few studies that have been conducted in this area. Therefore, it paves way for inferences that if the Internet was first made available in Kenya in 1993 and its massive use witnessed in 1996, then e-publishing in Kenya must have begun in Kenya just this same time or later. It is because of this inadequacy that this research sought to fill the existing information gaps on e-publishing in Kenya.

An overview of Book and Journal Publishing in Kenya

The history of book and journal publishing in Kenya can be traced to 1887 when Christian missionaries Johann Rebmann and Ludwig Kraft set up printing presses to supplement evangelistic reading materials in Kenya. The book publishing industry in Kenya has evolved from foreign publishers to state and privately and indigenously- owned publishers (Makotsi & Nyariki, 1997). Universities in Kenya, both public and private have also set up university presses to publish academic books, journals and reports. Leading university presses include the University of Nairobi Press, Moi University Press, Egerton University Press and Kenyatta University Press. In the private university category, Catholic University of Eastern Africa (CUEA) boasts of a well-established university press.

Another category of publishers that has strengthened its roots in Kenya is Reference, Scientific, Technical and Medical (STM) Publishing. This category comprises of professional and scholarly publishers producing books and journals specifically written for and marketed to professionals in a wide variety of industries, such as medicine, law, business, technology, science, and the humanities (Rodman, 2010). STM publishing mainly comprises of specialized publishers such as the United Nations-Habitat (Un-Habitat), United Nations Environmental Programme (UNEP), International Centre for Insects Physiology and Ecology (ICIPE), Kenya Medical Research Institute (KEMRI), African Medical Research Foundation (AMREF) and Kenya Agricultural Research Institute (KARI).

Book publishers in Kenya are also categorized based on the ownership of the publishing houses, the market or subject of publications produced and also the media used in publication. Based on ownership of the publishing houses, there is either state or privately-owned publishers. Educational (textbook) publishers, academic publishers and trade

publishers are categorized based on the market or subject they target.

Extent and Scope of Adoption of E-Publishing

E-publishing is gradually being adopted in most parts of the world. Rodman (2010) notes that e-books on CD-ROMs have been used as college textbooks and some people have begun reading novels and non-fiction books on their hand-held organizers. Several companies now specialize in Printing On Demand (POD) for books. Rodman further states that for $100 or so, a company can have a book scanned into a digital library. The cost of a book may reduce to as low as $5 when it is printed out as an e-book. E-publishing has thus made books less expensive to produce and distribute.

Igun (2005) while quoting Ubogu (2000) says that publishing is presently between two ages-print and electronic, and that many publishers are striving to cross the divide by embarking on numerous e-publication plans. Igun adds that today the Internet and WWW are flooded with e-publications. She believes that the electronic age has enabled publishing to enter an era of rapid development and change. Aparicio (2009) believes that countries with better infrastructural development are far ahead in the adoption and access to e-publishing than those countries with minimal development.

Igun (2005) comments that although e-book publishing has come to stay, it has however not been seen in the publishing stands yet, especially in Africa which she considers is worst hit by the scarcity of e-publications. Igun points out that, most common e-books in Africa are the downloadable ones through Internet websites and also the POD books, which she associates with e-aided publishing. The argument by this author clearly confirms the assertions that in Africa it is not clear what e-publishing constitutes. The answer to this confusion is the recommendation by Hahn and Schoch (1997) that e-publishing can best be understood as a cluster of related innovations combined.

The situation of online scholarly journal publications in Africa has also not been a smooth terrain. While acknowledging that there is a considerable orientation of African scholarship towards digitally-enabled management, Katebire(2008) still observes that the African continent generates only 0.4 per cent of global online content of which 0.38 per cent is

generated by South Africa alone, leaving the rest of the African countries with a mere 0.02 percent. He argues that online publication of journals in Africa is too far below the mark. It is the view of Ezema (2010) that the low level of Internet connectivity complicates the problem of e-journal publishing in Africa.

Nwanko (2005) acknowledges that in Nigeria, publishers have not fully adopted relevant innovations in e-publishing. He recommends that the publishers need to acquire hardware and software for digitization and coding of text, reliable Internet access, skills for digitization and for uploading of text. These recommendations seem to have been adopted for as Ifeduba and Shoki (2009) note, a reasonable number of publishers in Nigeria have adopted e-publishing innovations that aid in typesetting, editing, digitizing, uploading and downloading book products. However, they note that the publishers have largely focused on the global market and not the Nigerian market due to fears of lack of market demands for e-publications. They reach the global market through the London-based African Book Collective (ABC) and they also distribute imported e-products to the local readers.

