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Early Career Academics (ECAs) Development in Africa: Reflections on Brain Re-engineering Concept as Formal Institutionalised Mentoring Options

Ikechi Kelechi AGBUGBA & Felix Ifeanyichukwu OKOYE

Abstract

Developing the next generation of academics is essential due to the changing academic landscape, the need for educators to gain the necessary knowledge and skills to contribute to knowledge creation and dissemination, facilitate teaching and learning, mobilise resources for community transformation, and research. Borrowing from the Brain Re-Engineering Concept and Reimagination (BRECR), this chapter reflects on alternative policy and development options available to higher education institutions (HEIs) management and government for developing countries to create a more effective educational system that meets the needs and aspirations of the early career academics (ECAs). The BRECR concept is based on four pillars: mindset or perception change, ideation and entrepreneurship, technology, and sustainability. This addresses the misconceptions that limit the advancement of scientific and technological solutions and their impact on the development of ECAs in HEIs of Africa and developing nations. ECAs face high expectations from HEI management, including increasing research output, teaching larger classes, supervising and publishing, often without adequate support. This section examines the findings of three studies conducted in African higher education institutions (HEIs) vis-a-vis the BRECR concept proffer alternative options towards improving the career development strategies of the ECAs and academic mentees in Africa.

Keywords: ECAs, HEIs, brain re-engineering concept, development, mentoring, Africa

1. Introduction

The problems of grooming Early Career Academics (ECAs) which span the developing nations' higher education institutions (HEIs) in Africa include the risk of unemployment and other capacity-building challenges. This also includes the issue of increased workload whereby academics continue to experience huge expectations from the management of HEIs in terms of increasing research output, teaching large class sizes, supervising and mentoring more postgraduate students who are often not given the needed support. These expectations, of course, fulfil the needs of the HEIs which subsume the individual development needs of the ECAs. The system seems to assume that once the institutional objectives are met, the young academics' individual development needs, employability, entrepreneurship capacity building and professional capacitation would also be met—which never happens in Africa. Hence, the development of the next generation of academics has become a necessity given the continuing and evolving academic space and the use of technology in HEIs. There is also an increasing need for educators to acquire essential skills and knowledge to function optimally. This chapter borrows from Brain Re-Engineering Concept and Reimagination (BRECR), an agricultural-based concept to

suggest strategies for enhancing ECAs development and engagement in Africa. The BRECR as a concept hinges on four pillars which include mindset or perception change; ideation and enterprising; technological solution; and sustainability. The wrong perception the ECAs may have with the system, the recent scientific or technological solutions and interventions, as well as the lack thereof, have become a concern in actualising effective grooming of ECAs across higher education institutions (HEIs) in Africa. This chapter reviews the findings of three relevant studies conducted in African HEIs, to critically analyse and synthesise the challenges of grooming ECAs. As such, it is important to clarify that this chapter does not focus on improving ECAs' participation or involvement in the agricultural sector. Instead, this chapter applies an agricultural theory proposed by Agbugba (2020) to strategise the development trajectory of ECAs in Africa to make plausible suggestions. Recently, there has been pressingly scholarly inquiry surrounding the necessity of advancing ECAs in Africa and incorporating the youth into the academic landscape of the continent. This chapter intends to respond to this inquiry by applying the principles prescribed by BRECR given that the increasing sense of disempowerment amongst young individuals in pivotal and strategic sectors of the economy amplifies the urgency to explore solutions that can help shape a brighter future for Africa.

Moreover, studies have shown that ECAs in Africa struggle to access employment which seems to insinuate that there are limited requisite programmes to groom and absorb ECAs into academic work employment properly (Hermannsson *et al.*, 2021; World Bank Group, 2023; Skinner & Doyle, 2021). The situation in Africa whereby most ECAs wallow in precarious employment, others are unemployed and the majority of unemployed ECAs are unable to innovatively embark on entrepreneurship engagements that would lead to self-employment requires an immediate fix (McMahon, 2021). The situation also raises an eyebrow regarding the tenacity of the ECA's training in terms of building their entrepreneurship capacity. Apart from the increasing unemployment risk of ECAs in Africa which counts for the massive migration of academics in search of greener pastures, the integration of the youth in strategic sectors receives passive and tacit response from the system (Wangenge-Ouma & Kupe, 2020). Thus, the evidence has shown that most young academic career seekers in Africa encounter severe unemployment, job precarity and have not been able to secure decent jobs after their training (World Bank Group, 2023). As such, academics as a career option has become (or rather made) unattractive to the youth over the years in developing countries of Africa (United Nations, 2023).

Notwithstanding, the importance of tackling the issues surrounding the development and grooming of ECA in Africa requires some game-changing approach (Pelser, 2024). The authors of this piece recommend bringing an agriculturally developed concept into the ECAs' most needed transformation to magnify entrepreneurship education for the ECAs, improve technological infrastructure and innovation in the continent, and influence the youth by changing their seemingly wrong mindset or obsolete perception of academic as a career path. Borrowing

from the Brain Re-Engineering Concept and Reimagination (BRECR) concept by *Dr Ikechi Kelechi Agbugba* in Agbugba (2023c), this chapter aims to (1) identify the perception of the ECAs that hinges on their participation, (2) analyse the effects of low technological solutions interventions and lack thereof which spans across HEIs in Africa, and (3) to proffer alternative policy options for Third World HEIs management and governments in their attempts to reinvigorate an educational system that will be more efficient in serving the needs and aspirations of all their people.

