

# Project Management Readiness: A Glimpse into the Troubled Rhetoric and the Expected Delivery of 2020 Priority Action Projects in Africa

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**Abstract:** Several studies have documented that Africa's infrastructure construction firms often do not meet defined project objectives regarding; time, budget and functionality. This has often caused; delays, abandonment or disillusionments on the side of investors. Several contributing factors to these failures have been identified. However, very little if at all, seems to have been done on the project management readiness of African construction firms. Accordingly, this paper sought to assess Africa's construction industry readiness to deliver the priority action projects. Using literature review method, the study established that Africa has a huge technical skills gap which is the main reason for the dismal performance in construction projects' delivery. A readiness training model was developed for policy planners and educational practitioners to help build Africa's human capacity in infrastructure project management. The paper strongly recommends for the adoption of the model. And with that, the Africa's construction stakeholders may gradually improve their project management readiness.

**Key words:** readiness, project management, skills

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## I. Introduction and the background

Research related to construction project management readiness has been explored widely but which continues to attract great interest especially for the African continent. A construction project management is defined by (Ofori, 2013) as an undertaking to deliver certain construction project tasks by an organization or a program within a set of agreed; quality in terms of specifications, time, and budget together with handing over schedule, for the mutual benefit of all the team members. The goal of project management is to make the invisible visible, so that shortcomings are managed before they cause failure in a project (Cooke and Tate, 2005). Scholars like (Kenny, 2007) add that construction projects do contribute in a significant manner to wealth creation for all nations, a claim which had earlier been put forward by (Smith, 1776) in his book, 'the wealth of nations'. In fact, according to a global forecast for the construction industry by (Betts et al.2011), construction related activities may account for 13.2% of gross domestic product globally by the year 2020.

Despite the above stated potential, several accounts show that the African continent has the lowest infrastructure development in relation to other regions (World Bank, 2008), yet it is a home to one sixth of the world population (Gannon and Liu, 1997). This infrastructure development deficit continues to threaten the realization of the highly hailed Millennium Development Goals' target of year 2030 in Africa (Ayogu, 2007). Accordingly and in an effort to close the gap, the African Union Commission energized itself by having in place a new mission of integration through infrastructure development (Golubsk,2017) from which the delivery of the priority action projects is planned for 2020 (Kodongo and Ojah,2016). Realizing these initial mega construction projects (MCPs) will be a major milestone to African leaders; a legendary project success mark according to (Pinto and Slevin ,1988). Conventionally, achieving the desired project delivery success can be easy if only the performance tools are well utilized by Africans construction stakeholders (Ofori-Kuragu et al.,2016).

Unfortunately, according to (Ika, 2012), projects in Africa are failing which may be a clear sign that there is lack of readiness on the part of African stakeholders to project manage them. This happens at a critical time, when the time allocated for the delivery of Africa's critical priority projects is quickly running out (Qobo, 2014). In addition (Ika and Donnelly, 2017) further stress that such construction projects can only be successful if the stakeholders' commitment is guaranteed. This therefore means that, the delivery of the 2020 MCPs is pegged on the contribution of African stakeholders. And it must be noted that ,the short term projects' success has a direct bearing on the long term goal of Africa agenda 2063 (Signé, 2017). These projects aim to open up Africa to give her citizens a room for tapping her unmatched potential as (Crowther, 1985) had stated in his

book “Africa on a shoestring”. The need for Africans participation in the MCPs has also been sounded by scholars like (Zawdie and Langford, 2019; Zuofa and Ochieng, 2016).

There have been many studies focusing on Africa’s construction project management. Among them include; (Muriithi and Crawford, 2003) which analyzed the principle management approaches. Their interest was based on the fact that African countries’ development psychology are still in the shadow of their former colonial masters, intellectually, culturally, and economically as was asserted by (Ngugi,1993).Other researchers have delved deeply in the identification of project performance factors (Ofori,2013;Ofori-Kuragu et al.,2016).Many other scholars have assessed readiness for adoption of various specific project management items. For instance,(Abubakar et al.,2013) assessed readiness by Nigeria construction firms to adopt Building Information Modeling (BIM).After a few years,(Akaba,2016) assessed readiness for adoption of project management principles by emerging construction firms in South Africa similar to what (Aziz and Salleh,2011) did in assessing readiness for adoption of information technology . On their part, (Kolo and Ibrahim, 2010) assessed value management in Nigeria construction firms. Interestingly, (Ika, 2012) assessed the reasons why African construction projects fail. And most recently, (Kaba, 2019)) assessed readiness for adoption of information communication technology systems to manage donor aid projects in Africa. The study by (Abramo and Onitiri, 2007) on project ‘team readiness’ seem to have broken the ice on the scholarship on construction project management readiness.

