The Gap between Classroom Learning and Career: Implementing Industry-Relevant Curriculum in the Ethiopian Private Higher Education Institutions

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Abstract: This study examines how Ethiopian private higher education institutions (PHEIs) integrate industry needs into their curricula. Using a grounded theory approach, the research collected data through semi-structured interviews held with 33 academic managers and staff members from three private universities (University A, B, and C). The study also used document analysis to corroborate findings. A purposive and theoretical sampling approach was used to select participants. The findings reveal varying efforts toward implementing industry-relevant curricula. University A excelled in market-driven curriculum design and industry input, while University B had structures in place but needed a stronger stakeholder involvement. University C involved stakeholders but lacked documented procedures and a focus on transferable skills. A comparative analysis showed that TVET programs had successful collaboration and practical learning, while undergraduate programs needed stronger collaboration and more industry practitioners. Faculty development practices also varied, with TVET programs emphasizing industry-specific training. University C's Higher Diploma Program with industry placement offered a promising model. The innovative practices we identified included targeted internships, project-based learning, and online platforms. The study proposes a cyclical model for effective industry-relevant curriculum implementation to produce job-ready graduates.

Keywords: Ethiopian Higher Education, Industry-Relevant Curriculum, Grounded Theory, Challenges

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Introduction

Ethiopia's higher education institutions face a critical challenge: ensuring their graduates possess the skills and knowledge desired by employers. This article, titled "The gap between classroom learning and career: Implementing industry-relevant curriculum in the Ethiopian PHEIs," investigates this issue. The article emphasizes the importance of curriculum relevance, which guarantees that the knowledge and abilities taught in PHEIs align with the actual demands of the Ethiopian job market. This alignment is crucial for graduates to successfully transition from classroom learning to careers.

To ensure this alignment, Ethiopia's higher education proclamations have steadily progressed in their focus on bridging the gap between academic learning and career readiness. The **2003 proclamation (No. 351/2003)** was foundational, establishing the Higher Education Relevance and Quality Agency (HERQA) to ensure that curricula were relevant and of high quality (FDRE, 2003). This was a critical first step in formally recognizing the importance of aligning education with the country's needs. Building on this, the **2009 proclamation (No. 650/2009)** made this alignment more explicit, mandating that public universities prepare graduates who are "knowledgeable, skilled, and attitudinally mature" for the labor market. It also specifically instructed these institutions to "forge relations with industries for mutual benefits," officially embedding university-industry linkages into the national education framework (FDRE, 2009).

The most recent 2019 proclamation (No. 1152/2019) solidified and expanded these mandates, making the connection between education and employment a central pillar of higher education policy. This proclamation requires all higher education institutions, including private ones, to "establish cooperation relations with industries." It also explicitly dictates that curriculum design must focus on developing not just theoretical knowledge but also practical skills like independent thinking

and communication to ensure graduates are competent professionals (FDRE, 2019). This evolution in policy demonstrates a clear shift from a general concern for quality to a direct, legally binding requirement for institutions to actively collaborate with industry and design curricula that produce job-ready graduates who can contribute to national development

This research acknowledges the specific context of Ethiopian PHEIs. The curriculum must consider the unique needs and challenges of the Ethiopian economy and workforce to be most effective. By tailoring programs to this context, PHEIs can equip graduates with the skills they need to thrive in the Ethiopian workplace.

Theoretical Framework: Curriculum Relevance in Higher Education

Ensuring that the curriculum reflects the ever-changing needs of the job market is a critical challenge for higher education institutions. Drawing on *labor market theory*, institutions can analyze industry trends and employer demands to identify the skills and knowledge graduates need for success (Cai, Youngblood, Khodyreva & Khuziakhmetov, 2017; Lauder & Mayhew, 2020). This aligns with the principles of *social learning theory*, which emphasizes the importance of practical experience (Bandura, 1969) and integrating real-world projects, internships, and lectures from industry professionals, with the opportunity to develop these in-demand competencies (Dumitru & Halpern, 2023; Rohm, Stefl & Ward, 2021).

Competency-based learning theory offers a valuable framework for curriculum development. By defining clear learning objectives and aligning assessments with those competencies, institutions can ensure students are acquiring the skills employers seek (McIntyre-Hite, 2016; Pichette & Watkins, 2018). However, as theorists like Açıkgöz and Babadoğan (2021), Henri, Johnson, and Nepal (2017) and Kouwenhoven (2010) point out, achieving this balance can be difficult. Private institutions

may face pressure to prioritize a strong theoretical foundation, potentially neglecting crucial job-specific skills development.

Another key challenge lies in keeping pace with the rapid evolution of the job market. The skills employers value can change quickly, requiring frequent curriculum revisions (Boustani, 2023). This dynamism is further compounded by resource constraints that many private institutions face (O'Neill, Hartigan & Spillane, 2024). Limited funding for faculty training, industry partnerships, and up-to-date technology can hinder the ability to adapt curriculum effectively (Gkrimpizi, Peristeras & Magnisalis, 2023).

Finally, achieving stakeholder alignment presents a significant obstacle. Faculty, students, employers, and accreditation agencies all have stakes in the curriculum. Balancing these diverse perspectives can be a complex task, requiring effective communication and collaboration across all stakeholders (Langrafe, Barakat, Stocker & Boaventura, 2020; Sundoro, Kalbuana, & Cahyadi, 2024).

Realizing curriculum relevance in PHEI demands a multidimensional strategy. Drawing from labour market theory, social learning theory, and competency-based learning, institutions can design programmes that endow graduates with employer-desired knowledge and skills. This rapidly changing job market, with its resource constraints and need for stakeholder consensus, demands creative solutions and a commitment to continuous improvement.

Despite these challenges, opportunities abound. PHEIs can influence technology to bridge resource gaps. Online learning platforms, even with budgetary constraints, can connect students with global industry experts. Additionally, cultivating robust industry partnerships yields invaluable insights into job market needs and opens doors for internship placements.

In essence, ensuring curriculum relevance in developing countries requires a sophisticated approach. PHEIs must operate within the ever-

shifting theoretical landscape, acknowledging both their strengths and limitations while recognizing the unique challenges of their specific context. By fostering a growth mindset and cultivating collaboration among stakeholders, PHEIs can equip graduates with the skillsets and knowledge necessary to flourish in a dynamic and constantly evolving job market.

