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# Cyberspacing higher education and ambiguities in selected critical readings: advocacy for an alternative financial and strategic management regime

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***Abstract:*** **This paper is an attempt to investigate the ambiguities of the cyberspaced higher education metanarrative and to use them as a background from which to illuminate alternative financial and strategic models for universities in Africa and Cameroon. Universities in Africa and Cameroonare now faced with the challenges of a new free market capitalist order marked by a significant squeeze in public subsidies and funding and an increasing need to rely on privatization of capital resources, entrepreneurship startups and incubations. The paper argues that this process of social change will be very challenging for universities in Africa and Cameroon for a number of reasons. The cyberspaced site of the higher education as an organization is full of ambiguities. More critically, the alternative models of financing and strategic management of the university organization is very susceptible to the obsolescence of traditional/modern models of diffusion and adoption, the political economy of financial management, the limitations of the realist paradigms of higher education organizational management, new realities of the cost-effective mode of public university institutions, designing of the new public management performance, agency of social actors and actor-network contingencies.**

***Keywords*****: Cyberspatialization of higher education, diffusion/ adoption, financial management, realist paradigms of higher education, cost-effective mode of public university institutions, new public management performance, agency of social actors, actor-network contingencies.**

## 1. INTRODUCTION

This article is hypothesized on the premise that the cyberspatialization of higher education is a self-contained, self-enclosed, site of its own that is autonomous in its functionality, reflexive in its character and self-governing in its setting. However, the site does not function in a vacuum but is constructed by the critical discourses of financial management. Hence, a continuum is hypothesized comprised of two sites, in which one is cyberspaced and the other is critical, and draws its essence from the political economy of conflicting development policies, modernization projects, public institutions, economies of change and variations of assessment models. In the cyberspaced site, higher education is intertwined with financial management in the sense that higher education has as mission to educate its citizens at the highest level by setting up university institutions. But university institutions are also depressed by diminishing state subsidies and they have to face a competitive environment of free market capitalism in which major reforms are necessary. Thus, it is urgent to re-imagine an alternative regime of financing the activities of higher education and the challenging issue here is how to devise such a critical platform of financial management.

In the following paragraphs, we start off by discussing how higher education is cyberspaced with ambiguities. This will construct the cyberspatialized setting that financial management is targeting. For example, although ICTs are perceived as enhancing higher education learning, and the expectation is that this *optimism* will stimulate their diffusion and adoption

in peer learning and learning-oriented assessment (Keppell, Au, Ma and Chan, 2006), the reality is that they are not embedded in schools as change is *slow* to come. The reasons advanced for this situation are two-fold, namely, that there is still no persuasive evidence showing that learning outcomes will be ameliorated and, that, there is an unsettled debate over the question of defining what ICTs are in education (Livingstone 2012). Debate questions asked include the following: are ICTs a *radically* different idea of teaching founded on new digital literacies and soft skills or are they a system that supports delivery of the *traditional* mode of education? (Livingstone 2012). With the problem of establishing the *benefits* of the digital technology and, at the same time, with *doubts* over alternative benefits, it is unclear whether contemporary society really wishes for a technology-mediated and transformative relationship between learner and teacher.

Prensky's idea of digital natives and immigrants still raises controversy over forms of student characteristics and the effects of such ideas in higher education (Smith 2012). Ideas about learners as 'digital natives' or as tech-savvy, Net generation people, immersed in the emerging technologies and in all learning situations, influence research discourse on educational technology. These ideas on digital natives have become both *popular* and *controversial* with an increasing body of evidence interrogating them (Ibid). Children's access to and employment of computers at school and at home is also prone to controversies as is the case with children in the South-West of England (Kent and Facer 2004). Using a questionnaire survey method from 2001-2003, Kent and Facer (2004) were able to demonstrate with about 1800 children in school and about 190 children at home that there were changing patterns of computer use by children in school and in homes and that computer use in these settings is a function not of *computers* but of the effects of *age*, *gender* and *social economics* (Ibid). The paper concludes that young people's *perception* of ICT use at home and in school is not in terms of 'different *technological* worlds' as previously thought, as evidenced by production of virtual social networks via the deployment of instant messenger mirroring their *social* school contexts. Rather, the suggestion is that effective home–school link methods can be deployed via exploration of home/school boundary permeability (Ibid).