As can be gleaned from the foregoing, most of the existing literature have focused majorly on the working of the organizational processes and very little on human side factors or administrative capacity as described by (Rondinelli, 1976). Stemming from the framework developed by (Kaba, 2019) on project readiness on three pillars; personal leadership, self efficacy and environmental enablers, this study aims to identify the human skills gap in Africa as a key factor of project management readiness with a view to proposing a solution.

Bangaly Kaba’s paper while discussing on leadership pillar as a project management readiness factor, illuminated on the issues like; technical competency, past experience, flexibility, learning ability, self efficacy and environmental adaptability of the project manager but failed to highlight how African countries are fairing in terms of real number in engineering skills. The old project administration has been the conventional public administration training — based on legalistic, centralized, regulatory procedures — which are not adequate to deal with the dynamics of change especially on the philosophy of managing MCPs (Konstantinou, 2016). We on our part hereby propose a conceptual model which explains the all-round training model for project managers as a factor of project management readiness to successfully deliver such projects in Africa using (Müller and Klein, 2018) analytical lens.

The next sections are outlined as follows. Section 2, we present our methodology. Section 3 briefly outlines the literature review on readiness theory. Section 4, presents related work on construction project failures in Africa. In section 5, we present findings. Section 6 is our discussion on the findings and recommendations thereto. And finally in section 7, we present our concluding remarks.

It is important to explain the meaning of a few terms. First we begin with the definition of a project. A project is any series of activities and tasks that have a specific objective to be completed within certain specifications; have a defined start and end date; have funding limits; consume money, people and equipment; and are multifunctional (Turner, 2006;Kerzner, 2013).And “mega project” is defined as ‘ a large-scale, complex infrastructure project usually commissioned by governments and delivered through partnerships between public and private organizations, with multiple partners, high uncertainties, and considerable political stakes (Lehtonen,2014). Second is “Africa” which (Muriithi and Crawford, 2003) describe loosely as all those countries on the African continent including the Islands of Madagascar, Mauritius, Reunion and Seychelles. Third is ‘project management’ which (Project Management Institute, 2013; Müller and Turner, 2007) define as the disciplined application of knowledge, skills, tools and techniques to project activities to meet the project requirements.

Fourth, (Aziz and Salleh,2011) stated that the term “readiness” has no specific definition because it depends on various contexts, different situations and different users.Generally,the authors maintain that the term readiness is to measure the capability to adopt a new system say for example information technology prior to its implementation in an organization or program. For our case, we propose that readiness is the availability of skilled technical staff to oversee MCPs in Africa .This is a slight modification from assertion by (Abramo and Onitiri, 2007) which reads “readiness” as being the organizing of a training class for a topic which is essential to the project execution, or complex management of finances, procedures, documentation, and knowledge transfer activities, to ensure staff readiness prior to critical project tasks.

It is also important to bring to light the basic fact that ‘the Africa Union Commission’; the project owner and ‘the MCPs” themselves are both viewed as temporary organizations as per the observation by (Lundin and Söderholm, 1995) in their article “a theory of the temporary organization”. This stems from the fact that the success of the Africa Union as a project is dependent on its prevailing leadership which is governed by four factors among which are; time, task, team and leadership transitional arrangements in the same manner it is

for the successful delivery of the planned MCPs. These projects are deeply problematic, because they produce failure upon failure. Most of the time this impacts people mainly in terms of financial losses, which is bad enough for taxpayers and other investors who fund major projects (Flyvbjerg, 2011). That is why in this study we stress on training for project management sustainability as envisioned by (Silvius and Schipper, 2014) who emphasized on the need for acquisition of knowledge on standards of project management competencies by managers.

It is however taken here that, the African Union Commission (AUC) is a long-live project, at least up to 2063 and the MCPs are country specific managed. For example, the transport corridors' developments are managed by host countries but belong to the entire Africa continent as "a good" (VPiC, 2018). Due to this "common poolness" of the MCPs, we here, are borrowing from the thinking of Garrett Hardin on the responsible utilization of common pool resources (Hardin, 1968). This means both AUC and MCPs are separate entities but are mutually dependent (Packendorff, 1995). Hence therefore, a need for universal project management readiness across all African nations presents itself especially one that matches leadership to project type (Müller and Turner, 2007). It is our argument that this kind of thinking may be our possible contribution to the theory of project management readiness (Whetten, 1989).

