An Empirical Comparison of the Students Perceptions on Employment in the IT Sector: A Case Study of BITAM and Computer Science Programs

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Abstract

This study examines employment perceptions among Bachelor of Information Technology Application and Management (BITAM) and Computer Science (CS) students at the State University of Zanzibar, focusing on job security, salary expectations, industry demand, and job readiness. Using a structured questionnaire, data were collected from 208 participants, including 126 current students and 82 graduates. The findings reveal that CS graduates secure jobs more quickly than BITAM graduates, highlighting key differences in career outlooks. The study highlights the importance of aligning academic programs with industry needs, offering valuable insights for curriculum development, career guidance, and policy-making. It also finds that most students choose IT disciplines due to their passion for job opportunities, with no significant gender disparity in employment perceptions. The study provides recommendations for higher education institutions and IT industry stakeholders to enhance graduate employability by analysing students' confidence and expectations. Strengthening industry collaboration and regularly updating curricula can help better prepare students for the competitive job market.

Keywords: IT sector, Higher learning institutions, Employment opportunity, Job markets

1. Introduction

The information technology (IT) sector has experienced exponential growth over the past few decades, becoming a pivotal component of the global economy. As this industry expands, the demand for a skilled workforce has surged, necessitating that educational institutions adapt their curricula to better prepare students for the evolving job market. In this context, it is crucial to understand how students perceive their employability upon graduation as these perceptions can influence their career choices, motivation, and overall preparedness.

The State University of Zanzibar (SUZA), like many institutions worldwide, offers a variety of programs aimed at equipping students with the necessary skills to thrive in the IT sector. Bachelor of Information Technology Application and Management (BITAM) and Computer Science (CS) are two prominent programs, each with its unique curriculum and focus areas. BITAM program combines IT skills with applied management principles, providing a multidisciplinary approach that aims to produce graduates who are not only technically proficient but also adept in managerial and organizational contexts. In

contrast, the CS program delves deeply into the theoretical and technical aspects of computing, software development, algorithms, and systems design. This study focuses on comparing the employment perceptions of students enrolled and after graduates in two distinct academic programs at the SUZA.

1.1. Influences on students' choice of IT program

The choice of program is an extremely important decision that every student makes once in their university career. The choice is one that most students give due consideration and will likely have an important influence on future employment opportunities, and job enjoyment (Presti et al., 2022). The influence is critical because of the subsequent impact students have on the individual's life during and particularly after graduates.

One of the primary influences on students' choice of an IT program is their personal interest and ability in technology and related fields. Career aspirations and perceptions of the job market also play a significant role in influencing students' choice of an IT program. Many students are motivated by the promising career prospects associated with IT degrees, including high earning potential, job security, and opportunities for advancement.

Similarly, the presence of role models and mentors can significantly impact students' decisions to pursue IT programs. Studies have shown that exposure to successful IT professionals, whether through family members, teachers, or industry mentors, can inspire students to follow similar career paths. Social influences, including peer pressure and societal expectations, can also shape students' decisions to enroll in IT programs. The desire to fit in with peer groups who are pursuing similar academic paths or to meet the expectations of family members can influence students' choices. Additionally, societal trends and the increasing prominence of technology in everyday life can make IT a more attractive and prestigious field of study Sullivan, (2023).

Nowadays gender and diversity considerations also play a role in influencing students' choice of IT programs. Historically, IT and related fields have been male-dominated, which can discourage women and underrepresented minorities from pursuing these paths. Initiatives aimed at promoting gender diversity and inclusivity in IT education, such as outreach programs, scholarships, and supportive networks, have been shown to positively influence the enrollment of these groups in IT programs.

Emerging technological trends and innovations can also drive students' interest in IT programs. The rise of new technologies such as Artificial Intelligence (AI), cybersecurity, cloud computing, Internet of Things (IoT), and big data analytics creates exciting opportunities and new areas of study within IT, making the field more appealing to prospective students (Sullivan, (2023).

