

Opportunities and Challenges

Academic and Digital Publishing

in Tanzania

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Preface

Research and publication are indispensable for countries to properly manage the knowledge and skills available within their borders and to communicate their intellectual capital across their borders.

Tanzania has intellectual potential: the number of universities is rapidly growing and so is the number of people with an academic degree. The overall population is young and a further growth of the number of educated people is expected.¹ To give this new generation of educated people more channels to communicate Tanzania's intellectual capital it is necessary to strengthen the fundamentals of scholarly communication.

The aim of this project was to map the current situation of academic and digital publishing in Tanzania and to identify opportunities and challenges for strengthening both.

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¹ In 2002 almost 45% of Tanzania's population was under the age of 15, *Tanzania in Figures 2010* (Dar es Salaam: National Bureau of Statistics, 2011).

Introduction

Tanzania has a large and relatively young population that is catered for with a growing number of universities countrywide. The intellectual capital that is already present will be fostered and nurtured accordingly. This will automatically increase the output of scholarly content and it is essential that the publishing industry will be ready for this.

Publishing industries regardless of their home countries all have their challenges and opportunities. This is no different for Tanzania. When funding is hard to come by it can be difficult to look past these challenges. This project's goal, therefore, was to do exactly this in order to explore the opportunities for strengthening academic and digital publishing in Tanzania.

The Project

From May to August 2012 the research project 'Exploring Opportunities for Academic and Digital Publishing in Tanzania' was conducted by two MA students from the *University of Leiden* in the Netherlands under the supervision of the Academic Publishing and Research Advisor of *St. John's University of Tanzania*, Dodoma.² Three months of interviews, visits, literature research and questionnaires have resulted in the following report. The aims of the project were 1) to determine the current state of the publishing industry in Tanzania and the climate for publishing, specifically academic and scholarly publishing, and 2) to establish the *status quo* of digital publishing in Tanzania. With this picture in place it was possible to pinpoint opportunities and challenges for strengthening academic publishing and digital publication.

At first the challenges seem to be many and difficult to overcome. On closer examination, however, the findings are promising. It was established that there is knowledge on the digital publishing process and that there are already some resources available. With time and effort the combining and sharing of the two can further academic and digital publishing in Tanzania. For example, an academic publishing consortium would allow for the sharing of resources and knowledge, while at the same time function as a catalyst for capacity building with regard to digital publishing and academic writing skills.

Tanzania's intellectual capital is growing although it is not very visible, both in and outside Tanzania. Digital publishing such as, online publishing and Open Access, can change this and can help put Tanzanian scholars on the global academic map. Enhanced access to Tanzanian research will stimulate collaboration that can be beneficial to Tanzanian society and ultimately the world of science as a whole.

The seminar on Digital Publishing, held in Dar es Salaam on 2 August 2012, was a highlight of this project. It was a promising basis for further action as publishers

² Anne Bakker and Floris Janssens-Andrejew of the MA Book and Digital Media Studies, *University of Leiden*. They were supervised by Liesbeth Kanis, Academic Publishing and Research Advisor (VSO), *St. John's University of Tanzania*, Dodoma.

expressed an interest in closer collaboration and clearly saw a need for a digital push forward.

Outline, Background and Current Situation

Research Climate

Research activity in Tanzania, and hence academic publishing, is a fraction of the overall international research output. For example, between 1999 and 2008, the annual average output of academic papers in the whole of Africa (excluding South Africa), roughly 27,000, equaled that of the Netherlands.³ This is not surprisingly in a continent where the enrollment rate for tertiary education is merely 3%. Tanzania seems to be more or less in line with this average, with an annual research output of roughly 3,000.⁴ Upcoming figures may prove more favourably, since the last figures date from 2007.⁵

Naturally the situation is more complex than this. Much of the research or raw research data from Africa finds its way into publications abroad, and therefore, cannot always be linked back to the country of origin where credit is due. In an increasingly globalised world, these are realities that also pertain to academia. Particularly when it comes to research collaboration and the relative distance between researchers, the global research landscape is rapidly changing.⁶ Although there is still much potential for cooperation closer to home that is not yet fully utilized by African researchers.⁷

Research budgets available to academics and institutes of higher learning, be it governmental, institutional, private sector, or outside funding, are equally limited. Currently Tanzania, like many of the countries it is surrounded by spends 0,43% of its GDP on Research and Development, which amounts to roughly US\$213million. Compare this to South Africa that is double the percentage (0,93% and US\$4,7billion) or the Netherlands almost fourfold (1,84% and US\$ 12,5billion), the difference is striking.⁸ This is substantially lower than the target of 1% recommended by the LAGOS Plan of Action as already formulated in 1980 – 2000.⁹

In the words of the authors of the *Global Research Report Africa*, carried out by Thomson Reuters:

“The volume of activity remains small, much smaller than is desirable if the potential contribution of Africa’s researchers is to be realized for the benefit of its populations. The challenges that the continent faces are enormous and indigenous research could

³ Adams J, King C, Hook D. [Global Research Report Africa](#) (Thomson Reuters, 2010), p. 5.