In Kenya, Odero-Musakali and Mutula (2007) point out that the necessity to promote e-trade in various sectors including publishing, led to a National Task Force on Electronic Commerce in May 1999. The results of this task force included increased awareness of Internet potentiality for e-commerce amongst stakeholders, many of whom started applying Internet in their businesses.

Many projects have been initiated in Kenya to expand Internet access amongst universities in Kenya. One of the projects is the Kenya Education Network (KENET). According to Odero-Musakali and Mutula (2007), among the specific objectives of this project is to develop and improve local web-based content. This entails repackaging local content in web-enabled e-formats for participating institutions such as universities, professional training institutes and research institutions. With this arrangement, university presses have a lot to contribute in the achievement of the objective.

Organizational Characteristics Affecting the Adoption of E-Publishing as an Innovation
Sisaye and Birnberg (2010) believe that organizations have peculiar features that influence

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their levels of adoption of innovations. Citing Attwell (1992), Sisaye and Birnberg identify a firm's size and profitability, existence of innovation champions and organizational and environmental attributes as factors that affect demand of innovation adoption in organizations. They argue that large firms have greater opportunities to innovate than small firms. On a firm's profitability, they also observe that a more profitable firm has greater resources and capabilities available to undertake innovations than less profitable firms.

The presence of potential innovation champions also provides an institution with individuals within the organization who are motivated to persuade others to adopt a particular innovation. Organizational and environmental attributes include degree of centralization, degree of functional specialization or expertise and centralization versus decentralization of the decision making process (Sisaye & Birnberg, 2010). How these attributes are managed help facilitate innovation adoption in different organizations in different ways.

The other factors that affect the adoption of innovations are; market size, demand for new products and services, number of firms in the industry and the industry's life cycle (Sisaye & Birnberg, 2010). Organizations facing competition, technological change and globalization devise competitive strategies and planned interventions in adoption and implementation of new innovations (Sisaye & Birnberg, 2010). This study limited itself to selected organizational factors influencing the adoption of e-publishing among publishers of books and journals in Kenya. The factors considered were a publisher's years in business, its staff size, financial capability, market demands and profitability concerns for e-publications and threat from competition.

Challenges Associated with the Adoption of E-Publishing
The adoption of e-publishing is faced with several challenges. Some of the notable ones are; low possibility of Internet connectivity in Africa where the ICT infrastructure is generally poor and expensive, lack of national information policies, scarce and ill-qualified human resources, lack of standardization among publishers, and also lack of knowledge about journals in both print and e-formats (Ezema, 2010; Aparicio, 2009; Katebire, 2008). On their part, Ifeduba and Shoki (2009) say that Nigerian publishers have fears to adopt e-publishing for the local market due to lack of energy infrastructures, appropriate reading

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habits and computer literacy.

The challenges experienced in information transfer in Africa as identified by Enakrire and Onyenania (2007) include; inadequate information infrastructures, cultural barriers and inadequate policies on communication and information transfer. They also note that poor transmission of ICTs infrastructure, energy and electricity power problem, poor network coverage and the general digital divide inhibit information transfer in Africa. The challenge of poor ICT infrastructure in developing countries is supported by Letshela, and Lor (2002) and Mamtora (2000). These authors further add that a major problem of e-publishing is how to handle legal deposit as many countries have not revised their legal deposit laws to include pertinent issues relating to e-publishing.

According to Asamoah-Hassan (2009), some of the problems facing e-journal publishing are; lack of standardization among publishers, inadequate knowledge on the availability of the journals and reservations about the quality of e-journals. The limited market for e-books arises out of among others, user-related barriers. Mckiel (2007) identifies these barriers as; lack of awareness on the existence of e-books, difficulties in reading e-books, lack of training in the use of e-books and challenges in using e-book platforms. The challenge of lack of computer skills and/or e-book usage is a factor of concern for the adoption of e-publications among potential readers or buyers (Grenina, 2012).

