Employability skills in the 21st century among university business graduates: A gender-based analysis

Daniel Kweku Anhwere[1]
Gabriel Kwasi Aboagye[2]
Emmanuel Quayson[3]
Theophilus Kwamena Ocran[4]

[1]daniel.anhwere@ucc.edu.gh
[2]gabriel.aboagye@ucc.edu.gh
[3]emmanuel.quayson003@stu.ucc.edu.gh
[4]theophilus.ocran@ucc.edu.gh

[1]https://orcid.org/0000-0001-7533-4740
[2]https://orcid.org/0009-0001-6460-6795
[3]https://orcid.org/0009-0004-3846-5441
[4]https://orcid.org/0000-0001-5989-2873

[1,2,3,4] University of Cape Coast, Ghana

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ABSTRACT

This study examined the employability skills possessed by university business graduates in Ghana and explored gender differences in these skills. The Individual Differences Theory anchored this study. The study used a quantitative research approach and utilized a descriptive survey research design. The population comprised all business graduates, including 921 from the School of Business and 265 from Business Education, resulting in a total population of 1,186 graduates. A sample of 330 business graduates was selected using multiple sampling techniques to ensure representativeness. Primary data were collected through a structured instrument titled the University Business Graduates' Employability Skills Questionnaire (UBGES-Q). Both descriptive and inferential statistical analyses were conducted using SPSS version 27. The results indicated that university business graduates possess a wide range of employability skills required by the labor market, suggesting that they are well-prepared to meet workplace expectations and enhance their employability prospects in the 21st century. Moreover, gender is associated with differences in certain employability skills among university business graduates, with male students reporting higher levels of communication and problem-solving skills. However, both male and female graduates exhibited similar levels of corporate sense skills. The study concluded that university curriculum serves not only as an academic framework but also as a vehicle for equipping graduates with practical, entrepreneurial, and adaptive skills aligned with the demands of the 21st-century labor market. The study recommended that university management should maintain and periodically review business programs to ensure alignment with labor market demands and 21st-century employability skills.

Keywords: 21st Century, Employability Skills, Gender Differences, University Business Graduates

I. INTRODUCTION

Education is widely recognised as a key driver of sustainable development, with Sustainable Development Goal 4 (SDG 4) emphasising inclusive and equitable quality education with Target 4.3 advocating for equal access to affordable and quality higher education. This underlines the key role of higher education institutions in equipping students with the relevant competencies, knowledge, and skills required for meaningful participation in today's dynamic global labour market (Ezeonwumelu et al., 2025; Maqbool et al., 2025; Malik et al., 2025; Ul Hassan et al., 2025). Business education occupies a strategic position in higher education, as it prepares graduates for diverse roles in management, entrepreneurship, and organisational leadership, which are essential for economic growth, innovation, and sustainable development (World Economic Forum, 2025).

The quality of business education has attracted a global attention in the 21st-century labour market, where employers increasingly demand graduates who possess technical knowledge, critical soft skills such as communication, problem-solving, adaptability, and digital competence (Organisation for Economic Co-operation and Development [OECD], 2025). This is due to globalisation, technological advancement, and the changing nature of work. These developments have intensified the pressure on higher education institutions to produce graduates who are flexible,

innovative, and capable of functioning effectively in complex and dynamic business environments (United Nations Educational, Scientific and Cultural Organisation, 2022).

Employers are increasingly concerned about the gap between the skills acquired in universities and those required in the workplace among business graduates (Yong & Ling, 2023; Aljohani et al., 2022; Mainga et al., 2022). As a result, there is a growing call for business education programmes to integrate employability skills into their curricula to ensure that graduates are adequately prepared for the demands of modern organisations. Business education must evolve beyond traditional content delivery to incorporate competency-based and experiential learning approaches that enhance graduate employability and workplace readiness (Mainga et al., 2022; Singh & Blessinger, 2024; Oladele et al., 2025). This aligns with the argument that higher education institutions must impart disciplinary knowledge, foster transferable skills and professional competencies necessary for lifelong learning and career success.

This concern is acute in Africa, where graduate unemployment has been linked to the failure of university curricula to equip students with the skills required to gain and sustain employment in the labour market (Shabangu & Madondo, 2024; Moloto et al., 2025; Sikubwabo et al., 2024). The mismatch between skills learned in universities and those demanded by employers has been identified as a key driver of this problem (Sloane, 2020; Basson et al., 2023), which, over time, contributes to persistently high unemployment rates. Supporting this, an interview with employers in the United Kingdom revealed deficiencies in business acumen among university graduates, indicating the broader challenge of producing industry-ready graduates (Andrews & Higson, 2008). Moreover, many graduates are not acquiring the critical skills demanded by employers, further underlining the skills gap in higher education (Medusalem et al., 2026; Carvalho et al., 2026; Dvouletý & Setthakorn, 2026).

The situation in Ghana appears not to be different. Graduate unemployment has become a major concern for all stakeholders involved in youth employability. For instance, a symposium held by the British Council indicated that universities in African countries, including Ghana, are not fully realising their potential to inculcate employability skills into their curricula, calling for a reassessment of teaching and learning practices to produce graduates capable of contributing to inclusive development (British Council, 2016). An executive director from a prominent Ghanaian industry further emphasised that the high unemployment among graduates is not solely due to a lack of job opportunities but also stems from inadequate development and acquisition of employability skills (Ghana News Agency [GNA], 2015). These observations reinforce the imperative for universities worldwide to ensure that their graduates are equipped to meet the evolving demands of the global workplace (Nyagope, 2025; Okolie et al., 2019; Herbert et al., 2020).

Questions have emerged about whether university programmes equally support male and female students in developing core employability skills (Stuart et al., 2011). Literature points to ongoing gender disparities in both skill development and employment, with male graduates often having greater access to job opportunities than females (Edmond et al., 2017; Johansen, 2013). Female students may display strong foundational abilities in areas such as computer use at the early stages of their studies but they tend to show lower confidence when entering real-world work environments. This has been attributed to factors such as limited practical exposure, inadequate mentorship, and the dominance of males in certain fields (Margolis et al., 2001; Otache, 2019). Furthermore, issues such as gender discrimination, underrepresentation in sectors like technology and entrepreneurship, and the absence of female role models have been identified as barriers that can influence career choices and restrict participation in key economic areas (Edmond et al., 2017; Johansen, 2013). Given the importance of employability skills in preparing university business graduates for the labour market (James & Yun, 2018), it is necessary to examine whether differences exist between male and female students in terms of their skill development for employment.