⁴ Grant Lewis, S., Friedman, J. and Schoneboom, J., *Accomplishments of the Partnership for Higher Education in Africa 2000-2010*, Carnegie foundation (2010), p. v

⁵ Recently a figure of 160,000 was quoted the by Prof. Galabawa in the Daily News based on a study carried out by the UDSM Institutional Transformation Programme, <http://allafrica.com/stories/201202170430.html>

⁶ See for example the recently published article by Waltman L, Tijssen RJW, Jan van Eck N, ‘[Globalisation of science in kilometres](#)’. *Journal of Informetrics* 5, 574–582 (2011).

⁷ ‘[Collaborating too far from home](#)’, 2 February 2012, *Science and Development Network*,

⁸ UNESCO Institute for Statistics, [Country and Regional Profiles](#) (2009)

⁹ [LAGOS Plan of Action](#), chapter 5, point 180, p. 52.

help provide both effective and focused responses. The resources that are available in some countries are substantial, but they are not being invested in the research base. But other countries with limited resources are making notable and effective contributions of a high standard. Other analyses show that Malawi, with one-tenth the annual research output of Nigeria, produces research of a quality that exceeds the world average benchmark while Nigeria hovers around half that impact level.”¹⁰

The growth of research in emerging economies is crucial and should lead to the growth of indigenous academic publishing. With lack of resources all actors involved need to become more creative with the resources available and revert to primarily digital publishing to make ends meet.

Demographically the market is also challenging. According to the Tanzania Commission for Science and Technology (COSTECH) the future lies in the hands of young and upcoming researchers in a country where no less than 50 per cent of active researchers are aged 40 and above.¹¹

In the same article the chair of COSTECH outlines the importance of government funding for research: “the government allocated Sh30 billion for research in the 2009/2010 budget, but so far only Sh4 billion has been disbursed. Recognizing the importance of research, the government for the first time in 2009 allocated Sh30 billion for research. The Lagos plan of action for implementing development of Africa requires African countries to allocate at least 1 per cent of their GDP for research”.

Academic Publishing

The history of academic publishing in Sub-Saharan Africa – with the exception of South Africa – is barely 60 years old, starting only in 1955.¹² Tanzanian academic publishing is even younger; in the 1960s the East African Literature Bureau and the East African Publishing House published some academic titles, but these were in essence British and Kenyan publications distributed in Tanzania.¹³ Actual indigenous academic publishing started with several publications of the Tanzania Publishing House in the 1970s¹⁴ and the establishment of Dar es Salaam University Press (DUP) in 1976.¹⁵

The commercial publishing industry in Tanzania is even younger: it was only deregulated in 1991.¹⁶ Before this time, the publishing of educational textbooks was a state monopoly and since it was the most profitable sector of Tanzanian publishing, this

¹⁰ Adams J, King C, Hook D. *Global Research Report Africa* (Thomson Reuters, 2010), p. 10.

¹¹ Zaynab Turuki, ‘[Tanzania: A Long Way to Go for Researchers](#)’, *The Citizen*, 11 April 2011.

¹² Kwasi Darko-Ampem, “A University Press Publishing Consortium for Africa: Lessons from Academic Libraries,” *Journal of Scholarly Publishing* 36.2 (2005): 95.

¹³ Walter Bgoya, *Academic Publishing in Tanzania* (Dar es Salaam: Mkuki na Nyota, 2010): 2

¹⁴ *Ibid.*, Bgoya 7.

¹⁵ “[Dar es Salaam University Press \(DUP\) Historical Background](#).”

¹⁶ Mcharazo, Alli A.S. “The Book Chain in Anglophone Africa: A Survey and Directory,” Ed. Roger Stringer (INASP, 2002): 87.

monopoly stood in the way of the development of a healthy and competitive publishing industry.

Today, most of government funding in the educational sector is allocated to primary and secondary education. Hence this branch of the industry remains the most interesting and profitable for publishers. Needless to say, other fields in publishing suffer from this as even university presses have gradually shifted their focus to schoolbooks.¹⁷

This specific focus on educational publishing ensured a safe line of business revenue even more so when the Millennium Development Goal for Universal Education became one of the chief objectives of the Tanzanian government.¹⁸ But as with every commercial industry, there is never a guaranteed safe line of revenue. In this case the danger lies in the heavy reliance on government funding and too many publishers betting on the same horse. Therefore, to ensure a healthy and sustainable publishing industry, diversification is essential.