An array of institutional, technical, economic and social constraints on technological innovation has impacted negatively on e-learning in higher education and learning. Dutton, Hope Cheong and Park (2004) portray the case of a university e-learning platform which is actually a virtual learning, enterprise-wide environment. In the study, a variety of themes and patterns are tied to the *social* dynamics of the innovation. Employing variations across instructors in terms of how the technology is used, the authors show that there is a complex *ecology* around the application and employment of ICTs and this explains the faltering development of e-learning in higher education. Friesen (2008) has rightly pointed out that ICTs in education cannot be explained solely by *technology* without inputs from *politics* and *social change*. Thus, its emphasis on technology is defeated because it lies at the convergence point of social, political and technological concerns. This confluence is exemplified by the 'use of the usability' of ICTs, that is, their employment in educational institutions. The author adds that there are certain 'myths' or claims that contain a 'false clarity' and these claims mislead research programmes and priorities. For example, from the viewpoint of e-learning, he maintains that these claims include the idea that Neizens appreciate ubiquitous, "anywhere anytime" access, the world now inhabits a "knowledge economy" and socio-institutional change is inspired by certain fixed "laws" of progress in computer technology. These, he adds relevantly, are overly *technological* simplifications that obscure the complex *social* reality constituted by various conflicting forms of knowledge that work to promote the interests of conservative and hegemonic forces. Similarly, Goodfellow (2011) raises the issue of 'literacies of the digital' in higher education and schools by asking the question: 'what does the conjoining of the terms "digital" and "literacy" add to our understanding of teaching and learning in higher education'? His reading shows that all is not merely technology; digital literacies have the potential to transform ICT pedagogy in higher education, but critical literacy has an even greater and continuing role to play as well. Dutton, Hope Cheong and Park (2004) have also been able to demonstrate that expectations surrounding the role of e-learning should not be too *technologically* focused but should consider technical, *institutional*, *social* and *economic* restrictions on the innovation process; hence the need for a new financial regime.

From the viewpoint of financial management, the question now is how can such a higher education cyberspaced with ambiguities be financially managed and what lessons can we draw from its challenges so as to with an alternative financial regime for higher education in this age of the free market, entrepreneurship startups and incubations? In the following section, we set out to explain ambiguities in the site of higher education as digitized organization from the perspective of critical financial management, to draw lessons from that explanation and chart out perspectives for its future engagement with the digitized higher education sector.

***Statement of research questions***

Given these ambiguities in the cyberspatialization of higher education and finance management, the following research questions for this paper emerge as follows: how can we explain the *undecidabilities* underpinning the ICT space in the areas of adoption and diffusion, policy concerns with decentralization, accountability and transparency, public institutions and budgetary execution, modernization and economic change and assessment models? Second, how can cyberspatialization of the higher education sector be embedded with the ambivalence in finance management in this age of globalization and free market capitalism, when state subsidies are decreasing, competitiveness of universities is increasing, and there is a need for alternative or smart financing to promote entrepreneurship, start-ups and incubators? Third, how can we contribute to a better comprehension of the complex relationship existing between the ICT space of financial services and organisational performance?

## 2. METHODOLOGY AND MATERIALS

The following theories, namely, diffusion of innovation theory (Sin Tan 2009), Stankosky's knowledge management pillar for enterprise learning together with the task/technology fit theory, would form the basis for investigating ICT adoption and diffusion (Omona, van der Weide and Lubega 2010).

The critical realist reading paradigm will be utilized as a means of reading digital policy assessment; this would enable us to reconstruct conditions conducive to 'policy learning' and understand causal mechanisms in the financialization of organizations such as businesses or universities.

The principal agent and transaction costs theory can throw light on the issue of employment of ICTs in public institutions (Cordella and Bonina 2012) like universities.

Neoliberal economic theory is deployed to explain modernization and economic change in ICTs (Akpan 2003) and universities.

The design theory for systems supporting emergent knowledge processes shall be used to discuss the societal challenges (Majchrzak, Markus and Wareham 2012) embodied by higher education.

Agency theory will be used to develop the higher education section on performance management for ICTs (Kagaari, Munene, and Mpeera Ntayi 2010).

The actor-network theory will be employed to investigate ICT implementation in the context of universities of African developing countries.

