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University-Industry Collaboration in Kenya: Insights from Employers in the Service Sector

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Abstract
The quest for relevance in university education is a recurring theme. While relevance is a multi-facetted concept in higher education discourse, there is near consensus that one of its surest indicators is a 'fit' or 'match' between what universities offer and what industry expects. Such an indicator is most commonly measured through the existing relationships between universities and industry. As such, there is heightened research interest globally on university-industry collaborations (UIC). The purpose of this study was to interrogate the status of UIC in Kenya as perceived by employers. The study targeted the service sector, which is the highest employer of university graduates in Kenya. The study adopted a mixed methods approach which utilized a concurrent triangulation research design. Data were generated through a questionnaire administered to 369 respondents, an interview guide administered on three (3) key informant interviewees, and a document analysis guide administered on 20 documents. The findings of this study reveal that the uptake of UIC is still low in Kenya. Further, it was revealed that where UIC is existing, the most preferred relationship is where industry offers university students opportunities for industrial/field attachment, while the least preferred is where industry collaborates with and/or funds university research and innovation activities. On the basis of these findings, this study recommends that, one, universities should develop and progressively update their conceptualizations of employability to include defined UIC requirements; and two, government and relevant regulatory agencies should both promote and enforce the existence and vibrancy of UIC for every course in every university.

Key words: *Curriculum, Relevance, Employability, University, Industry, Collaboration*

1.0 Introduction

Current debate on Higher education is replete with advocacy for making university curricula relevant to the world of work and socio-economic realities. In such advocacy, the most commonly touted vehicle for actualizing curriculum relevance in the university is the development of employability. Employability has been conceived in multiple ways. For the purpose of this paper, employability is conceptualized as the entire corpus of a university graduate's attributes, which consist of the knowledge, skills, attitudes, competencies and dispositions that may qualify them for one or more positions of employment, including self-employment, and which would help them to remain progressively productive and valuable in all the personal, social, and economic spheres of their life.

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The employability discourse is a political discourse. It is about who wields 'the power' of determining what constitutes employability and how *that* employability may be developed. This discourse is typically characterized by disputation between two entrenched protagonists: job market players, who hold the view that the university *is* a purveyor of employability as per the wishes of employers, and academic purists in the universities, who eschew the 'anti-intellectual' narrative of employability and therefore the subordination of the university to wishes of employers. Nonetheless, the current political reality is that it is the job market players; that is, employers, who wield the power in the employability debate, and they drive the employability agenda. It is this reality that has led to the suggestion among many employers and policy makers that universities "need to transform their curricula and pedagogies in the service of employability" (McGrath, 2009, p.6), or at the very least universities should "alter the curricula to close the gap and ensure that their products and the knowledge created benefits the individual, prospective employers and the broader economy" (Pheko and Molefhe, 2016, p.6).

Since universities are expected play such a pivotal role in the employability enterprise, it is logical to explore the relationship between the major protagonists in the employability narrative. It is now established that "successful and appropriate employability is a benefit for all stakeholders – graduates, employers, higher education institutions, governments, and the economy at large" (Tamrant, 2019, p.1). However, the development of this 'successful and appropriate employability' is assumed to be the responsibility of three major stakeholders in a 'triple-helix' relationship: universities collaborating with employers and the collaboration is ideally stimulated, facilitated and mediated by governments (Kombo & Mwangi, 2018; Tamrant, 2019). The purpose of this paper was to establish, from the employers' perspective, the level and nature of involvement of the service sector in university education Kenya. This was meant to interrogate the status of University-Industry Collaboration (UIC) in Kenya.

2.0 Literature Review

A review of the literature reveals that the relationship between universities and employers or the world of work goes by a variety of names. These include: 'academia-industry collaboration' (Abuja, Carapina, de Kort, Raess, Tieker, & Wagstaff, 2019; Dasgupta, 2017; Patil, 2021; Peters and Lucietto, 2016; Sanno, Oberg, Floress-Garcia and Jackson, 2019), 'university-industry partnerships' (Kombo & Mwangi, 2018; Tamrant, 2019), 'university-industry collaboration' (Ankra and Al-Tabbaa, 2015; Gann, Montresor and Eisenberg, 2018), and 'university-industry cooperation' (Pacho, 2022). For the purpose of this study, 'university-industry collaboration' (UIC) was adopted.

The relationship between universities and employers (who in the purview of this study represent the world of work) has both an antagonistic and a collaborative character. On one hand, the antagonism between employers and universities is evidenced in the oft stated criticism by employers that universities produce 'half-baked' graduates whose skills-sets do not adequately match or fit into the expectations of employers (Tamrant, 2019). This criticism is often rebutted by especially 'academic purists' who denounce it as a dangerous advocacy for the increasing instrumentalization and commercialization of the academy, to the detriment of the intrinsic knowledge-purpose and academic freedom of the university (Harvey, 2000; McCowan, 2015). Moreover, even where and when academia concedes that "it would be most appropriate for all

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stakeholders to join together to improve graduate employability" there is indignation that "there appears to be an inordinate demand on higher education institutions to produce graduates with the profile that industry needs without sharing responsibility for that goal" (Tamrant, 2019, p.1).