With the recent government changes in the textbook funding for schools and alterations in educational decisions at government level, the consequent shrinkage of the schoolbook market leaves many publishers under great stress.¹⁹ Indigenous publishers who have ventured into diversification do not seem as financially hard-pressed as other publishers: in fact, they show that diversification is rewarding.²⁰

As publishers tend to look for profit in school textbooks, other market segments, such as academic publishing, remain underexposed. Publications such as university textbooks are now mainly foreign, predominantly from India, UK, and US. Scholars who want to see their research published locally have trouble finding 'serious' venues for their academic publications.

Tanzanian universities rely for the publications of staff mostly on local journals that are often published without sufficient know-how of academic journal publishing and distinct processes such as peer review, vital to uphold the quality of the journal. This lack of knowledge of the publishing process together with inefficient allocation of funding has left many journals in a less than optimal state: they appear infrequently, suffer from distribution problems, and article submissions are of low quality. Only few researchers get accepted into high-profile foreign journals, realising that local journals are of little contribution to their careers. But the 'publish or perish' principle leaves most university staff no other choice than to publish locally, even though the choice is limited.²¹

¹⁷ A good example is Dar es Salaam University Press (DUP). You can clearly glean from their stock listing that the majority of most recent titles are educational, and primarily secondary education.

¹⁸ In 2000 Tanzania was one of 189 countries to sign for the Millennium Development Goals to be reached in 2015. For more information on this see <http://www.undp.org/mdg/>

¹⁹ Annual Report 2011, *Publishing Association of Tanzania*, April 2011, 1-4.

²⁰ For example: E&D Vision, LawAfrica, the publishing branch of TATAKI, and Mkuki na Nyota.

²¹ A listing of indexed Tanzania Journals can be found at http://www.loc.gov/acq/ovop/nairobi/ij_tanzania.html. Roughly 40 'academic' journals are listed, but not all subject areas are covered and as said before some journals appear infrequently and do not have a clear

Publishing, however, poses other challenges, e.g. lack of research funding and inadequate academic writing skills. Too often scholars are either not aware of research grants, or do not have the right skills to successfully apply for such grants. This leaves many potential researchers not doing research and consequently not producing publishable content.²²

Other scholars have trouble finding venues for publication because they have never been properly trained in the skills of academic writing. A good command of the English language is not enough to produce a scholarly or academic publication; sufficiency in matters such as structure, argumentation, presentation, and references are equally important. Too many articles by Tanzanian scholars are rejected by international journals because of lack of quality or substandard academic writing skills.²³

Despite the limited visibility of Tanzanian scholarly publishing, there is an existing demand for scholarly and academic publications by Tanzanian authors in a Tanzanian context. Foreign publications cause estrangement for both students and teachers at Tanzanian universities,²⁴ as local issues are hardly covered, while there is a large interest for these both in and outside Tanzania.²⁵ Projects that treated local issues have created successful collaborations and have resulted in innovative initiatives.²⁶ A challenge here, however, is to debunk the widely held perception by Tanzanians themselves that what is produced in Tanzania, or Africa for that matter, is of inferior quality. From a publishing point of view, this would exactly be the *forte* and would appeal to academic researchers and readers abroad who are particularly interested in these local issues, local data and solutions formulated in a local context.

That publication is too little prioritised by universities is also apparent from the relatively small amount of research conducted at universities, even though research is an essential element in the production of publications. Apart from bigger research projects, individual research activities are stimulated too little. The two most important factors in this case are funding and time. Because the number of students is growing disproportionately in comparison with the amount of skilled university staff, teaching loads are heavy. Teaching loads can however not be singled out as a cause, many university staff do find the time for other activities, for example consultancy jobs or a self-owned business to increase their livelihood.²⁷

peer review and acceptance policy.

²² This was a much-heard complaint in the interviews with academic staff.

²³ David A. Adewuyi, *African Scholars Publishing in American Online Journals: An Empirical Analysis* by an Editor (2008), 6.

²⁴ This was a much-heard complaint in the interviews with academic staff.

²⁵ An example of an institution highly interested in African matters is Cornell University, New York. Cornell University has an Institute for African Development: <http://iad.einaudi.cornell.edu/>

²⁶ CCIAM (Climate Change Impacts, Adaptation and Mitigation programme) is a project in which SUA, UDSM, Ardhi University, the Tanzania Meteorological Agency, and the Norwegian University of Life Sciences cooperate. Part of the project is to create a shared Institutional Repository (IR), hosted by SUA, on climate change.

²⁷ Muchiri 185.

The factor of funding is twofold. Firstly, little institutional funding is available for individual research. Secondly, too often scholars are either not aware of external research grants or have no one to advise them on how to apply for such grant. This leaves many potential researchers not doing research and not making publications, consequently also not making any sort of promotion.

