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CHALLENGES AND OPPORTUNITIES OF AN IS PHD PROGRAM IN AFRICA

Panel

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Abstract

This panel shares the lessons learnt about the challenges and opportunities of running an IS PhD program in Africa by focusing on cases from Southern Africa, East Africa, and West Africa. The University of Cape Town, South Africa is running a successful PhD program on its own capacity, which can attract PhD candidates from many parts of the continent and beyond. Addis Ababa University, Ethiopia has built the first PhD program in the country and the region, by pooling local and foreign faculty together, which can be seen as a model for many African countries. Ghana Institute of Management and Public Administration (GIMPA) has taken major steps towards building the IS research and management capacities through an impending IS PhD program. The panel will foster a debate on approaches to how Africa should build and enhance an IS research and productivity, given the limited local capacities.

Keywords: Information Systems, PhD Program, Africa, ICT education, ICT capacity building

1. Introduction

Information and communication technology (ICT) education is a very important aspect of the socio-economic development for all countries. A successful transition to a knowledge economy can be attained through four pillars: the prerequisite economic and institutional regime; education; ICT; and innovation (World Bank, 2007).

Africa has already identified ICT as a critical factor in the effort to tackle the unprecedented challenge posed by the transformation process underway in the continent. There is now awareness and serious commitment in the continent that embracing and developing ICT will help to reduce poverty, offer new jobs, achieve a higher standard of living, and improve global competitiveness. While significant improvements are being made in the area of infrastructure deployment, there are few notable achievements in human resource development. Africa will only benefit from ICT if it can alleviate the dearth of skilled and knowledgeable professionals in the field.

The Information Systems (IS) field, also suffering from a human resource shortage, is a critical element because it is concerned with a large range of multifaceted questions regarding the development, use and implications of ICTs in organizations and society (Avgerou 2000). It aims to

enhance people's capacities to develop, apply, use and manage ICTs. Also, it targets to develop people's capacities to undertake innovative science and technology research.

The panel focuses on the challenges and opportunities of IS PhD programs in Africa exemplified by three regional cases: Ghana Institute of Management and Public Administration, West Africa; University of Cape Town, Southern Africa; and Addis Ababa University, East Africa.

The panelists are leading the IS PhD programs and/or institutions hosting them. Furthermore, the panelists and the moderator are representatives of their regions in the ECIS-MEA team (Irwin Brown: Southern Africa, Gamel Wiredu: West Africa, Aysegul Toker: Turkey, and Salehu Anteneh: Horn Africa and convener of the team). The recently established team to promote ECIS in Middle East and Africa (MEA), envisages, as one of its core activities, to conduct a panel at each ECIS to present some aspects of IS in MEA. This panel intends to present the development of IS in Africa and to shed light on the challenges faced and the opportunities to be utilized. We will also use this opportunity to brainstorm on other aspects of IS in MEA for panels for future conferences.

2. Target Audience

This panel is aimed at all faculty that would like to experience IS education and research in African context. It will also be of interest to institutions that might like to participate in faculty collaboration or find professors for collaboration.

3. Panel Objectives

The objective of this panel is to serve as a forum for exchanging ideas among panel members and the audience regarding IS development in Africa. It will present educational and research issues by focusing on the challenges and opportunities of running an IS PhD program. It will foster a debate on how Africa should build its ICT human capacities, particularly at PhD levels, given the limited capacity of its existing educational and training systems.

4. Panel Structure and Format

Each panel member will make a 15 minute presentation on their cases. After that, the discussion is opened for the audience, which will have 45 minutes. The panelists will take questions, comments, and suggestions from the audience and participate in a dialog with audience members. The audience members are encouraged to share their own experiences. Towards the end of the discussion on the topic, we will brainstorm on other aspects of IS in MEA for panels for upcoming conferences. The panel moderator, Aysegul Toker, will summarize the results of the panel.

5. Summary of the Panel Topic – Illustrated by three Cases

Case 1: Challenges and Opportunities of the IS Field in West Africa - Building Management and Research Capacities in Ghana

The contribution of the IS field in Ghana is quite low. The following are some data pertaining to IS and cognate fields in Ghana:

- Almost all tertiary institutions run one or a combination of Computer Science, ICT or Computer Engineering program(s). However, most of them are run at the Bachelor's level.
- Less than 5 Master's programs in all these fields.
- Less than 10 PhD holders in all these fields.
- Only one PhD program in these fields. It commenced in September 2013 at University of Ghana. GIMPA will launch its own in September 2015.
- Very low number of scientific publications.
- Most heads of departments are of Lecturer (or Asst. Professor) rank.