On the other hand, there is a growing realization that employability involves multiple intellectual, social and personal capacities that a graduate develops both at the university and in the workplace. As a result, "the cultivation of employability skills cannot be left exclusively to universities" (Tamrant, 2019, para.20). Due to this realization, governments are now urging, even requiring, both universities and employers to pursue possibilities of and establish effective modes of collaboration in order to survive and thrive in the supercomplex world of today and tomorrow (Ankra and Al-Tabbaa, 2015; Barnett, 2000; Sanno, et al., 2019; Tamrant, 2019).

A review of the literature indicates a significant leaning towards the collaborative characteristic of the relationship between universities and employers (Dasgupta, 2017; Mutavi, 2024; Sanno, et al., 2019). This leaning is occasioned by a new epistemological paradigm in the academy: 'performativity'. In the performativity paradigm, "knowledge is now judged not on its power to describe the world but through its use value. Knowledge has to perform, to show that it has an impact on the world" (Barnett, 2000, p.38). The performativity paradigm has necessitated that the university's "epistemologies are sliding from being contemplative to being pragmatic in character. Its concepts, its theories and its ideas are infused with the world of action" (Barnett, 2000, p.41). This 'world of action' is, to a large extent, the 'world of work' which is typified in industry. Performativity has therefore translated knowledge, which has traditionally been the university's stock-in-trade, from a product of the university to a raw material for industry and society at large, or, in the discourse, 'the market'. This *market* therefore owns and drives the performativity narrative.

> 'The market is always right' is a message that stands behind performativity. But the epistemological market – like all markets – is uneven; worse, it is sometimes rigged. Putting it formally, use value is colored by exchange value. The big prizes of status and finance [for the university] are to be secured only if one is seen to have impact; and major impact requires buyers for one's epistemological products (whether in the shape of Research Councils or corporate organizations). (Barnett, 2000, p.39)

Despite this, University-industry collaboration (UIC) continues to be a growing reality all over the world. This collaboration is characterized by both personal and corporate formal and informal relationships between individuals or specific units in the universities and organizations, or between a university and an organization (Ankra and Al-Tabbaa, 2015). This increase in UIC is occasioned by a pragmatic realization that "employers cannot complain about graduates being 'half-baked' if they themselves remain outside of the education and training process" (Tamrant, 2019, para. 22). Moreover, the major players here, universities, employers (industry), and governments now acknowledge and appreciate the mutual benefits that accrue from an amicable and symbiotic relationship between universities and industry (Dasgupta, 2017; Pacho, 2022). In sum then:

> It is true that universities have responsibility for curriculum reform that will better prepare graduates for the increasingly complex demands of the workplace. But their success depends on other stakeholders being equally committed. Benefits to employers will be

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> determined not only by how much universities adapt, but also by their own readiness, capacity and effort to contribute. (Tamrant, 2019, para.21)

A number of authorities have identified some of the specific benefits that accrue from UIC initiatives. These are broadly categorized into economic, institutional, and social benefits, which broad categories are broken down as explained below (Ankra & Al-Tabbaa, 2015; Peters & Lucietto, 2016; Sanno et al., 2019).

The economic benefits

Economic benefits to the university these include funding from either public or private sources or both, income from patents and intellectual property rights, additional income or financial benefit to individual researchers and faculty, creation of business opportunities, and contribution to local or national economic development. On the other hand, economic benefits for industry include new products and/or processes, improved products and processes, patents, prototypes, and intellectual property rights, cost effectiveness when compared to similar in-house research, access to public grants, and promotion of economic growth and enhancement of wealth creation.

The Institutional benefits

A number of benefits accrue to the university as an institution including: development of new courses and adjustment of present ones with enhancement of content in relation to the needs of industry, improved relevance of learning outcomes through immediate feedback on adequacy of the developed curriculum, intrinsic real-life experiences for students through industrial attachment, exposure of students and faculty to practical problems/new ideas and/or to state-of-the-art technology in industry, with positive effects on the curriculum, access to a 'test-bed' for feedback on research ideas, results/interpretations for the refinement of academic ideas and theories, technological advancement and /or research activities in certain key areas, acquisition of or access to up-to-date equipment, better trained graduates, eased selection and recruitment of graduates for employment, credibility and trust for academic researchers among practitioners, stimulation of the development of spin-off ventures, and joint publications with industry.

The institutional benefits to industry include: keeping up-to-date with major technological developments, improved innovative ability and capacity, accelerated commercialization of technologies, provision of much needed legitimacy for industry products, access to new knowledge and leading edge technologies and/or a wide variety of multidisciplinary research expertise and research infrastructure, the opportunity to influence university research directions and new programs for industry good, access to specialized consultancy services which lead to identifying relevant problems and solving specific technical problems, product testing with independent credibility, opportunities for staff training for continuous professional development, opportunity to access a wider international network of expertise, broader collaborative ventures, hiring of talented or highly skilled graduates, and joint publications with universities.

Social benefits

The social benefits accruing to the university include service to the community, enhancement of the university's reputation and prestige, and cultural transformation both in the university and its community. On the other hand, the social benefits of UIC for industry include enhancement of

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reputation and prestige, enhancement of the social responsibility profile and cultural transformation both in the organization and its environment.

The literature on UICs reveals five main modes of collaboration between universities and industry. These are: (i) maatings and conferences; (ii) consultancy and contract research; (iii) funding and in-kind support for university activities, facilities, and programs; (iv) teaching, training and curriculum development; and (v) joint research and innovation (Abuja, et al., 2019; Ankra and Al-Tabbaa, 2015; Gann, et al., 2018; Sanno, et al., 2019; Tamrant, 2019).