In terms of methodology, the paper employs reader-response criticism in ICT to build data-sets of readings as expanded 'texts' of hermeneutics with a capacity to illuminate these ambiguities (Armstrong 2009, Larson 2010, Locke and Andrews 2004). It is a method that expands the material (e.g. the political economy of financial management) into the symbolic (Livingstone 2007). The ICT technology becomes a tool of practice, communication, and reflection as well as a tool of motivation, communication, and participation (Akers 2009).

## 3. POLITICAL ECONOMY OF THE CYBERSPACED SITE OF HIGHER EDUCATION

In this section, we propose to evolve the critical literature that explains the cyberspaced higher education as organization by drawing inputs from the political economy of financial management. Many organizations have invested money into the diffusion, *adoption* and utilization of ICTs; but the problem is that there is uncertainty as to whether such an investment is worthwhile. Most of the literature speaks positively of the relationship between ICTs and amelioration of organisational performance, but it also points out contexts where outcomes were deemed to be unfulfilling (Patolo 2012). Patolo (2012) reads a case for technologies as tools for future integration such as automated teller machines (ATMs), credit cards and a centralised computer database; he argues that there is a perceived productive relationship between the employment of ICTs and organizational performance, drawing from the example of the Tuvalu financial services industry. Managers have perceptions about ICT use and access, the derivation of competitive advantage from its use; but there are also challenges of ICT application and integration of future ICT tools. In the resource-based model that Patolo (2012) deploys, there are semi-structured interviews designed to show that ICTs promote collaboration, efficiency, data monitoring and communication, transformation of financial operations and increase in institutional knowledge (Ibid). However, certain key challenges may prevent the organization (i.e. higher education) from fully optimizing its potentials such as unreliable Internet connectivity, limited financial resources, mismanagement of equipment and the threat of computer viruses.

Drawing from ethnicity-impacted organizations (and higher education is one such organization), Beckinsale, Ram, and Theodorakopoulos (2011) point out that there is a comparatively low rate of adoption of ICTs amongst ethnic minority businesses. There are certain causal factors that explain this low adoption rate compared to non-ethnic minority businesses. There is also a play of internal and external factors that shape ICT implementation models. Internal factors like size, strategy and age of organization play with external ones like cultural influences of ethnic networks and business support to shift adoption and ICT implementation attitudes as in Chinese and Asian-owned businesses (Ibid). Some readings (e.g. De Witte and Rogge 2014) show that despite the key priorities of education policy over the last ten years being the adoption of ICT infrastructure investments in educational institutions, research on the efficiency and effectivity of ICT is not yet conclusive. The potentials of ICTs to ameliorate competitiveness of organizations such as small and medium-sized enterprises (SMEs) has long been recognized as quite evident; however, the achievement of this potential has been problematic, and this has resulted to initiation of projects by governments and the European Union to encourage the adoption of ICT and access the promised benefits (Morgan, Colebourne and Thomas 2006). One of the factors identified as having an effect on the level of ICT adoption amongst organizations (e.g. SMEs) is *access* to, and *confidence* in, external specialist advice. There are new ideas in favour of the use of ICTs in schools, but there are also emerging concerns over the content of learning, learning support, challenges and possible changes at level of the educational institution, that may require new tasks and responsibilities for educational policy makers (Claeys, Lowyck and Van der Perre 1997).

De Almeida (2006) reads that there is a relationship existing between the role of ICTs in information system projects and policy concerns in organizations with decentralization (as in India or Bangalore), the advocacy for local government accountability and financial transparency. Transparency is also an issue that caused organizations like the Brazilian government, in view of limitations of the law, to devise an ICT strategy for procurement in order to minimize possibilities for collusion and maximize possibilities for more open transactions (Davies and Fumega 2014). There was no finality about the impactability of ICTs on transparency, the government's ICT procurement strategy, as well as lessons learned, the successes achieved as well as pitfalls of the Brazilian experience (Ibid).

The informatization of higher education as an organization is critical from the perspective of public institutions and budgetary execution. As Hashim and Piatti-Fünfkirchen (2018) report, the digitalization of financial management in public institutions (such as universities) has been thought to contribute to advantages such as fiscal discipline, operational efficiency and strategic allocation of resources. The World Bank, for example, invested resources into digital systems in many public institutions, particularly, in developing nation states; however, informatization of financial management was also susceptible to ambiguities because it was seen as a sophisticated matter involving diagnosis, a systems development lifecycle and coverage/ utilization issues. In order to achieve optimization of financial management information systems, these dimensions must be realized, with a programme to improve budgetary management (Ibid). A number of lessons must be drawn at each stage specified above together with their evaluations, protocol case studies, and reviews (Ibid).