1.1 Statement of the Problem

Employers of university business graduates have increasingly expressed concerns about the calibre of graduates being produced by higher education institutions. Many employers have highlighted the low level of employability skills among newly recruited graduates, which often necessitates additional on-the-job training at huge cost (Aljumah, 2023; Osmani et al., 2019; Zhou et al., 2025). Beyond this, some employers have lamented graduates' inability to perform basic administrative and workplace tasks effectively, raising serious questions about the adequacy and relevance of university training. This situation has far-reaching implications for higher education systems, curriculum effectiveness, graduate employability and productivity, human resource development, and the performance of the national economy (Yahui & Dagogo, 2025; Amaewhule et al., 2024). A key factor underlying this challenge is the apparent inability of many graduates to translate theoretical knowledge acquired in the classroom into practical workplace competencies (Sasa, 2018). As a result, a considerable number of university graduates struggle to secure employment for extended periods after completing their studies. In Ghana, this issue is alarming, as evidence suggests that nearly 50% of university business graduates remain unemployed even after completing their mandatory national service (Aryeetey, as cited in Aboagye & Puoza, 2021). The persistence of graduate unemployment has created frustration, psychological distress among graduates and contributed to broader social challenges. These include the formation of pressure groups such as

the Unemployed Graduate Association, public demonstrations against government, and the rising incidence of social vices in the country.

Literature (Abd Majid et al., 2020; Dominic & Fulgence, 2020; Ismail et al., 2019; Bennett et al., 2022) suggests that the acquisition of employability skills may not be uniform across all university business graduates because gender has increasingly been identified as a potential factor influencing 21st-century skills development. Differences in skills development between men and women have been shown to be smaller and vary, as women have higher proficiency in literacy, while men have higher proficiency in numeracy and adaptive problem solving (OECD, 2025). This raises concerns about whether curriculum reforms and pedagogical practices in universities are equitably benefiting all students, regardless of their gender. Abd Majid et al. (2020) and Ismail et al. (2019) have indicated that, there is no difference in employability skills based on gender. However, Dominic and Fulgence (2020) in their work titled "Gender Differences in Enhancing Students' Employability Skills", revealed that students display average levels of core skills but male and female students differ significantly in their level of core competencies, with males displaying higher levels of core competencies than females. Moreover, Bennett et al. (2022) noted that male students were more confident in relation to digital literacy skills than the female students. As to whether these findings reflect reality, the current study seeks to further find out if differences exist in the employability skills among university business graduates based on gender.

1.2 Research Questions

i. To what extent do university business graduates possess the employability skills required by employers?
ii. Is there a difference in the employability skills of university business graduates based on their gender?

II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Individual Differences Theory

Individual differences theory has its roots in early psychological studies on human variability in the works of Francis Galton in the late 19th century, who pioneered the systematic study of differences in human abilities and traits. The theory was later advanced through psychometric research and educational psychology, emphasising that individuals differ in their cognitive abilities, personality traits, motivations, and learning styles (Chamorro-Premuzic & Furnham, 2006; Sternberg, 2004). Over time, the theory has evolved to explain variations in educational outcomes, skill acquisition, and performance across individuals, making it highly relevant in contemporary studies of learning and employability. The core dimensions within the theory are cognitive ability, personality traits, motivation, prior knowledge, learning styles, and demographic characteristics (Ackerman & Heggestad, 1997). Cognitive ability refers to an individual's capacity to process information and solve problems, while personality traits encompass behavioural tendencies such as openness, conscientiousness, and emotional stability. Motivation reflects the drive to learn and achieve, and learning styles describe preferred ways of acquiring and processing information. Prior knowledge refers to the existing information, skills, and experiences that individuals bring into a learning context, which serve as a foundation for understanding and acquiring new competencies. Demographic characteristics, including gender, are recognised as influencing how individuals engage with learning environments and develop competencies.

The theory explains that individual characteristics influence how learners perceive, process, and apply information, which in turn affects their skill acquisition and performance. Individuals with higher cognitive abilities or stronger motivation engage deeply with learning tasks, leading to better development of competencies such as analytical thinking and problem-solving. Personality traits such as openness and conscientiousness enhance adaptability, teamwork, and communication skills. Gender, as a demographic factor, may influence experiences, confidence levels, and participation patterns, thereby influencing the development of specific skills such as ICT, leadership, and communication. Empirically, the theory has been applied in educational research where Chamorro-Premuzic and Furnham (2008) utilised the theory to explain how personality traits influence academic performance. Also, Lievens et al. (2002) applied the theory to demonstrate how individual traits predict students' competencies in professional education.

In this present study, gender is treated as an individual characteristic that may influence how graduates engage with learning processes and subsequently reveal their performance outcome, and employability skills reflect the performance outcomes. It is argued that male and female university business graduates may differ in their acquisition and demonstration of employability skills due to variations in cognitive tendencies, motivation levels, self-efficacy, and socialisation experiences. Differences in confidence and participation may influence communication and language skills, where some individuals may be more willing to express ideas, present in public, and engage in discussions. Problem-solving and analytical skills may be shaped by differences in cognitive processing styles and exposure to challenging learning tasks, which can vary across individuals. In the case of ICT skills, gender-related differences in

access, interest, and confidence in using technology may affect the level of competence developed, even when individuals are exposed to similar educational environments. Teamwork skills, personal flexibility, and corporate sense can be explained through differences in interpersonal orientation, adaptability, and behavioural tendencies. Individuals who are more open to experience and socially-inclined may find it easier to collaborate, manage conflicts, and adapt to diverse working environments. Occupational expertise and anticipation and optimisation skills are influenced by individual levels of motivation, commitment to self-development, and the ability to apply knowledge in practical settings. The theory argue that these differences are not merely incidental but are as the result of continuous interactions between individual characteristics and the learning environment. Universities provide similar curricula and learning opportunities but students interpret and utilise these experiences differently based on their unique traits. Therefore, gender differences in employability skills may emerge not because of differences in curriculum content, but due to differences in how male and female students engage with and benefit from these learning opportunities.