Meetings and conferences are characterized by attendance at industry sponsored meetings, university faculty membership on company boards and other industry driven committees, attendance at conferences, seminars, or round tables with industry and university participation, and joint conference presentations.

Consultancy and contract research includes consultancy work (commissioned by industry, non-involving original research), contract research agreements (commissioned by industry and undertaken only by university researchers), university faculty offering specific professional consultancy services in industry, and bi-lateral staff exchange programs.

Funding and in-kind support for university activities, facilities and programs comprises of university campus based learning, innovation and practice centres funded by industry (business incubators, centres of excellence, technology networks and platforms, convergence laboratories, and technology centres and parks), Industry funding for the creation of physical facilities in the university, in-kind support for universities from industry (equipment donations, student scholarships, teaching and research grants, opportunity to use industry facilities for teaching, research and practice), and sponsoring co-curricular activities in the university (sports, academic or profession-related clubs).

Teaching, training and curriculum development involve active participation of industry in university curriculum development activities such as academic planning and course design, universities offering life-long learning courses and specialized customized courses for industry staff in line with personal or corporate professional development and continuing education needs, participation of industry experts as resource-persons, executives-in-residence, part-time lecturers, or visiting lecturers in selected university courses, university faculty participation in industry-led professional development activities, industry provision of credit earning on-the-job learning opportunities to students (such as industrial attachment/field experience, internship, etc.), industry provision of part-time work opportunities for university students, postgraduate training in industry (for instance joint supervision of PhDs), students' participation in industry based or industry supported projects, and industry offering graduating students/fresh graduates opportunities to volunteer their services.

Joint research and innovation are typified by joint research agreements (involving research undertaken by both parties), industry funding of joint research and innovation ventures, technology transfer (patent sale or licensing, joint ventures for the commercialization of joint research, creation of spin-off companies), and joint authorship of research and other publications.

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These modes of UIC bring to light challenges and unintended effects both in the creation, processing and dissemination of knowledge, in the production of goods and services and in the generation of income for both universities and industry. For universities, which collectively are the focus of this study, these challenges and potential drawbacks include: a possible distortion of the research and teaching mission of a university, threats to research autonomy or integrity of a university, a possibility of abandoning long-term basic research in so as to focus on results oriented, short-term, applied research and technology transfer, a potential diversion of energy and commitment of industry-engaged university academics from the their core duties and mandates, a possible imposition of limitations to the culture of open dissemination of university research and innovations due to industry's culture of confidentiality on proprietary information, probable conflicts of interest among university staff and between university and industry, and potential disputes of proprietorship of processes and products – for instance disputes over intellectual property rights, licensing, and patenting (Ankra & Al-Tabbaa, 2015; Patil, 2021).

Two of these potential drawbacks, the possible distortion of the research and teaching mission of a university and the potential diversion of energy and commitment of industry-engaged university academics from their core duties and mandates are of particular concern to this study. In a university, research is a process of producing or refining knowledge which is consumed, first and foremost, for teaching and learning *in* the university (or university settings). This ideal becomes incongruous in the performativity premise of UIC, where, to repeat, knowledge shifts from being a product of the university to a raw material for industry. In this scenario, university academics sacrifice their teaching (and, concomitantly, their students' learning) for industry-driven research and such-like activities which promise them quick benefits, recognition and prestige.

It is no wonder then that while 'engagement of industry in university curriculum development' or at least 'in course or program design activities', is an ever-present catch-phrase in UIC literature, the nature of such engagement, its practical application in terms of curriculum delivery; that is, teaching and learning, and its impact on students is rarely explored or given the attention it deserves. A systematic review of literature from all over the world on universities-industry collaboration came to this conclusion:

> The impact of academic engagement in the process of UIC is almost overlooked. For example, none of the reviewed studies have addressed the consequences of this engagement on, for example, teaching and learning experience of students affiliated to universities that engaged with industry. (Ankrah & Al-Tabbaa, 2015, p. 402)

This is surprising given that arguably the surest avenue to realizing industry's vested interest in the UICs, especially in so far as employability is concerned, is the university curriculum. Thus industry needs to deliberately play a direct and significant role in the whole process of curriculum development, but especially in curriculum design, delivery and evaluation. Such a role may take any one or more of the following forms: helping teachers to keep the curriculum relevant to industry expectations by constantly updating their awareness and competences through industry sponsored continuous professional development programs; helping teaching units in the university to identify experiential work-based learning and mentorship opportunities for students that are consistent with the curriculum; actively participating in steering committees in the university to

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enhance curricula and student achievement; providing in-kind matching for state and private grants to the university to enhance curriculum; actively participating in joint evaluation of curriculum and its delivery in order to adequately modify or improve the curriculum; providing technical, material and financial support to the university to maintain and sustain specific curriculum projects over time; strengthening career and vocational preparation by linking the integration of academic instruction and career and vocational education to real jobs; and providing guest lecturers to share their professional expertise with students and give credibility to the curriculum (Shewakena & Belay, 2017; Pacho, 2022).