Methodology

This study used a descriptive survey research design. 20 respondent publishing firms were selected for participation in this research using stratified sampling. Data was collected in August –October 2011. Primary data was collected using self-completion questionnaires and personal interviews. Secondary data was gathered through a content analysis of the websites of the sampled publishers. The questionnaires were personally distributed to respondents by the researchers. Interviews were conducted at the selected staff offices within the respondents' firms. The publishers' websites were analyzed to find relevant data for this study. Descriptive statistics such as frequency distributions and percentages were used in analyzing the data collected.

Discussion of Findings

All the 20 targeted publishing companies participated in this study. Thus, there was a 100 percent response rate. Table 1 presents a summary of respondent publishing firms by their ownership status.

Table 1: Respondent publishing firms by ownership status

Ownership status	No.	%
Privately-owned textbook publishers	7	35
State-owned book publishers	3	15
Religious publishers	3	15
Public university presses	2	10
STM government research institute publishers	2	10
International STM research institute publishers	2	10
Private university press	1	5
Total	**20**	**100**

As seen in Table 1, out of the 20 firms, 7 (35 %) were privately owned textbook publishers, 3 (15 %) were state-owned book publishers and another 3 (15 %) were religious publishers. The religious publishers, public university presses, STM government research institutes and international STM research institute publishers were each represented by 2 (10 %) participants. There was only 1 (5 %) private university press. This shows that the study had a wide coverage of the various categories of publishers in Kenya. It further shows that a publishing industry structure in which privately-owned textbook publishers are the majority.

Table 2: Respondent publishing firms by sources of funding

Sources of funding	Sampled firms	No.	%
Own profits	20	12	60
Donors and Sponsors	20	5	25
State	20	4	20
Loans	20	1	5

Table 2 indicates that out of the 20 respondent firms, 12 (60 %) sourced their funds through their own profits, 5 (25 %) indicated that they received funding from donors and sponsors, 4 (20 %) were state financed and only 1 (5 %) indicated financing its operations through loans. In general, it can be seen that the publishing firms that participated in this study received their funding from different sources with their own profits being a major contributor. This indicates that the publishers make profits in the course of their business.

Table 3: Respondent publishing firms by years in operation

Period of existence in years	No.	%
1-4	2	10

5-9	3	15
10-14	2	10
15-19	0	0
20-24	4	20
25-29	2	10
Over 29	7	35
Total	**20**	**100**

From Table 3, it can be observed that 2 (10 %) of the publishers had been in existence for between 1-4 years. Those that indicated that they had been in existence for the last 5-9 years and 10-14 years, were 3 (15 %) and 2 (10 %) respectively. There was no respondent firm in the 15-19 years of existence bracket. 4 (20 %), 2 (10 %) and 7 (35 %) of the publishing companies indicated that they had been in existence for 20-24 years, 25-29 and over 29 years respectively. From these statistics, it is noted that almost two thirds of the respondent firms had been in existence for 20 and above years. This shows a long history of many of the publishers involved in this study.

The number of staff is one of the organizational factors influencing adoption of innovations. With regard to the staff size in each of the respondent firms, Table 4 indicates that 10 (50 %) respondent firms had 1-20 staff members. The firms which indicated that they had 21-40 and 41-60 employees were 3 (15 %) and 2 (10 %) respectively. None of the firms had 61-80 employees. 1 (5 %) firm indicated that it had 81-100 employees. 2 (10 %) had 101-120 employees. Those organizations with 101-120 and 141-160 employees were each represented by 1 (5 %) respondent firms. This shows that majority of the participating publishers had 1-60 employees.

Table 4: Respondent publishing firms' staff numbers

No. of staff	No.	%
1-20	10	50
21-40	3	15
41-60	2	10
61-80	0	0
81-100	1	5
101-120	2	10
121-140	1	5
141-160	1	5
Total	**20**	**100**

Extent of Adoption of E-Publishing in Kenya

In reviewing the extent of adoption of e-publishing in Kenya, this study adopted Scupola's (1999) view of what constitutes e-publishing. The researchers established that out of the 20 publishing firms, 15 (75 %) were engaged in e-publishing. 5 (25 %) firms indicated that they were not involved in e-publishing. Therefore, a majority of book and journal publishers who participated in this study indicated that they were engaged in e-publishing.