2.2 Empirical Review

2.2.1 Employability Skills University Graduates Possess

Mainga et al. (2022) examined the perceptions of business students on their employability skills at graduation and found that the four most important skills they possessed for recruitment to entry-level positions were communication skills, learning skills, positive attitudes and behaviours, and problem-solving skills. Students were satisfied with their levels of academic, personal management, and teamwork skills but indicated that creativity and conflict resolution within teamwork required improvement. In the same way, Bhatti et al. (2022) explored employability skills across different countries and cultures, showing that while the skills required for business graduates vary among countries, five skills were common regardless of cultural differences, namely entry-level digital skills, problem-solving skills, organisational skills, decision-making, and goal-oriented skills. This suggests that graduates possess entry-level digital skills, problem-solving, organisational, decision-making, and goal-oriented skills. Pereira et al. (2019) identified a set of skills students considered most important to succeed in their field of study by mentioning communication, thinking, and interpersonal skills while personal, interpersonal, and entrepreneurial skills were perceived as the skills most lacking. Lazíková et al. (2022) examined the alignment of university graduates' skills with employer requirements and found that graduates possess a wide variety of hard and soft skills. Hard skills include foreign language, computer, and economics skills, whereas soft skills include problem-solving, creative thinking, independent decision-making, active engagement, responsibility, organisation, leadership, communication, negotiation, adaptability, stress management, and intercultural competence. Finally, Nadarajah (2021) assessed employability skills among graduates in Malaysia and reported that they were equipped with most generic employability skills, including ICT skills, teamwork, leadership skills, and good time management, though improvements were still needed in communication, problem-solving, and analytical skills.

2.2.2 Gender and Employability Skills of University Graduates

Segbenya et al. (2023) examined the effect of demographic characteristics on graduates' perceptions of employability skills in Ghana and found that male graduates had greater appreciation for mathematical and Information and Communication Technology (ICT)-related employability skills, while female graduates showed a stronger inclination towards emotional intelligence as well as written and verbal communication skills. Also, Dominic and Fulgence (2019) noted that men and women differ in the way they capture and process information for learning purposes, and although students generally display average levels of core employability skills, significant gender differences exist, with male students demonstrating higher levels of core competencies in problem-solving and leadership-related skills, compared to female students. In addition, Álamo-Vera et al. (2020) examined how students' participation fosters competence development and employability expectations and reported that male students perceived themselves as stronger in communication, problem-solving, and analytical skills, whereas female students rated themselves higher in teamwork, time management, planning, and prioritisation skills. However, Qazi et al. (2022) examined gender differences in ICT skills and found that male and female students possess same levels of ICT competence, suggesting no significant gender differences in this area. Furthermore, Ain et al. (2019) explored gender similarities and differences in competence development in higher education and reported variations in two out of the six research skills investigated, namely embark and clarify, and analyse and synthesise, indicating that male students were less aware of skills related to initiating and clarifying research tasks, including recognising knowledge needs and considering ethical, cultural, and social factors, while female students demonstrated lower awareness in analysing information, processing data, and synthesising new knowledge.

III. METHODOLOGY

3.1 Research Approach and Research Design

The study used the quantitative research approach to examine employability skills among university business graduates with respect to gender differences. This approach was considered appropriate because it enabled the testing of the study's research questions and the generation of results that are generalisable to a larger population (Mehrad & Zangeneh, 2019; Fischer et al., 2023). The study relied on numerical data collected through structured questionnaires and analysed using statistical techniques (Lim, 2025; Ahmad et al., 2019). A descriptive survey research design was used because it allowed for the collection of data from a relatively large group of graduates and facilitated the selection of a representative sample for generalisation (Siedlecki et al., 2020; Atmowardoyo, 2018). The descriptive design was also suitable as it enabled the study to systematically describe and analyse the employability skills possessed by university business graduates as they naturally exist, without any form of manipulation (Nardi, 2018; Rahi, 2017).

3.2 Population, Sample and Sampling Technique

The population for this study comprised all business graduates from the 2024/2025 academic year at the University of Cape Coast. Business graduates from the School of Business constituted 921 and 265 from Business Education, giving a total population of 1,186 business graduates. From this population, a sample of 330 business graduates was selected to participate in the study. The sample size was determined using the formula proposed by Miller and Brewer (2003) for calculating an appropriate sample size based on a known population. The calculation is illustrated as follows:

$$n = \frac{N}{1+N(e)^2},$$

Where, N = population size, =1186 and e= sampling error (.05)

$$n = \frac{1,186}{1+1,186(.05)^2} = 299.12 = 300$$

The formula was applied to determine the sample size proportionally from each stratum to ensure fair representation across the study population. This method was used because previous researchers, for example, Kimaru et al. (2023) and Arhin et al. (2024), have successfully used it and confirmed its reliability and validity. To account for potential non-responses, an additional 30 respondents were included, bringing the total sample size to 330 (i.e., 300 + 30). The extra 30 respondents represent 10% of the initial sample, aligning with recommendations that an additional 5–30% is sufficient to maintain generalisability (Creswell, 2003; Sekaran, 2003). This adjustment helps ensure that the effective return rate remains above the acceptable minimum, thereby enhancing the study's external validity.

In selecting the sample of business graduates, multiple sampling techniques were used to ensure representativeness. First, proportionate stratified sampling was used to select respondents from school/college, yielding 256 graduates from the School of Business and 74 Business Education. Cohen et al. (2018) assert that this technique ensures that each stratum is fairly represented and reduces potential selection bias by giving all respondents an equal and independent chance of inclusion. Hu et al. (2016) also supports this approach, noting that proportionate stratified sampling improves the representation of specific strata without overrepresenting any group, although it can be more costly. Following this, simple random sampling using a table of random numbers (Check & Schutt, 2011) was used to select individual respondents. All members of the population were consecutively numbered from 001 to 1,186, and numbers were randomly selected systematically, ignoring any numbers above 1,186. This process continued until the target sample size of 330 was reached. Ultimately, 320 completed questionnaires were returned, representing a 96.97% response rate, which formed the basis for the statistical analysis.