Imhonopi and Urim (2013) make an insightful analysis concluding that ICTs have the potential to construct modernization and transformation in many human sectors, create technological and economic changes and ensure convenience, ease, time and cost-saving advantages. For example, Imhonopi and Urim (2013) analyze the case of a public institution, the Nigerian banking industry, which has abandoned the manual model and embraced the digital one thanks to ICT-enabled services and product innovations that are now ameliorating the experiences of customers. Given its modernisation option, the banking sector needs to embrace the opportunities and possibilities offered by ICTs, by meeting the challenges confronted by ICT-enabled banking services. In this way, the Nigerian banking industry would strengthen its implementation of ICTs and provide customers with a variety of product options and innovations necessary for the banks and citizens to function efficiently in the new global techno-market era (Ibid). Lefley (2013) suggests that financial and risk assessment models deployed by practitioners in the evaluation of both ICT projects and non-ICT capital projects are very similar; however, there are significant differences between the two types of projects in respect to other evaluation questions, such as ICT globalisation, appraisal teams, project champions, and post audits. When organizations or public institutions, like universities, depend more on ICT systems to support rational decision-making, a regular review of their digital technology prerequisites becomes necessary, although this can be very challenging as well, as Lefley (2015) confirms. For example Lefley (2015) argues that traditional approaches to financial assessments are insufficient to evaluate ICT investments because the latter differs in many ways from non-ICT capital investments. We suggest that organizations or public institutions like universities should deploy a greater number of appraisal techniques than was the

case in the past; however, there is no consensus on the actual combination of the techniques. Individual assessment models must be replaced by more hybridized approaches stressing economic and strategic dimensions of choice (Ibid). When traditional approaches to evaluation of capital investment fail, financial managers sometimes deploy decisions that are based on 'acts of faith' or employ less sophisticated financial models to assess sophisticated IT projects (Ibid). It is no longer enough for a positivist model of assessment of IT projects to stress only on accounting; an 'interpretive' method should also be adopted, because ICT investments are sophisticated and therefore necessitate a more complex model of appraisal, involving financial, risk, and strategic assessment factors (Ibid).

## 4. OBSOLESCENCE OF TRADITIONAL ADOPTION/DIFFUSION AND NEW POWER OF CYBERSPACED CONSUMER INSIGHTS

The explanations that can be offered concerning *ambiguities* in cyberspatialization of organizations at the level of adoption and diffusion are that traditional diffusion and adoption models have been rendered outdated, although they still prevail (Taylor and Perry 2005) and preliminary user insight is now emerging as the dominant factor in ICT adoption/diffusion (Lieven and Gino 2004). The cyberspace is being adjusted by a new form of customership that better fits into today's practice, so that the double-peaked is replacing the smoothly bell-shaped space (Lieven and Gino 2004). The PSAP (Product Specific Adoption Potential)-scale is an instrument for acquiring the requisite consumer insights prior to advent of a real ICT-innovation. Consumer insights facilitate communication about the marketability of a product or service so that marketing departments can be better equipped to articulate the best chances for attaining the summit in the adoption curve. This is the case for innovation segmentations pertaining to two products, namely, the third generation mobile telephony (2003, $N$=1006) and the digital television (2001, $N$=624) in Belgium (Lieven and Gino 2004). Thus, this example explains why adoption and diffusion of the cyberspatialization of financial management has been so ambivalent. The traditional pattern of adoption and diffusion is corporate oriented and marked by the cold face of corporate advertising whereas PSAP is consumer and digitally focused and marked by priority given to the desires of the customer. This corporate/consumer dichotomy in the adoption and diffusion patterns of ICTs has rendered the cyberspace, on the one hand, bursting with anxiety and, on the other hand, full of indifference for the new technology.