## **II. Methodology**

Our main goal in this study was to identify the human skills gap in Africa as a key factor of project management readiness for the delivery of year 2020 Priority Action Projects in Africa. This was done through a scoping literature review. This method was used because it is a process to review and evaluate printed documents and electronic materials (Sallabaş, 2013). It offers for exploration and analysis of criteria from previous researchers to measure the organization's readiness towards project management. To assemble the relevant sample, we deployed two search phrases; "project management" and "construction project management readiness in Africa". To maximize the breadth of coverage, we set no time restriction to the search. Literature reviews from conferences, proceedings and journals, which summarized organization readiness, were analyzed. By referencing existing literature reviews, it appears that the relevant methods have been identified (Haug & Pedersen, 2011). Given the credibility of the journal and the proceeding in which they were published, it appears reasonable to deduce that the most relevant findings were discussed.

Published articles without the key words were dropped, while the selected ones were further subjected to a quick reading of their abstracts before ultimate inclusion in the final list. Those papers with too redacted abstracts had their full texts read before inclusion.

We were able to place in our hand very few relevant articles on the topic because of low research effort activities before in the area. To continue our study, however, we extrapolated our lens to cover a wider literature on the general readiness assessment in other domains. Such studies acted as cornerstones in this subject which our study could not afford to ignore. We fished a few papers describing project management readiness in terms of skills. In others, we found papers on organizational capacity with a focus on readiness to adopt certain new ideas like technology innovation, new management styles and principles. While in other papers, we established that the focus was on identification of performance factors, success factors or barriers to project delivery. From this collection, the work began.

## **III. Literature review on project management readiness theory**

The project management as a distinct role in organizations has been discussed for close to seven decades. Its processes and the training of project managers (PM) must consider the impact of organizational change on the success and failure of project implementations (Hornstein, 2015). In Africa however, studies to identify primary reasons contributing to poor construction sector performance, in terms of time, cost, quality and utility have attribute them to the socialization of Africans themselves (Rwelamila et al., 1999). Some authors like (Mbigi and Maree, 1995) have argued that, for African organizations and firms, the challenges of social and political innovation far exceed the technical challenges. The success of construction projects in Africa therefore seem to depend largely on the management transformation as per its indigenous metaphors (Swartz and Davies, 1997). To that extent, it easy to agree that African culture still holds sway in organizational management success or failure (Muriithi and Crawford, 2003). But with the ongoing globalization, knowledge transfer within the construction industry is meant to cause culture change towards western project management styles albeit slowly (Wells, 1986).

Readiness theory has been applied in many studies although it still remains without a universally agreed meaning. In war and conflict resolution studies, readiness theory was used to deliver a peaceful settlement of apartheid war in South Africa according to (Pruitt, 1997). In this domain, two factors determine readiness to a successful project delivery; a mutually hurting stalemate which cannot be escalated further by any other means (Zartman, 2000), and a mutually perceived way out based on the ripe moment (Zartman and de Soto, 2010).

In the adoption of information technology by construction firms, (Aziz and Salleh, 2011) used three construction readiness assessment models in an effort to reduce the apparent frequent IT projects' failures in the sector. The results helped in developing a new model which the authors believe, broadened the area of readiness research in construction industry thus creating awareness among the construction industry players on the importance of assessing the readiness level in organization to successfully implement IT projects.

(Abubakar et al., 2013) assessed readiness by Nigeria construction firms to adopt Building Information Modeling (BIM) using technology adoption model (TAM). In addition, (Akaba, 2016) assessed readiness for adoption of project management principles by emerging construction firms in South Africa using survey questionnaire. On their part, (Kolo and Ibrahim, 2010) assessed value management in Nigeria construction firms using quantitative survey method which found that the Nigeria construction industry (NCI) is lagging behind in terms of service delivery and capacity to satisfy the needs of its clients. Most recently, (Kaba, 2019) assessed readiness for adoption of information communication technology systems to manage donor aid projects in Africa using open comprehensive literature review which found that most IT aid projects fail due to lack of readiness when they are being launched. The study produced an analytical framework to IT aid project readiness assessment in order to reduce failure rate. The present study develops a conceptual framework to focus project management readiness assessment on human factor side as opposed to organizational system based on skills development.