The outcomes of such engagement in curriculum development include: improved relevance of learning outcomes, enhanced content of courses and subjects in relation to the needs of industry, intrinsic real life experiences through industrial attachments and other on-the-job learning opportunities, immediate feedback from industry on a university's curriculum adequacy and relevance, design and development of new courses and adjustment or modification of existing ones in response to industry expectations, increased job satisfaction among academic staff, better prepared graduates hence enhanced graduate employability, and easier selection and recruitment of graduates (Kombo & Mwangi, 2018; Mutavi, 2024; Patil, 2021).

Much as UICs present a lot of promise for the enhancement of graduate employability, the actual realization of effective collaborations is still, to a large extent, a preserve of developed economies. In the literature, examples abound of how UIC has worked/is working and what its dividends are to both universities and industry in especially Europe and North America (Flynn, 2020, Sá, 2015). In Africa, not much is documented about the relationship between universities and industry. Nevertheless, the little that is documented indicates that the UIC concept and practice is catching on, although it is still in its nascent stages in most countries (McCowan, 2016). In Kenya, for instance, two unrelated studies published a year apart point to the still very low volume of empirical literature on UIC and the still relatively few instances of actual UICs. Moreover, even where the collaboration exists, it is of an essentially basic nature (Kombo & Mwangi, 2018; McCowan, 2016).

This apparent under-development or slow uptake of UIC in most African countries is attributed to multiple factors including: the nature and size of the national economy; the nature and size of the existing research infrastructure; the lack of efficient on-going monitoring and evaluation of the UIC; cultural differences between academia and industry – for instance the two would treat confidential and proprietary information totally differently; differences in organizational (especially administrative) structure between universities and industry firms; industry's lack of confidence in local universities; weak institutional capacity – including inadequate funding, human resources, and relevant facilities; weak or non-existent structures and systems for incentives and rewards for individuals involved in collaboration initiatives and activities; weak leadership and poor governance in especially public universities; lack of awareness and understanding of industry needs by academic staff; low level of awareness of university research capabilities by industry and other stakeholders; inadequate government policy and/or regulatory framework to facilitate, promote, and support UIC; and weak or non-existent mechanisms for communication and interaction between universities and industry (Ankrah & Al-Tabbaa, 2015; Kombo & Mwangi, 2018; Sá, 2015).

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These factors may seem many, but they can all be adequately addressed by a trio of fairly straight-forward interventions, especially on the part of governments; one, government support, which would be realized in three aspects – (1) financial incentives (for instance tax incentives) for firms involved in identifiable UICs, (2) additional public funding for universities involved in UICs, especially for the purpose of incentives and rewards for staff involved in UIC, (3) financial and technical support for capacity building and strengthening for universities as organizations and for academic staff as individuals; two, the formulation and establishment of a policy and regulatory framework to facilitate and guide UICs. Such a policy and technical regulations would not just encourage but require UIC as a mandatory component of university programs, and it would form a significant part of the criteria for university credibility, reputation and prestige indices such as course accreditation, university ranking, and graduate employability; and three, establishment of open channels of communication and interaction between universities and industry – such as government initiated round-table conferences involving both universities and industry (Kombo & Mwangi, 2018; Pacho, 2022; Sá, 2015).

3.0 Materials and Methods

This study was guided by pragmatist ontological and epistemological postulations which logically lend themselves to a mixed methods research paradigm. This study adopted the mixed methods research paradigm because of the following seven characteristics of the paradigm: complementarity – to integrate two different but connected answers to a research question, one reached via a quantitative approach and the other via a qualitative one; completeness – to gain a greater understanding of the phenomenon under investigation by quantitative and qualitative perspectives; development – to use the first phase of a study to obtain research questions, data sources or sampling frameworks for the second phase of a study; expansion – elaborating on the information obtained in an earlier phase of the study; corroboration/confirmation – to determine the integrity of inferences obtained from a strand of a study by means of integrated methods; compensation – to compensate for the weaknesses of one method via the strengths of the other; and diversity – to compare and contrast divergent representations of the same phenomena (Tashakkori & Newman, 2010).

The mixed methods paradigm is therefore a comprehensive methodology whose defining characteristics include:

i. Research questions that call for real-life contextual understanding and multi-level perspectives
ii. Deliberate integration or combination of multiple methods to draw on the strengths of each method
iii. The use of rigorous Quantitative (QUAN) methods to assess the magnitude and frequency of constructs and rigorous qualitative (QUAL) methods to explore the meaning and understanding of constructs within the same research project
iv. A research design that clearly specifies the sequencing and priority that is given to the QUAN and QUAL elements of data collection and analysis
v. An explicit explanation in which the QUAN and QUAL aspects of the research relate to each other, with heightened emphasis on the manner in which triangulation is used
vi. Situating the research within defined philosophical and theoretical frameworks

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vii. Pragmatism as the philosophical underpinning for the research (Creswell & Plano Clark, 2011; Morgan, 2014; Tashakkori & Creswell, 2007).

In line with this mixed methods paradigm, this study was conducted using a concurrent triangulation research design. The concurrent triangulation design is characterized by the concurrent collection of quantitative (QUAN) and qualitative (QUAL) data, done during a single phase of a study. This is then followed by the comparison of the two databases to determine if there is convergence, divergence, or discrepancy in the findings of the study. Concurrent triangulation is the preferred design when a researcher wishes to employ different methods in seeking "to confirm, cross-validate, or corroborate findings within a single study" (Creswell et al., 2003, p.183). In the current study a quantitative instrument, the 'Employability Rating and Perception Questionnaire for Employers' (ERPEQUE) and two qualitative ones, the 'Employability Key Informant Interview Guide' (EKIIG) and the 'Employability Document Analysis Guide' (EDAG) were used to collect and/or generate data.