3.3 Data Collection Instrument

A structured questionnaire titled University Business Graduates' Employability Skills Questionnaire (UBGES-Q) was used to collect primary data on the employability skills of the respondents. The instrument consisted of closed-ended items, as this format facilitates ease of response and analysis while minimising the likelihood of irrelevant or redundant data that are often associated with open-ended questions (Septiani et al., 2022). The items were adapted from standardised employability skills framework, the Secretary's Commission on Achieving Necessary Skills (SCANS) model (as cited in Anhwere, 2022). The questionnaire was organised into two main sections with a total of 37 items. Section A focused on the demographic characteristics of respondents which were age and gender, while Section B assessed the extent to which graduates possess employability skills required by employers. These were communication and language skills, problem-solving skills, analytical skills, information and communication technology (ICT) skills, teamwork skills, occupational expertise skills, anticipation and optimisation skills, personal flexibility skills, and corporate sense skills.

3.3.1 Validity and Reliability

The questionnaire used for data collection was subjected to both face and content validity. To achieve this, experts in business education and measurement and evaluation reviewed each item to assess its clarity, adequacy, and relevance in measuring the key variables of the study (employability skills). The reliability of the instrument was assessed using Cronbach's alpha, which measures the degree of internal consistency among items within a construct, with values closer to 1.0 indicating higher reliability (Kennedy, 2022; Chan & Idris, 2017). The questionnaire items were adapted from Anhwere (2022), who pretested the instrument with 53 business graduate students from the University of Ghana and reported a Cronbach's alpha of .985 for the overall scale, indicating high reliability even though a minimum sample of 30 is recommended for pretesting (Sukserm, 2024). Cronbach's alpha coefficients were computed for each construct, and all values exceeded the acceptable threshold of .70, indicating that the instrument had high internal consistency (Izah et al., 2023; Hajjar, 2018). The results of the validity and reliability tests are presented in Table 1.

Table 1

Reliability Test

Construct	Number of Items	α
Communication and Language Skills	5	.857
Problem Solving Skills	4	.818
Analytical Skills	4	.877
Information, Communication and Technology Skills (ICT)	5	.908
Teamwork Skills	6	.906
Occupational Expertise Skills	4	.877
Anticipation and Optimisation Skills	2	.776
Personal Flexibility Skills	2	.758
Corporate Sense Skills	3	.831
Overall	**35**	**.971**

3.4 Common Method Bias

Common method bias (CMB) was assessed to determine whether the use of a self-reported questionnaire introduced systematic measurement error into the study. Harman's single-factor test was used as a preliminary diagnostic technique to detect common method variance (Podsakoff et al., 2003). All measurement items were entered into an exploratory factor analysis using an unrotated principal component solution. The results indicated that the first factor accounted for 51.166% of the total variance. This value slightly exceeds the recommended threshold of 50% but the difference is marginal and does not necessarily indicate a serious common method bias problem (Fuller et al., 2016). To further validate this result, a correlation analysis was conducted among the items used in measuring the variables. The results revealed that none of the inter-construct correlations exceeded the threshold of .90, suggesting the absence of excessive common variance among the variables (Bagozzi & Phillips, 1991). This provides additional evidence that common method bias is not a significant concern in this study. The detailed correlation matrix is presented in Appendix A.

3.5 Data Processing and Analysis

Data processing began with thorough cleaning, where responses were checked for completeness and accuracy. The cleaned data were then coded and entered into SPSS version 27 for analysis. Both descriptive and inferential statistics were used to analyse the data. Frequency counts and percentages were used to summarise the demographic characteristics of the respondents. Mean and standard deviations were used to analyse the data in relation to answering research question one, while independent samples t-test was applied to answer research question two at a .05 level of significance. Before answering the research questions, the assumptions of normality and homogeneity of variance were assessed to ensure the appropriateness of parametric tests. The results of the analyses were presented in clear and organised tables for easy interpretation.

IV. FINDINGS & DISCUSSION

4.1 Findings

4.1.1 Demographic Information of University Business Graduates

The demographic characteristics of the university business graduates were examined, namely gender and age. Descriptive statistics, specifically frequencies and percentages, were used to summarise these background variables. The results are presented in Table 3.

Table 3

Demographic Characteristics of Respondents

Constructs		Frequency	Percentages
Gender	Male	194	60.60
	Female	126	39.40
Age (years)	Below 25	160	50.00
	25 – 30	148	46.30
	Above 30	12	3.80

Results from Table 3 show that male university business graduates (n = 194; 60.60%) outnumbered the female university business graduates (n = 126; 39.40%), indicating a male-dominated sample. This result gives the impression that the opinions of the male respondents dominate more than the females, creating the impression that in higher education in Ghana, those that offer Business programmes probably appear to be predominantly male-dominated, and is likely to influence the study's findings. The implication could be that, when it comes to employability of graduates from the universities, the males are likely to be considered than the females. In other words, it appears there is no gender equality in terms of employment. This could mean that in terms of employment, the males are likely to dominate the labour market. Regarding age, the majority of respondents were below 25 years (n = 160; 50.00%), followed closely by those aged 25–30 years (n = 148; 46.30%), while only a small proportion were above 30 years (n = 12; 3.80%). This implies that persons who had graduated from the business programme were relatively young. The result is vital because it helps in understanding the age of graduates seeking for employment, and could have implications on human resource development of the Ghanaian economy.

4.1.2 Test for Normality

Assessing the normality of data is a fundamental assumption in all quantitative research. Various methods have been recommended to evaluate normality, including both statistical tests and visual inspections (Hernandez, 2021). Statistical methods commonly used are the Shapiro–Wilk and Kolmogorov–Smirnov tests, along with Skewness and Kurtosis statistics, whereas graphical techniques such as histograms, box plots, P–P plots, and Q–Q plots are frequently used for visual assessment (Mishra et al., 2019). In this study, normality was assessed using both Skewness and Kurtosis statistics and histogram analysis to ensure the robustness of the data. According to Hair et al. (2010) and Byrne (2010), normality is considered acceptable when Skewness values are within ±2 and Kurtosis values within ±7. For the sample of 320 respondents, all constructs fell within these recommended thresholds, indicating that the data were normally distributed. Table 4 presents these results, confirming the suitability of parametric statistical tests for subsequent analyses.