Table 5: Publishers engaged in e-publishing by ownership status

Ownership status	No.	%
Privately-owned textbook publishers	4	26.3
State- owned book publishers	3	20.1
Religious publishers	2	13.4
STM government research institute publishers	2	13.4
International STM research institute publishers	2	13.4
Public university presses	1	6.7
Private university press	1	6.7
Total	**15**	**100.0**

Table 5 shows that 4 (26.3 %) of the respondent firms engaged in e-publishing were from the privately-owned textbooks category and 3(20.1 %) of the e-publishers were from the state-owned category. From the 15 respondent firms engaged in e-publishing the religious publishers, STM government research institute and international STM research institutes were each represented by 2 (3. 4 %) firms. The public and private university presses each had 1 (6.7 %) respondent firm involved in e-publishing. These findings show that the adoption of e-publishing is spread across all categories of publishers in Kenya.

A review of the websites for the publishing companies that said that they undertook e-publishing, revealed that most of them did not engage in the actual production of e-books and e-journals. These publishers only use ICTs in their processes of publishing like production, distribution, marketing, sales and customer service. These findings are in agreement with Scupola's (1999) broad definition of e-publishing. The publishers who have ventured into the e-book or e-journal technology are very few. Moreover, the version of their e-books is still inferior. Majority have their publications in PDF format, which in the standards of e-book technology is an inferior format to such advanced formats like XML, HTML and e-pub. Some of the publishers said that they have stuck to the PDF version of e-publishing because it is easy and cheap to convert documents to PDF.

Reasons for Adopting E-Publishing

The main reasons advanced by the respondent firms engaged in e-publishing were that it is cheaper compared to print publishing; it allows faster distribution of content as well as efficient and effective production of illustrations. Publishers from the STM category asserted that e-publishing enables them to reach a wider audience worldwide with less cost. Another reason that some publishers gave is that e-publishing has become necessary because of the changing market trends, increased technological know-how and flexibility in the use of the latest ICT devices like the Amazon Kindle, Galaxy Tab, Ipad and Internet-embedded mobile phones that allow browsing of websites. Other publishers engage in e-publishing because it provides a more interactive platform between the authors and readers especially through the social media such as *Twitter, Facebook* and *Linkedln*. The reasons advanced for the adoption of e-publishing closely match those advanced by authors such as Ezema (2010), Aparicio (2009) and Scupola (1999).

Reasons for not Adopting E-Publishing

5 (25) % of the publishers who participated in this study reported that they were not engaged in e- publishing. They cited lack of financial capability to adopt e- publishing, limited market demands for e-publications and inadequate research on e-publishing in Kenya.

Uses of Corporate Websites in E-Publishing Activities

The common platform onto which today's e-publishers provide access and promote their publications is the website. According to Masaya (2009), many publishers in Kenya now have corporate websites and some are even marketing and selling online. The researchers sought to find out the publishers with websites. Out of the 20 sampled publishers, 18 (90%) of them had websites.

The researchers established that the websites were used for various purposes. Content analysis of the publishers' websites revealed that these sites contained online advertisements of the publications that the publishers have published. On some websites, there were short abstracts and pricing of the books, all meant to promote the products to potential buyers.

Book catalogues are also uploaded on most websites in PDF. This explains why many publishers stated that they are engaging in e-marketing. E-customer service is also achieved through these websites. The websites contain Frequently Asked Questions (FAQs) and Questions and Answers (Q & A) sections allowing interaction between publishers and their customers.

The findings of this study revealed that majority of the publishers have not produced actual e-books. Hence the possibilities to purchase the documents online are minimal, as are the chances of accessing and downloading the publications from the websites. The closest some publishers have gone in e-sales, is to allow customers to place orders online, pay through mobile phone money transfers and receive the physical printed book through courier services.

Number of Years in Business and the Adoption of E-Publishing

Table 6 shows that out of the 14 publishers engaged in e-publishing, 5 (35.3 %) have been in existence for between 0-14 years. Out of the six (6) publishers not engaged in e-publishing, 2 (33.4 %) have been in operation for between 0-14 years. This reflects a 1.9 percent difference between these two groups. Therefore, it is insignificant to prove that the years a publisher has operated influences the decision to adopt e-publishing. These results are further confirmed by the analysis of the firms that have been in the publishing business for 20 and more years. Publishers in this cluster who have adopted e-publishing were represented by 9 (64.7 %) firms out of the 14 e-publishers. This same cluster had 4 (66.6 %) respondent firms out of the six (6) not engaged in e-publishing. The variance between these two clusters is 1.9 per cent which is equally negligible to confirm any influence of the number of years a publisher has been in business on its decision to adopt e-publishing. Therefore, the researchers established that there is no link between the number of years a publisher has been in operation and the decision to adopt e-publishing.