#### **IV. Related work in readiness to deliver construction projects in Africa**

A fast growing economy like the one of sub Saharan Africa (SSA) region usually has many construction projects according to (Kirchberger, 2018). But while this is the case, he lists four factors that usually lead to the said projects' poor completion rates. One, the readiness by the contractors to take up the jobs. For example, (Zhang, and Gutman, 2015) found that only 25% of SSA domestic firms had participated in supplying World Bank civil works in their countries between 1995 and 2013; which is the smallest for any region globally. The local capacity improvement of African construction firms is on a worrying trend as further added by (Kharas et al. 2014) in which they remind governments to pay more attention on the firms to solve growth sustainability question.

Two, institutional barriers like; stringent procurement rules and by extension lack of financing to the contractors according to a study by (Asher et al., 2016). The study went on to highlight a case of road maintenance works contractors' short listing in Tanzania where 30% of bids were rejected at the preliminary evaluation stage due to some simple mistakes. Three, lack of critical inputs like; technical skills, raw materials and exorbitant costs of machinery hiring. Fourth, poor governance and corruption. It is claimed; public civil works are prone to corrupt practices according to (Transparency International, 2011) in their 'Bribe Payer's Index 2011' report. The latter has a significant effect on costs (Kenny, 2007). The analysis of costs with a focus on governance capacity, corruption and political stability by (Collier et al., 2016) on 3,322 unit cost of work activity by World Bank found that corruption increases cost by 30% in a similar fashion as that of political instability factors as reported by (Benamgharand Iimi, 2011) for the case of procurement efficiency of rural road projects in Nepal.

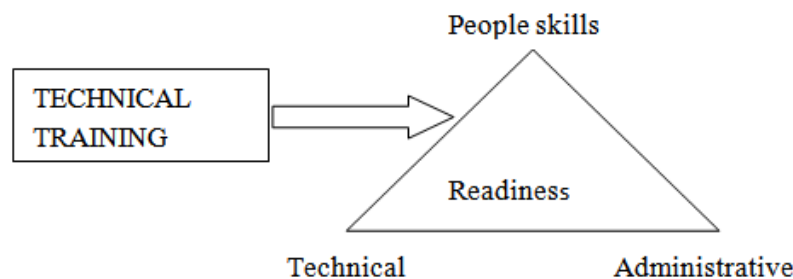
The lack of readiness by African construction firms to deliver projects has led to serious housing shortages. (El-hadj M. Bah et al., 2018) in their housing market dynamics in Africa book has highlighted huge housing gaps in most African cities. In 2014, they state that Africa had a housing gap of about 50,562,000. Unfortunately, the small and medium construction companies were not able to deliver such large scale housing developments to meet the demand. According to the same authors, the contractors fail to deliver due to use of inefficient construction methods reaffirming an earlier assertion by (AbouRizk, 2010).

The African contractors have delayed many projects including rehabilitation ones. In West Africa, a study by (Adams, 1995) listed several reasons why domestic contractors do fail to deliver projects on time, using the case of Nigeria. Some of the reasons he identified include; difficulty in timely sourcing of materials, delayed invoice payments, lack of capital and fluctuating workload. A review study by (Doraisamy et al., 2015) had reported that quite a number of construction projects in African countries are either not completed or outrightly abandoned, Nigeria being a typical example. The reasons for abandonment are varied and require an in depth research, the authors concluded.

Further, the same review study by (Doraisamy et al., 2015) listed some additional reasons for poor project management by African contractors. These include; poor communication, lack of trust between project actors, law suits, cash flow challenges and management anxiety due to a host of other factors. The factors include; incorrect estimates, unskilled personnel, inadequate planning, poor risk management skills, poor quality control by regulators and corruption. And sometimes outright lack of communication skills (Zulch, 2016) often leads to many projects' delivery delays. The delays occasion cost escalations (Omorieg and Radford, n.d); a condition (Flyvbjerg, 2014) has described as the disease of "over budget, over time, over and over again". These myriad management challenges have become ubiquitous with most African contractors particularly the case of

poor workmanship as reported by (Rwelamila, 1999) on his article ‘quality and efficiency of the African construction industries’. For example, (Snyman and Smallwood, 2017) in a study to help improve productivity of construction businesses in South Africa stated that the domestic firms lack creativity and /or innovation. As a result, they use loss making construction methods.