3.1 The study setting

This study was conducted in the city of Nairobi. Nairobi is the largest and most cosmopolitan urban center in Kenya, with an estimated population of over four million people. The city serves as both the administrative and the commercial and industrial capital of Kenya. As a result, Nairobi has the single largest concentration of university graduate employees in Kenya. Furthermore, most of the service sector firms and organizations in Kenya are headquartered in Nairobi (ROK, 2015). This means that the target population for this study was found in Nairobi. This is the reason why Nairobi was deemed to be the ideal setting for this study.

3.2 Sample size

The target population of this study was 9639 service sector employers in Nairobi, and three umbrella organizations. For the purposes of collecting quantitative data, and because all the 9639 employers could not feasibly be included in the study, it was necessary to work with a sample population to represent the 9639. To obtain this sample population, a sample size had to be determined.

The sample size for this study was calculated using the Sample Size Calculator, a public service of The Survey System version 12.0, which is a survey research software designed by Creative Research Systems of California, USA. The calculator is available at https://surveysystem.com/sscalc.htm#one. The parameters used in the calculation of the sample size and the calculated sample size are indicated in table 1 below:

Table 1: Sample size calculation

Population	9639
Confidence level	95%
Confidence interval	5%
Calculated sample size	369

In order to confirm the validity of this calculated sample size, the same parameters were fed into two other sample size calculating engines; one, SurveyMonkey, available at https://www.surveymonkey.com/mp/sample-size-calculator; two, Raosoft Inc. available at

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www.raosoft.com/samplesize.html?nosurvey. Both produced the same result, a sample size of 369.

To ensure triangulation, qualitative data were collected from three key informants, each representing a major service sector employer organization: the Federation of Kenya Employers, the Kenya Private Sector Alliance, and the Kenya National Chamber of Commerce and Industry contributing to a total study population of 372 as shown in Table 2.

Table 2: Sampling frame and Sample size

Target population for questionnaires	9639
Target population for interviews	3
Study population for questionnaires (sample size)	369
Study population for interviews (census)	3
Total study population	**372**

For Document Analysis, an online search yielded 36 documents that were related to this study. From these 36 documents, a total of 20 documents were deemed to be most relevant to the study. The 20 documents are listed in table 3.

Table 3: Documents for Document Analysis

Code	Document
D1	British Council (2016). Universities, employability and inclusive development: repositioning higher education in Ghana, Kenya, Nigeria, and South Africa.
D2	Federation of Kenya Employers (2023). Skills needs survey report.
D3	International Labour Organization (2021). Assessment of public employment services and active labour market policies in Kenya.
D4	International Labour Organization (2023). ILO youth country brief: Kenya technical report.
D5	Kenya National Qualifications Authority (2019). Kenya National Qualifications Framework.
D6	Khainga, D. & Mbiti, J. (2018). Employment distribution of youth graduates across sectors in Kenya. Kenya Institute of Public Policy Research and Analysis (KIPPRA), Discussion paper no.214
D7	Republic of Kenya (2013a). Second Medium-Term Plan 2013-2017.
D8	Republic of Kenya (2013b). Sessional Paper no. 4 of 2013 on Employment policy and strategy for Kenya.
D9	Republic of Kenya (2014). Basic report of the survey on youth employment in Kenya.
D10	Republic of Kenya (2015b). National youth empowerment strategy 2015-2017: a flagship project of vision 2030 Medium Term Plan II 2013-2017.
D11	Republic of Kenya (2016). National Employment Authority Act N0. 3 of 2016.
D12	Republic of Kenya (2018a). National Education Sector Strategic Plan 2018-2022.
D13	Republic of Kenya (2018b). Third Medium Plan 2018-2022.
D14	Republic of Kenya (2019). Kenya Youth Development Policy.
D15	Republic of Kenya (2020). National Skills Development Policy.
D16	Republic of Kenya (2022). Employer Skills and Occupations Survey (ESOS) basic report.
D17	Republic of Kenya (2023). The Universities Regulations 2023.
D18	Republic of Kenya (2024). Fourth Medium Term Plan 2023-2027.
D19	Samuel Hall/British Council (2017). Youth Employment in Kenya: Literature review.
D20	World Bank (2019). Improving higher education performance in Kenya: A policy brief.

3.3 Data Analysis

Both quantitative and qualitative data/information were collected and generated in this study. The quantitative data were analyzed both descriptively and inferentially, while the qualitative

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information was analyzed thematically. The quantitative and qualitative data analyses were conducted concurrently and the findings were reported comparatively within the framework of the Concurrent Triangulation design.

4.0 Results and discussions

4.1 *Service Sector Employers' Involvement in University Education*

The respondents were asked to state their perception of the level of involvement of the service sector in university education and to state the frequency with which their organization was involved in various types of UIC. The results are as shown in Tables 4.9 and 4.10.