According to Agbugba (2023a), the BRECR concept remains a youth-focused, action-based solution with four pillars namely:

- i. Perception change
- ii. Ideation and Enterprising
- iii. Technology
- iv. Sustainability

There is a question of why we propagate this innovative idea that needs to be unravelled. Africa needs experienced persons, novel ideas and importantly the youth and their enthusiastic involvement in every aspect of its developmental spectrum or transformation. The authors of this treatise have the mission to nurture this resource exploration drive in Africa and contribute towards solving global problems at a time when transformation is required. The first thing needs to happen first of which the four pillars are designed to deliver to the development architecture of Africa. Before delving deeper into the pillars, let us first envision the type of Africa we wish to see or achieve.

1.1 Achieving the Africa We Want

The 50-year African Plan of 2013 as prescribed in The African Union's Agenda 2063 hinges on elevating youth participation and uplifting the participation of African scientists and researchers within the continent (Fredua-Kwarteng, 2023). The step-in-the-right direction recognises the current impact of Africa, as well as its prospective importance in mitigating global challenges. The Plan is a master plan to make the continent an innovation and knowledge powerhouse to the world, against the extortionist's ideology or approaches. The African Plan of 2013 resonates as an intervention and support towards achieving UN Sustainable Development Goals, SDGs (Shayan *et al.*, 2022). It aligns with the SDGs and the Science, Technology, Innovation Strategy for Africa 2024 which focuses on six major areas (Mishra, 2021). These areas include (1) the eradication of hunger and achieving food security; (2) prevention and control of diseases and pests; (3) building a production-intensive society; (4) intellectual and physical mobility; (5) environment and space protection; and (6) wealth creation. This chapter relies on intellectual mobilisation that involves engaging and encouraging the youth to participate actively which is a critical issue in African development agenda.

Nonetheless, another major set of hindrances to the achievement of these plans, strategies, agendas and agreements are the lack of adequate research and innovation platforms, youth involvement decline which limits creativity (Ashby & Schoon, 2010). Of course, without the youth's active participation creativity, innovation, production of new knowledge, progressive engagements and development are jeopardised. The Higher education institutions (HEIs) in Africa should be working hand-in-hand with the strategic sectors such as the energy sector, agriculture and environmental conservation for this vision to materialize (Mayombe, 2021). Unfortunately, HEIs in Africa are faced with many challenges that make it difficult to achieve the set (research) agendas. The African HEIs, of course, strive to become research-intensive just to climb the international rankings, and contribute to global knowledge production and innovation, with little or no remarkable impact on the continent. Okoye (2022) affirms the existence of disjuncture in connecting education outcomes, investment and research to social development in Africa. In other words, funding remains a huge concern in African nations.

Meanwhile, it is a very minute quota of funding, grants and allocation that targets the youths, Small, Medium and Micro Enterprises SMMEs and entrepreneurship development (GloSYS Africa team & the Global Young Academy, 2021). Mayombe (2021) opines that the ECAs which include postdoctoral scholars and research fellows who are relatively young and highly qualified workers should take the lead in addressing these shortcomings. The key areas that can be filled by ECAs' efforts and contributions include conducting cutting-edge research that inspires partnership with relevant stakeholders, supervising the young generation of aspiring scientists and researchers, and creating context-based and innovative models of work-integrated learning for unemployed youths. This can be done through *Skills and Work-Based Learning*, and translating knowledge into innovative products (Mayombe, 2021). Professor Agbugba (2020), in his interview with Dick Veerman Africa, regrets that HEIs in Africa are incapacitated and are unable to maximise these opportunities given the unavailability of a strong pool of talented young scholars, farmers, and research in the key strategic sectors of the economy. Also, establishing well-resourced facilities to rekindle the energizing flame of creativity and innovation that can attract the youth in areas such as agriculture, energy and human resource development has perpetually become a herculean task in Africa (Rana & Bisht, 2023). Whilst the issue of government irresponsiveness and economic-development policy handicap in developing nations of Africa. Hence, the governments in these nations are often led by elderly individuals who distract the electorate with irrelevant social issues as a form of diversion, instead of addressing the pressing matters at hand.

Notwithstanding, this treatise does not intend to undermine several development initiatives and efforts to advance commitment and services for the African continent (World Bank Group, 2023). A lot is going on in Africa which cannot be proficiently explored

here due to space constraints, and the need for precision. For instance, there are African Research Universities Alliance (ARUA) which is a network of research-led institutions in Africa. ARUA aimed at improving research and graduate outputs through collaboration and partnerships with funders. ARUA also targets a strong research ecosystem, optimization of ECA development and addressing socio-ecological challenges specific to our continent. There are so many other structures and institutions determined to move Africa forward but are continually being frustrated by the same agelessness of old ideas of old people's disease. As such, irrespective of all the efforts, the key challenges faced by HEIs on the continents persist.

Additionally, there are the problems of limited academic staff with PhDs, the number of youth with PhDs who are employed in the HEIs, elderly PhD holders who are unable to do research or supervise PhD candidates given to issues such as workload, their skills obsolesce towards new technologies, lack of motivation and infrastructure challenges. In most African HEIs, ECAs receive very daunting treatment from more established academics and are regarded as armatures (GloSYS Africa team & the Global Young Academy, 2021; Coussens, 2021). The critical question to ask is how the development and transformation of research, productivity, innovation and creativity are affected by the highlighted challenges within the continent and beyond. How does the lacuna contribute to the social development punchline and economic trajectory of the African derailing economy? How has the ECAs' perception been affected by this? This paper and its authors assert that the precarious situation of the ECAs in Africa should not be the only concern but also the corresponding effect or damage it has caused to their perception. The youth consider leadership figuratively speaking as a retirement home. Similarly, the youth are convinced that it is not necessary to actively participate and that contributing to technologically deficient sectors like agriculture is boring. According to Agbugba (2023), this form of understanding of the ECAs constitutes a "wrong" perception and remains the key to changing the situation. It is crucial to raise awareness and educate young people to eliminate absurd and incorrect perceptions.