From the foregoing, it is clearly evident that the human skills are the missing factors in project management readiness. We argue as (Cowie, 2003) that, ‘hard’ and ‘soft’ skills, are needed in project delivery. This parallels the reasoning by (Razaghi, 2015) who emphasized the prioritization of managerial skills based on Katz’s theory whose principles rotate around the; technical competency, human competency and administrative competency. (Allais, 2012) on his part affirmed that such skills have the potential to save us.



**Project management readiness training conceptual model for Africa**

Focusing on the technical skills development using Infrastructure Skills for Development model by (Cardno, 2016), the trained personnel are expected to go through a readiness training program which primarily focuses on the three Katz’s human skills cornerstones with special emphasis on people skills at the apex. And we take the view that mega projects are a very different type of projects to manage as advised by (Flyvbjerg, 2014). And that is the reason we are proposing a new kind of learning process centered on management philosophy that is able to deal with the uncertain but regular dynamic changes as suggested by (Gauthier and Ika, 2012). To realize this feat, the readiness training program will aim to produce a new crop of an occupational groups with controlling expert knowledge purposely linked to the management of mega infrastructure projects in Africa (Abbott, 1988). The expectation is to have in place a critical think tank equipped with organizational project management; serving their nations on one hand and are at the same time hierarchically linked to achieve the strategic initiatives of the African Union Commission’s project goals (Drouin et al., 2016). This will yield a good project governance and up the project success rates within Africa (Joslin and Müller, 2016).

## **V. Results**

From the analysis of the existing literature on Africa’s infrastructure projects’ management readiness, we find that institutionally, the firms are poorly equipped to deliver the projects. For example, in the review work by (Ofori, 2015) on the nature of Africa’s construction industry, its needs and its development, he singled out project leadership as a key factor of success. He traced the success story of construction firms in Singapore. He found that, in Singapore, growth and progress in construction industry business is highly hailed globally. And this success, he adds, was due to Singapore’s adoption of the model preferred by Asia-Pacific region focusing on technical and vocational education (Kangan, 1974) and training program as observed by (Maclean et al., 2013). These schemes are currently being introduced in Africa, no wonder the construction sector is yet to be efficient.

## **VI. Discussion and recommendations**

Following from Singapore’s success story in infrastructure project management readiness through skills development, it is our view that the Sub-Saharan Africa market can try the cooperative action approach as suggested by (Richard et al., 2004). This is a sort of team work needed in the governance of supply chains in the building industry as discussed by (Voordijk et al., 2000). It produces personnel with lean management skills for public infrastructure projects (Arnaboldi et al., 2004). Additionally, (Kingombe, 2014) on his part, maintains that the training should be on both ‘hard’ and ‘soft’ skills for sustainable development. He reckons that Africa has a huge deficit on “hard” physical infrastructure but at the same time the “soft” infrastructure like sustainable peace, regulatory institutions, human skills development also need to receive an equal or more emphasis.

It is our argument here that African construction firms should follow same approach to improve their internal technical capacity endowment according to (Biggs et al., 1995). The firms approach was envisaged to

initiate skills transfer to spur growth in Africa as was viewed by (Gibb, 1997; Boye et al., 1988). This was tried in Kenya through the effort of (Paul, 1986) for the manufacturing sector in Kenya. In the 1990s, saw the emergence of technology transfer and spillovers from foreign affiliate firms for knowledge sharing through local participation (Blomstrom and Sjöholm, 1998) which we think is required for the mega complex construction projects in Africa. Other efforts have focused on the need to improve the quality of engineering education in Sub-Saharan Africa as observed by (Mohamedbhai, 2015) which is currently starving the domestic skilled labor market demand. Professor Calistus Juma, the author of the book “innovation and its enemies: why people resist new technologies”, on his part, recommended for the creation of new a generation of engineering schools for Africa’s productive sector (Juma, 2016).

This is the same reason (McCowan, et al., 2016) acknowledged that higher education is pivotal to development in their article ‘universities, employability and inclusive development: repositioning higher education—’. He maintains that such a strategy may improve the research and development skills as well for Africa which is currently performing dismally in the global ranking as stated by (Duermeijer et al., 2018). While developing such critical skills for Africa, the focus must not drift from mega construction project management requirements according to (Ratcheva et al., 2017) to move the 80% informal Africa labor force to a new skilled workforce. The lack of enough technical skills has hampered preparation of contract documents with accurate cost estimates as stated by (Skitmore and Hedley, 2006) which has often led to project abandonment. Equally important is the technical knowledge on project risk analysis which (Fang et al., 2012) contends is very low in African. A typical example is the missing tender price indices in Ghana as reported by (Kissi, 2017). The author reports that in developed countries this is a regular routine but Africa faces critical barriers, the heart of which, is the missing enough skilled manpower to oversee the booming construction space.