Table 6: Relationship between the number of years in operation and the decision to adopt e-publishing

Period of existence in years	No. of publishers that have adopted e- publishing	%	No. of publishers not adopted e- publishing	%
0-14	5	35.3	2	33.4
20 and above	9	64.7	4	66.6
Total	**14**	**100.0**	**6**	**100.0**

Staff sizes and Adoption of E-Publishing

The five publishers not engaged in e-publishing indicated that they had fewer than 21 employees. Therefore, the researchers did not include them in data analysis under this organizational factor.

Table 7: Number of staff members and the adoption of e-publishing

No. of staff	No.	%
1-20	5	33.3
21-40	3	20.0
41-60	2	13.3
61-80	0	0.0
81-100	1	6.7
101-120	2	13.3
121-140	1	6.7
141-160	1	6.7
Total	**15**	**100.0**

Table 7 shows that out of the 15 publishing firms that have adopted e-publishing, 5 (33.3 %) and 3(20%) of them had 1-20 and 21-40 employees respectively. 2 (13.3 %) of the e-publishers had 41-60 staff members. 1 (6.7 %) of the respondent e-publisher had 81-100 employees. 2 (13.3 %) of the e-publishers indicated having 101-120 employees. 1 (6.7 %) respondent firm showed that it had 121-140 employees just like the one that had 141-160 staff members. These findings indicate that almost two thirds of the respondent firms had below 61 employees. This indicates that among the publishers who have adopted e-publishing, the number of staff is not a critical factor in their adoption decision. This could be attributed to the fact that most of the participating firms in this study had small staff sizes.

Existence of Innovation Champions in the Publishing Firms and the Adoption of E-Publishing

All the five (5) publishing firms not engaged in e-publishing confirmed that they had no innovation champions. Among the publishers that had adopted e-publishing, the researchers sought to know if they had innovation champions. 12 (80 %) of the firms that had adopted e-publishing indicated that they had innovation champions while 3 (20 %) of them said they

had no innovation champions. This demonstrates that majority of the respondent firms with innovation champions had adopted e-publishing. Such champions are useful in the diffusion and adoption of new technologies. Therefore, existence of innovation champions was a factor in adoption of e-publishing among those firms practicing this new form of publishing.

Availability of Finances and the Adoption of E-Publishing
Most of the publishers refused to divulge details on their profits. However, it was established that all the 20 (100 %) respondent firms indicated that availability of finances was a critical factor in the adoption of e-publishing. This is valid given that in order to adopt e-publishing, appropriate equipment and computer software are needed. These equipment and software are expensive to acquire. This finding implies that the publishers with adequate funds adopted e-publishing technologies compared to their financially weaker counterparts.

Market demands and its Effect on the Adoption of E-Publishing
All the 20 (100 %) respondent firms indicated that market demands for e-publications was a critical factor in the adoption of e-publishing. Publishers especially the commercial ones exist to make money (profits) hence their adoption of any product innovation is based on its market demands. Majority of the publishers who had not adopted e-publishing indicated that this was due to low demand for e-publications as a result of low Internet connection and poor ICT infrastructure in Kenya. For those firms that had adopted e-publishing, the market potential for e-publications coupled with the changing consumer patterns necessitated their adoption of e-publishing. E-publishers indicated that they had ventured into e-publishing to reach a wider audience and also to promote their reputation internationally.

Connection Between Competition from other Publishers and Adoption of E- Publishing
This study set to explore whether competition from other publishers, which is an external characteristic to most organizations, had any influence on the decision to adopt e-publishing. Over 70 per cent of the publishers stated that it is not because of competition from other publishers that they had embarked on e-publishing, but because they wanted to benchmark with other international publishers who are ahead in its implementation. Therefore, this shows that competition has not had any massive influence on the decision by publishers in Kenya to adopt e-publishing. The publishers have done so due to other reasons like

remaining competitive worldwide, to match other aspirators and attract sponsorship. Other reasons include diversification of delivery platforms of contents in order to increase their customer base.