1.2. Students' Perceptions of Employability

Students' perceptions of their employability after graduation significantly influence their career choices, motivation, and overall preparedness for entering the job market. These perceptions are shaped by a variety of factors, including the quality and relevance of their education, work experience, and individual confidence in their skills.

There are numerous factors that influence students' perceptions of their employability. These such as quality of academic education which includes the relevance of coursework to industry needs, the effectiveness of teaching methods, and the reputation of the institution, plays a significant role in shaping employability perceptions. Students who believe their education is comprehensive and up-to-date with industry standards tend to feel more confident about their job prospects.

Practical experience gained through internships, part-time jobs, and cooperative programs is also mentioned as a critical determinant of employability perceptions. Work experience allows students to apply theoretical knowledge in real-world settings, develop professional networks, and gain insights into industry expectations. Research by Brooks and Youngson (2016) shows that students with substantial work experience report higher levels of employability confidence.

The acquisition of soft skills, such as communication, teamwork, problem-solving, and adaptability, is also essential for employability. Clarke (2018) highlights that students who perceive themselves as proficient in these skills are more optimistic about their job prospects. Soft skills are often developed through group projects, extracurricular activities, practical trainings, and leadership roles.

1.3.   Industry Demand for IT Professionals

The demand for IT professionals has been consistently high due to the rapid pace of technological advancements and the digital transformation across various industries. Recent studies have highlighted several trends that characterize the IT job market. According to the Bureau of Labor Statistics (BLS, 2023), employment in computer and IT occupations is projected to grow significantly faster than the average for all occupations. This growth is driven by an increased emphasis on cloud computing, big data, and information security.

Studies such as those by Smith & Gupta (2024) and Chavez & Patel (2023) identify the rise of roles related to artificial intelligence (AI), machine learning, data analytics, cybersecurity, and software development. These sources indicate a strong demand for professionals who can develop, manage, and secure digital infrastructures and analyze vast amounts of data to drive business decisions.

The rapid evolution of technology continuously reshapes the landscape of the IT job market. For instance, the proliferation of AI and machine learning technologies has created a surge in demand for specialists who can develop algorithms, manage AI systems, and interpret the results of AI-driven analyses. According to a report by McKinsey & Company (2021), private sectors are increasingly looking for talent that can integrate AI into business processes to enhance efficiency and innovation.

The shift towards remote work, accelerated by the COVID-19 pandemic, has also influenced the demand for IT professionals. He, Zhang & Li (2021) emphasized that remote work remains prevalent, leading to a higher demand for IT roles focused on supporting remote infrastructure, cybersecurity for remote work environments, and collaboration tools. Demand for IT professionals can vary significantly by region or country, influenced by local industry needs, economic conditions, and the availability of skilled labor. For example, a study by the European Commission (2021) highlighted a high demand for IT skills in Western Europe, particularly in Germany and the UK, driven by strong industrial and financial sectors. In contrast, emerging markets such as in many developing countries are experiencing rapid growth in IT outsourcing and service industries, leading to increased demand for software developers and IT support specialists.

1.4.   Educational Approaches to Enhancing Employability

Educational institutions play a critical role in shaping the employability of graduates, especially in fields as dynamic and fast-evolving as IT. As the demand for skilled IT professionals grows, educational approaches must adapt to ensure that students are equipped with not only technical expertise but also the necessary soft skills to thrive in the workplace.

Curriculum design is fundamental in preparing students for the complexities of the IT job market. Studies have shown that curricula which integrate both technical and soft skills tend to produce more well-rounded and employable graduates. For instance, Andrews & Higson (2008) highlight the importance of embedding employability skills into the curriculum through project-based learning, teamwork assignments, and industry case studies.