Table 4: Employers' perception of the level of involvement of the service sector in university programs

Level of involvement	Frequency	Percentage
Very High	3	0.83
High	10	2.77
Average	121	33.52
Low	216	59.83
Very Low	11	3.05
Total	361	100

It is apparent from the results in Table 4 that the majority (59.83%) of the respondents in this study perceive the involvement of the service sector in university programs to be low. Cumulatively, more respondents (62.88%) perceive such involvement to be low or very low as compared to the 37.12% who perceive such involvement to be average and above. This finding is consistent with earlier findings by other studies that point to a low incidence of UIC in Kenya (Awiti et al., 2019; Bogonko, 2018; FKE, 2018; Kombo & Mwangi, 2018; Onyango et al., 2018). The finding is also in line with the responses elicited by the EKIIG:

> *There is little dialogue between universities and employers. Of course there are exceptions, but the truth is the overall trend is bleak.* (EKIIa)
>
> *Generally, universities and employers live worlds apart. Rarely do you see any meaningful interaction between a given university and employers. This is unfortunate. Imagine the wealth that both would create for themselves and their communities if they purposefully came together.* (EKIIb)
>
> *In Kenya we are still behind in terms of industry collaborating with academia. This is a practice that we need to urgently embrace as a country if we wish to be innovative and productive.* (EKIIc)

On the issue of employers' involvement in university education, the EDAG yielded findings from 18 documents (D1, D2, D3, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18, D19, & D20). These findings from the Document Analysis are consistent with the sentiments elicited by the EKIIG and the data generated by the ERPEQUE. In all the 18 documents, there is an overt observation that there generally exists minimal, if any, involvement of employers in university education. This is indicative of the "weak linkages between industry and training institutions leading to skills mismatch in the labour market" (D18, p.43), and the fact that "minimal coordination exists between government, employers, training providers and policy and research institutions" (D8, p.20). There is therefore a recommendation for the "creation of a strong academia-industry linkage right from curriculum formulation to the time skills are transmitted to

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the learners" (D6, p.27). The Government of Kenya is succinct on this issue thus: "a university shall put in place appropriate policies, infrastructure, institutional framework and other resources necessary for promoting quality teaching, research, innovation, industry linkages and community outreach" (D17, section 25, paragraph 2).

The question as to whether the onus of initiating and sustaining industry linkages is solely on the university has been addressed quite comprehensively in this study (see Chapter 2 section 2.5). Suffice it to observe here that from the document analysis, the imperative towards bridging the 'skills gap' that has been identified by the ERPEQUE, EKIIG and EDAG is a collective responsibility. "Employers, government, training institutions and development partners should work together to promote initiatives, practices and policies that will enhance a demand oriented approach to skills development" (D2, p.26). Such collaboration will ensure that "the skill ecosystem is relevant and responsive to the job market, employers, industry and learners" (D15, p.7). However, the common notion in the literature is that while both universities and employers should be ready and willing to collaborate, such collaboration needs an enabling environment that can only be created and sustained by governments (Kombo & Mwangi, 2018; Pacho, 2022; Tamrant, 2019). In Kenya, there has been a deliberate effort to formalize and operationalize UIC through the Linking Academia with Industry (LIWA) initiative, though this is yet to receive full government support (Aineah, 2017; LIWA, 2020). In sum, therefore, the finding here is that in the light of low involvement of employers in university education, all the major stakeholders in university education and employability -- universities, employers, and governments -- have a direct responsibility of ensuring the strengthening of University-Industry collaboration in order to bridge the skills gap.

4.2 *Frequency of service sector involvement in various types of University-Industry Collaboration (UIC)*

Nonetheless, though UIC in Kenya is low, it is not altogether non-existent. Therefore, to further interrogate the nature of UIC in Kenya, the respondents were asked to rate the frequency of their involvement in five specific types of UIC that are common in the literature: sponsoring co-curricular and extra-curricular activities (i.e. sports, exhibitions, open days and fairs, culture weeks, pre-professional associations and clubs, conferences) in universities, offering scholarships, bursaries and other forms of financial aid and incentives to outstanding and/or needy students, collaborating with and/or funding university research and innovation activities, collaborating with universities in curriculum or course development, and offering university students opportunities for industrial attachment/ field experience or internship (Abuja, et al., 2019; Ankra and Al Tabbaa, 2015; Sanno, et al., 2019; Tamrant, 2019).

The frequency of involvement was rated on an ascending Likert scale with five options: never (**N**), rarely (**R**), sometimes (**S**), often (**O**) and always (**A**). In order to compute the mean, each of these options was weighed as follows: N=1, R=2, S=3, O=4 and A=5. The responses to these items and their computed means are recorded in table 5.

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Table 5: Frequency of service sector involvement in various types of University-Industry Collaboration (UIC)

Type of UIC	**N**	**R**	**S**	**O**	**A**	Total	Mean
Sponsoring co-curricular and extra-curricular activities in universities	94 (26%)	78 (21.6%)	87 (24.1%)	62 (17.2%)	40 (11.1%)	361 (100%)	2.6565
Offering scholarships, bursaries, or other financial aid to outstanding or needy students	118 (32.7%)	88 (24.4%)	61 (16.9%)	47 (13.0%)	47 (13.0%)	361 (100%)	2.5014
Collaborating with and/or funding university research and innovation activities	176 (48.8%)	94 (26.0%)	54 (15.0%)	22 (6.1%)	15 (4.2%)	361 (100%)	1.9086
Collaborating with universities in curriculum or course development	160 (44.3%)	71 (19.7%)	70 (19.4%)	35 (9.7%)	25 (6.9%)	361 (100%)	2.1526
Offering students opportunities for industrial attachment, field experience, or internship	15 (4.2%)	20 (5.5%)	57 (15.8%)	88 (24.4%)	181 (50.1%)	361 (100%)	4.1080