Nonetheless, the authors of this chapter intend (1) to evoke the need to identify wrong perceptions the ECAs may have with the recent advanced scientific and technological solutions in education development and to suggest the way forward; (2) to spur discussion amongst academics regarding the topic; and (3) to propose a rethink of the current ECAs grooming strategy in Africa, vis-à-vis their mode of engagement and development. Agbugba (2023) considers the African youth's perception of agriculture to be obsolete or wrong which is central to the BRECR concept. Both the wrong perception that the ECAs may have with the recent advanced scientific and technological solutions, and the ECAs' perception of their training programme requirements remain a concern. Without active incorporation of the youth and technology in developing nations, the vision to liberate Africa would

continue to elude Africans. Developing ECAs in Africa requires a strong perception of academic entrepreneurship among the youth. Pursuance of academics as a career option should advertently be made attractive to the youth in Africa through policy and development.

Methodology: It is important to note that this chapter follows a specific methodology. Firstly, relevant literature was reviewed by using a search engine to gather information. The gathered information was then analyzed and synthesized to address the topic. The four (4) Pillars of The BRECR were used to conceptualize the way forward in developing ECAs (Economic Community of Africa) in Africa. This was done to brainstorm the improvement strategies using the BRECR concept as a framework for conceptualizing ECA's trajectory remedy in Africa. In writing up the chapter, the principles of a systematic review were followed with minimal stringent standards. Four distinct steps were taken as follows:

1. Identification of search keywords terms and databases.
2. Identification of relevant literature using the search engine (searching).
3. Investigation of the scope and relevance of identified literature, resulting in a reduced bulk of literature (i.e., screening and coding).
4. The literature was further narrowed to craft recommendations emerging from the literature following the promptings of the BRECR concept.

The search keywords used include ECAs, HEIs, BRECR, development, mentoring, and young academic career seekers.

2. What is BRECR?

BRECR is an agro-based concept. It focuses on changing the perception problem of African youths. BRECR provides a veritable strategy to transform, expand and revolutionise Africa's economy through agriculture and agribusiness by integrating youth and technology into the sector. This is engendered by increasing human population, food consumption, environmental concerns, climate change, global warming and possibly future anticipated food shortages (Apeh *et al.*, 2023; World Bank Group, 2023). Hence, the era when sustainable farming is a hotbed subject due to population increase, shortages of land and water, reduced youth interest and government irresponsiveness to the social development needs of developing nations. This situation poses a noteworthy threat to the longevity of human survival or sustainability (Agbugba & Isukul, 2020). While there is still a massive technological gap between developed and developing nations, most politicians from Africa seem clueless as to the way forward in terms of revolutionising agriculture. This concept is a response to African technological deficiency, low economic growth and social development lacuna. Dr Agbugba (2023a) in his BRECR concept suggests luring and enhancing youth engagement in agriculture by mainstream use of modern technological devices or gadgets. According to Agbugba (2020), intensifying youth interest and engagement in the agricultural enterprise requires changing their wrong perception about agriculture, building their entrepreneurship capacity, and

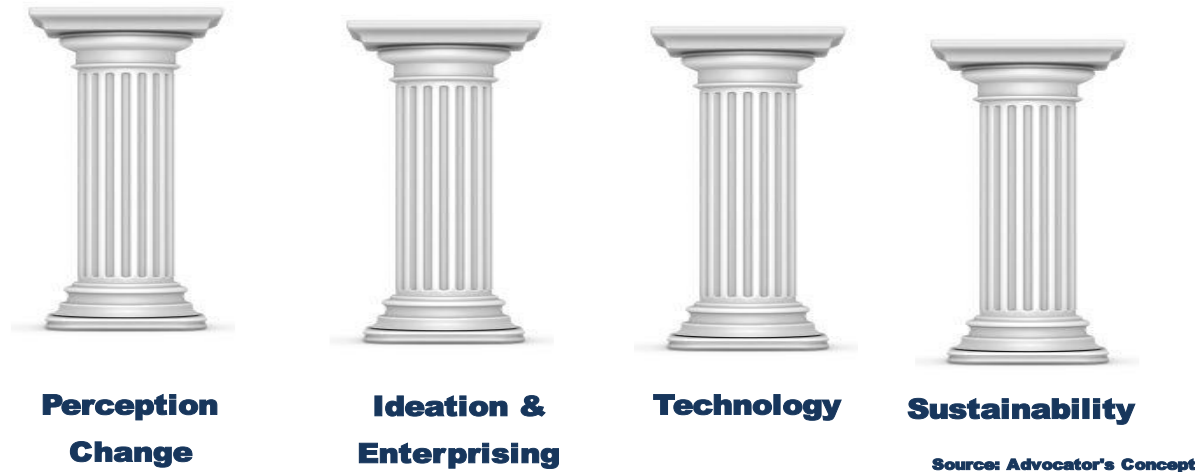
revolutionalising the agriculture space through technology to lessen the amount of labour input, propagate crops, increase profitability, food productivity and scientific innovation (Rana & Bisht, 2023). Luring the youth through technological improvement would increase economic development by reducing inequality and poverty across diverse global contexts.