Secondly, at the level of adoption and diffusion, the cyberspacing of financial management in organizations is always 're-writing' itself as a 'textual space' of various 'translation' processes or phases of an ICT initiative designed to bring modernization to developing countries. Díaz and Urquhart (2010) cite the example of provision of access to internet and computers by underserved Peruvian Andes rural communities. By employing cross-sectional data collected from July to November 2005 with the aid of field notes, photographs and in-depth interviews conducted in eight Peruvian rural communities, supported by background reports and demographic data from the ICT for development (ICT4D) project sponsor, the authors demonstrate that the 'translation' process is complex. The historicity of the ICT4D project is a series of 'translations' with various levels of convergence and devices revealing a complex underlying anatomy of the ICT4D and its assumptions (Ibid). The principal revelation is that when the interests of actors are not aligned and the procedures of the network are not defined by the ICT4D sponsors, they become 'strange' to local communities and the ultimate outcome is that the ground for the network cannot be established, or more precisely, the ICT cyberspace becomes ambiguous.

With ICT4D projects overlaying technological networks over social networks, human communities, like universities, and non-human (i.e. ICT) actions conflict with disparate goals. The alignment of dissimilar goals (that of the project sponsors, of the digital technology and of the beneficiaries) is critical in ICT4D research. So, the interests of recipients have to be engaged with those of sponsors and aligned with the technology in order to minimize this cyberspacing dystopia. The alignment of interests is very critical because ICT4D projects do not exist in a vacuum, but survive only where beneficiaries participate in the employment of ICT. Most beneficiaries are using computers and the internet for the first time, but the point is that there is no obligation for them to deploy the technology, especially when they have competing interests that alienate them from the technology. Consequently, the process of 'translation' becomes non-linear for the ICT4D project since there are multiples of methods to commit to the interests of beneficiaries. The 'translation' process may be realized not only as a linear process but also as a non-linear one as evidenced by the example of a rural Peruvian *telecentre* project.

## 5. BEYOND THE REALIST PARADIGM OF DIGITAL POLICY ON HIGHER EDUCATION

This section attempts to explain how we can understand the digitalization of financial management of online higher education with reference to the context of policy on developing African countries. There is the potential for ambiguities in the cyberspatialisation of financial management of higher education at the level of organizational policy owing to contextual influences with structural impacts leading to discontinuities and instabilities in the immediate ICT project environment. The 'cyberspatialised text' is a 'literary' example of development as discourse. It is an example of a discursive realism where conflicts emerge from ICT4D policy and technology transfer, the adoption of e-government and the application of information systems in developing countries. In this cyberspace, a disconnection is observed between the practice of ICT4D policy that prioritizes diffusion models of positivist technology. There will always be pressure coming from the interpretive and critical contextual worlds of nation states surrounding the 'cyberspaced text'. The 'cyberspace text' is a site of the ICT4D, a productive outcome from a postcolonial perspective that has the power to integrate critical readings of modernity without necessarily transforming itself into a realistic realm. As pointed out earlier, the 'cyberspatialised text' of financial management is a reflexive site of undecidabilities rather than a space of realism.

A major reason for the ambiguities in the 'cyberspatialised text' of financial management of universities is that nation states in Africa that are inspired by the geographical clustering success in California, attempt to pursue cluster policies as well in the expectation to construct the next Silicon Valley in their countries (Hospers, Desrochers, and Sautet 2009). In fact, the case that stands out is the ICT centre in Buea, Cameroon, which is often referred to as the capital of Silicon Valley in Cameroon. But the cluster policy is a risky venture, especially as it attempts to simply copy the success story of globalized 'best practices'. Policy makers should be more creative in developing nation states; they should refrain from the temptation of simply photocopying the Silicon Valley model and paste it in their nation states. Rather, they should start off from a more modest, place-specific model in which 'regional or local realism' is prioritized (Ibid).

## 6. THE COST-EFFECTIVE MODE OF CYBERSPACED PUBLIC INSTITUTIONS

From the perspective of the cost-effective paradigm, universities (like the University of Bamenda, the university of the future) are warming up to transform themselves more into real entrepreneurial public institutions as they function in the post-industrial economy of today. Therefore, while the focus is still on knowledge, as in the old days of the public university, the new emphasis will now be less on knowledge as a public good and more on knowledge as a commodity for capitalization in profit-oriented projects. U.S. higher education institutions are now active in the knowledge-oriented economy and are developing, marketing, and selling the products of research, offering new educational services, and generating consumer goods in the private marketplace (Slaughter, Slaughter, and Rhoades 2004). Clearly, there are policy changes that show new social circuits and networks of knowledge creation and dissemination are emerging, and new structures of organization are expanding managerial capacities to connect higher education and markets (Ibid). There is a growing capitalist knowledge/learning regime in the US, in particular, and other universities around the world, that can be found in administrative comportment, departmental activities and faculty tasks. The characteristics of the regime point, on the one hand, to inner contradictions, between public subsidies of revenue and the shift from a focus on students as customers to a focus on leveraging resources from them. This is the new direction that financial management in the digitized higher education will take. African universities may have to, without renouncing their traditional objective of dispensing knowledge, embrace a startup and incubation regime, so that entrepreneurship projects that were startup ideas incubated in universities (e.g. Google ) can start to see light of day.