The Ethiopian Context: A Profile of Private Higher Education

Ethiopia's higher education system is undergoing a transformation, driven by the mushrooming private sector, which has emerged to address the shortcomings of public universities and cater to the growing demand for tertiary education (Tamrat & Teferra, 2020). This recognition by the government of limitations within the public system, particularly restricted access and limited capacity, led to a policy shift encouraging private investment. The resulting proliferation of PHEIs has played a crucial role alongside public institutions in shaping the educational landscape and significantly increasing enrolment rates (Yirdaw, 2016).

According to the data obtained from the Education and Training Authority (ETA), currently, there are 353 PHEIs that have secured the license to operate in the sector. The data reveal a dramatic rise in the number of PHEIs over the years (see Table 1).

Table 1: Growth rates of PHEIs' establishment in Ethiopia

Year of establishment*	Number of institutions established	% of growth rate
1995	1	N/A
2000	7	600
2005	19	171.43
2010	98	415.79
2015	106	8.16
2020	309	191.51
2023	353	14.24

The most significant growth spurts occurred between 2000-2005 (600%) and 2010-2015 (415.79%) (ETA, 2023). Currently, among these institutions, 5, 6, 336 and 6 are at the status of university, university-college, college, and institution, respectively (ETA, 2023).

The landscape of higher education in Ethiopia is experiencing a dramatic shift with the rapid rise of PHEIs. While public universities have traditionally held a dominant position, PHEIs are attracting a growing student body, offering a wider range of programmes, and playing an increasingly significant role in the country's development. The majority are located in the capital, Addis Ababa, with branches in other major towns. Enrollment rates have been increasing rapidly in recent years, corresponding to their rate of establishment.

Despite a high number of Ethiopia's private institutions, the sector, at 14-17% enrollment share, reflects the typical landscape in the sub-Saharan Africa (Tamirat & Levy, 2017). PHEIs in the country are showing a positive trend in female student enrollment. Between 2017 and 2020, the proportion of women attending PHEIs has steadily risen, reaching a significant 57.7% in the 2019-2020 academic year. This suggests that PHEIs are playing a crucial role in expanding access to education for Ethiopian women. This increased access can contribute to the country's

development by promoting social progress and empowering women economically. There are several reasons why PHEIs might be attracting more female students. They offer flexible schedules or programmes that could better accommodate women's needs and family commitments. Additionally, those PHEIs located in central areas are more accessible compared to public institutions. Finally, these PHEIs offering programmes specifically targeted towards women's interests and career aspirations, further increasing their appeal (Tamrat, 2023).

However, the rise of private higher education is not without challenges. Concerns regarding quality, curriculum relevance, and resource limitations are prevalent. Some institutions might have inadequate infrastructure, faculty expertise, or accreditation, potentially hindering the quality of education (Yirdaw, 2014). Furthermore, ensuring affordability for students from diverse socio-economic backgrounds remains an ongoing challenge (Nega, 2017). Unlike their public counterparts, PHEIs receive limited government support (Nega, 2017; Yirga, 2014). Additionally, while the government has established a legal framework for PHEIs, regulations are stricter compared to other African countries (Yirdaw, 2014).

In general, PHEIs represent a significant development in Ethiopia's educational landscape. They address the demand for increased access and cater to specialized fields aligned with job market needs. However, ensuring quality education, affordability, and proper regulation are crucial aspects to consider as this sector continues to flourish. Further research is needed to explore the practice of private institutions on curriculum implementation and the overall quality of the Ethiopian higher education system.

Statement of the Problem

The rapid growth of PHEIs in Ethiopia has created a promising avenue for expanding access to higher education. While many of these institutions state a focus on developing employable skills, a significant gap persists

between these intentions and the actual effectiveness of their curriculum in preparing graduates for the modern workforce. Despite the importance of this sector, most similar studies on Ethiopia's higher education have focused predominantly on public institutions, leaving a critical gap in understanding the specific challenges faced by PHEIs (Abie et al., 2023; Mamo & Ademe, 2025; Meles &Tadege, 2019; Tareke et al., 2024; Teressa, 2022).

This study addresses this gap by investigating the implementation process of industry-relevant curriculum within PHEIs. It seeks to empirically identify the strengths and weaknesses of current practices, moving beyond the mere assumption of effectiveness. By providing valuable, data-driven insights into the current state of curriculum implementation, this research will serve as a foundation for developing targeted interventions and best practice models to more effectively bridge the gap between theoretical knowledge and practical job skills. Ultimately, this will lead to improved graduate employability and a more robust contribution to Ethiopia's economic development.

Objectives of the Study

The main objective of this study is to develop a grounded theory that explains how PHEIs in Ethiopia ensure their curriculum is relevant to the job market and prepares students for successful careers, based on document analysis and the lived experiences of academic managers and faculty members.

Research Questions

RQ1: What methods do Private Higher Education Institutions (PHEIs) use to gather information about industry needs?
RQ2: What types of faculty development programmes do PHEIs offer to enhance industry-relevant skills?

RQ3: What challenges do faculty members encounter when incorporating industry needs into their teaching?

RQ4: What specific strategies, including industry partnerships and other innovative practices, do PHEIs employ to effectively deliver industry-relevant learning, particularly in the context of resource constraints?

Significance of the Study

This study investigates the critical gap between the curriculum implemented and the associated graduate skills for industry needs in the Ethiopian PHEIs. Focused on PHEIs, "The gap between classroom learning and career" aims to equip them with strategies for industry-aligned curriculum development. The research explores gathering industry insights, faculty development needs, and fostering productive partnerships with industry. These findings can inform policymakers and PHEIs, ultimately leading to a more relevant curriculum, a more skilled workforce, and a brighter future for Ethiopia.

Definitions of Terms

Classroom learning is defined as the acquisition of knowledge and skills by students through formal, structured educational activities within a designated academic setting, such as a physical classroom or a virtual learning environment. This definition aligns with the broader understanding of formal education, where the "classroom" serves as the primary locus for interaction and instruction (Petress, 2006).