Table 4

Normality Test

Constructs	Skewness	Std. Error	Kurtosis	Std. Error
Communication and Language Skills	-.083	.136	-.632	.272
Problem Solving Skills	-.106	.136	.426	.272
Analytical Skills	.081	.136	.008	.272
Information, Communication and Technology Skills (ICT)	-.243	.136	-.358	.272
Teamwork Skills	-.186	.136	-.431	.272
Occupational Expertise Skills	-.261	.136	.267	.272
Anticipation and Optimisation Skills	-.103	.136	-.374	.272
Personal Flexibility Skills	-.114	.136	-.641	.272
Corporate Sense Skills	-.193	.136	-.138	.272

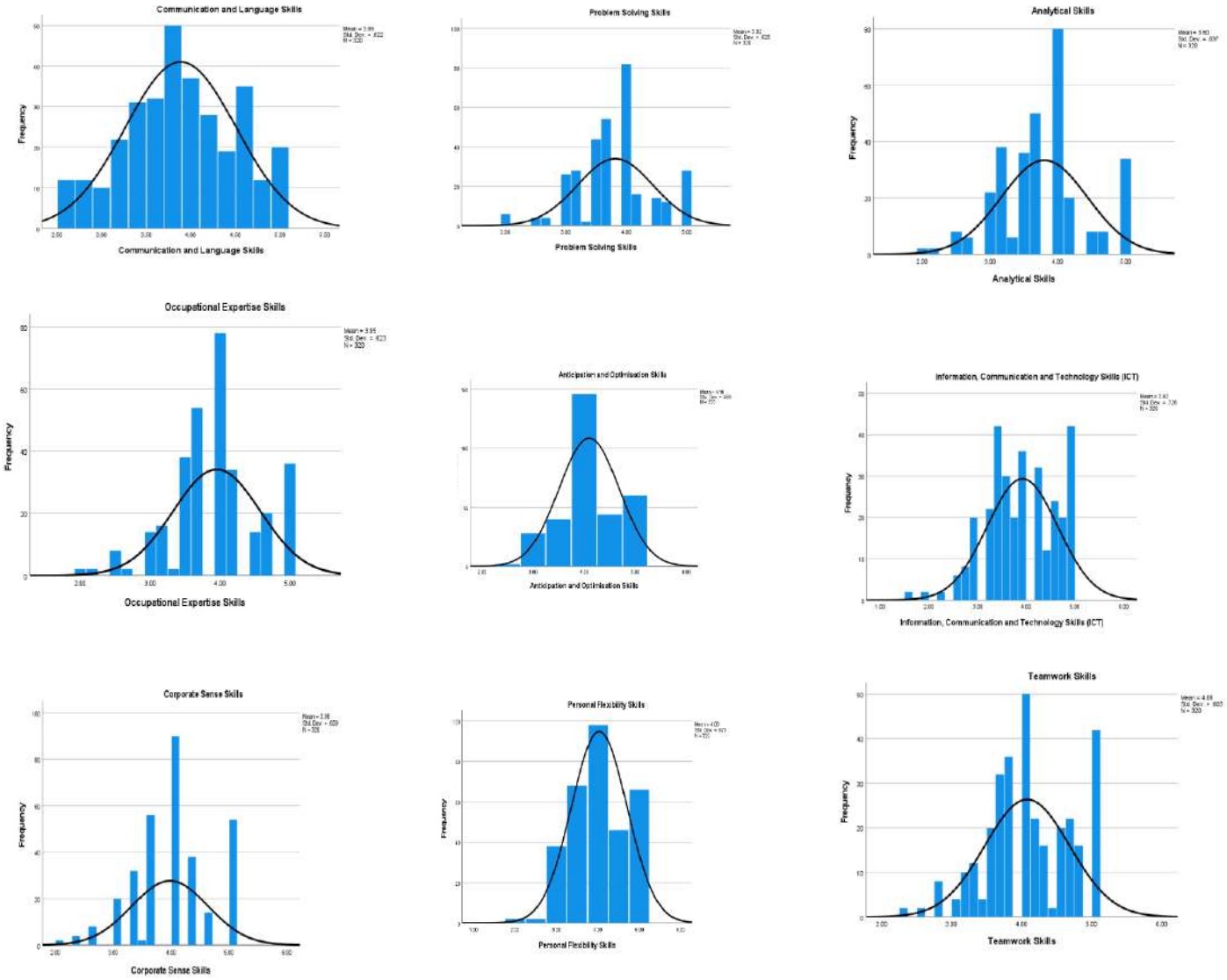

Figure 2
Histogram Distribution of Normality

In addition to statistical measures, the histogram was used to assess the normality of the data distribution. Montero (2026) recommends the histogram as an effective tool for visually inspecting whether data are approximately normally distributed. As indicated in Figure 2, the distribution of all constructs exhibits a bell-shaped curve, which is consistent with Montero's (2026) criterion for approximate normality. Based on this visual inspection, it can be inferred that the data are approximately normally distributed, also confirming the suitability of parametric statistical tests for subsequent analyses.

4.1.3 Test for Equality of Variance

Assessing the equality of variances is an essential assumption when using parametric tests such as the independent samples t-test, as these tests assume that the variances of the groups being compared on the dependent variables are equal. To verify this assumption, Levene's test of equality of variances was conducted before performing the t-test. Conducting this test ensures that appropriate statistical decisions are made and that the results are both valid and meaningful. The results of the Levene's test are presented in Table 5.