- Most faculty have ‘weak’ qualifications.
- Inadequate capacities of graduates.

Because of this bleak picture of the structures of the IS, they have a low influence on capacity-building in Ghana. To throw more light on the low influence, I want to discuss it from the perspectives of human resource development, science, technology, industry and policy. My discussions will show that these fields are significantly challenging in Ghana.

Case 2: Information Systems in Southern Africa – The Case of a PhD Program at the University of Cape Town, South Africa

The history of the IS PhD program at the University of Cape Town in the Department of IS is closely intertwined with that of the department’s research unit, the *Centre for Information Technology and National Development* (CITANDA). CITANDA was founded by Professor Paul Licker in 1998, with the aim of bringing together researchers, projects, funders, and programs focused on the use of ICT in the service of national development in Africa. It is instructive to note that from the outset the Doctoral program was seen as intimately linked to CITANDA.

The late Prof Roode, known as the father of IS in South Africa, took over as convener of the IS PhD program in 2003, and was at its helm until 2009 when he sadly passed away. As with Prof Licker, Prof Roode saw the doctoral program as integral to the goals of CITANDA, and placed it at the centre of his work at UCT. The focus on the PhD program as central to CITANDA has continued to the present day, with Prof Ojelanki Ngwenyama now running an annual 2-week workshop for doctoral students at the start of the PhD program.

Case 3: Information Systems in East Africa – The case of Addis Ababa University IS PhD Program as a Model for Africa

As a response to the huge projected demand for skilled and knowledgeable IT professionals, Addis Ababa University (AAU) has designed an IT doctoral program with six complementary tracks to attract and maintain a large pool of best talents to research in specific areas of national interest in the field of IT. The IT doctoral program was launched in 2008 by a consortium of academic departments offering computer-related courses at AAU and at the College of Telecom. The consortium was envisaged to pool local scarce resources together, particularly faculty. The program was also targeting to supplement and enhance its local capacity with foreign faculty including the diaspora. The PhD in IS, as one of the six tracks, runs under the umbrella of the IT doctoral program.

The primary objective of the PhD Program is to build graduate PhD students who have the capacity to identify and solve problems related to IT policy, design, development, and implementation in Ethiopia. Students will learn to apply technical and scientific methods and innovative thinking. The program prepares candidates for successful academic and professional careers in Ethiopia.

6. Bio of each panelist, and the panel moderator

Aysegul Toker (moderator) is a Professor of Information Systems at the Department of Management and the Dean of the Faculty of Economics and Administrative Sciences, Boğaziçi University. She has research interests and various publications in the areas of social networks and media, mobile marketing, e-business, customer relationship management, and customer-knowledge management. Her research has appeared in journals such as *Electronic Commerce Research and Applications*, *Journal of Business and Industrial Marketing*, *Information Research*, and *International Journal of Information Management*. She has received several awards for her scholarly work.

Gamel O. Wiredu is an Associate Professor of Information Systems and Dean of the School of Technology, Ghana Institute of Management and Public Administration (GIMPA). He holds MSc and PhD degrees in Information Systems from The London School of Economics and Political Science (LSE), United Kingdom. His research interests are in the relationship between information technologies and organizations. He is particularly concerned with ubiquitous computing in the coordination and control of geographically-distributed activities. His research has been published in international journals such as *Information Systems Journal*, *European Journal of Information Systems*, *Information and Organization*, *Information Technology and People*, *Journal of Global Information Management*, *Cognition Technology and Work*, and *Journal of Education and Work*.

Irwin Brown is a Professor in the Department of Information Systems (IS) at the University of Cape Town. He is the immediate past Director of CITANDA, as well as the immediate past President of the South African Institute of Computer Scientists and Information Technologists (SAICSIT). Irwin's research interests relate to issues around IS in developing country contexts. He has published in outlets such as the *European Journal of Information Systems*, *Information Technology for Development*, *Communications of the AIS*, *Journal of Global Information Technology Management*, *Journal of Global Information Management*, the *International Journal of Information Management and Electronic Journal of IS in Developing Countries*.

Salehu Anteneh is an Assistant Professor at Addis Ababa University (AAU), College of Business and Economics, Department of Management. He is the coordinator of the PhD in Information Systems at AAU as well as the founding president of Ethiopian Chapter of AIS (EthAIS). He is also the founding convener of the ECIS-MEA team. He has received his PhD in Business Computer Science from Martin Luther University Halle, Germany and has served the university as lecturer and researcher for many years, and currently as visiting professor. His research interest is in the area of IT for economic development, information systems management, and decision support systems. He has over 20 years of industry experience working as a consultant for different information systems development projects.

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