Higher Education Institutions (HEIs) in Ethiopia refers to any public or private academic and training institutions that provide post-secondary education and training. This system is structured to provide a continuum of learning pathways, encompassing both traditional, academic-focused programmes and skill-based, vocational training based on the Ethiopian National Qualifications Framework (ENQF) (MoE, 2012).

Industry-relevant curriculum is defined as a structured set of courses and learning experiences that are designed and validated by industry professionals to equip students with the practical skills and knowledge required to succeed in a specific field. This concept emphasizes the need to bridge the "gap between academia and industry" by ensuring educational programmes align with the demands of the job market (Ridley, 2012).

Private higher education institutions (PHEIs) are defined as non-governmental, tertiary-level and post-secondary academic organizations in Ethiopia that are not owned or institutionally funded by the state. They rely primarily on tuition fees, donations, and other private sources for their funding (Teferra, 2005; Jandhyala & Tilak, 2008). All such institutions in Ethiopia also provide technical and vocational education and training programmes.

Materials and Methods

Research Design

This research used a grounded theory approach to explore the industry-relevance of curriculum and implementation challenges faced by PHEIs in Ethiopia, particularly those stemming from resource constraints. Grounded theory, an inductive research method, prioritizes participant experiences and allows the theory to emerge organically from the data collected through an iterative process (Charmaz, 2006; Corbin &Strauss, 1990; Delve & Limpaecher, 2021; Glaser & Strauss, 1967). This cyclical approach involves data collection and analysis occurring concurrently, with each stage informing the subsequent steps.

The research commenced with broad questions aimed at understanding the experiences of educators exploring the interface between education (classroom teaching) and career prospects. These questions served as

springboards for initiating the inquiry and deeper exploration during data collection.

Participants and Sampling

The research employed a multi-pronged sampling approach, with purposive sampling laying the groundwork and theoretical sampling driving the deeper exploration. Initially, purposive sampling identified three PHEIs with certain faculty. This group encompassed diverse academic managers and faculty members with firsthand knowledge of industry-relevant curriculum implementation and the challenges faced by the PHEIs. These informants included representatives from key areas, such as academic vice-presidents, directors for undergraduate and TVET programmes, university-industry linkage offices, quality assurance directors, heads of departments, and senior academic staff.

However, the research methodology shifted gears as data collection progressed. Theoretical sampling, a hallmark of grounded theory, took the center stage. Instead of adhering to pre-defined selection criteria, participants were recruited iteratively based on the emerging themes from the initial interviews. Thirty-three informants were from academic managers, and staff members were used for in-depth interviews. This ensured that the data collection continuously informed the focus of the research. This approach allowed the research to probe farther into specific themes by recruiting participants with experiences that directly addressed those areas. In this way, the research moved beyond a general understanding of the implementation practices and challenges to a more focused exploration.

Data Collection Instruments

To gain an in-depth understanding of the gap between class learning and career in the Ethiopian private higher education, this study used both document analysis and semi-structured interviews. For the document

analysis, the researcher emphasized on internal university documents from three private universities (University A, B, and C) that addressed industry engagement and graduate employability. This included quality audit reports, university-industry linkage documents (e.g., memoranda of understanding, internship agreements), institutional quality audit reports by independent body, and community service documents (e.g., project proposals, reports) that involved industry partners or addressed industry-related needs. Analyzing these documents allowed the researcher to assess the universities' existing efforts to bridge the gap between theoretical knowledge and practical skills sought by employers.

To ensure the trustworthiness of the data collection instruments—the semi-structured interviews and document analysis—the researcher employed several strategies that are consistent with qualitative research standards. These measures were crucial in establishing the credibility, transferability, dependability, and confirmability of the study's findings (Anney, 2014; Kocaman, 2025; Yin, 2009).

To establish the credibility of the interview instrument, the researcher used member checking. After each interview, he summarized his understanding of the participant’s key points to confirm that he had accurately captured their meaning. This iterative process ensured the questions were clear and the participants’ responses were correctly interpreted. For dependability, he maintained a detailed audit trail of all research decisions. This included a log of how he developed the interview guide, the rationale for certain questions, and how he conducted the interviews, ensuring a transparent and auditable process that others could follow. To ensure confirmability, he maintained a reflexive journal throughout the data collection period. This practice allowed him to continuously reflect on his own assumptions and biases, ensuring the interview process and the data collected were grounded in the participants' perspectives and not influenced by the researcher’s predispositions.

Similarly, the document analysis was subject to rigorous trustworthiness measures. To establish credibility, he conducted source verification on all documents. He critically evaluated each document's authenticity, original purpose, and intended audience before incorporating it into the analysis. This step ensured the documents were relevant and trustworthy sources of information. For transferability, he provided a thick description of the documents, including their type, source, and context. This detail allows other researchers to assess whether the findings from this specific set of documents could be applicable to different settings. To ensure dependability and confirmability, the researcher established a clear and systematic analysis process. He created a coding scheme and applied it consistently across all documents, and maintained an audit trail of how documents were selected, coded, and linked to emerging themes. This methodical approach ensured his interpretations were directly supported by the documentary evidence.

Data Analysis

This research employed a rigorous grounded theory approach for data analysis. Transcribed interviews and documents served as raw data. These data segments were examined in the initial phase, known as open coding, to identify emerging themes and concepts related to the implementation of industry-relevant curriculum development and the challenges faced by PHEIs during this process. This initial coding served as the foundation for further analysis.

Following open coding, axial coding was employed to refine the identified themes. This stage involved establishing relationships between the themes to develop a deeper understanding of the core implementation practices used by PHEIs and the challenges encountered during implementation. For instance, themes around limited access to industry experts or outdated equipment might be linked to the broader challenge of insufficient financial resources. This analysis revealed a more comprehensive and interconnected view of how industry-relevant curriculum is implemented and the challenges faced by PHEIs.

The research process continued until reaching theoretical saturation, a point where no new themes emerged from the data. This ensured that the analysis captured the full range of implementation practices of industry-relevant curriculum and associated challenges, leading to a comprehensive understanding of the phenomenon under study. Throughout the analysis, a memo was utilized to capture ongoing reflections, interpretations, and emerging theoretical ideas. This facilitated the development of a coherent and well-supported theory grounded in the data collected from various informant groups.