Table 5
Levene's Test of Equality of Variance

Dependent Constructs	Independent Variables	F	Sig.
Communication and Language Skills	Gender	.367	.545
Problem Solving Skills	Gender	.655	.419
Analytical Skills	Gender	.229	.632
Information, Communication and Technology Skills (ICT)	Gender	.041	.839
Teamwork Skills	Gender	.218	.641
Occupational Expertise Skills	Gender	1.046	.307
Anticipation and Optimisation Skills	Gender	.512	.475
Personal Flexibility Skills	Gender	.593	.442
Corporate Sense Skills	Gender	1.435	.232

The assumption of equality of variances was assessed to determine whether the dependent variable (employability skills) exhibited similar variability across the sub-groups of the independent variable (gender). The results, presented in Table 5, indicated that the variances of employability skills were approximately equal across male and female respondents. This result confirms that the use of the independent samples t-test is appropriate for comparing the difference in employability skills based on gender of university business graduates.

4.1.4 Possession of Employability Skills for the Labour Market among University Business Graduates

Research question one focused on establishing the extent to which university business graduates possess or exhibit employability skills required by the labour market (employers). This question is relevant to the study as a result of the many complaints that come from the labour market (industry) and other stakeholders concerning university graduates' lack of employability skills. The questionnaire was structured on a 5-point Likert scale with categories ranging from "Not at all (scored 1) to "A very high extent (scored 5). The standard mean was set at 3.0 for all responses. By interpretation, any mean score above the 3.0 meant a positive response, while below 3.0 meant a negative response. The composite mean was calculated by averaging the scores across all scales. The summarised results are presented in Table 6 as follows:

Table 6
Employable Skills among University Business Graduates

Employable Skills	M	*SD*	Interpretation
Communication	3.87	.62	High
Problem-solving	3.82	.63	High
Analytical Skills	3.80	.64	High
Information, Communication and Technology Skills (ICT)	3.92	.73	High
Teamwork Skills	4.08	.61	High
Occupational skills	3.95	.62	High
Anticipation skills	4.10	.59	High
Personal Flexibility	4.03	.67	High
Corporate Sense	3.98	.66	High
Grand Mean/ Ave.	3.94	.54	High

Scale: *Not at all*= "(1.00- 1.49); *Low Extent*= (1.50- 2.49); *Moderate Extent*= (2.50- 3.49); *High Extent*= (3.50- 4.49); *Very High Extent*= (4.50- 5.00)"
Source: Field Data (2025)

Results from Table 6 show that the university business graduates perceived themselves to possess employability skills to a high extent, with an overall mean score of 3.94 (SD = .54). The graduates reported high levels across all dimensions of employability skills. Specifically, communication skills were rated high (M = 3.87, SD = .62), reflecting their ability to speak fluently, communicate confidently, present before an audience, and express ideas clearly. Problem-solving skills were also high (M = 3.82, SD = .63), indicating graduates' capacity to identify problems, adapt to changes, provide solutions independently, and make suggestions for improving situations. Analytical skills were reported at a high level (M = 3.80, SD = .64), encompassing the ability to collect and analyse information, organise data, evaluate solutions, and analyse critical issues. Graduates rated their ICT skills high (M = 3.92, SD = .73), demonstrating competence in using the internet for information retrieval, word processing, communicating via ICT tools, using computer applications, and applying digital solutions to problems. Teamwork skills were the highest-rated construct (M

= 4.08, SD = .61), indicating their ability to work collaboratively with diverse groups, contribute to productive relationships, and manage conflicts effectively in a team setting.

Occupational skills were perceived as high (M = 3.95, SD = .62), reflecting graduates' competence in performing tasks accurately, working independently, engaging in in-depth professional discussions, and providing information effectively within their domain. Anticipation and optimisation skills were also high (M = 4.10, SD = .59), highlighting graduates' focus on continuous self-development and their application of newly acquired knowledge in practical contexts. Personal flexibility was rated high (M = 4.03, SD = .67), demonstrating adaptability to workplace changes and ease in working with new people. Finally, corporate sense was high (M = 3.98, SD = .66), showing graduates' ability to share knowledge, take initiative in collaborative responsibilities, and support organisational operations. These findings indicate that the university business graduates possess a wide range of employability skills required by the labour market, suggesting that they are well-prepared to meet workplace expectations and enhance their employability prospects in the 21st-century.

4.1.5 Differences in Employability Skills for the Labour Market among University Business Graduates Based on Gender

Research question two sought to establish whether there are statistically significant differences between employability skills possessed by males and female's university business graduates. In order to address this objective, all the statements under Section B, under each construct, were put together to compute for the employability skills dimensions. Having gender as the independent variable and employability skills dimensions as the dependent variable, an independent samples t-test was conducted. The results are presented in Table 7.

Table 7

Gender Differences in Employability Skills among University Business Graduates

Constructs	Gender	n	Mean	SD	t-value	df	p-value	Cohen's d
CLS	Male	194	4.01	.59	4.401	318	< .001*	.504
	Female	126	3.70	.62				
PSS	Male	194	3.91	.61	3.572	318	< .001*	.409
	Female	126	3.66	.62				
AS	Male	194	3.93	.62	4.678	318	< .001*	.535
	Female	126	3.60	.61				
ICTS	Male	194	4.11	.67	6.004	318	< .001*	.687
	Female	126	3.63	.71				
TS	Male	194	4.15	.58	2.664	318	.008*	.305
	Female	126	3.97	.64				
OES	Male	194	4.02	.58	2.448	318	.015*	.280
	Female	126	3.85	.67				
AOS	Male	194	4.15	.57	2.192	318	.029*	.251
	Female	126	4.01	.61				
PFS	Male	194	4.12	.67	3.088	318	.002*	.353
	Female	126	3.89	.66				
CSS	Male	194	4.02	.63	1.363	318	.174	.156
	Female	126	3.92	.71				

CLS – Communication and Language Skills; PSS – Problem Solving Skills; AS – Analytical Skills; ICTS – Information, Communication and Technology Skills; TS – Teamwork Skill ; OES – Occupational Expertise Skills; AOS – Anticipation and Optimisation Skills; PFS – Personal Flexibility Skills; CSS – Corporate Sense Skills