Soft skills such as communication, teamwork, adaptability, problem-solving, and leadership are increasingly seen as essential for IT professionals. According to Robles (2012) and Andrews & Higson (2008), these skills are critical in enabling IT graduates to function effectively in collaborative environments and to explain technical concepts to non-technical stakeholders. Employers consistently emphasize the importance of these competencies alongside technical expertise. To address this, educational institutions can integrate soft skills into their curricula through approaches like team-based projects, communication workshops, and problem-solving exercises. Additionally, collaboration between academia and industry is vital in enhancing graduate employability. These partnerships may include advisory boards, guest lectures, industry-sponsored projects, and joint research. Such engagement ensures that the curriculum stays current with technological trends and meets employer expectations.

Additionally, mentorship programs that connect students with industry professionals can provide valuable career guidance, networking opportunities, and insights into industry expectations. Research by Nabi et al., (2024) highlights the positive impact of mentoring on career development and professional growth.

Understanding how students from these two programs (BITAM and CS) perceive their employment prospects is vital for several reasons. Firstly, it helps in assessing the effectiveness of the curricula in preparing students for the job market. Secondly, it provides insights into the students' confidence and expectations, which can influence their job search behavior and career progression. Lastly, it aids educational institutions and policymakers in identifying potential gaps and areas for improvement in educational offerings.

This study aims to fill the gap in the literature by providing a comparative analysis of BITAM and CS students' perceptions of their employability. The key research questions guiding this study are:

1. What are the factors influencing BITAM and CS students join IT programs?
2. What are the differences in employment expectations between BITAM and CS students?
3. What factors influence the confidence of BITAM and CS students in securing IT employment?

1.5. Nature of the BITAM and CS programs

BITAM and CS are hosted in the Department of Computer Science and Information Technology. The CS program is the older compared with BITAM, having been established in 2006, while the BITAM program was introduced in 2012. The BITAM program enrolls approximately 80 to 120 students each year, whereas the CS program has a smaller intake of around 10 to 30 students annually, each program runs in three years. The two programs share about 57% of their similar courses, which is often taught together. The BITAM program consists of a total of 39 courses, including 33 core courses and 6 elective courses. In comparison, the CS program comprises 40 courses in total, with 33 core courses and 7 electives, Table 1 shows distribution of courses in each program.

Table 1: Courses of BITAM and CS programs

S/n	Focus area	Number of courses		
		BITAM	CS	Similar courses
1	Software development	3	5	3
2	Programing language	1	2	1
3	Computer network and security	4	4	3
4	Data Structure and algorithm	0	2	0
5	Computer maintenance	1	2	1
6	Computer applications	6	4	4
7	Operating system	1	2	1
9	Computer/ Information technology	3	5	3
10	Communication skills	2	2	1
11	Mathematic courses	1	4	1
12	Database systems	4	3	2
13	Management courses	4	0	0
14	Financial and Accounting courses	5	0	0
15	Artificial intelligence	0	1	0
16	Project management	2	2	2
17	Industrial training	2	2	1
	Total courses	39	40	23
	Programs Credits	**360**	**360**	

These programs are taught over a period of three years, consisting of six semesters. At the end of the first and second years, students in these programs participate in practical training at various government and private institutions. Each year, students undergo an eight-week internship, during which they gain hands-on experience by applying the theoretical knowledge they have acquired in the classroom. In the third year of the programs, students doing their final year project together with at least three to five courses in class. The project begins in the first semester of the third year, where students start by defending their project idea, writing a proposal, and creating a structural design. In the second semester, students continue developing their project or simulation. In the fifteenth week of semester two before doing their final examination, they present and defend their completed project.

2. Methodology
2.1. Participants and Methodology

To address the research questions posed in this study, a carefully designed and structured questionnaire was developed as the primary data collection tool. This questionnaire was administered to a sample of

208 students, specifically drawn from two groups: students enrolled in the BITAM and CS programs at the SUZA, both Continuing students and graduates. There were 136 participants from BITAM and 72 from CS, of whom 126 are continuing students and 82 graduates.