Table 5 gives a clearer picture of the nature of UIC in relation to the service sector in Kenya. It is apparent from this table that these organizations prefer only some types of UIC involvement to others. Specifically, the most preferred type of UIC is offering students opportunities for industrial or field attachment or internship (mean 4.1080). This finding is corroborated by the assertions of the Key Informant Interviewees thus:

> *Most employers take in university students for attachment. I wouldn't speak authoritatively about the other types of collaboration, but I know for a fact is that there is very minimal collaboration in terms of R&D, oh, that is research and development, and curriculum design. This is something we are very keen on.* (EKIIa)
> *There are instances of each of these types of collaboration, but the highest incidence is in offering opportunities for work-based learning such as attachment or field practice.* (EKIIc)

This fact that many organizations offer opportunities for attachment may not necessarily be a quality indicator of UIC in Kenya. Various studies on student attachment programs in Kenya indicate that most of such programs are merely traditional academic requirements for the universities and a cheap and convenient yet superficial attempt at industry collaborating with academia. In essence, little value emanates from such programs as currently structured (Ondieki, Kimani, and Tanui, 2018). This assertion is buttressed by this observation from one of this study's Key Informant Interviewees:

> *In most cases the only time many employers interact with universities is when they are requested to take in students for field attachment. But even this, to be honest, is just a ritual. There is often no clear understanding between the university and the employer on the how and the what of the whole exercise, you understand? By the way, it is also common that some of the universities even fail to supervise their own students on attachment. That is why some companies are very choosy when it comes to accepting students for attachment.* (EKIIb)

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This observation is supported by one of the analyzed documents, which states: "Industrial attachment and internship is not anchored on a policy framework to provide it with necessary guidelines. Further, industrial attachment and internship is still confined to students but not lecturers, tutors and instructors who should also be at the center stage of industrial attachment" (D10, p.27).

Although Kenyan employers frequently criticize university curricula for being irrelevant or unresponsive to the needs of the labour market (Aineah, 2017; McCowan, 2016; Waihenya, 2020), their actual involvement in curriculum or course development remains significantly limited, as reflected by a low mean rating of 2.1526. Similarly, the least preferred form of university–industry collaboration (UIC) is partnering with or funding university research and innovation activities, which also received a low mean rating of 1.9086. This is particularly concerning given the strong interdependence between research and curriculum development.

The EDAG findings in this area are more indicative of what needs to be done than of what is currently taking place. This suggests that, at present, employer involvement in key areas of UIC remains minimal. An analysis of 16 relevant documents (D1, D2, D3, D4, D8, D9, D10, D12, D13, D14, D15, D16, D17, D18, D19, D20) reveals several key proposals to strengthen UIC in Kenya. Chief among these is the need for collaborative curriculum construction, where universities and industry work together to design academic programs that combine theoretical learning with practical, work-integrated experiences. Closely related to this is the recommendation that all stakeholders in the UIC space commit to initiating and strengthening structured work-based training opportunities such as apprenticeships, dual training, industrial attachments, internships, entrepreneurship training, cadetships, and other forms of work-related learning aimed at developing industry-relevant competencies among students.

Additionally, the government is urged to play a more active regulatory and facilitative role by formulating and implementing a comprehensive policy framework to support UIC. Although initiatives such as the National Internship Policy and the National Internship Program (D13) reflect progress in this direction, they remain confined to the public sector and focus solely on internships, thereby overlooking the broader spectrum of activities and programs that an inclusive UIC policy should address. Moreover, the documents emphasize the importance of establishing mechanisms for the systematic monitoring and evaluation of UIC-related policies and programs to enable evidence-based, future-oriented youth employment interventions (D4, p.16).

These findings highlight not only the significant gaps that currently exist in the UIC landscape in Kenya but also underscore the importance of a robust tripartite collaboration often referred to as the "triple helix" in which universities and industry engage meaningfully, with government playing a catalytic, regulatory, and enabling role in fostering sustained and effective partnerships (Bennett, 2018; Tamrant, 2019; Tomlinson, 2017).

5.0 Conclusion and Recommendations

From the employers' responses, the study concludes that the incidence of UIC in Kenya is still low, at least in so far as the service sector is concerned. Further, the study concludes that even in instances where UIC exists, it is rarely in high impact areas like curriculum design or course

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development; rather, the most common type of UIC detected is where organizations offer students opportunities for industrial or field attachment for the students fulfill their course requirements. This study also came to the conclusion that this particular type of UIC, as presently structured, is superficial and does not overtly develop or enhance the employability of the students involved.

From the conclusions arrived at, this study makes the following two recommendations: one, every individual university should delineate and explain its conceptualization of employability. This conceptualization forms the framework within which all the university's programs are operationalized. The conceptualization should be arrived at through a comprehensive deliberative process both within the university and between the university and its employability partners. The conceptualization should be explicitly disseminated to all the university's key stakeholders: students (including prospective ones), faculty and staff, employers or industry ('the market'), regulatory agencies, institutional sponsors, and government. This conceptualization should be periodically reviewed and updated to maintain contextual relevance.