Challenges Faced by Publishers in Adopting E-Publishing in Kenya

It was found out that publishers in Kenya encountered numerous challenges in their endevours to adopt e-publishing. High implementation costs of e-publishing especially in converting books into e-format and protecting the e-books from piracy and illegal copying were cited as major challenges. Other challenges noted were; lack or high cost of electricity in many parts of the country, lack of adequate awareness among potential buyers of the existence and use of e-resources, low computer and Internet skills among potential customers. Lack of or high cost of e-publications readers like Kindle and Galaxy Tab, low Internet connectivity, piracy or copyright infringements also impede adoption of e-publishing in Kenya.

The publishers also identified resistance to change by various authors and readers, high cost of training staff on the production and use of e-devices and resources, lack of Internet connectivity among customers and high cost of Internet access as some of the challenges to their efforts of embracing e-publishing. The attitudes and perceptions by some readers that e-formats are difficult to read also hamper diffusion and adoption of e-publishing. Lower profits from e-publications in comparison to printed publications, fears of safety of the online payment systems and non-adherence to e- publishing standards by authors, publishers, readers and other parties, were also cited as potential impediments to the success of e-publishing among book and journal publishers in Kenya.

Conclusion and Recommendations

Majority of the book and journal publishers who participated in this study indicated that they were engaged in e-publishing activities. Most of the publishing firms engaged in e-publishing were mainly using their corporate websites to facilitate the processes of publishing such as production, distribution, marketing, sales and customer service. The publishers who have ventured into the e-book or e-journal technology are very few and that majority of those who have adopted this technology have their e-publications in PDF format.

The organizational factors influencing the adoption of e-publishing among the respondent firms were; existence of innovation champions, availability of funds and market demands for e-publications. Number of years in operation, staff sizes and threat of competition from other publishers were not considered important factors in influencing the adoption of e-publishing in Kenya.

It was found out that publishers in Kenya encounter numerous challenges in their endevours to adopt e-publishing. Some of these challenges include; high implementation cost of e-publishing, lack or high cost of electricity in many parts of the country, lack of adequate awareness of the existence and use of e-resources among potential buyers, low computer and Internet skills among potential customers. The publishers also identified resistance to change by various authors and readers, lack of, high cost and/or low Internet connectivity for customers as some of the challenges to their efforts of embracing e-publishing. Piracy, illegal copying, readers' attitudes and perceptions that e-formats are difficult to read also hamper diffusion and adoption of e-publishing. Lower profits from e-publications in comparison to printed publications, fears of the safety of online payment systems and non-adherence to e-publishing standards by authors, publishers, readers and other parties, were also cited as potential impediments to the success of e-publishing among book and journal publishers in Kenya.

In view of the findings of this study, the researchers make the following recommendations to enhance the adoption of e-publishing among book and journal publishers in Kenya:

i) *Use of enhanced security codes.* The Government of Kenya, the Kenya ICT Board and other experts in computer programming should consider conducting a comprehensive research and coming up with security codes that will reassure publishers that their e-publications will be well protected and safe from piracy. For example, some experts consider the use of the least significant bit steganographic method for information handling technique to generate better security codes.

ii) *Increased access of Internet.* Although fibre optic cables were introduced in the year 2009, this is yet to increase the speed of the Internet in Kenya. There is need for the Ministry of Information and Communication to consider expanding the broadband

width to allow rapid access to the Internet. This will speed up any uploading or downloading of e-publications.

iii) *Pro-activity by publishers to embrace e-book and journal technology.* Publishers in Kenya need to shun fears and strive to embrace e-book and journal technology because this is the trend publishers in other parts of the world are moving to.

iv) *Increased advocacy by the mass media.* Radio, television and other mass media should play an active role in disseminating information on the operations, advantages and other significant features of e-publishing.

v) *Provision of computers to public schools.* Since most publishers target schools and colleges, the Government of Kenya through the Ministry of Education should go beyond the provision of only stationery and textbooks and also provide computers to public schools. This will ensure proper and maximum utilization of e-syllabus and e-content being developed by Kenya Institute of Education (KIE).

vi) *Expansion of electricity supply.* Although the rural electrification programme has been going on in Kenya, the authorities involved such as the Kenya Rural Electrification Authority should consider increasing their efforts in ensuring most rural places have electricity that can promote the rolling out of e-publications. Efforts to tap solar energy should also be fostered to provide alternative power to run some machines where there is no electricity.

vii) *Partnerships with foreign e-publishers and booksellers.* Companies such as Amazon in the USA and other foreign publishers and booksellers are ahead in e-publishing and selling. Publishers in Kenya need to liaise frequently with such companies in order to selectively tap their best practices in electronic publishing.

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