The choice of these two groups was strategic, as it allowed for a comparative analysis of their perceptions and expectations regarding employment prospects in the IT sector.

The questionnaire was meticulously crafted to capture various dimensions of employment perception. It included questions that assessed students' reasons to join IT programs, confidence in securing jobs after graduation, their anticipated starting salaries, their views on the current and future demand for professionals in the technology industry, and their overall level of preparedness to take on professional roles in their respective fields. Questions were explored using a combination of open-ended questions, multiple-choice options, and Likert-scale items, ensuring a comprehensive understanding of students' perspectives. The Likert-scale items were measured on a five-point scale, with 1 = "Not Confident" and 5 = "Very Confident.

The administration of the questionnaire was carried out in a systematic manner to maximize response rates and ensure data reliability. Students were briefed on the purpose of the study, and their participation was voluntary, with assurances of anonymity and confidentiality. The sample size of 208 students was deemed sufficient to provide statistically significant results, offering a robust foundation for the analysis of employment perceptions across the two academic programs as the SUZA.

2.2. Research Design

This study adopts a quantitative research design to explore the experiences, perceptions, and employment expectation for IT jobs after graduation. The research utilized an online survey as the primary data collection method. The study aims to gather structured data from a large sample of students from BITAM and CS programs both continuing and graduated to identify perceive, confident and expectation for IT job markets after their education.

2.3.   Data Analysis

Once the data were collected, they were subjected to thorough analysis using both descriptive and inferential statistical methods. Descriptive statistics, such as means and standard deviations, were employed to summarize the data and provide an overview of the students' responses. This initial analysis helped to highlight general trends and patterns within the data, such as overall levels of confidence in job prospects or the average expected salary among the participants.

Inferential statistical methods were then applied to identify significant differences and relationships between the two groups of students. Techniques such as t-tests and analysis of variance (ANOVA) were used to compare the perceptions of BITAM and CS students, while correlation analyses explored potential relationships between variables like perceived industry demand and confidence in job prospects. These methods provided deeper insights into the data, allowing the study to move beyond surface-level observations and uncover meaningful trends and disparities.

By combining a structured approach to data collection with rigorous statistical analysis, this research was able to address its central questions effectively. The findings not only shed light on the employment perceptions of students at the SUZA but also provided valuable insights into the factors influencing their outlook on professional opportunities. These results have implications for curriculum development,

career guidance, and industry collaboration, all aimed at better preparing students for the demands of the job market.

3. Findings

To evaluate the factors that most significantly influenced students in securing IT-related jobs, the researcher began by examining each item individually. The Means and Standard Deviations (SD) for continuing students and graduates from both the BITAM and CS programs were compared. Following this, the items were further analyzed to identify any underlying structure of influences using a t-test. This analysis also sought to determine the differences between the two groups: continuing students and graduates. The analysis is divided into four sections, outlined as follows.

3.1. Demographic information of participants

Table 2 presents the demographic information of the participants. The results indicate that 58.7% of the continuing students were male, while 41.3% were female. Similarly, among the graduates, 59.8% were male, and 40.2% were female. The participants represented various age groups, with the majority of continuing students falling between the ages of 18 and 25, while most graduates were aged between 26 and 33. Additionally, a significant portion of respondents were enrolled in the BITAM program, accounting for 69.8% of continuing students and 58.5% of graduates. Further details on the year of study for continuing students and the year of graduation for graduates are provided in Table 2.