A problem in research that is recognised and dealt with by universities is finding and accessing relevant sources of information, especially in the context of digital resources. Universities have also shown collaborative efforts in making digital resources better accessible. For example there are various international organisations that strive for better access to academic information (e.g. INASP). Further, publication models such as Open Access (OA) contribute to the opening up of academic content for developing countries. That this information mostly has to be accessed through the internet is a cause of concern: low bandwidth and proper availability of Internet is lagging behind in Tanzania. Universities however generally have good connectivity²⁸ and the amount of areas that are connected to the fibre optic cable is increasing steadily.²⁹

The before mentioned bigger research projects stimulate collaboration between institutions. Such shared efforts have resulted in innovative initiatives such as institutional repositories (IRs).³⁰ Other institutions, such as *Sokoine University of Agriculture* (SUA) and *Mzumbe University*, have successfully established productive international collaborations,³¹ contributing to the professionalism of their research and publication activities. What further characterises these universities is that they have focussed their academic activities in a certain area – in the case of SUA this is agriculture – in turn giving their research and publication activities a more clear direction and relevance.

It can initially be concluded that Tanzania has both the potential and the demand for indigenous scholarly and academic publications, but does not always have the supporting structure to bring the two together. The implementation of such a structure will open up a potential that can be tapped into both nationally and internationally.

²⁸ All universities visited had a wireless network, only the bandwidth available at SJUT was experienced as low. Even though they are connected to the optic fibre SEACOM cable, the last stretch has not yet been implemented.

²⁹ "A Telecommunications Revolution Positions Tanzania as a Regional Powerhouse," *Building the African Internet*, SEACOM, 7 Aug. 2012.

³⁰ Part of the before mentioned CCIAM project is the creation of a shared IR (hosted by SUA) on climate change. Another collaborative IR is the Database of African Theses and Dissertations: <<http://www.aau.org/datad/>>.

³¹ For example the co-publication of Mzumbe with the University of Groningen: Josephat Itika et al. (eds.), *Theories and Stories in African Public Administration*, Vol. 1, (Leiden: African Studies Centre, 2011). Mzumbe also has been successful in getting funding that allowed staff to do their Ph.D.'s at European universities.

Research

Approach and Methodology

The project was approached as a pilot study in which data and insights were collected for implementation in a follow-up project plan focusing on strengthening academic publishing in Tanzania. The methodology was divided into:

- ✦ Interviews with:
 - ✦ Publishers
 - ✦ Academics
 - ✦ Stakeholders
 - ✦ Policy makers
- ✦ Questionnaires
- ✦ Study of Primary and Secondary Literature

The publishers interviewed were:

University Presses

Dar es Salaam University Press

Mzumbe University Press

Sokoine University Press

Commercial Presses Tanzania

Ben & Co

Mkuki na Nyota

E & D Vision Publishing

Aidan Publishers

Commercial Presses East Africa

LawAfrica

Longhorn Publishers

Commercial Presses International

Oxford University Press

Pearson – Longman

The universities that were visited were:

In Dar es Salaam: University of Dar es Salaam (UDSM), Ardhi University (ARU).

In Dodoma: St. John's University of Tanzania (SJUT), University of Dodoma (UDOM).

In Morogoro: Sokoine University of Agriculture (SUA) Mzumbe University (Mzumbe).

Stakeholders and other organisations that were met were:

Publishers Association of Tanzania (PATA), Book Development Council of Tanzania (BAMVITA), Booksellers Association of Tanzania (BSAT), International Network for the Availability of Scientific Publications (INASP), The British Council, COSTECH, UNESCO.

From the interviews with publishers an impression of Tanzanian publishing in general was created, and with this its attitude towards academic publishing. The publishers were contacted directly, mostly through telephone (e-mail has repeatedly proven to be an underused means of correspondence in Tanzania) in order to set-up a meeting in person. In general, the publishers approached were friendly, interested, and willing to make time.

The interviews with academics gave an impression of the research and publication activities of both the individual academics and the universities as a whole. Also discussed were challenges and opportunities in publishing, access to information, and the workings of the university libraries. The universities visited were: UDSM, Ardhi, SJUT, UDOM, SUA, and Mzumbe. Because SJUT was the hosting institution, and offered both working space and accommodation on campus, the chance was given to interview many of its staff. These interviews were especially interesting because SJUT is a private university that is still relatively young, providing a chance for insights into how a university with little funding and skilled staff is trying to create a culture of research and publication. The presence of many foreign staff members at SJUT provided valuable outsiders' views.

There were meetings with several members of parliament and a visit to the *Commission of Tanzanian Science and Technology* (COSTECH). This gave an insight at policy level how academic education is viewed and what actions are taken to further research and publication.

Meetings with the different stakeholders were useful in the sense that it gave an impression of the publishing industry as a whole, and not only through the lens of individual publishers. Further, meeting with BSAT gave an insight in the activities and challenges of booksellers as stakeholders and partners in the distribution of published printed material.