## 7. DESIGNING THE E-PERFORMANCE OF NEW PUBLIC MANAGEMENT

The rise of neoliberal capitalism and the 'new public management' discourses generated in the 1980s /1990s engendered a basic shift in how higher education institutions justified their functionality (Olssen and Peters 2005). For example, the classical culture of the public intellectual marked by open enquiry and debate, is now being challenged by a new institutional emphasis on strategic planning, thought leadership, quality assurance measures, performativity, measured outputs, performance indicators and academic audits. Unlike in the past, a close connection is now established between free market capitalism, globalization, the knowledge economy and neoliberalism. In this capitalist environment, higher education, the policy now is for universities to become the key drivers of the knowledge economy creating links with businesses, industry and new venture partnerships. Higher education is no longer just knowledge production, it is also promotion of new performative measures to strengthen output, improve greater entrepreneurial skills and attain new welfare targets.

## 8. AGENCY OF SOCIAL ACTORS IN NETWORK COMMUNITIES

From the viewpoint of agent theory of finance management in the context of digitized higher education, the future is one in which the ambiguities in the cyberspaced site will construct interchanges that have potential effects. One of the likely effects will be that universities in Africa may gradually stress less of the budget formula that depends on student enrolment and opt for a more qualitative model that prioritizes rationalization of budgetary discourse, institutional sovereignty and the university's resource needs (Covalesk and Dirsmith 1988). This conclusion is suggested in this paper because, in the course of time, social expectations of relevant organizational behavior and action come to take precedence over traditional procedures. These expectations are then adopted by individual university organizations, given their potential for ambiguities, and they gain wide acceptance. Seen in this light, a university's budget is a unit in its formal structure that enables it to justify itself in the face of the competitive context.

Nevertheless, we should add that university institutions do not function in a cyberspaced vacuum only as illustrated from the beginning of this paper. Individual agents also play roles that are critical to that cyberspace. Universities are often seen merely as long term organizations that are passive and embed social expectations. But we also need to consider the other side of the ambivalence, namely, that social actors can also have the agency by which they impact change and implement expectations. This paper acknowledges this fluidity in the discourse of higher education.

## 9. ACTOR-NETWORK INSIGHTS INTO THE FUTURE OF DIGITIZED HIGHER EDUCATION

Beyond the ideas of community in higher education are notions of networked learning. Networked learning is a movement in higher education that advances an alternative models of learning by constructing virtual communities in higher education (Fox 2005). The work of Benedict Anderson can be drawn upon to comprehend the notions of community and 'the nation' as a prototypical community. A critique of the notion of community in higher education is very vital to understanding how it will likely develop in the future. The concept of the network organisation from the viewpoint of the digitally cyberspaced university would need to consider the effects of ICTs on organisational finance management, teaching and learning issues. The introduction of new technologies into digitized organisations can be ambiguously oppressive or transformative because the university experience in Africa highlights pre-existing oral cultures in the continent, new religious practices and social narratives that guide the meanings and uses of ICTs in the organisational settings of universities. We suggest here that network organizations are not a single coherent entity motivated by a single technological logic; rather, network technologies are socially embedded and can be very diverse in their articulation (Lewis, Marginson, and Snyder 2005).

We also suggest that sociological theory will be very critical to understanding the role of youths, education and digital technology. There are obvious shortcomings in the technological and socially determinist views of digital education prevailing now in academia and in policy discourse. The future of digitization of higher education needs to incorporate the social shaping of ICT technology as well as studies of digital technology domestication, feminist critical theory and the political economy of cyberspace technology in both informal and formal educational settings (Selwyn 2012).