Ensuring the Trustworthiness of the Research

Several measures were implemented to safeguard data quality and ensure the trustworthiness of the research findings. Data triangulation, a cornerstone of effective qualitative research, was employed. This involved corroborating findings from the interviews with data obtained through document analysis, providing a more comprehensive understanding of the implementation of industry-relevant curriculum and challenges faced by PHEIs. To minimize researcher bias and enhance the credibility of the findings, member checking and debriefing were used. This involved sharing preliminary interpretations with key informants to confirm their accuracy and consistency with their experiences. In instances where assistant researchers were involved in coding, consistent coding procedures were established. This fostered inter-coder reliability, reducing the risk of subjective interpretations and strengthening the reliability of the findings. A meticulous audit trail was maintained throughout the research process, documenting all research activities, decisions, and data analysis procedures. This allows for future scrutiny and replication of the research.

Research Ethics Considered

To adhere to ethical principles, informed consent was secured from all participants. The three PHEIs under study were coded with University A,

University B and University C. Key informants from the universities were assigned codes. Confidentiality and anonymity were assured throughout the research, with formal ethical approval obtained before data collection began. This commitment to ethical rigor, alongside a robust research design and analysis, strengthens the credibility and trustworthiness of the study's findings.

Results and Discussion

Methods of Industry Needs Assessment by PHEIs

The initial investigation into industry-relevance in the curriculum structures of Universities A, B, and C began with a document analysis. This analysis examined official university documents focusing on procedures and policies related to curriculum development, programme initiation, and industry collaboration. The findings from this analysis would provide a baseline understanding of each university's stated approach to integrating industry-relevant skills and knowledge.

Following the document analysis, the research conducted an in-depth analysis of interviews with key informants, including academic managers and faculty. These interviews were designed to attain the specific objectives identified in the research plan. By analyzing the interview data and identifying associated themes, the researcher gained valuable insights into the actual implementation of curriculum design and industry engagement practices at each university.

Table 2 below depicts a document analysis of the curriculum offered by the three universities, focusing on their efforts to integrate industry-relevant skills and knowledge. The table compares various features across the universities, including programme initiation strategies, curriculum development processes, review procedures, industry collaboration efforts, and the overall strengths and weaknesses of each university's approach.

Table 2*:* Industry relevance curriculum comparison of Universities A, B, and C

Feature	University A	University B	University C
Programme Initiation	Market demand and stakeholder consultation	Assumed needs assessment	Needs assessment and stakeholder participation.
Curriculum Development	Professionals from university and sister company employers involved	Curriculum committees	No documented procedures, but stakeholder participation
Curriculum Review	Regular review (every 2-3 years)	Needs improvement (assumed needs instead of research based)	Needs improvement (no documented procedures)
Industry Collaboration	Strong with sister companies, limited external employers' involvement	Limited, mostly with similar (education) institutions	Some domestic links, strong international connections with institutions running online learning
Transferable Skills	No evidence of focus	No evidence of focus	No evidence of focus
Information about graduate outcomes and destination	Contact with employers to collect feedback about its graduates	Silent on actual graduation destination No contact with employers to collect feedback about its graduates	No evidence of a relevant tracer study, but informal communication with its graduates and employers
Strengths	Market-driven programme initiation, external input	Established structures, employability skills focus	Stakeholder participation, needs assessments
Weaknesses	Lack of documented procedures, limited external collaboration	Assumed needs, lecture-heavy curriculum, and limited industry collaboration	No documented procedures, lack of transferable skills focus, &limited domestic industry collaboration

Source: Analyzed from universities' institutional quality audit report by HERQA (2009, 2009a & 2017)

The overall analysis of the institutional quality audit report by HERQA indicated that while all three universities demonstrate efforts towards industry-relevant curriculum, there is room for improvement. University A benefits from market-driven programme initiation and external input, but needs documented procedures and wider industry collaboration. University B has established structures, but requires stronger needs assessments, stakeholder involvement, and practical learning opportunities. University C incorporates stakeholder participation and needs assessments; however, documented procedures and a focus on transferable skills are missing. For a truly industry-focused curriculum, all universities should implement documented programme/course approval processes, conduct regular needs assessments with industry professionals, increase practical learning experiences, and broaden their industry collaboration efforts.

Further analyses of the interviews to investigate how PHEIs gather information about industry needs were also made. The researcher asked informants from these institutions to describe the methods they use and assess their effectiveness. Based on their responses, he identified the following information-gathering methods commonly employed by PHEIs in Ethiopia:

Formal Ways (survey, focus group, and industry advisory board)

Nearly all PHEIs under investigation leverage established data collection methodologies, such as surveys, focus groups, and industry advisory boards (except for University B, which uses assumed needs for its undergraduate programme). That is, they use formal ways of assessing industry needs. To be more specific, PHEIs conduct surveys among employers and industry professionals to gather insights on desired skills, knowledge gaps, and emerging trends in the job market in the form of needs and market analyses, particularly in their TVET programmes (UGU 1&3, UIL1&3, QLT 1&3, TVET1-3. SNR1-9, DHD1-9). Moreover, institutions use tracer studies for the same purpose and programmes with all its limitations (UIL1-3; UGP, 1-3; TVET1-3; DHD1-3 & 7-9). However,

such practice is more magnified in their TVET programmes. Institutional audit reports by HERQA further validate the limitations of these practices (HERQA 2009; HERQA 2009a; HERQA 2017) in the undergraduate programme. Only University A brings together industry representatives for focused discussions for the purpose of deeper exploration of specific industry needs and challenges (AVP1, TVET1, UIL1, QLT1, SNR1-3, DHD1-3).

Industry Collaborative Approach

University A takes proactive approach to industry collaboration. The institution stands out by actively engaging industry representatives in *focused discussions*. Unlike University C that relies on more general surveys (needs assessment and tracer studies), University A explores the matter deeply. These in-depth sessions explore specific industry needs and challenges, fostering a crucial understanding that directly informs curriculum development (AVP1, TVET1, UIL1, QLT1, SNR1-3) and DHD1-3).