Through the questionnaires it was hoped to gather information of a more statistical nature, the response rate from both scholars and publishers was however disappointing. The outcome of the questionnaires is therefore not representative. Further follow-up is currently being made the data of which can hopefully be included in the follow-up project.

Lastly, the study of primary and secondary literature was used to provide the findings from the study a factual basis and context. The availability of literature on the topic was sufficient for giving the study a framework. Further, most of the literature supports the findings of the study.

Academic Publishing

The following will present in brief the general findings of the part of the study focused on academic publishing.

Observations

During the study the following challenges for academic publishing were observed:

- ⤴ Channels for scholarly communication
- ⤴ Skills in academic writing
- ⤴ Research funding

The following opportunities were observed:

- ⤴ An existing need for academic and scholarly content in a Tanzanian context
- ⤴ Collaboration: coordinating the existing capacity and experience
- ⤴ New business models for academic publishing

Challenge 1: Channels for Scholarly Communication

Overall the publication of academic material is insufficiently prioritised and in need of more editorial professionalism. Although all universities have a directorate of research and publication,³² mostly these activities do not come across as centralised. Much is left to the individual faculties and departments, who often lack the means to harbour relevant publishing initiatives. That there is too little centralisation is reflected in the general absence of a clear research and publication agenda. The general lack of direction and professionalism leaves most publishing initiatives in a dwindling state, depriving university staff from channels through which they can communicate their findings. This mostly affects junior staff.

Publications predominantly appear in print, which is an obstacle in reaching a wider circle of users and overcoming distribution problems. When publications are made available online, the websites are too often not maintained properly, or are only offering abstracts of the publications. These publications are thus only accessible to a small circle of insiders. *Mzumbe University* argues that they want to publish both in print and online, but because of the low connectivity in Tanzania, they view offering content solely online as depriving potential users' access.

An interesting publishing initiative observed at *Sokoine University of Agriculture* (SUA) concerned the presentation of academic research in a manner that is understandable for outsiders. Research on for example sowing methods was condensed and simplified, printed on pamphlets and distributed among farmers. This use of academic research fits

³² The actual names of such directorates differ, but all were installed for the same purpose.

a much-heard wish: making the university relevant for the wider public.³³ Also heard frequently was the wish for more academic material applicable to a Tanzanian context.

Challenges 2: Academic Writing Skills

The issue of academic writing skills is addressed at several universities,³⁴ an often heard complaint in this regard is that such addressing only has an incidental character without any follow-up or structure. The issue is not addressed in order to build towards an existing capacity. In general the development of writing skills is largely left to the individual and not addressed as an institutional issue.

Often the issue is seen in the context of an inadequate command of the English language, it being the language of use at universities. The challenge of writing skills is, however, one of discourse, how the language is used. Many university staff are unfamiliar with actively using the discourse of scholarly communication

Challenges 3: Research Funding

A much-heard challenge with regard to research is the problem of funding. Scholars often expect their institution to provide them with the necessary funding, but with the already tight budgets and rising number of student enrolments research funding is (understandably) not the first priority.

Applying for external funding could be done more, but there is little guidance and knowledge with regard to application procedures. Also the knowledge of which funding bodies would be appropriate for funding is often lacking. This could also be seen as a consequence of the lack of an institutional strategic focus for research. When one does apply for research funding, this is often denied, because of unfamiliarity with procedures, but more importantly also because of insufficient writing skills. Too often scholars are not able to effectively and convincingly describe for example the rationale and scope of their research, which is crucial when applying for funding.

Opportunities 1: The Tanzanian Context

As mentioned before a clear demand was observed for academic content that is applicable to the Tanzanian context. Projects that treated local issues were successful collaborations and resulted in innovative initiatives³⁵. They can be seen as indicative for

³³ The Vice Chancellor of SJUT can be paraphrased saying the following (interview 28 June 2012): 'Research has to be relevant to the challenges in which it is conducted, it has to be innovative, it has to be an agent of change. To be able to bring about change universities should also partner with the community and not lock themselves up in an ivory tower. Two areas in which Tanzanian research could make a difference in this sense – and in which there is also high research potential – are the fields of agriculture and poverty.'

³⁴ An example of a scientific writing course offered by SUA is: <http://www.suanet.ac.tz/docs/scientificwriting.pdf>.

³⁵ E.g. the earlier mentioned CCIAM (Climate Change Impacts, Adaptation and Mitigation programme) Project.

the relevance of research in the Tanzanian context. Apart from research publications, there is also a wish for academic teaching material.

Rather successful publications are those of TATAKI, the publishing branch of the Institute of Kiswahili Studies (IKS) of UDSM. Their approach is professional and their products are in demand, also they have continuing innovation in their publication models.³⁶ Given that these are successful publications, and Swahili is clearly a Tanzanian subject, it could be stated that the publication of 'Tanzanian subjects' is an opportunity.