## 10. CONCLUDING REMARKS

Research findings from this paper suggest that a critical reading of the 'cyberspatialised text' of higher education has implications for appreciating the strategic role of finance management of the organization, in which e-governance, agency, design, and time are critical factors for rapid institutional, social and political changes. The paper proposes that development agencies and political leaders should serve as agents (interpreters and mediators) of the ICT strategic project in its competitive context of today. ICT development for higher education and its financial management are not a linear process from a starting to a finishing point but a dialectical progression towards a transformative *praxis*, that requires us to rethink the meaning of failure or success of the digitization policy in a postcolonial development setting such as Africa or Cameroon. The cyberspaced site is seriously impacted by changes taking place in postcolonial nation states characterized by structures such as culture, and agency, with an overruling direction towards greater freedom. A main finding from this paper is that there is need for a new approach to higher education where change in its financing regime is conceived within a dialectical framework that considers people as being ethical and moral beings possessing contradicting values.

The deployment of the reader-response critique in this article has been very useful at the level of multimodal layering in the digital literature of financial management on the cyberspaced university discourse, and its affective, aesthetic, critical and interpretive responses of authors (Simpson and Walsh 2015). The responses stressed on the importance of text scaffolding, but also on the development of meta-language in critical form.

## REFERENCES

[1] Akers, A.T.T., 2009. Perceptions of talk, text, transactions, and technology: Preservice teachers, CMC, and reader response.

[2] Akpan, P.I., 2003. Basic-needs to globalization: Are ICTs the missing link? *Information Technology for Development*, *10*(4), pp.261-274.

[3] Armstrong, K., 2009. From IA Richards to web 3.0: preparing our students for tomorrow's world. *World Academy of Science, Engineering and Technology*, *58*, pp.954-961.

[4] De Almeida, M.O., 2006, Role of ICT in diminishing collusion in procurement. In *International Public Procurement Conference Proceedings, September* (pp. 21-23).

[5] Beckinsale, M., Ram, M. and Theodorakopoulos, N., 2011. ICT adoption and ebusiness development: Understanding ICT adoption amongst ethnic minority businesses. *International Small Business Journal*, *29*(3), pp.193-219.

[6] Claeys, C., Lowyck, J. and Van der Perre, G., 1997. Innovating education through the use of new technologies: Reflections from the field (Part 1). *Education Media International*, *34*(3), pp.144-152.

[7] Cook, M.J., 2018. *Information technology governance and local public financial management reform: the case of Bangalore, India* (Doctoral dissertation, Massachusetts Institute of Technology).

[8] Cordella, A. and Bonina, C.M., 2012. A public value perspective for ICT enabled public sector reforms: A theoretical reflection. *Government information quarterly*, *29*(4), pp.512-520.

[9] Covaleski, M.A. and Dirsmith, M.W., 1988. An institutional perspective on the rise, social transformation, and fall of a university budget category. *Administrative science quarterly*, pp.562-587.

[10] Davies, T. and Fumega, S., 2014. Mixed incentives: Adopting ICT innovations for transparency, accountability, and anti-corruption. *U4 Issue*.

[11] Díaz Andrade, A. and Urquhart, C., 2010. The affordances of actor network theory in ICT for development research. *Information Technology & People*, *23*(4), pp.352-374.

[12] Dutton, W.H., HOPE CHEONG, P.A.U.L.I.N.E. and Park, A., 2004. An ecology of constraints on e-learning in higher education: The case of a virtual learning environment. *Prometheus*, *22*(2), pp.131-149.

[13] Fox, S., 2005. An actor-network critique of community in higher education: Implications for networked learning. *Studies in Higher Education*, *30*(1), pp.95-110.

[14] Hashim, A. and Piatti-Fünfkirchen, M., 2018. *Lessons from reforming financial management information systems: a review of the evidence*. The World Bank.

[15] Hospers, G.J., Desrochers, P. and Sautet, F., 2009. The next Silicon Valley? On the relationship between geographical clustering and public policy. *International Entrepreneurship and Management Journal*, *5*(3), pp.285-299.

[16] Imhonopi, D. and Urim, U.M., 2013. ICTs and the digitisation of the banking industry in Nigeria: A sociological appraisal.

[17] Kagaari, J.R., Munene, J.C. and Mpeera Ntayi, J., 2010. Performance management practices, information and communication technology (ICT) adoption and managed performance. *Quality Assurance in Education*, *18*(2), pp.106-125.

[18] Kent, N. and Facer, K., 2004. Different worlds? A comparison of young people's home and school ICT use. *Journal of computer assisted learning*, *20*(6), pp.440-455.