Industry Advisory Boards

While the establishment of advisory boards with industry experts is a well-documented strategy for aligning curriculum with current industry demands and fostering ongoing guidance, the composition of such boards within the investigated PHEIs raises concerns. Notably, only one of the institutions (University A) included industry representatives in its advisory board (AVP1, UIL1 & TVET1). Instead, membership appeared skewed towards government higher officials, public university presidents, individuals with personal ties to the proprietors (AVP3, UIL3 & TVET3) and public figures with high media visibility (AVP 2 & UIL2) in University B and University C. This lack of direct industry engagement undermines the intended purpose of these boards, potentially leading to curricula that are misaligned with the evolving needs of the workforce.

Collaborative University-Industry Linkage across PHEIs

While the degree of implementation varies, all three PHEIs under investigation actively utilize collaborative approaches to foster university-industry linkage intended to link classroom learning with career. These approaches, as highlighted by University Industry Linkage Directors at the three Universities (UIL1, UIL2 & UIL3), create a valuable learning environment for students and ensure their skills remain relevant to industry needs.

Internships and cooperative training

Universities offer internship and cooperative training programmes to provide students with hands-on experience in their fields of study. As TVET Director at University A (TVET1) explained, "*We apply these programmes for they offer a crucial bridge between theory and practice, allowing students to apply their knowledge in real-world settings while gaining valuable industry insights*."

Mentorship programmes

Mentorship programmes connect students with experienced professionals from relevant industries. Quality Assurance Director at University B (QLT2) emphasized this personalized approach: "*Mentors are providing our students with invaluable guidance and career advice, fostering a deeper understanding of industry expectations and career paths*." However, most of the informants indicated that this collaborative way of university-industry linkage was rarely practiced, as it is expensive compared to other ways.

Industry visits and guest lectures

Exposure to the realities of the workplace is another key benefit of collaborative approaches. As one of the senior faculty at University C

(SNR7) stated, "*Organizing industry visits and inviting guest lecturers to our university allowed our students to directly interact with industry professionals, gaining firsthand knowledge of current challenges and industry practices*." This sentiment was echoed by a significant number of respondents from the three universities who highlighted the importance of these interactions for both students and faculty (UGP1, UGP3, TVET1, TVET2, UIL3, QLT1, QLY2, SNR3, SNR5, SNR8, DHD2, DHD 5, and DHD 8).

These collaborative approaches, as implemented across all three PHEIs, enhance the learning experience for students, ensure curriculum relevance, and ultimately, prepare graduates for successful careers in their chosen fields.

Nevertheless, a review of interviews and document analyses revealed no evidence of the application utilizing existing data sources such as job posting analysis, industry reports and publications, social media monitoring, or skill gap analysis. These methods offer valuable insights: job-posting analysis identifies skills and qualifications sought by employers, industry reports and publications highlight emerging trends and future needs, social media monitoring detects evolving skills and knowledge gaps, and skill gap analysis directly compares industry requirements with graduate skillsets, pinpointing areas for curriculum adjustment.

Industry Relevance in Faculty Development for PHEIs

This analysis examines faculty development practices in PHEIs, specifically focusing on the integration of industry-relevant skills into curriculum implementation. The findings highlight a potential gap between training provided for trainers in TVET programmes and faculty teaching traditional undergraduate programmes. The study identified a clear emphasis on industry-specific training for TVET trainers in PHEIs. These programmes equip trainers with the necessary skills to deliver effective

vocational education. The focus areas include: (i) *Teaching Methodologies:* Trainers are trained in methodologies specific to TVET, such as developing curriculum based on industry competencies, session planning and occupational standards. This ensures graduates possess the skills required by the workforce. (ii*) Practical Training Delivery:* Trainers receive training on delivering practical skills aligned with occupational standards. This practical component bridges the gap between theoretical knowledge and real-world application, preparing trainees for immediate job placement. (iii) *Assessment Techniques***:** TVET trainers are equipped with the skills to assess trainees based on the established competency standards. This ensures a clear evaluation system that aligns with industry expectations (TVET 1-3, 2024).

This focus on industry-specific training for TVET trainers aligns with the national TVET strategy (MoE, 2008; MoSHE, 2020), which suggests that trainers in TVET should develop the skills of delivering training with industry experience and be certified in competency-based training. While TVET programmes prioritize industry-specific skills for trainers, the investigation suggests a potential gap in similar training for faculty teaching undergraduate programmes (UGP 1&2; UIL1&2) except in University C, which offers a promising example. Their faculty development programme, the HDP (Higher Diploma Programme), incorporates a module on "organizational placement." This module involves industry visits where faculty members gain firsthand experience in organizational settings. Such an exposure can be valuable for informing curriculum development and teaching approaches, potentially leading to a more industry-relevant educational experience for students (UGP3 &UIL3). However, lack of such practices and focus in faculty development in the other two institutions could lead to a curriculum that does not fully prepare graduates for the demands of the modern workforce.

The findings highlight the need for a broader focus on industry-relevant skills in faculty development programmes of PHEIs beyond TVET programmes. University C's HDP programme, with its industry placement module, offers a valuable model for other institutions to consider.

Challenges of Integrating Industry Needs into Teaching at Ethiopian PHEIs

This analysis details the challenges faced by faculty in Ethiopian PHEIs when integrating industry needs into their teaching, focusing on health, technology, business, and economics programmes. Interviews were conducted with key informants at the three universities and identified the following specific challenges:

Lack of Strong Linkage between Academia and Industry

A recurring theme across interviews with AVP1-3 was the lack of regular interaction between faculty and industry professionals. This isolation can lead to outdated knowledge and teaching practices. SNR 2 (Technology) emphasized the difficulty of integrating industry needs without firsthand exposure to current industry trends and practices. Faculty members, lacking this exposure, may struggle to equip students with the skills and knowledge demanded by the evolving job market.

A common concern emerged from interviews with university-industry linkage (UIL) officers, department heads, and undergraduate programme officers (UGP) across the three universities: a lack of regular interaction between faculty and industry professionals. UIL officers pointed directly to this issue. As one officer noted, "*The biggest challenge we see is keeping faculty current on industry trends. There seems to be a gap between what's taught in classrooms and what's actually happening out there*," (UIL3). Another UIL officer remarked … "*While universities have internship programmes, several companies we work with expressed a lack of structured collaboration," which echoed this sentiment. It feels like placements are more random than planned to address specific industry needs,*" (UIL2).