Opportunities 2: Collaboration

Successful research projects have mostly been collaborative, this should be seen as a 'best-practice' and therefore universities should be stimulated to seek collaboration. An area that is little explored, but has potential for future growth is that of collaboration between universities and publishers. Universities need more professionalism in their publishing initiatives. Since they also host primary academic authors there is much to be gained for both universities and publishers. Publishers can act as facilitators and service-providers offering their publishing services and expertise to universities and help them to further their academic reputation.

Opportunities 3: New Business Models

With traditional printing technology, only large print-runs are economically viable. Academic publications are typically published in small print-runs, due to its specialist nature and a lower demand. A new approach is therefore required when looking at printing such titles. A model that can be a solution in this regard is Print-on-Demand (POD). A complete book can be printed in a matter of minutes, there is no need for initial investments and costs of storage. POD would not only be a solution for academic works, but also for other works that are not in high demand, publishers could thus profit from the so called long-tail.³⁷

Another suitable publishing model is *Open Access* (OA). Even though most universities are already (experimenting with) publishing online, they are not using it to its full potential, for example by not offering all the content they could online. Important reasons for this are the challenge of choosing the right payment model and piracy. There is little knowledge of and experience with how to implement online payment models and keep content safe from piracy. In this sense OA would be a solution. There are however

³⁶ TATAKI recently launched a digital dictionary that is downloadable for use on mobile phones. <http://www.iks.udsm.ac.tz/index.php?option=com_content&view=article&id=100&Itemid=2>. They are currently experimenting with the publication of scholarly journals and other scholarly works through mobile phones. Where others struggle with finding the right payment model for digital publications, TATAKI chose to use Mpesa.

³⁷ Products that are in low demand can collectively rival the profitability of a small amount of products that are in high demand. See: Clay Shirky, "Power Laws, Weblogs, and Inequality," *Clay Shirky's Writing About the Internet*, 10 Feb. 2003,. And: Chris Anderson, "The origins of 'The Long Tail,'" *The Long Tail*. Wired, 8 May 2005.

general quality concerns in relation to OA, for example the issue of the (peer) reviewing of articles, or how OA will contribute to the prestige of the author. The issue of peer review is already a concern in the existing practice of academic publishing in Tanzania, using OA would therefore not make a difference in this regard. The various forms of OA even provide a chance to experiment with new forms of (peer) review that may be more suitable for the Tanzanian context.

Digital Publishing

The following will present in brief the general findings of the part of the study focused on digital publishing.

Interviewing people who work in the publishing industry and visiting publishing companies and universities have showed that digital publishing in Tanzania is in its infancy at best. Some publishers seem to struggle with the concept of digital publishing, whereas others are perfectly up-to-date with the digital process and aware of its possibilities, but for now, not in possession of and for the near future unable to obtain the required equipment. There are also examples of institutions having the equipment but grappling with the full potential of this.³⁸

Digitisation of the publishing work-flow

The shift from analogue to digital in the publishing process is in different stages for different publishers. Some publishers tackle most steps of the publishing process digitally whereas others still have a long way to go to get there.³⁹ Nevertheless, most publishers seem to be convinced of its merits in terms of saving time, manpower, and money.

Digitization of content

Digitization of content will allow for an additional channel of income as one can either sell single, digital copies online or order a print-run according to interest.⁴⁰ Some publishers already digitize their front list titles, but this is mainly done through third party suppliers.⁴¹ The digitized content is currently not used to explore the local market and/or to experiment with different formats of publication (mobile phones, eReaders, etc.), except for one or two exceptions.

³⁸ The Parliament of Tanzania is in possession of a POD-machine. Visiting the Bunge's Hansards department and the printing office in Dodoma it became clear that this machine is used for printing and copying of small print runs only, whereas the machine can do so much more.

³⁹ From the interviews followed that one publishing company that is relatively digital would be Mkuki na Nyota; at the same time, Dar es Salaam University Press does not have a desktop available at all times for the editorial director.

⁴⁰ With POD machines small print-runs become viable.

⁴¹ Through the African Book Collective (www.africanbookscollective.com), Mkuki na Nyota and Dar es Salaam University Press offer their front list titles as eBooks. LawAfrica has an agreement with LexisNexus from Elsevier who digitises and distributes their content online. None of these publishers, however, exploits their own online content.

Some publishers and universities already run programmes to digitize backlists.⁴² Once content is digital it is pliable and can be programmed to take on any desired format. This will enlarge the market, as publishers will be able to sell the same content in different formats without substantial extra costs. Also it will provide the publishers with the full copyright in all formats. Copyright is the publisher's capital, so the publisher should safeguard its current and future value.