We recommend for the utilization of African experts in developed countries with experience in running mega construction projects. Such experts by giving back to Africa in skills transfer programs, what this paper calls “readiness training program” will energize a faster production of skilled manpower in their home countries not only to spur growth but to also create youth employment opportunities (Alam et al., 2010). This will answer our question on readiness through capacity building in the words of (Hellström, 2017). This will herald the much needed project management skills according to (Azim et al., 2010). and research capacity strengthening as suggested by (Jones et al., 2007). And the human skills will be learned in coaching schemes (Crosbie, 2005) in country based centers of excellence (Baron and Morin, 2010) targeted at producing high caliber professionals (Lapsinger and Lucia, 1997). These new trusted leaders are expected to cure not only the trouble in Nigeria in the words of (Achebe, 1984), but also the Africa-wide project management readiness as well. This will help reclaim meaningfully the “Africa rising” slogan in the world stage as (Philips, 2005) had proposed for the Nigerian case. We also suggest here the adoption of Blockchain technology in project management to address the issues of transparency and accountability in finances in Africa (Larson et al., 2016).

## VII. Conclusion

From our project management readiness assessment of Africa construction industry, it has been established that the skills gap is huge. This is the main factor hampering African construction firms’ readiness to participate in most MCPs in their host countries. As a consequence of this gap foreign construction firms equipped in both Greenfield and Brownfield regeneration projects are likely to dominate MCPs. Using the readiness training model developed here, the Africa Union leadership, can initiate an in country based human skills capacity building program for the MCPs to ready the member states.

### Declaration of interest

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### References

- [1]. Abbott, A. (1988). *The system of professions: An essay on the division of expert labor*. London, England: The University of Chicago Press.
- [2]. AbouRizk, S. (2010). Role of Simulation in Construction Engineering and Management. *Journal of Construction Engineering and Management*, 136(10), 1140–1153. doi:10.1061/(asce)co.1943-7862.0000220
- [3]. Abramo, L. & Onitiri, R. (2007). Project managing readiness. Paper presented at PMI® Global Congress 2007—North America, Atlanta, GA. Newtown Square, PA: Project Management Institute.
- [4]. Abubakar, Mu’awiya & Ibrahim, Yahaya. (2013). An Assessment of Readiness of the Nigerian Building Design Firms to Adopt Building Information Modelling Technologies.
- [5]. Achebe, C. (1984). *The Trouble With Nigeria*. Oxford: Heinemann Educational Publishers.
- [6]. Adams, O. A. (1995). Indigenous contractors’ perceptions of the constraints on contractors’ performance and development programmes required in Nigeria. *Habitat International*, 19(4), 599–613. doi:10.1016/0197-3975(95)00020-g
- [7]. Akaba, Julius (2016). Formal project management adoption readiness of emerging construction firms in South Africa. <http://ir.cut.ac.za/handle/11462/1341>
- [8]. Alam, M. A. Gale, M. Brown, A.I. Khan, (2010), “The importance of human skills in project management professional development”, *International Journal of Managing Projects in Business*, Vol. 3 Iss 3 pp. 495-