Advertently, Agbugba (2023a) affirms that the youth and young professionals possess fresh ideas, a strong grasp of emerging trends, and are up for the challenge of trying new approaches. Hence, creativity decreases with age as such to mobilise greater innovation youth engagement is inevitable. The significance of youth's involvement, role and empowerment in all sectors of the economy remains a concern of research and academics for sustainable economic growth and development to ensue in Africa (HLPE, 2021; Agbugba, 2023b). The BRECR concept recommends that more grants, sponsorships and scholarships be dedicated to research and studies about youth driving transformation through empowerment. Agbugba & Isukul (2020) also asserts that prioritising youth engagement is achievable through technology mainstreaming, perception re-engineering, and entrepreneur capacity building through mentoring and implementing development policies. This would not only make academic career options enticing to the youth but also provide a wide employment spectrum for young people seeking decent and meaningful employment in academics (UNESCO, 2019).

2.1 BRECR Four Pillars

The proponent describes the BRECR or brain re-engineering concept (as interchangeably utilised in this treatise) with the caption "making agriculture sexy for the youth through technology" (Agbugba, 2020). This process is tied to the four pillars of BRECR which suggest the policy initiatives and patterns towards protecting, strengthening and revolutionalising youth engagement. Youth employment in the agricultural sector creates equity, agency, innovation, efficiency, profitability, environmental friendliness, decent employment, increased productivity and transformation (Agbugba, 2023a). Below is a diagrammatic presentation of the four (4) pillars of the brain re-engineering concept.

Pillars of Brain Re-Engineering (diagrammatic presentation)



The pillars of the brain re-engineering concept and reimagination hinge on awareness creation, entrepreneurship awareness creation or entrepreneur education of youngsters (Agbugba, 2023a; ILO, 2022). This entails building the youth's ideas and knowledge awareness to boost their willingness, unlearn negative or wrong ideologies, imbibe and appropriate the correct mindset and be motivated to participate (Agbugba, 2023b). These changes are viably achievable through learning institutions such as educational institutions (formalised and non-formalised), other mentoring platforms and social media (Pelser, 2024). The pillars are as follows:

- **Perception Change** which involves the identification of wrong ideologies and mindsets and must be intentionally geared towards replacing the wrong mindset.
- **Ideation and Enterprising** thus highlight the formation of new ideas or concepts, as well as building or developing their entrepreneurship capacity and business ideas.
- **Technology** involves the application of the knowledge of science to practically resolve human life and the system such as making the business more profitable, efficient, safer, and environmentally friendly.
- **Sustainability** encompasses the process of efficient management, networking, cross-sectional collaboration, education and training, research and innovation and quality continuity. Beyond the four pillars is also the issue of ensuring social equity through public policy.

Social equity in public policy the authors further proposed a fifth pillar should be to combat systemic inequalities in African communities and provide equal opportunities for empowerment and integration. This additional pillar should prioritise impartiality, lack of justice for all, and fairness. The BRECR pillars, as discussed in this chapter, emphasise the importance of increasing awareness and providing entrepreneurship education to empower young people and support development initiatives that align with technological advancement.

The BRECR pillars suggest that government policies and initiatives should prioritise protecting, strengthening, and revolutionising youth engagement and participation to promote equity, agency, innovation, efficiency, profitability, environmental friendliness, decent employment, increased productivity, and socio-economic transformation. This chapter recommends that BRECR objectives become a general trend in African democracy, public policy engagements, and academic citizenship. It is therefore necessary to utilise the innovative solutions offered by BRECR to improve the African economy and its strategic sectors. Agriculture being a strategic sector in the African economy suffers similar challenges as the other strategic sectors such as education. The concept and its pillars do not portray a one-size-fits-all approach, rather it portrays a framework for visualizing needed transformation in the continent.

In addition, a proposal has been put forward to introduce mentoring as an additional component to the current pillars that aim to transform perceptions, ideation, and entrepreneurship. Mentoring can either complement these pillars or be viewed as a distinct concept on its own (UNESCO, 2019). The following section will explore the concept of mentoring and its significance in this context. Therefore, it is crucial to establish how understanding mentoring can act as a catalyst in actualizing the vision towards mainstream youth involvement and integration.

Mentoring

Mentoring as a highly contested concept which constitutes the process of providing support, guidance and instruction to the mentee to nurture and groom potential (Barack, 2014). According to Owusu-Agesman (2022), there are formal and informal mentoring functions. The Formal which is also regarded as *patriarchal mentoring* is where the mentor implements specified practices designed to guide the mentees to meet the demands of their professional career (Manuel & Poorsatter, 2020). Informal or matriarchal function focuses on emotional support, personal caring and nurturing the mentor exactly in the

mentoring process (Barack, 2014). In other words, mentoring thrives in relationships in which the mentor has the anus to create a welcoming environment for the mentee (Owusu-Agesman, 2022). Other concepts and theories about mentoring hone into describing the relationship between the mentor and mentee, support and methodology (Manuel & Poorsatter, 2020; Izadinia, 2015; Aspfors & Fransson, 2015).

The significance of mentoring ECAs includes enriching the institutional objectives and vision, as well as providing mentees with professional development (Manuel & Poorsatter, 2020). ECAs mentoring also magnifies independent research skills and relevant competencies required to deliver as an academic (Sandi & Chubinskaya, 2020). Hence, the ECAs mentorship programme also aims at boosting self-confidence, performance, a sense of responsibility, commitment, community development and fulfilment of organisational goals (Manuel & Poorsatter, 2020). The concern remains that little or nothing is done to entice the youth towards academic career options in the African context (European Commission, 2023). Empowering ECAs to develop entrepreneurial abilities, increasing employment opportunities, guaranteeing decent employment and reinvigorating the way the ECAs participate (Kemmis *et al.*, 2014). The technological deficiency in African HEIs and the increase in ECAs unemployment remain a concern (Acheampong & Gyasi, 2019; Coussens, 2021).