Online Publishing and Open Access (OA)

Digital publishing allows for online publishing and Open Access. Research will be much more visible both in and outside Tanzania. Currently, research papers are often published in university or departmental journals that are not effectively disseminated throughout the country, let alone the rest of the academic world. Cooperation in several fields of science is highly needed in Tanzania, both among Tanzanian scholars and scholars from abroad. Publishing online will facilitate this in the sense that research will get the attention and interest it needs for additional research and cooperation. Open Access, at least for university publishers, can prove a viable publication model to further the reputation of both the university and the researchers who publish.

New Formats, New Devices

As indicated above digital content opens up a whole array of publishing opportunities in different formats for different devices. For instance, Longhorn Publishers is currently running a pilot project together with WorldReader (www.worldreader.com) to offer their educational content on Amazon Kindles for distribution to a selection of 6 nursery and primary schools in Kenya.⁴³ eReader devices are increasingly becoming more sophisticated and even cheaper versions have been developed targeting the educational market in developing countries.⁴⁴ The publishing department of the Kiswahili Institute Studies (IKS), TATAKI, recently launched its Swahili – English and English Swahili dictionaries on mobile phone.⁴⁵ Since mobile phones have taken a huge surge in Tanzania, and basically largely leap-frogged the whole stage of landlines, one can see that the potential of such a device to reach a large market is enormous. Particularly as more content will become available through mobile phone technology, for example Wikipedia announced that it will make its content freely available on mobile phones via

⁴² Longhorn's backlist is fully digitized, E&D Vision and Mkuki na Nyota are working on it, as are most universities (in terms of their journals and their libraries/institutional repositories).

⁴³ 'Longhorn Launches Project to Supply Learners with eReaders', *Business Daily*, 22 January 2012 <<http://www.businessdailyafrica.com/Longhorn+launches+project+to+supply+learners+with+e+readers+/-/539546/1312178/-/hwvdga/-/index.html>> and 'African publishers lag in shift to electronic books, <<http://www.businessdailyafrica.com/African+publishers+lag+in+shift+to+electronic+books+/-/539444/1313940/-/wyl5hgz/-/index.html>>, *Business Daily*, 27 January 2012. See also the Kilgori Project: <http://www.thekilgoriproject.com/electronic-reading.html>.

⁴⁴ The Aakash tablet eReader was launched last year October by the Indian government and costs only US\$35: 'India launches Aakash tablet computer prices at US\$35', <<http://www.bbc.co.uk/news/world-south-asia-15180831>>, *BBC World News*, 15 October 2011.

⁴⁵ To find out more about the mobile dictionary go to: <http://www.iks.udsm.ac.tz/index.php?option=content&view=article&id=100&Itemid=2>

the Orange network to users in Africa and the Middle East.⁴⁶

Printing on Demand (POD)

Given the low print runs of academic titles, Printing-on-Demand (POD) is the most sensible business-model for this field of publishing. Unfortunately, the costs of POD machines are high and the maintenance of them requires skills and knowledge fine-tuned to the POD technologies. There are currently several POD machines in Tanzania, but all are placed at government institutions and one is servicing the Tanzanian Parliament.

Benefits of going Digital

Going digital will have several benefits for Tanzania. It will cut down costs for publishers, which will allow for investments in acquisition and marketing for example. This will result in stronger lists and higher sales. The academic world will be able to reach a larger audience that will in the long run strengthen Tanzanian research. Going digital will also enable Tanzania to bridge a gap in development if it manages to leap-frog technical stages, particularly with regard to digital devices, and does so in a smart way. The enormous growth and penetration of mobile phones is a good example of this. Even though the internet penetration and usage is still small, the mobile phone network with its good 3G network coverage could open up doors.

⁴⁶ Maina Waruru, '[Wikipedia to be free on mobile phones in Africa, Middle East](#)', *SciDev Net*, 13 February 2012.

Conclusions

Academic Publishing

There is a need for a structure that supports the production of indigenous academic publications and helps in catering the demand for it. The implementation of such a structure will open up a potential that can be tapped into both nationally and internationally.

Digital Publishing

Digital publishing is in its infancy in Tanzania. Reasons for this are lack of funding, lack of equipment, and lack of know-how. Nevertheless, publishers and universities understand it will inevitably be the way forward. The process of digitizing backlists is on its way in many companies and institutions and new content is increasingly dealt with digitally. Looking at Tanzania as a whole one could say that there is equipment (and thus adequate funding) and there is know-how, albeit not both at the same time and place. Combining the two is essential for both the publishing industry and the academic world in Tanzania. Strengthening the online presence of academic research carried out in Tanzania will in its turn facilitate additional research and collaborations.