[19] Keppell, M., Au, E., Ma, A. and Chan, C., 2006. Peer learning and learning-oriented assessment in technology-enhanced environments. *Assessment & Evaluation in Higher Education*, *31*(4), pp.453-464.

[20] Larson, L.C., 2010. Digital readers: The next chapter in e-book reading and response. *The Reading Teacher*, *64*(1), pp.15-22.

[21] Lefley, F., 2013. The appraisal of ICT and non-ICT capital projects: a study of the current practices of large UK organisations. *International Journal of Managing Projects in Business*, *6*(3), pp.505-533.

[22] _____ 2015. The appraisal of ICT and non-ICT projects: A study of practices of large UK organisations. In *The FAP Model and Its Application in the Appraisal of ICT Projects* (pp. 34-67). London: Palgrave Macmillan.

[23] Lewis, T., Marginson, S. and Snyder, I., 2005. The network university? Technology, culture and organisational complexity in contemporary higher education. *Higher Education Quarterly*, *59*(1), pp.56-75.

[24] Lieven, S.D.M. and Gino, B.V., 2004. ICT-innovations today: making traditional diffusion patterns obsolete, and preliminary insight of increased importance. *Telematics and Informatics*, *21*(3), pp.235-260.

[25] Livingstone, S., 2007. On the material and the symbolic: Silverstone's double articulation of research traditions in new media studies. *New media & society*, *9*(1), pp.16-24.

[26] Livingstone, S., 2012. Critical reflections on the benefits of ICT in education. *Oxford review of education*, *38*(1), pp.9-24.

[27] Locke, T. and Andrews, R., 2004. ICT and literature: A Faustian compact. *The Impact of ICT on Literacy Education*, pp.124-152.

[28] Majchrzak, A., Markus, M.L. and Wareham, J., 2012. ICT and societal challenges. *MISQ special issue call for papers*.

[29] Morgan, A., Colebourne, D. and Thomas, B., 2006. The development of ICT advisors for SME businesses: An innovative approach. *Technovation*, *26*(8), pp.980-987.

[30] Olssen, M. and Peters, M.A., 2005. Neoliberalism, higher education and the knowledge economy: From the free market to knowledge capitalism. *Journal of education policy*, *20*(3), pp.313-345.

[31] Omona, W., van der Weide, T. and Lubega, J., 2010. Using ICT to enhance knowledge management in higher education: A conceptual framework and research agenda. *International Journal of Education and Development using ICT*, *6*(4), pp.83-101.

[32] Patolo, T., 2012. Manager's perceptions of the relationship between the use of ICTs and organisational performance: case study of the Tuvalu financial services industry: a thesis presented in partial fulfilment of the requirements for the degree of Master of Management in Business Information Systems at Massey University, Albany, New Zealand: Massey University (Doctoral dissertation, Massey University).

[33] Selwyn, N., 2012. Making sense of young people, education and digital technology: The role of sociological theory. *Oxford Review of Education*, *38*(1), pp.81-96.

[34] Simpson, A. and Walsh, M., 2015. Children's literature in the digital world: how does multimodality support affective, aesthetic and critical response to narrative?. *English Teaching: Practice & Critique*, *14*(1), pp.28-43.

[35] Sin Tan, K., Choy Chong, S., Lin, B. and Cyril Eze, U., 2009. Internet-based ICT adoption: evidence from Malaysian SMEs. *Industrial Management & Data Systems*, *109*(2), pp.224-244.

[36] Slaughter, S., Slaughter, S.A. and Rhoades, G., 2004. *Academic capitalism and the new economy: Markets, state, and higher education*. JHU Press.

[37] Smith, E.E., 2012. The digital native debate in higher education: A comparative analysis of recent literature. *Canadian Journal of Learning and Technology*, *38*(3), p.n3.

[38] Stanforth, C., 2006. Using actor-network theory to analyze e-government implementation in developing countries. *Information Technologies & International Development*, *3*(3), pp.pp-35.

[39] Taylor, M. and Perry, D.C., 2005. Diffusion of traditional and new media tactics in crisis communication. *Public Relations Review*, *31*(2), pp.209-217.

[40] De Witte, K. and Rogge, N., 2014. Does ICT matter for effectiveness and efficiency in mathematics education?. *Computers & Education*, *75*, pp.173-184.