Table 2: Demographic information of participants

	Continuing Students	Graduates
Gender	n (%)	n (%)
Male	74 (58.7)	49 (59.8)
Female	52 (41.3)	33 (40.2)
Age group	n (%)	n (%)
Below 18	0 (0)	0 (0)
18 – 25	97 (77)	17 (20.7)
26 – 33	18 (14.3)	40 (48.8)
34 – 41	8 (6.3)	14 (17.1)
42 and above	3 (2.4)	11 (13.4)
Program of study	n (%)	n (%)
BITAM	88 (69.8)	48 (58.5)
CS	38 (30.2)	34 (41.5)
Year of Study	n (%)	
First year	55 (51.6)	
Second year	30 (31.7)	

| Third year | 7 (16.7) | |
When did you graduate from University?		n (%)
2015		6 (7.3)
2016		3 (3.7)
2017		18 (22)
2018		3 (3.7)
2019		3 (3.7)
2020		4 (4.9)
2021		21 (25.6)
2022		18 (22)
2023		6 (7.3)

3.2. Reasons that influenced students to enroll in the IT programs

The results reveal that personal interest was the primary factor influencing both continuing students (96) and graduates (71) to enroll in IT programs. This underscores the significant role of individual passion and curiosity in shaping decisions to pursue an IT-related career path. The influence of friends, while smaller, was more pronounced among graduates compared to continuing students, as shown in Figure 1. This suggests that peer recommendations or discussions may have contributed to the decision-making process for some individuals.

Additionally, family support or encouragement also played a role in students' decisions to join IT programs. Continuing students appeared more influenced by this factor compared to graduates, reflecting the importance of family input in educational and career choices. However, family support remains secondary to personal interest as a motivating factor.

Finally, high school teachers had the least influence, with only a few continuing students (5) and graduates (9) citing them as a factor. This highlights the relatively minor role educators played in guiding students toward IT programs at SUZA.

Figure 1: IT programs at SUZA that influenced students to join study

IT program at SUZA that influenced students to join study
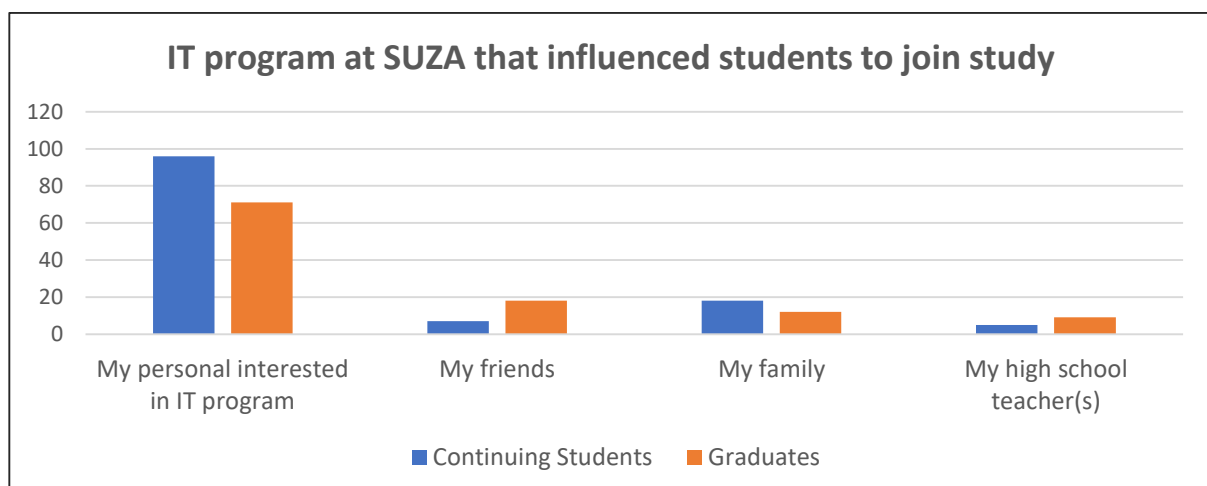
3.3. IT jobs expectation versus reality for CS and BITAM students

The results revealed a disparity between students' career aspirations and the realities of the job market in various IT domains. Software development emerged as the most highly anticipated career path, with 88 students expecting to pursue it. However, the actual number of students securing software development jobs was significantly lower, with only 11 graduates finding employment in this field.