Although mentoring as a concept has been criticised for different reasons despite its significance in the development of the mentee in terms of professional knowledge and skills (Manuel & Poorsattar, 2020). It is not only weakly theorised, and poorly conceptualised but also vaguely defined (Colley, 2003; Owusu-Agesman, 2022). Hence, despite several studies being conducted in terms of mentoring, gaps exist in terms of the theories used and the strength of the theories in explaining mentoring relationships. As such the concept remains highly contested, especially in the ways it is positioned within different categories of practice, discipline, discourses, contexts, social-economic, cultural-discursive and political, arrangements (Kemmis *et al.*, 2014). To address the gaps in the mentoring approaches according to relevant theories requires an encompassing framework that matches the predominant need of a particular context (Osman & Hornsby, 2016). Dominguez and Hager (2013) suggest combining three frameworks for the mentee: learning, developmental, social aspects and developmental, and social aspects. This chapter proffers a more unique solution-oriented framework that is context-specific (i.e., the BRECR) towards addressing the challenges facing ECAs in Africa. A working definition of mentoring is “the mediation of professional learning, where mentors constantly engage

in mediation between persons and content in value-laden contexts of practice” (Dominguez & Hager, 2013). Strengthening the ECA's entrepreneurship education and optimizing technology would lead to capacity-building and a youth-enticing framework. The catch thus is that we are infusing more technology, increasing the technological impact on the academic components of university products. Not only does this create opportunities for youth to participate, but it also sparks and sustains youth interest in participating. To change the perception of youth towards a career in ECA, we need to reshape their consciousness and actively integrate them into all strategic sectors of the economy through developmental policies. It would even be good to go for quotas in the allocation and distribution of academics in their various ventures, while the whole process is supported by on-the-job empowerment and capacity building, where active mentorship becomes inevitable.

The BRECR concept represents a major shift in the training process for ECAs in Africa such that the incorporation of emerging technologies and AI can provide sustainable support (Agbugba, 2023a). In Europe, technology has proven to provide novel meanings and structures to the ECA's mentorship and participation drive (European Commission, 2014). Hence, in Africa, the drive towards technology upgrade is expected to revolutionise the nomenclature of the agency in terms of supporting the next generation of academics, induce the modification of the engagement pattern of ECAs, increase their mode of participation, lessen the workload of the academic, increase the flexibility of the work engagement and amplify attractiveness of academic career options to the future generation (Mann *et al.*, 2020). In other words, borrowing from, the four Pillars of brain-reengineering or BRECR concept, attracting the youth and changing their ideology or perception of academic career options remains the core target (ILO, 2022). The BRECR concept is the way forward, we have seen the ongoing impact and transformation the concept is spurring the agricultural sector in Europe, as well as developing nations such as India, Qatar and others. The proponent of the BRECR concept asserts that this concept applies to other sectors of the economy and would be best achieved through educational institutions (Agbugba, 2023a; European Commission, 2023).

The question of how the use of technology can amplify the ECAs' needed skills needs to be answered. Technology upgrades would drastically reduce the ECAs' training qualms and equip them with a creative edge and curiosity towards entrepreneurship awareness. These are the key traits that enable employees' readiness towards contributing to the institutions looking to stand out in an ever-changing competitive customer landscape (Bezuidenhout & Cilliers, 2010). Given the technological deficiency in Africa, young academics need creative thinking that would catalyze the breakthrough agenda that

inspires us to engage in conversations and context-based analysis geared towards assessing all possible options and possibilities (Coussens, 2021). The ECAs must be groomed to have entrepreneurial abilities that can enable them to break the circle of traditional modes of engagement and participation (Cooney, 2012). Ultimately, true wealth does not come from possessing physical resources, but from cultivating a wealthy mindset (Mapesela & Hay, 2006). Africa is endowed with enormous resources, but there is still a need to convert these resources into wealth (HLPE, 2021). Hence, the change-of-the-mindset agenda remains a sineqanaon in Africa. The process of re-engineering the general mindset is important in all socio-economic and political spectrums and is possible through technology and youth empowerment (Dominguez & Hager, 2013). The youths are regarded as the key holders of every intended transformation, innovation and creativity which the world is yearning to witness (Agbugba, 2023). Bearing in mind that first thing must happen first, African development structures and resources must be refocused in getting the youths actively involved or on board (Bart Perkins, 2022). The youth must have the capacity and the competence needed to land the plane; thus, bringing forth transformational changes. What do we mean by competencies? At this point, proper mentorship remains the highlight.

2.1.2 Competencies

The implementation of sufficient academic mentoring programme and support should aim at providing the ECAs with the following competencies:

- i. Superior communication and organisational skills (written and verbally efficient).
- ii. Proactive ability to manage work and self-effectiveness.
- iii. Proven track record of effective teaching skills and publication in the subject area based on reflective practice.
- iv. The ability to effectively manage relationships with managers, staff and students in terms of motivation, quality and performance.
- v. Passion for customer care service (approachability and confidence).
- vi. Ability and eagerness to acquaint with modern or new methodologies (for teaching, administration and academic work).
- vii. Technological know-how, abilities and experience hence the use of technology to enhance learning and work deliverables.
- viii. Ability to learn and familiarize oneself with new technology.