Department heads echoed this feeling, acknowledging the encouragement to incorporate industry examples but highlighting the

difficulty for faculty to stay relevant without recent connections. One of the department head explained, "*We definitely encourage faculty to use industry examples, but many haven't had recent interactions with professionals in their fields. It can be difficult to keep the curriculum relevant without those connections to the real world*, "(DHD5). Another department head elaborated on the challenges of collaboration, stating, "*We've explored partnerships with local companies, but there seems to be a hesitation from both sides, particularly from the industry. There isn't a well-established system for collaboration between universities and industry, which makes it difficult to build strong connections*, "(DHD7).

Finally, undergraduate programme officers provided another perspective — weak linkage. They relayed student frustrations about coursework not fully preparing them for the skills employers seek. As a UGP officer stated, "*Students often express frustration that their coursework doesn't fully prepare them for the skills employers are looking for. They feel that more interaction with industry professionals would be incredibly beneficial,*" (UGP3). They further highlighted the concerns of companies regarding graduates' lack of practical experience or specific industry knowledge. Another officer elaborated, "*We hear from companies that graduates sometimes lack practical experience or specific industry knowledge. A stronger connection between [PHEIs] and industry could help bridge this gap and better prepare our students for the workforce.*" (UGP1). These combined insights from different university personnel paint a clear picture: a lack of regular faculty-industry interaction hinders Ethiopian PHEIs from effectively preparing students for the demands of the workforce.

Outdated Curriculum and Resource Constraints

The challenge of aligning curriculum with the needs of industry was a major concern for heads of departments (particularly DHD4 & DHD7 in the Faculty of Health Sciences, and DHD5 in Technology). DHD9 (business field) suggested the need for more frequent curriculum reviews. However, these revisions must incorporate industry input to ensure graduates possess the most relevant skills. A TVET Director (TVET3)

highlighted the significant limitation caused by a lack of access to industry-standard equipment and software. This lack of resources hinders the development of practical skills that are crucial for success in today's job market. SNR6 (Business) echoed this concern, emphasizing the need for industry-related case studies and real-world data to provide students with a more practical and relevant learning experience.

Faculty Development and Time Management

AVP3 and UIL2 acknowledged a critical gap in faculty development programmes specifically designed to equip faculty with skills and knowledge needed to integrate industry needs into their teaching. SNR8 (Technology) emphasized the need for training programmes that address industry trends and emerging technologies to ensure faculty remain up-to-date in their fields. Balancing teaching workloads with the additional time required to develop industry partnerships and update course content emerged as a significant challenge. UGP3 (from University C) and DHD4-9 from all faculty (of University B and University C) highlighted the pressure faculty face due to heavy teaching loads, leaving them with limited time for these crucial activities.

Industry-PHEI Collaboration in Course Design

Across the three PHEIs interviewed, industry collaboration plays a significant role in shaping TVET modules (UGP1-3, SNR1-9, Dean1-3, DHD1-9, UIL1-3, TVET1-3). As director of TVET from University B highlighted, there is a strong emphasis on industry personnel working alongside faculty to identify occupational standards and select training tools and methods (TVET2). This ensures TVET modules align with current industry needs, as emphasized by UIL1, who stressed the importance of graduates possessing relevant skills for immediate employability.

The collaborative efforts extend to practical learning opportunities. Many TVET trainees participate in industry extension programmes and cooperative training placements (TVET1-3, SNR4, DHD1-7). As TVET3 mentioned, these placements provide invaluable hands-on experience in real-world settings, solidifying the theoretical knowledge gained in classrooms. Industry expertise is further leveraged through guest lecturers and part-time trainers, particularly for technical and health-related courses (TVET1, SNR7). These lectures, as noted by TVET directors, bring valuable industry insights to the classroom.

However, the interviewees also revealed limitations in industry-university collaboration for undergraduate programmes (UIL2, UIL3, DHD2 and 3, and SNR4-9). While universities involve industry in curriculum validation and review workshops (AVP1, AVP2), a deeper collaboration involving joint curriculum development seems lacking (AVP3, UIL2). As UIL1 pointed out, such collaboration would be highly beneficial in ensuring undergraduate programmes reflect the latest industry requirements.

Another interesting aspect highlighted in the interviews was the focus on motivational speakers rather than industry practitioners for guest lecturers in undergraduate programmes (AVP3, DHD7 & DHD8). While motivational speakers can be inspiring, figures like social media personalities, activists, and politicians (UGP3) may not provide the in-depth knowledge transfer needed for skill development. As AVP3 stressed, inviting industry practitioners to deliver courses or modules would be far more effective in equipping graduates with the specific skills demanded by the industry.

In general, industry-PHEI collaboration is more extensive and well-structured in TVET programmes, particularly in technology and health fields. However, expanding these partnerships to encompass business, social sciences, and humanities could provide valuable industry insights and practical training opportunities. This, alongside deeper collaboration across all disciplines and prioritizing industry expertise in curriculum development, would ensure graduates are well-prepared for the dynamic job market.

Innovative Practices for Industry-Relevant Learning: Case Studies from Ethiopian PHEIs

The Ethiopian higher education landscape is undergoing a transformation, with a growing emphasis on industry-relevant learning. However, resource constraints often hinder PHEIs' ability to provide practical experiences for students. This analysis explores an innovative practice adopted by private universities (University A, University B and University C) to bridge this gap, drawing on qualitative interviews with key informants.

Across three private universities (A, B, and C), interviews with Vice Presidents for Academic Affairs revealed a common concern. "*The demand for industry-aligned graduates is high*," stated a Vice President from University A. "*However, limited funding restricts our ability to establish robust internship programmes and equip labs with cutting-edge technology*." Directors of Undergraduate Programmes (UGPs) echoed this sentiment. "*Students struggle to translate theoretical knowledge into practical application*," noted a UGP Director from University C specializing in business. This disconnection between theory and practice can hinder graduate employability.

Innovative Approach of University A: Leveraging Sister Companies

University A has developed a unique approach to address the challenge of industry partnerships. UIL and heads of departments were interviewed to understand the programme's structure. "*We have a network of sister companies across various fields*," explained the Undergraduate Programme Director (UGP1). "*We primarily assign our students to these companies for internships and practical placements*," he added.