Two, the government and relevant regulatory agencies should both promote and enforce the existence of vibrant and productive University-Industry Collaboration (UIC) in every university. Government can promote UIC by making it a policy requirement for some percentage of capitation for public universities and for re-accreditation for private universities. Government can also promote UIC by offering tax-rebates or other incentives to industry partners who are in UIC. Regulatory agencies such as the Commission for University Education and Professional bodies should require evidence of UIC in every program of study and in every university.

References

Abuja, P. M., Carapina, T., de Kort, M., Raess, M., Tieker, C., & Wagstaff, N. (2019). *Academia-industry collaboration best practices guide*. Deliverable D8.3. CORBEL.

Aineah, A. (2017). Bridging the gap between classroom and the job market. *Daily Nation*, 3.

Ankra, S., & Al-Tabaa, O. (2015). Universities-industry collaboration: a systematic review. *Scandinavian Journal of Management*, 31, 387-408.

Awiti, A., Orwa, C., Mbuvi, L., & Karumba, M. (2019). *Whole youth development in Kenya: survey of employers and employees in the formal and informal sectors to determine entry-level skills among youth (18-30yrs) in employment in Kenya*. Aga Khan University, Nairobi, Kenya.

Barnett, R. (2000). *Realizing the university in an age of supercomplexity*. Open University Press.

Bogonko, L.B. (2018). *Factors affecting the employability of first-degree graduating millennials: a case of employers of United States International University – Africa graduates*. [Research project report]. United States International University – Africa, Nairobi, Kenya.Creswell and Plano Clark

Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.). Sage.

Dasgupta, A. (2017). *Finding the right fit in academia and industry collaboration*. https://www.geospatialworld.net/challenges-and-expectations-in-academia-and-industry-collaboration

Federation of Kenya Employers (FKE) (2018). *Skills mismatch survey*.

Gann, D., Montressor, F., & Eisenberg, J. (2018). *Three ways to nurture collaboration between universities and industry*. https://www.weforum.org

Harvey, L. (2000). New realities: the relationship between higher education and employment. *Tertiary Education and Management*, 6, 3-17.

Kombo, K. & Mwangi, M. I. (2018). Strengthening university partnerships and collaborations in Kenya: strategies for sustainability. *The Cradle of Knowledge: African Journal of Educational and Social Science Research*, 6(3), 19-23.

LIWA (2019). *Creating sustainable linkages between academia, industry and government: strengthening linkages deepening the role*. https://www.liwaprogrammetrust.org

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McCowan, T. (2015). Should universities promote employability? *Theory and Research in Education*, 13(3), 267-285.
McCowan, T. (2016). Introduction. In British Council, *Universities, employability, and inclusive development: repositioning higher education in Ghana, Kenya, Nigeria, and South Africa* (pp. 2-14). http://britishcouncil.org/education/ihe
McGrath, S. (2009). *What is employability? Learning to support employability*. [Project paper]. University of Nottingham, UK.
Morgan, D. L. (2007). Paradigms lost and pragmatism regained: methodological implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research*, 1(1), 48-76.
Mutavi, S.M. (2024). *Industry-Academia linkage at the University of Nairobi: Pioneering the future through company series*. University of Nairobi.
Onyango, C. M., Kunyanga, C. N., Karanja, D. N., & Wahome, R. G. (2018). Employer perceptions and attitudes towards agricultural university training in Kenya. *International Journal for Innovation Education and Research*, 6(1), 175-185. https://doi.org/10.31686/ijier.vo16.iss1.932
Pacho, T. (2022). Transforming higher education in Africa through university – industry collaboration. Proceedings of the 20th International Conference on Private Education I Africa. Pp.57-71.
Patil, P. V. (2021). Industry-academia collaboration: A perspective beyond limitations. University News, 59, 67.
Peters, D. L., and Lucietto, A. M. (2016, June 26-29). *A survey of types of industry-academia collaboration*. [Paper presentation]. The 123rd Conference and Exposition of the American Society of Engineering Education.
Pheko, M.M., & Molefhe, K. (2016). Addressing employability challenges: a framework for improving the employability of graduates in Botswana. *International Journal of Adolescence and Youth*, 22(4), 1-15. https://doi.org/10.1080.02673843.2016.1234401
Republic of Kenya (2015). *County statistical abstracts: Nairobi City County*. Kenya National Bureau of Statistics.
Sá, C. M. (2015). *Perspective of industry's engagement with African universities*. Association of African Universities.
Sannö, A., Oberg, A. E., Floress-Garcia, E., & Jackson, M. (2019). Increasing the impact of industry-academia collaboration through co-production. *Technology Innovations Management Review*, 9(4), 37-47.
Shewakena, B., & Belay, S. (2017). The role of university-industry linkages to produce graduates with employable skills: analysis of banking and finance graduates' attributes from educators and industries perspectives. *International Journal of African and Asian Studies*, 30, 36-43.
Tamrant, W. (2019). Work-ready graduates require strong partnerships. *The World View*. https://www.insidehighered.com
Tashakkori, A. & Creswell, J.W. (2007). The new era of mixed methods. *Journal of Mixed Methods Research*, 1(1), 3-7
Tashakkori, A. & Newman, I. (2010). Mixed methods: integrating quantitative and qualitative approaches to research. In B. McGaw, E. Baker, & P. P. Peterson (Eds.), *International Encyclopedia of Education*, (3rd ed.), 514-520. Elsevier.

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