- ix. Creating new programmes through a proper benchmark and executing these programmes creatively through proper contextual adaptation.

NB: Also, this article emphasises adding entrepreneurship education that can enable ECAs the capability and flexibility to navigate possible employment issues. Hence, an ability that opens the door to varied modes of ECAs' participation, creativity and self-employment.

2.2 BRECR and ECAs Improvement in Africa: Focus on Ideation and Perception

The potential level of productivity in Africa's agriculture is considered to be determined by physical factors such as soil quality, quality and availability of water and the prevailing climate (Agbugba, 2023). Instantly, the question that comes to mind is whether other strategic sectors of the economy could said to have been equipped with these qualities. Rather little attention is given to youth involvement coupled with a high level of corruption and indignant of the policy towards youth empowerment. In agriculture, there is an imitated use of modern farming equipment without the vibrancy and creativity the youths could add to the system's innovation proclivity. This consequently leads to a very low drive in technological upgrades, increased manual work and time invested in agricultural production in the African context. According to HLPE (2021), this situation does not appease the youth coupled with the criticisms that the sector is capital intensive and thus unaffordable to the youths due to lack of funding (and with development policymakers being tacit to the situation in most African nations). There is also a lack of information and awareness of opportunities, getting your hands dirty stereotypes, access to loan limitations by the youths, and issues relating to risk management and technical know-how (Isukul *et al.*, 2019). It seems as though the governments of African countries lack direction or have exhausted their ideas.

Moreover, this chapter borrows the BRECR agricultural concept and super-imposed it on the ECA development to introduce fresh ideas and a turnaround strategy to re-emphasise that the young generation remains the society's future, vested with the energy, invigorating ideas and drive to advance research and development in Africa. Against what could be described as an obsolete perception, African youths need to be sensitised and their involvement encouraged for more sustainable development or change to ensue in the continent. According to Agbugba (2023), BRECR purports that the youth's perception of their involvement in agriculture has become obsolete and needs to be rejuvenated through the help of Brain re-engineering pillars. According to the proponent of BRECR, taping into this magnificent opportunity would not only optimise agricultural produce but also create attractive career options in the sector thereby encouraging the youth to take up entrepreneurship in agribusiness. Similarly, the young academic career seekers also referred to as ECAs may have a wrong and obsolete perception of the process that grooms

them into an academic career, given the (s)low scientific advancement in the continent and constrained technological solution or intervention in education processes. Some ECAs ignore this reality until unemployment derails their ambition or access to their career choices (Mapesela & Hay, 2006). Whereas some fortunate others would migrate to more advanced countries in search of greener pastures (Coussens, 2021). The outcome of this wrong perception makes academic career options scary for the ECAs such that some end up wallowing in precarious employment. The authors of this treatise believe that the BRECR concept would be effective in transforming the experiences and perception of the ECAs in the African context. The first thing must happen first; the ECA mentorship programme needs must be reviewed and transformed, the wrong perception held by the youths regarding academic career options must be identified through research, and the ECAs' mode of participation must be diversified through the integration of newest technology and entrepreneur education or awareness.

However, this chapter analyzes three studies conducted in African countries, including South Africa, to highlight trending discussions surrounding academic mentorship in Africa. The purpose is to delve further into the matter and comprehend the challenges associated with academic mentorship in Africa. Additionally, to gain a broad understanding of the challenges, as well as factors that influence the youth's perception of pursuing academics as a career option in Africa.

2.3 Review of Relevant Studies

The study by Owusu-Agesman (2022) titled *Examining the mentoring experiences of Mentees on the Transformation of the professoriate-mentoring Programme (TPMP)*, reveals certain ECAs' training challenges. The study was conducted at the University of The Free State in South Africa as part of the institutional culture study. It examines the experiences of mentees on the transformation of the professoriate-mentoring programme (TPMP) and provides recommendations on how the programme could be enhanced to support the career development of ECAs in Africa (Owusu-Agesman, 2022). The study focuses on examining how institutionalised formal mentoring structures could enhance the career development of early career academics (ECAs). The findings revealed that ECA mentees on the TPMP are well-resourced and provided with adequate funding for their research and conferences at the Institution but acknowledge other limitations. The young academic participants in the study affirm that although the university had put in place measures to ensure their accelerated promotion to the professorial ranks there were several training-related challenges (Powell, 2022). These challenges include huge administrative and teaching workloads that adversely affect ECA's research output and training, especially at the department level. There is also an issue relating to the difficulty of getting a mentor to support ECAs in their various mentorship programmes. There are other context-based factors or issues that the universities could address to make the ECA

mentoring and development programmes somewhat effective (Owusu-Agesman, 2022). The study proffers recommendations that include the need to expand the scope of the ECAs' mentoring programmes, the number of ECAs admitted to the university and programmes, and the need to develop strong collaboration between the departments and the offices responsible for the TPMP (Bandiera *et al.*, 2022). This study seems to assume that providing ECAs with adequate resources for their research and conferences prevents the risk of unemployment, youth disinterest, and training gaps. The ECAs needed skills upgrades which should happen during and after their mentorship and training programmes seldom happen due to the huge workload.