This approach offers several benefits, as highlighted by a Director of University-Industry Liaison (UIL1). "*Sister companies are familiar with our curriculum and can provide targeted learning experiences aligned with our students' fields of study*," he shared. Additionally, a TVET Director TVET1) pointed out, "*This model reduces the burden of securing external partnerships, particularly for new TVET programmes*."

However, challenges exist. As the Vice President from University A (AVP1) acknowledged, "*Recently enrolled TVET students might face similar challenges as other institutions in securing placements, as our sister companies may not have the capacity to accommodate a large influx of students.*"

Innovative Approach of University B: Project-Based Learning with Industry Mentorship

University B implemented a unique approach to address this challenge. Programme directors, senior faculty members, and heads of departments from the Colleges of Health Sciences, Technology, and Business and Economics were interviewed to understand the programme's structure. "*We developed project-based and case study learning modules that tackle real-world industry problems,*" explained UIL2. These projects are co-created with industry partners, as highlighted by an undergraduate programme officer (UGP2). "*We work closely with companies to identify current challenges and develop projects that address them*," they shared.

The programme's success hinges on another innovative element – industry mentorship. Senior faculty members from all three colleges described the role of mentors. "*Industry professionals volunteer their time to guide student teams through the project lifecycle*," explained a faculty member from the College of Health Sciences (SNR4). This mentorship provides students with invaluable practical insights and industry connections, as noted by TVET2. "*Students gain exposure to industry best practices and receive feedback from experienced professionals*," he stated.

Success factors and wider adoption: The programme at University B has yielded promising results. When interviewed, informants expressed a high level of satisfaction. "*Working on real-world projects has been incredibly motivating*," shared a senior staff member from the Faculty of Business and Economics.

Potential for wider adoption: While resource constraints exist across Ethiopian PHEIs, the programme at University B offers a replicable model. Key factors contributing to its success include strong partnerships between PHEIs, industry partners, and faculty (*collaboration*) which are crucial. In addition, the project-based approach (*flexibility*) can be adapted to different disciplines and industry contexts.

The project-based learning model with industry mentorship implemented by University B offers a promising approach to bridge the gap between theory and practice in Ethiopian higher education. By fostering collaboration, leveraging technology, and addressing faculty workload concerns, this model has the potential to be adopted more widely, ultimately leading to a more industry-ready workforce.

Innovative Approach of University C: Embracing Online Learning and Leveraging Technology

University C utilizes online learning as a strategy to enhance industry-based practical learning. Online collaboration tools can facilitate communication between students and mentors, even when geographically dispersed.

Interviews with the University-Industry Linkage Director, Quality Assurance Officer, heads of departments, and senior faculty members across various colleges revealed the programme's details. "*We have implemented a comprehensive online learning platform and teachers are expected to use this platform to deliver industry-relevant content*," (DHD9).

This platform offers a wide range of resources, as described by a senior faculty member from the College of Business and Economics. "*We utilize videos, simulations, and real-world practices to showcase industry procedures and best practices*," SNR9 shared. Additionally, TVET3 pointed out, "*All academic staff are expected to supplement their lectures with online materials shared through social media platforms, increasing student access and engagement*."

This approach offers several advantages. "*Online resources provide access to industry practices that might not be readily available through traditional placements*," explained UGP3. However, some limitations exist. "*The effectiveness of online learning relies heavily on faculty expertise in integrating these resources into their teaching*," remarked AVP3 from University C.

These innovative practices at Universities A, B, and C offer valuable insights for wider adoption. Key factors contributing to their success include, *strategic partnerships* (University A's approach demonstrates the value of building strong partnerships with industry players), *flexibility*

(project-based learning) by University B, and *online learning* (University C) which offer adaptable models for different disciplines and contexts.

Challenges to wider adoption do exist. Securing long-term industry partnerships can be difficult (as highlighted by University C). Additionally, faculty workload may increase with the implementation of new learning models. However, as informant AVP1 from University A pointed out, "*The long-term benefits outweigh the initial challenges. Graduates equipped with industry-relevant skills are more employable, leading to positive outcomes for all stakeholders.*"

Table 3: Summary of comparison of innovative practices for industry-relevant curriculum implementation and challenges in the Ethiopian PHEIs

Feature	University A (sister companies)	University B (project-based learning)	University C (online learning)
Challenge	• Limited resources for industry placements. • Difficulty translating theory to practice.	• Resource constraints limit industry partnerships and faculty supervision during placements.	• Resource limitations hinder traditional placements. • Geographically dispersed students.
Innovation	• An advantage network of sister companies for student internships and placements.	• Implement project-based learning modules that tackle real-world industry problems co-created with industry partners. • Industry mentors guide student teams.	• Utilize an online learning platform with industry-relevant content, faculty integration, and social media support.
Implementation	• Formal partnerships with sister companies outlining expectations. • Curriculum alignment for targeted learning. • Faculty involvement in placement facilitation and mentorship.	• Collaboration with industry partners to develop projects. • Industry mentors provide guidance and feedback • Faculty supervise student progress.	• Platform hosts videos, simulations, and real-world practices. • Faculty integrate online resources into teaching. • Social media supplements learning with shared materials.
Success Factors	• Reduced burden of securing external placements. • Targeted learning experiences with practical skills. • Positive feedback from sister companies on student skills.	• High student satisfaction with real-world project focus. • Industry mentors provide valuable practical insights. • Employers value graduates industry-ready skills.	• Improved student understanding of industry trends and practices. • Enhanced student engagement and active learning. • Increased accessibility for geographically dispersed students.
Challenges	• Sister companies may not have capacity for new	• Securing long-term industry partnerships.	• Faculty expertise required for effective

	TVET programmes or large student numbers. • Ensuring ongoing placement opportunities and variety.	• Increased faculty workload with project-based learning.	online resource integration. • Limited internet access and power fluctuation in some regions hinders student participation.
Future Directions	• Collaboration with sister companies to accommodate new programmes and student numbers. • Explore rotation and variety in placement opportunities.	• Develop interactive case studies and industry simulations with industry leaders. • Continued faculty training for effective online learning integration.	• Explore partnerships with industry leaders to develop interactive case studies and industry-specific simulations. • Address faculty-training needs for online learning integration.

In summary, the three Ethiopian universities (A, B, and C) are tackling the challenge of limited industry exposure for their programmes. University A makes advantages of its network of sister companies for targeted internships, while University B implements project-based learning co-created with industry partners and mentored by professionals. University C utilizes an online learning platform with industry-relevant content and faculty integration to enhance practical skills.