Source: Field Data (2025) *Significant at p < .05**

The results in Table 7 show that male university business graduates reported higher mean scores across most employability skill constructs compared to their female students. Male university business graduates scored higher in communication and language skills (CLS) (M = 4.01, SD = .59), problem-solving skills (PSS) (M = 3.91, SD = .61), analytical skills (AS) (M = 3.93, SD = .62), information, communication and technology skills (ICTS) (M = 4.11, SD = .67), teamwork skills (TS) (M = 4.15, SD = .58), occupational expertise skills (OES) (M = 4.02, SD = .58), anticipation and optimisation skills (AOS) (M = 4.15, SD = .57), and personal flexibility skills (PFS) (M = 4.12, SD = .67) than female university business graduates (CLS (M = 3.70, SD = .62; t(318) = 4.401, p < .001, Cohen's d [.504, CI 95% [.275, .731]]), PSS (M = 3.66, SD = .62; t(318) = 3.572, p < .001, Cohen's d [.409, CI 95% [.182, .635]]), AS (M = 3.60,

SD = .61; t(318) = 4.678, p < .001, Cohen's d [.535, CI 95% [.307, .763]]), ICTS (M = 3.63, SD = .71; t(318) = 6.004, p < .001, Cohen's d [.687, CI 95% [.456, .917]]), TS (M = 3.97, SD = .64; t(318) = 2.664, p = .008, Cohen's d [.305, CI 95% [.079, .530]]), OES (M = 3.85, SD = .67; t(318) = 2.448, p = .015, Cohen's d [.280, CI 95% [.055, .505]]), AOS (M = 4.01, SD = .61; t(318) = 2.192, p = .029, Cohen's d [.251, CI 95% [.025, .476]]), and PFS (M = 3.89, SD = .66; t(318) = 3.088, p = .002, Cohen's d [.353, CI 95% [.127, .579]])). For corporate sense skills (CSS), male university business graduates (M = 4.02, SD = .63) scored similarly to female university business graduates (M = 3.92, SD = .71; t(318) = 1.363, p = .174, Cohen's d [.156, CI 95% [-.069, .380]]), indicating no significant gender difference in this skill. The results indicate that gender is associated with differences in certain employability skills among university business graduates, with male students reporting higher levels of communication, problem-solving, analytical, ICT, teamwork, occupational, anticipation, and personal flexibility skills. The observed effect sizes, ranging from small to large, further indicate the practical significance of these differences in employability skill development.

4.2 Discussion

Research question one focused on establishing the extent to which university business graduates possess or exhibit employability skills required by the labour market (employers) and the results indicated that university business graduates possess a wide range of employability skills required by the labour market, suggesting that they are well-prepared to meet workplace expectations and enhance their employability prospects in the 21st-century. The study revealed that graduates demonstrated high communication and language skills, including the ability to speak fluently, communicate confidently, give presentations, and write effectively. In the Ghanaian setting, this could be attributed to the emphasis on oral presentations, group discussions, and report writing during business programmes at universities, which provide students with repeated opportunities to practice and refine these skills. Graduates who exhibit strong communication skills are likely to interact effectively with clients, colleagues, and supervisors, which can improve organisational productivity and cohesion. The findings of the current study agree with Mainga et al. (2022) who found that communication skills were among the most important employability skills possessed by business graduates, and also agree with Pereira et al. (2019) who identified communication as a critical skill for success in students' fields of study. Problem-solving skills were also found to be high. Graduates were able to identify core components of workplace problems, make constructive suggestions, and adapt to changes in problem-solving approaches. This suggests that university business programmes in Ghana may emphasise practical assignments, case studies, and simulations that mimic real workplace challenges, equipping students to respond effectively to unforeseen issues. These skills are vital for optimising resources in organisations where cost efficiency is often a priority, especially in Ghana's emerging business sectors. The findings of the study agree with Mainga et al. (2022), Bhatti et al. (2022), and Lazíková et al. (2022) who highlighted problem-solving as a key skill exhibited by graduates across countries, cultures, and disciplines.

Analytical skills among graduates were high, with strong abilities in evaluating solutions, collecting and analysing information, and critically assessing issues. The prevalence of these skills may reflect the growing emphasis on data-driven decision-making in Ghanaian organisations and the incorporation of quantitative analysis, research projects, and critical thinking exercises into business curricula. Graduates with strong analytical skills are positioned to make informed decisions and contribute meaningfully to organisational planning and strategy. The current study's findings partially agree with Nadarajah (2021) who reported that analytical skills among graduates were present but required improvement, suggesting that Ghanaian business graduates may be comparatively stronger in this skill area. Information, communication, and technological skills were prominent. Graduates demonstrated proficiency in using ICT tools, word processing, internet research, and data retrieval. In Ghana, the increasing digitalisation of business operations, the expansion of online services, and the growing adoption of ICT in organisational workflows make these skills essential for employability. Graduates who are familiar with ICT tools can perform tasks efficiently, communicate digitally with stakeholders, and adapt quickly to technological changes in the workplace. The results of the current study agree with Bhatti et al. (2022) and Nadarajah (2021) who reported that graduates possessed entry-level digital skills and ICT competencies critical for employability. Teamwork skills were reported to be high, with graduates able to contribute to productive group work, share knowledge, and manage conflicts. The emphasis on teamwork may stem from collaborative learning environments in Ghanaian universities, where group projects and peer interactions are common. Such experiences prepare graduates to work effectively in diverse teams, which is key in organisations that rely on collective efforts to achieve goals and maintain competitiveness. The findings agree with Nadarajah (2021) who identified teamwork as a key skill among graduates, and partially agree with Mainga et al. (2022) who noted satisfaction with teamwork but highlighted a need for improvement in conflict resolution within teams. Occupational expertise skills were high, reflecting graduates' ability to carry out work independently, provide relevant information, and handle in-depth tasks in their fields. This may be a result of practical training, internships, and hands-on experiences embedded in university programmes in Ghana, which expose students to real-world professional environments. Graduates with strong occupational skills are likely to contribute efficiently to organisational objectives and demonstrate reliability and

competence in their roles. The findings agree with Lazíková et al. (2022) who reported that graduates possess hard skills and occupational expertise critical for employer satisfaction.