Furthermore, another study by Osman and Hornsby (2016) conducted on mentoring ECAs in higher education reveals that most ECAs do not receive mentoring support during mentorship programmes, as well as when employed. When ECAs are given adequate training and mentoring, it ultimately improves their academic output and prepares them for the challenging roles they assume (GloSYS Africa Team & Global Young Academy, 2021). For instance, the ECAs need to be supported in the areas of teaching, research and community service through frequent training opportunities, regular feedback and mentorships in their specific disciplines (Osman & Hornsby, 2016). According to SAHRC (2016), these necessary skills are hardly acquired by ECAs in most institutions in Africa due to limited funding, time to secure the funding and academic workload entrusted to academics. The study suggests that African universities should extend the duration of the training, the process of developing and capacitating young academics to enable them to qualify for more senior positions, with emphasis on previously disadvantaged professionals (UNESCO, 2014). Second, the universities should develop structures and programmes that would efficiently ensure the smooth transitioning of ECAs from other mentoring offices, institutions and programmes into full professional employment as academics (Rinne *et al.*, 2022).

Again, the study failed to suggest how to implement the recommendations provided in terms of designing appropriate institutionalised mentoring systems that are specific to addressing the lacuna of ECAs' transformation from novice academics to researchers, teaching professionals, lecturers and professors. The areas of empowering the ECAs often championed by HEIs of Africa serve the interests and needs of the educational institutions (Mapesela & Hay, 2006). Nothing links these training programmes to the development of the ECAs and individual academics in terms of ensuring access to decent jobs, proper employment, or self-employed initiatives. The ECA mentorship programme should empower or enable them to make entrepreneurial decisions. The system seems to take for granted the unemployment risk ECAs face in Africa due to the limited job opportunities and dissatisfaction in the sector (ILO, 2022; UNESCO, 2019).

Another study conducted by GloSYS Africa Team and the Global Young Academy (2021) on why African early academic researchers ECR are motivated to leave or stay in the continent where they are currently based (Coussens, 2021). The study finding trickle down to the effects of limited infrastructure, resources and environment that enable ECAs thrive in terms of research excellence, high teaching loads, inefficient support structures, early academic training programmes not linked to job accessibility, increased workload, programme being research-intensive and little of other ECA's needed skills, limited time for applying for funding within three years of the programme, daunting attitude from more established academics, African ECAs being compelled to spend more time on research-related tasks and less time on administration and teaching given the amount of publication required for employment and from initial grade academics, a lack of training opportunities to develop professional skills, and job insecurity (Abisoye, 2021). The study concludes that having gotten used to technology the ECAs evade going back to their continent due to a lack of job opportunities. The interesting part is that the general tacit response of the developing countries to the issue is as if the policymakers have run out of ideas (Pelser, 2024). In most cases, some ECAs who migrated to more developed nations in search of employment only realised how much their mentorship programmes in Africa have limited their capacity (GloSYS Africa team & the Global Young Academy, 2021; European Commission, 2023). It all points to the inadequacies of the mentoring programmes, lack of adequate mentorship programmes, and technological deficiency to mention but a few. The question is how would this impact on youth's perspective regarding academics as a career option.

2.4 Possible Wrong Perceptions

Among others, a possible wrong perception is that ECAs seem to have internalised the general impression that things are what they are supposed to be. The youth seems to believe that one needs a job first, gain experience, and afterwards advance academically for promotion reasons or fame. In other words, for most youths higher academic levels are most appropriate when it is for job promotion reasons (Osman & Hornsby, 2016). This perception gives the impression that an academic career would not be the best career option for younger or less experienced people. Also, there is the cliché that technology mainstreaming in education would cut job opportunities rather than increase them (Mapesela & Hay, 2006).

Meanwhile, the problem of wrong perception is that the lenses through which it is viewed or perceived are firstly, somewhat twisted or distorted by a warped mindset, previous knowledge, emotions, prior notions, selfish interest and cognitive contortions and may be due to some genetic tendencies. Generalisations often lead to wrong perceptions. Table 1.0 below presents possible examples of such perceptions.

Table 1.0: Possible Wrong Perceptions

Scenario	Wrong Perception
<p>Adequate resources are seldom provided to ECAs.</p> <p>The challenges of getting a mentor and adequate support.</p>	<p>ECAs hope to catch up with skills and training after the training and mentorship programmes which never happens.</p>
<p>Huge administrative and teaching workload adversely affect their research output and limit their chances to upgrade their skills.</p>	<p>ECAs often think they would not be ambushed by the duty load when they are employed.</p>
<p>Available mentors are often preoccupied with their other responsibilities or workload.</p>	<p>ECAs often focus on opportunities that help them while hitting on those skills that have ultimately allowed them to achieve their employment successes.</p>
<p>Universities and HEIs admit a minimum number of ECAs in the training, internship or mentoring programmes.</p>	<p>ECAs hope hopelessly that they will be lucky after graduation to get into the mentorship programmes and full academic employment after the mentoring programme—which never happens given diminishing funding for such programmes in African HEIs.</p>
<p>ECAs undergo unprofessionally encounters or daunting attitudes or treatment from more established academics in their various work or training departments.</p>	<p>Creates the impression that the profession belongs to experienced, already-established elderly persons.</p>
<p>Both the ECAs and academics are apprehensive about the ongoing invitation for subscription to Digital Transformation Trends (DTT) in</p>	<p>The fear of technology taking over human jobs is internalised.</p>

African HEIs sometimes unsure why they do so.

Hence, improving performance and reliability through technology without losing jobs is impossible.

Source: Author's Initiative

The corollary question would be why ECAs migrate to developed nations in search of employment if technology disadvantages job creation.