Conclusions and Implications

While challenges exist, such as accommodating large student cohorts and ensuring faculty expertise in new learning models, these universities are demonstrating a commitment to a more industry-ready future for Ethiopian graduates. Through fostering collaboration, investing in faculty development, and exploring innovative partnerships, they are paving the way for wider adoption of these practices. By leveraging technology and addressing faculty workload concerns, these universities can ensure their innovative approaches have a strong impact on Ethiopian higher education, ultimately leading to a workforce equipped with the skills and knowledge demanded by industry.

Implementing Industry-relevant Curriculum in Ethiopian PHEIs: A Cyclical Approach as Implication

Based on the findings, this grounded theory proposes a cyclical model for effectively implementing industry-relevant curriculum within Ethiopian institutions of higher education (PHEIs). The core theme revolves around creating a dynamic feedback loop between industry and academia. This ensures graduates possess the necessary skills and knowledge to succeed in the ever-evolving job market.

Drawing on the emergent themes, the researcher proposes a grounded theory that views effective implementation of industry-relevant curriculum as a *cyclical process*. The model consists of four key pillars that interact in a continuous cycle (see Figure 1).

Collaborative needs assessment: The first pillar emphasizes a *multi-pronged approach* to gathering industry needs. This approach combines formal methods, such as surveys and advisory boards, with proactive collaboration strategies like internships and guest lecturers. By fostering closer partnerships and open communication with industry stakeholders, PHEIs can gain a deeper understanding of current and evolving skill demands.

Targeted faculty development: The second pillar focuses on *equipping faculty with the necessary knowledge and expertise* to translate industry needs into an effective curriculum. This requires expansive training programmes that go beyond traditional academic knowledge to encompass industry-specific practices and pedagogical approaches tailored to practical skill development. Additionally, immersive industry placements can expose faculty to real-world settings, fostering a deeper understanding of industry challenges and informing curriculum design.

Data-driven curriculum design: The third pillar highlights the importance of *utilizing a wider range of real-time industry data* to ensure a dynamic

and adaptable curriculum. These data can come from various sources, including job postings, industry reports, and social media monitoring. By continuously analyzing these data, PHEIs can identify emerging skill needs and adjust their curriculum accordingly, guaranteeing that graduates possess the most relevant expertise for the contemporary job market.

Resourceful learning: Finally, the cyclical process emphasizes the need for resourceful learning approaches. This means implementing innovative pedagogies that overcome resource constraints and enhance practical learning experiences. Examples of such approaches include simulations, case studies, and project-based learning that provide students with opportunities to apply their knowledge and skills in a practical setting.

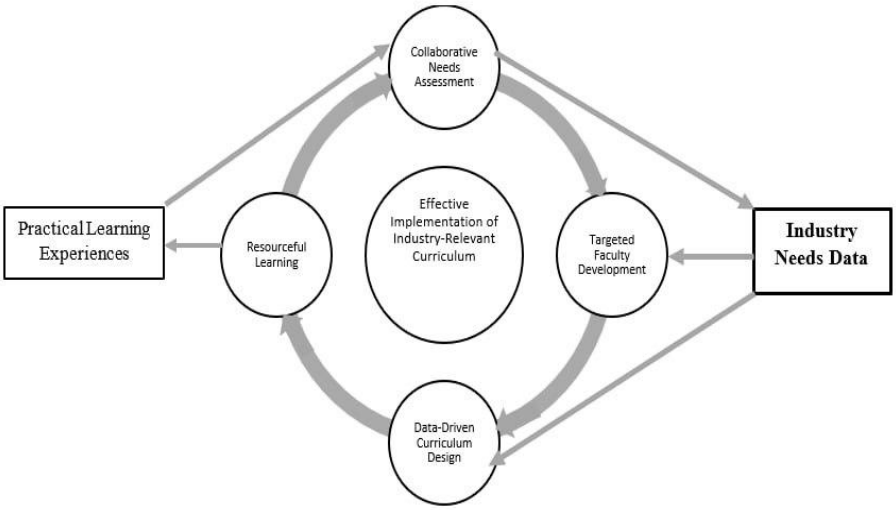

Figure 1: Cyclical model for implementing industry-relevant curriculum in Ethiopian PHEIs

This cyclical process fosters a dynamic feedback loop between industry and academia. By continuously gathering industry needs, developing faculty expertise, and adapting curriculum based on real-time data, PHEIs can ensure their graduates possess the requisite knowledge, skills, and dispositions to thrive in the dynamic job market.

Alignment with existing theories

The proposed theory demonstrates synergy with three established frameworks. First, it aligns with *human capital theory* by equipping graduates with industry-relevant skills, thus enhancing their employability and human capital value. Second, it resonates with *social learning theory* by emphasizing collaborative partnerships, faculty immersion experiences, and student exposure to industry settings. These elements foster a social learning environment conducive to acquiring industry-specific knowledge and practices. Furthermore, the theory underscores the importance of strengthening social networks between PHEIs and industry stakeholders, mirroring Social Network Theory's emphasis on knowledge exchange and collaborative curriculum development.

Third, while both the proposed theory and *competency-based learning* focus on equipping graduates with practical skills, they differ in scope and emphasis. Competency-based learning offers a broader framework for programme design, encompassing various competencies like generic and transferable skills. The proposed theory complements this by providing a practical roadmap for PHEIs to translate industry needs into a dynamic curriculum. Through a cyclical process of needs assessment, faculty development, and data-driven curriculum design, the theory ensures graduates acquire the specific industry-relevant competencies for immediate job market success.

The unique contribution of this grounded theory goes beyond existing frameworks by proposing a *cyclical and data-driven approach.* It emphasizes continuous adaptation of the curriculum based on real-time

industry needs through feedback mechanisms and resourceful learning strategies. This comprehensive framework provides PHEIs with a more powerful tool to bridge the academia-industry gap, particularly in resource-constrained settings.

Future research can explore the effectiveness of this theory in diverse PHEI contexts and disciplines. Additionally, examining the role of government policies and accreditation processes in promoting industry-relevant curriculum development would be a valuable avenue for further inquiry.

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