- 516 <http://dx.doi.org/10.1108/17538371011056101>
- [9]. Arnaboldi, M., Azzone, G., & Savoldelli, A. (2004). Managing a public sector project: the case of the Italian Treasury Ministry. *International Journal of Project Management*, 22(3), 213–223. doi:10.1016/s0263-7863(03)00067-x
- [10]. Asher et al., (2016). The cost of road construction in rural Tanzania: Random audits and contractor performance. <https://www.theigc.org/project/the-cost-of-road-construction-in-rural-tanzania-random-audits-and-contractor-performance/>
- [11]. Ayogu, M. (2007). Infrastructure and Economic Development in Africa: A Review. *Journal of African Economies*, 16(Supplement 1), 75–126. doi:10.1093/jae/ejm024
- [12]. Azim Syed, Andy Gale, Therese Lawlor-Wright, Richard Kirkham, Ali Khan, Mehmood Alam, (2010). "The importance of soft skills in complex projects", *International Journal of Managing Projects in Business*, Vol. 3 Iss 3 pp. 387-401 <http://dx.doi.org/10.1108/17538371011056048>
- [13]. Aziz, N.M and Salleh, H. (2011). A readiness model for IT investment in the construction industry. *African Journal of Business Management* Vol.5 (7), pp. 2524-2530, 4 April 2011. <https://pdfs.semanticscholar.org/c5da/141ee9dd1e6e042b9838db0dc35e9fd5f633.pdf>
- [14]. Benamgharand, R., and A. Iimi (2011). 'Efficiency in Public Procurement in Rural Road Projects of Nepal'. World Bank Policy Research Working Paper 5736. Washington, DC: World Bank.
- [15]. Betts, M., Robinson, G., Blake, N., Burton, C., & Godden, D. (2011). *Global construction 2020: A global forecast for the construction industry over the next decade*. Global Construction Perspectives and Oxford Economics, London, England.
- [16]. Biggs, Tyler; Shah, Manju; Srivastava, Pradeep; Biggs, Tyler\*Shah, Manju\*Srivastava, Pradeep. 1995. *Technological capabilities and learning in African enterprises (English)*. World Bank technical paper; no. WTP 288. Africa Technical Department series. Washington, D.C
- [17]. Blomstrom, M., & Sjöholm, F. (1998). Technology Transfer and Spillovers? Does Local Participation with Multinationals Matter? doi:10.3386/w6816
- [18]. Boye, T., Fenichel, A., & Mennasemay, M. (1988). Skill Transfer and African Development: a Conceptual Research Note. *The Journal of Modern African Studies*, 26(04), 685. doi:10.1017/s0022278x00015457
- [19]. Cardno, 2016. Final Report of the Independent Review of the Infrastructure Skills for Development (IS4D) Program. <https://dfat.gov.au/about-us/publications/Documents/infrastructure-skills-for-development-independent-review.pdf>
- [20]. Collier, P., M. Kirchberger, and M. Söderbom (2016). 'The Cost of Road Infrastructure in Low and Middle Income Countries'. Policy Research Working Paper 7408. Washington, DC: World Bank. <https://openknowledge.worldbank.org/handle/10986/22664> License: CC BY 3.0 IGO.
- [21]. Cooke, H. S. and Tate, K. (2005) *The McGraw-Hill 36-Hour Course - Project Management* New York, NY, McGraw-Hill
- [22]. Cowie, George (2003). "The importance of people skills for project managers", *Industrial and Commercial Training*, Vol. 35 Iss 6 pp. 256-258 <http://dx.doi.org/10.1108/00197850310493938>
- [23]. Crosbie, Rowena (2005), "Learning the soft skills of leadership", *Industrial and Commercial Training*, Vol. 37 Iss 1 pp. 45-51 <http://dx.doi.org/10.1108/00197850510576484>
- [24]. Crowther, Geoff. (1985). *Africa on a shoestring*. South Yarra, Vic : Lonely Planet
- [25]. Doraisamy, V. S., Akasha, Z. A., & Yunus, R. (2015). A Review on Abandoned Construction Projects: Causes & Effects. *Applied Mechanics and Materials*, 773-774, 979 983. doi:10.4028/www.scientific.net/amm.773-774.979
- [26]. Drouin, Nathalie & Sankaran, Shankar & Müller, Ralf. (2016). The Nature of Organizational Project Management and its Role as an Organizational Capability. 16th EURAM, Paris, 1-4 June.
- [27]. Duermeijer, Charon et al 2018. Africa generates less than 1% of the world's research; data analytics can change that. <https://www.elsevier.com/connect/africa-generates-less-than-1-of-the-worlds-research-data-analytics-can-change-that>
- [28]. El-hadj M. Bah et al., (2018). Housing Market Dynamics in Africa, [https://doi.org/10.1057/978-1-137-59792-2\\_1](https://doi.org/10.1057/978-1-137-59792-2_1)
- [29]. Fang et al (2012). Network theory-based analysis of risk interactions in large engineering projects. *Reliability Engineering and System Safety* 106 (2012) 1–10
- [30]. Flyvbjerg, B. (2011). Over budget, over time, over and over again. In Morris, P. W. G., Pinto, J. K., & Söderlund, J. (Eds.), *Oxford handbook of project management* (pp. 321–344). Oxford, UK: Oxford University Press.
- [31]. Flyvbjerg, B. (2014). "What You Should Know about Megaprojects and Why: An Overview," *Project Management Journal*, vol. 45, no. 2, April-May, pp. 6-19, DOI: 10.1002/pmj.21409
- [32]. Gannon, Colin and Zhi Liu (1997). Poverty and Transport. <http://siteresources.worldbank.org/INTURBANTRANSPORT/Resources/twu-30.pdf>
- [33]. Gauthier, J.-B., & Ika, L. A. (2012). Foundations of Project Management Research: An Explicit and Six-Facet Ontological Framework. *Project Management Journal*, 43(5), 5–23. doi:10.1002/pmj.21288
- [34]. Gibb, A.A., 1997. Small Firms Training and Competitiveness. Building Upon the Small Business as a Learning Organisation. *International Small Business Journal*, (1997), 13-29. <https://doi.org/10.1177/0266242697153001>
- [35]. Golubski, Christina (2017). Financing African infrastructure through pension funds. <https://www.brookings.edu/blog/africa-in-focus/2017/03/14/financing-african-infrastructure-through-pension-funds/>
- [36]. Hardin, G. (1968). The Tragedy of the Commons. *science* 13 Dec 1968: Vol. 162, Issue 3859, pp. 1243-1248. DOI: 10.1126/science.162.3859.1243
- [37]. Haug, A., Graungaard Pedersen, S., & Stentoft Arlbjørn, J. (2011). IT readiness in small and medium-sized enterprises. *Industrial Management & Data Systems*, 111(4), 490–508. doi:10.1108/02635571111133515
- [38]. Hellström, T. (2017). Centres of Excellence and Capacity Building: from Strategy to Impact. *Science and Public Policy*, 45(4), 543–552. doi:10.1093/scipol/scx082
- [39]. Hornstein, H. A. (2015). The integration of project management and organizational change management is now a necessity. *International Journal of Project Management*, 33(2), 291–298. doi:10.1016/j.ijproman.2014.08.005
- [40]. Ika, L. A. (2012). Project Management for Development in Africa: Why Projects are Failing and What Can be Done about It. *Project Management Journal*, 43(4), 27–41. doi:10.1002/pmj.21281
- [41]. Ika, Lavagnon & Donnelly, Jennifer. (2017). Success conditions for international development capacity building projects. *International Journal of Project Management*. 35. 44–63. 10.1016/j.ijproman.2016.10.005.
- [42]. Jones, N et al. 2007. Research capacity strengthening in Africa Trends, gaps and opportunities. Overseas Development Institute. <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/2774.pdf>
- [43]. Joslin, R., & Müller, R. (2016). The relationship between project governance and project success. *International Journal of Project Management*, 34(4), 613–626. doi:10.1016/j.ijproman.2016.01.008