Anticipation and optimisation skills were also high, showing that graduates focus on continuous self-improvement and apply newly acquired knowledge effectively. In the Ghanaian workplace, where innovation and adaptability are increasingly valued, these skills allow graduates to anticipate challenges, optimise resources, and respond proactively to organisational needs. The findings agree with Lazíková et al. (2022) who highlighted adaptability and proactive engagement as essential employability skills. Personal flexibility skills were demonstrated at a high level, with graduates able to adapt to changes and work effectively with new colleagues. In the Ghanaian context, workplaces are often dynamic, and employees may be required to take on multiple roles or collaborate with people from diverse backgrounds. Graduates who are personally flexible can navigate these environments successfully, enhancing both team dynamics and personal employability. The results agree with Lazíková et al. (2022) who emphasised adaptability and flexibility as critical competencies for graduate employability. Corporate sense skills were generally high, reflecting graduates' ability to take initiative, share responsibilities, and support organisational operations. This skill set may be nurtured through leadership training, group projects, and participation in campus clubs, which encourage accountability and proactive engagement. Graduates who demonstrate corporate sense are likely to integrate smoothly into organisational structures and contribute to overall performance. The findings agree with Pereira et al. (2019) and Lazíková et al. (2022), who highlighted initiative, responsibility, and active engagement as important employability skills. Ghanaian university business graduates are equipped with a comprehensive set of employability skills that align with the expectations of employers. The combination of theoretical instruction, practical exercises, teamwork experiences, and exposure to ICT tools appears to prepare graduates effectively for entry into the labour market, enhancing their prospects of securing employment and performing efficiently in professional roles.

Furthermore, research question two sought to establish whether there are statistically significant differences between employability skills possessed by male and female university business graduates and the results revealed that gender is associated with differences in certain employability skills among university business graduates, with male students reporting higher levels of communication, problem-solving, analytical, ICT, teamwork, occupational, anticipation, and personal flexibility skills. Male graduates perceived themselves as having stronger employability skills in areas that require direct problem-solving, technological engagement, analytical thinking, and adaptability. In the Ghanaian setting, this may be influenced by societal and educational factors, such as higher encouragement of male students to engage in leadership roles, ICT-related tasks, and team-based projects during their university training. Male students may also have greater access to extracurricular activities, internships, or networking opportunities that foster skill development in these domains.

The higher scores for communication, teamwork, and ICT skills among males may reflect cultural patterns where male students are often more confident in participating in public speaking, group discussions, and technology-driven tasks. In the same way, problem-solving, analytical, and occupational expertise skills could be reinforced through male students' greater involvement in practical projects, entrepreneurial initiatives, and part-time work experiences that demand independence and strategic thinking. The findings of the current study agree with Segbenya et al. (2023) who found that male graduates in Ghana reported stronger ICT and mathematical-related skills, and also align with Dominic and Fulgence (2019) who reported that male students generally exhibit higher problem-solving and leadership-related competencies. Similarly, the results support the findings of Álamo-Vera et al. (2020) who observed that male students perceived themselves as stronger in communication, problem-solving, and analytical skills. On the other hand, female graduates scored relatively lower in these skills. This may reflect structural challenges such as limited access to certain practical or technology-based experiences, or societal expectations that prioritise other forms of engagement over leadership or ICT-heavy tasks. These patterns are partially consistent with Segbenya et al. (2023) who noted that female graduates showed a stronger orientation toward emotional intelligence and verbal/written communication, suggesting that gendered patterns in skill development exist. However, the non-significant difference in corporate sense skills indicates that both male and female graduates demonstrate similar abilities in taking initiative, sharing responsibilities, and supporting organisational activities, suggesting that certain soft skills are equitably developed across genders in Ghanaian universities. This observation aligns with Qazi et al. (2022) who found no significant gender differences in ICT competence, and also suggests a convergence with Ain et al. (2019) who reported that gender differences were not universal across all competence areas, with both male and female students showing similar levels in certain skills. The results reflect that gender plays a crucial in skills acquisition. However, both male and female possess the skills needed to succeed on the 21st-century labour market.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

The study concluded that university business graduates in Ghana possess a wide range of employability skills required by the labour market. These include communication, problem-solving, analytical thinking, ICT, teamwork, occupational expertise, anticipation, personal flexibility, and corporate sense. The current business curriculum effectively prepares students to meet workplace expectations and enhances their employability prospects. Gender differences were observed in specific skill areas, with male graduates reporting higher self-perceptions in technical and problem-solving domains, suggesting that gender-sensitive approaches may be needed in skill development. University curriculum serves not only as an academic framework but also as a vehicle for equipping graduates with practical, entrepreneurial, and adaptive skills aligned with the demands of the 21st-century labour market.

5.2 Recommendations

The study recommended that university management should maintain and periodically review business programmes to ensure alignment with labour market needs and 21st-century employability skills. Lecturers should adopt instructional approaches that actively develop employability skills among all students, with special attention to supporting female students in technical and problem-solving domains. Strengthened collaboration between academia and industry is encouraged to keep curricula relevant, responsive, and capable of addressing emerging skill requirements. In addition, entrepreneurship education should be sustained and expanded, with industry experts engaged as guest lecturers and advisors to enhance practical learning, foster lifelong learning, and prepare graduates to navigate workplace challenges effectively.

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APPENDIX A: CORRELATION MATRIX

	CLS	PSS	AS	ICTS	TS	OES	AOS	PFS	CSS
CLS	1								
PSS	.681**	1							
AS	.759**	.822**	1						
ICTS	.678**	.570**	.719**	1					
TS	.726**	.691**	.729**	.702**	1				
OES	.718**	.686**	.686**	.651**	.771**	1			
AOS	.639**	.602**	.608**	.609**	.720**	.702**	1		
PFS	.673**	.631**	.611**	.494**	.667**	.649**	.641**	1	
CSS	.629**	.566**	.619**	.516**	.731**	.644**	.685**	.689**	1

CLS – Communication and Language Skills; PSS – Problem Solving Skills; AS – Analytical Skills; ICTS – Information, Communication and Technology Skills; TS – Teamwork Skill ; OES – Occupational Expertise Skills; AOS – Anticipation and Optimisation Skills; PFS – Personal Flexibility Skills; CSS – Corporate Sense Skills

Source: Field Data (2025) *Significant at p < .01***