Recommendations

Academic Publishing

The above treated observations translate into the following recommendations:

- ⤴ A training programme that addresses academic writing skills
- ⤴ The same programme will also address the skill of writing research grants and publication proposals.
- ⤴ The existing demand for academic content in a Tanzanian context should be exploited through proper channels of dissemination, this can be reached through:
 - ⤴ Collaboration between universities and between universities and publishers
 - ⤴ Sharing of best practices
 - ⤴ Exploitation of new business models

Academic Writing Skills

- ⤴ A training programme in the fields of academic writing, and research and publication proposal writing. The programme should be certificated by set quality standards.
- ⤴ Parallel to the training programme there should be a “train-the-trainers” programme. This will enable sustainability and ongoing capacity building at the participating universities.
- ⤴ Both programmes should be under frequent quality control by the stakeholders, this to preserve the reputability of the programmes. The reputability will be further preserved by follow-up courses for the trainers.

Collaboration

- ⤴ The spearhead of more collaboration should be a consortium of publishers of academic content.
- ⤴ The consortium should be under the auspices of PATA.
- ⤴ The consortium should be open to every publisher who is willing to make academic publications and supports the efforts to keep academic publishing sustainable.
- ⤴ The consortium will enable the sharing and transfer of knowledge. Skills and knowledge should also be developed through training and workshops. Training could be given on topics, such as: digital publishing, setting-up a university press, journal

management, peer-review, Open Access and Print-on-Demand (POD).⁴⁷

- ⤴ The existing IRs of the institutions involved should be coordinated through the consortium that will improve the searchability and accessibility of their publications. The institutions involved should also be trained to use their IRs more effectively.
- ⤴ A collaborative acquisition of a POD machine should enable the consortium members to make publications in small print-runs, making more a more diverse catalogue possible.

To summarise: there is a need for a structure that supports and fosters the production of indigenous academic publications and helps in catering the demand for it.

Digital Publishing

It is highly recommended that a Publishing Consortium is formed. This could be done under the auspices of the Publishers Association of Tanzania (PATA) for example. Both university presses and commercial publishing companies should be eligible for membership. The consortium should encourage the sharing of knowledge and resources. Additionally, the member-publishers should look into the scenario of purchasing a POD machine jointly. This way, the costs of purchase will be relatively low and the number of people and companies benefiting from it will be optimal. Naturally, a joint purchase like this will be complicated and should not be undertaken lightly. It is recommended that the consortium is formed as soon as possible, that an inventory is made of the different stages of digitization of the member-publishers and of their most pressing needs, and that only then negotiations are started on the purchase of a POD machine, the location where it is supposed to be set up, and regulations on fair and equal use.

The consortium will have the additional task of building capacity among its members. The sharing of knowledge and resources is the first step in this process, generating expert advice from outside the consortium will be the second. Seminars on digital publishing, peer review, and Open Access for example will pave the way for the digital publishing industry of Tanzania.

Collaboration

Through the consortium of academic publishers:

- Sharing of knowledge and resources, based on continuous capacity building through training and discussion
- Establish a 'best practice' to retain and professionalise digital publishing within the consortium with a learning attitude
- A collaborative acquisition of a POD machine should enable the consortium

⁴⁷ The willingness of PATA to collaborate in this project and its interest in workshops is a viable basis for knowledge transfer between academic institutions and commercial publishers.

members to make publications in small print-runs, making more a more diverse catalogue possible. Consortium members can buy in as shareholders of the POD machine, and pay per ratio of use.

- Foster relations with INASP and seek synergy where possible with regard to training in academic and digital publishing.

New Formats for New Devices

Through the consortium of academic publishers:

- Help members to digitize their frontlist and backlist content and approach third-party suppliers to provide this service, for example through *Digital Divide Data* in Kenya (www.digitaldividedata.com).
- Support members to prepare their content in different formats for different devices (mobile phones, eBooks for eReaders, etc.) and provide technical training on how to already include this in the publishing work-flow process.
- Establish an online publishing platform for all PATA members. A feasibility study can be carried out by one of the Incubatees of the *Dar Teknohama Business Incubator* (DTBI) project recently launched in Tanzania. Upon agreement on the platform the same Incubatee could then proceed to oversee its implementation.⁴⁸

Business Models

- Explore (new) business models that work within the Tanzania context, e.g. payment via Mpesa, full or partly Open Access.

The Way Forward

Through this pilot study we sought to establish ways forward to strengthen and encourage academic and digital publishing in Tanzania. Our final recommendation is to incorporate the concrete recommendations into a follow-up project plan that will largely strengthen and partly establish structures that are needed to successfully achieve this. Currently we are laying the final hand on a project plan and have already initiated contacts with possible partners and potential funders. It is our wish to be able to continue with this project that is crucial in the development of elements that will help build a knowledge society in Tanzania.

⁴⁸ For more information on this exciting project go to: <http://www.teknohama.org.tz>

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