- [44]. Juma, C. (2016). *Innovation and Its Enemies: Why People Resist New Technologies*. Oxford University Press, New York, 2016, 432 pages. ISBN: 9780190467036
- [45]. Kaba, B. (2019). Identifying an analytical tool to assess the readiness of aid information and communication technology projects. *The Electronic Journal of Information Systems in Developing Countries*, e12072.doi:10.1002/isd2.12072
- [46]. Kangan, M. (1974). *TAFE in Australia: Report on needs in technical and further education*. Canberra: Australian Government Publishing Service
- [47]. Kenny C (2007). *Construction, corruption and developing countries*. World Bank Policy Research Working Paper 4271, June.Kerzner
- [48]. Kharas H., Jeff G. and Christine Z. (2014). *Pay More Attention to Construction Firms in Africa*. <http://blogs.worldbank.org/futuredevelopment/pay-more-attention-construction-firms-africa>
- [49]. Kingombe, C. (2014). *Hard and Soft Infrastructure Development in Africa*. In multi-year WTO expert meeting on transport, trade logistics and trade facilitation (pp. 1-39).
- [50]. Kirchberger,Martina (2018). *The role of the construction sector*. WIDER Working Paper 2018/146. <https://www.wider.unu.edu/sites/default/files/Publications/Working-paper/PDF/wp2018-146.pdf>

EA Ochungo. "Project Management Readiness: A Glimpse into the Troubled Rhetoric and the Expected Delivery of 2020 Priority Action Projects in Africa.". *IOSR Journal of Business and Management (IOSR-JBM)*, Vol. 21, No. 4, 2019, pp. -.73-80