Despite high expectations, few students secured jobs in networking systems, indicating a mismatch between aspirations and market demand, as shown in Figure 2. While 43 students expressed strong interest in cybersecurity roles, there were no reported job placements in this area. This gap may be due to several factors, including the highly specialized nature of cybersecurity, the need for industry-recognized certifications, and employer preference for experienced candidates. These findings highlight the need for better alignment between student preparation and the specific qualifications required in the evolving IT job market.

While expectations for database related roles were relatively high (45), the actual number of job placements in this field was notably low (8). This indicates that while database roles are in demand, the competition for these positions is severe, and students may not possess the advanced skills or experience necessary to stand out in this competitive field.

In terms of IT technician jobs, the findings revealed a significant discrepancy. Despite a relatively high expectation for IT technician roles (51 students), only 4 graduates secured such positions. This could suggest an oversupply of candidates for these roles or indicate that the market for IT technicians is saturated. Employers may prefer candidates with specialized certifications or more hands-on experience than what students typically gain through their academic programs. IT administration roles were not widely expected by students, and only one graduate managed to secure position in this area. This reflects the position nature of IT administrative jobs within the broader IT field, suggesting limited job availability compared to other technical roles.

Lastly, while some students expressed interest in becoming IT teachers, only a small number were able to secure teaching positions, as detailed in Figure 2. This suggests that despite some interest in teaching careers, the availability of such roles may be limited.

Figure 2: IT Job expectation versus reality
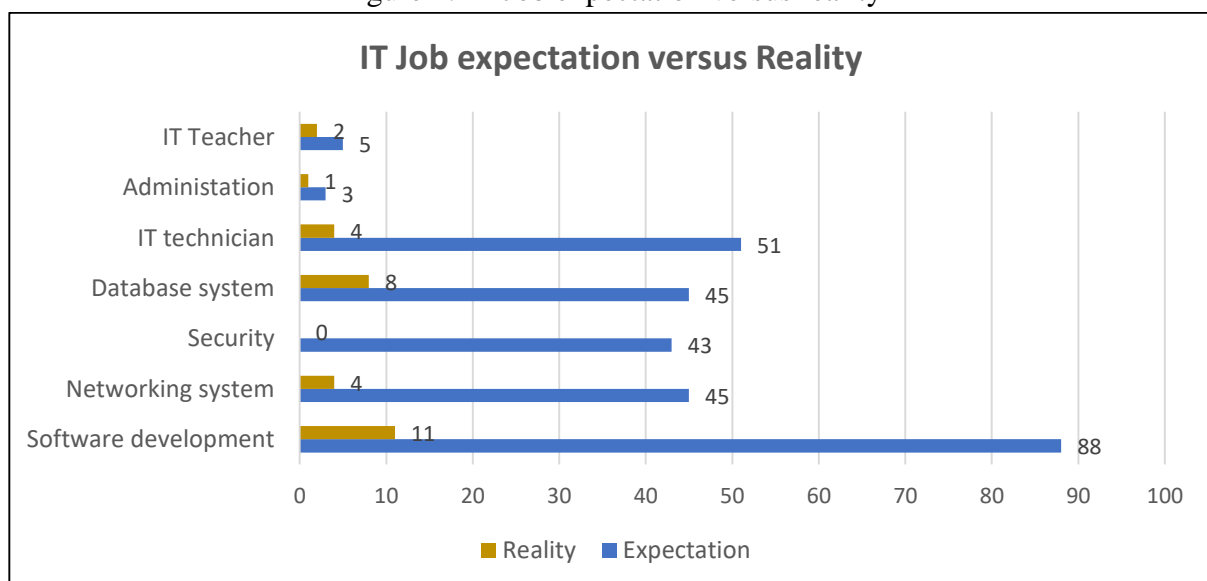
3.4. Curriculum preparedness of students for the IT job markets

The findings on confidence in securing a job in the IT field indicate that graduates have a higher average confidence level (25.2) compared to continuing students (16.4). The standard deviation is 19.63 for graduates and 14.5 for continuing students. A t-test value of 1.1475 suggests a slight difference, indicating that graduates feel somewhat more confident in their job prospects. Both groups perceive the job market as competitive, though graduates exhibit slightly higher confidence than continuing students, as detailed in Table 3.