The three major wrong perceptions that make younger people uneager or unwilling to seek a career in the ever-changing, competitive academic landscape are (1) fear of job inaccessibility after advancement of their studies; (2) lack of needed support; and (3) huge expectations and challenges of continuous skills upgrade. Bezuidenhout and Cilliers (2010) affirm that in Africa academics continuously experience huge expectations from the management of HEIs concerning increased research output, teaching large class sizes, research and academic supervision and are often not given the needed support. The implication of this results in academics being career unattractive to the youths, as it creates in them the impression and fear that academics as a career option requires one to be already employed or self-employed, as well as advanced in life or established before venturing into (Ulvik & Sunde, 2013). In other words, the academic career option becomes just a title that comes with highly professional career qualifications such as Ph.D., professors and others. The desire for creativity and changing the world fades with age, so today's youth must take up the torch (Favara, 2021).

Furthermore, experience has shown that the value of education in Africa is linked to economic empowerment (Agbugba, 2020). In other words, many Africans pursue education to break the cycle of poverty in their families and achieve empowerment. Once they accomplish this goal, they consider their mission complete. According to Bezuidenhout & Cilliers, 2010), it is appalling that young people are found exhausted as well as tired to further their academics after a diploma or first-degree qualification. As researchers, policymakers, and academics, we need to ask the right questions and take action to achieve the desired change (Little, 2014).

3. Way-forward

The recommendations and suggested way forward are motivated by the promptings and ideas portrayed by the BRECR concept:

- i. Identification of the ECAs' context-based wrong perception about the recent advanced scientific and technology solutions and interventions in education, vis-à-vis ECAs' mentorship, employability, and entrepreneurship development needs to be done through research.

- ii. In the face of the ECAs' work and life uncertainties, the authors of this chapter suggest mainstream technology usage in grooming young academics. Modern education and training should increasingly depend on smart communication and collaboration technology. This would appease and attract the youth to bridge the gap and create more participatory opportunities for employment to ensue.
- iii. To thrive in the new improved ECAs mentorship environment, universities and HEIs must put the right technology in the hands of every student to deliver consistent and engaging experiences that they are learning from. Technology can help higher education hybrid learning solutions if we allow it, as well as the youth to participate.
- iv. The digitalisation drive must be consistently pursued by African HEIs. Technology offers every student, ECAs and academic the same, innovative flexible experience. It provides more personalized learning experiences, tailored to individual success and empowerment. The trend in strategic management and institutional governance is geared towards employee empowerment because that is the only way the institutions truly and holistically thrive.
- v. Mentor education impact should be pursued by HEIs (Ulvik & Sunde, 2013).
- vi. Since digitalisation is the epicentre of the BRECR model, it is recommended that social media platforms such as Twitter, Facebook, Instagram and Tiktok be developed by injecting them with solutions to create more awareness, as well as enabling an environment for ECAs.
- vii. The climax of the BRECR model rises and falls on technology and sustainability. To a great extent, employing technology solutions such as artificial intelligence (AI), blockchain technology and the Internet of things (IOTs) can enhance as well as equip ECAs especially those who deal with monitoring and evaluations of emissions, integrating clean and renewable energy solutions, carbon capture and storage and smart transportation.
- viii. Entrepreneur Africa Network need to raise youth participation and development funding sources which could include banks, NGOs, private and companies.
- ix. The youth and small, micro, and medium-sized enterprises (SMMEs) in Africa should have a substantial quota for loans from all levels of banks.

- x. Developing countries should prioritize the creation of programs aimed at funding youth entrepreneurship and education in Africa. Such programs should focus on supporting young people with innovative business ideas in strategic sectors of the economy. Additionally, there is a pressing need for financial services and value chains that benefit rural communities in Sub-Saharan Africa.
- xi. The African Union (AU) should establish age limits for political and management positions and promote programs and policies that support youth involvement.

4. Conclusion

The central point made in this chapter is that by inserting the principles of BRECR as a remedy to improve ECAs' participation; we are committed to integrating more technology into HEIs modus operandi, which will have a greater impact on academic components of their products. This would not only create opportunities for young people to participate but also ignite and maintain their interest in participating. To change the perception of young people towards a career in ECA, we need to reshape their consciousness and actively involve them in all strategic sectors of the economy through developmental policies. It would be beneficial to implement quotas in the allocation and distribution of academics in various ventures to ensure youth involvement. This process should be supported with on-the-job training and capacity and training in which mentorship becomes inevitable. To achieve this vision in the African education system and ECAs' upliftment, this chapter recommends or superimposes the BRECR concept as a framework.

The process of grooming ECAs, work situations, environment and experiences in Africa can be intimidating and traumatising to the young generation. The industry and HEIs management expect academics to have a comprehensive knowledge of their industry, foresight, and creativity to brainstorm ways to approach shifts in the competitive educational landscape. Young people are turned away from engaging and participating due to high unemployment risk, lack of support, ruthlessness and bullying from more established academics, and politics among others. For these reasons, the ECAs' enthusiasm and experiences in Africa are instead not revved up. Getting the youth more interested in academic careers is tantamount to growing innovation as creativity goes with age. The youth have what it takes to introduce and creatively manipulate modern technology which is something fresh. Africa needs something fresh, innovative and original ideas, not old-fashioned exciting concepts by elderly groups of individuals who refuse to give way to the younger generation. Introducing the youth and technology would create better institutionalised time management, a learning environment more convenient for everyone involved, multiple modes for academic training, mentoring and

participation, and an intriguing system that is prepared and resilient to possible disruptions and limitations. What disrupts the ECAs' proper grooming processes, participation, and mentorship can be effectively remedied through perception change. Of course, there are opportunities for African young entrepreneurs but these opportunities need to be replicated and blown up through financial, technological and "quota" policies.

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