Graduates also feel significantly better prepared by their education (mean: 25.2) compared to continuing students (mean: 16.4). The standard deviation values (11.19 for continuing students and 15.72 for graduates) suggest that perceptions vary more among graduates. A t-test value of 1.4586 indicates a noticeable gap in perceived preparedness between the two groups.

Additionally, both continuing students (mean: 16.4) and graduates (mean: 25.2) strongly acknowledge the importance of practical experience in securing employment. The standard deviation values (16.13 for continuing students and 17.74 for graduates) are relatively close, with a t-test value of 1.1544, indicating a general agreement between the groups. Regarding coursework effectiveness in preparing for the IT job market, graduates (mean: 25.2) rate their coursework as more effective than continuing students (mean: 16.4). Variability is higher among graduates (SD: 16.62) than among continuing students (SD: 8.85). A t-test value of 1.6093 suggests a notable difference in perceptions.

Ultimately, salary expectations show that graduates anticipate a higher starting salary (mean: 25.2) compared to continuing students (mean: 16.4). The standard deviation values (9.81 for continuing students and 11.63 for graduates) indicate relatively low variability in expectations. The t-test value of 1.8203 reflects a significant difference in salary expectations, as shown in Table 3.

Table 3: Curricula preparedness for IT job markets

Question/Rank	Continuing Students		Graduates		Difference
	Mean	SD	Mean	SD	t-test
Students confident in securing a job in the IT field after graduation	16.4	14.5	25.2	19.63	1.1475
Competitive expectation for the job market for IT graduates after completion their study	16.4	16.86	25.2	20.8	1.0364
Students thought that education has prepared them for the IT job market	16.4	11.19	25.2	15.72	1.4586
Students believed that labs, projects, internships or practical experience are important in securing a job search	16.4	16.13	25.2	17.74	1.1544

Students thought that coursework assessments are well prepared them for the IT job market	16.4	8.85	25.2	16.62	1.6093
Students expectations starting salary to receive when they employed	16.4	9.81	25.2	11.63	1.8203

3.5. Participants opinion about the BITAM and CS Curricula

The study also asked participants for their opinions on curricula preparedness, resources, and support services.

The first question was asked about skills or technologies that most excited for students to learn about before they graduate. The findings revealed that students are particularly excited to learn about emerging technologies such as AI, Machine Learning, IoT, and Cybersecurity. These fields are seen as cutting-edge and essential for future job opportunities. AI and Machine Learning, in particular, generated a strong interest, with many students excited to deepen their knowledge in these areas before entering the workforce. Other notable interests that suggested by participants are include Cloud Computing, Blockchain, and Software Development, indicating a demand for a curriculum that integrates these advanced and high-demand technologies.

The second question asked about their opinion on the curriculum adequately prepares them for the job market and industry demands. There is a mixed response regarding the curriculum's ability to prepare students for the job market. Many students believe the BITAM and CS curricula are not up-to-date with industry demands, citing outdated courses in areas like basic programming and non-technical subjects such as operating system that do not align with the current technology landscape. Some students felt confident about their preparedness, especially in specialized fields like Software Development and Cybersecurity, but the general sentiment points toward a curriculum gap.

When asked about outdated or less relevant courses, students commonly identified visual programming, HTML, and operating systems as no longer aligned with current industry needs. Many expressed a preference for replacing these with more practical and in-demand subjects such as advanced programming (e.g., Java, C++), Cybersecurity, and Artificial Intelligence. Additionally, students highlighted the absence of content on emerging technologies like Blockchain, Web3, and Data Science. They felt that updating the curriculum to include these areas would better prepare them for today's competitive and rapidly evolving tech job market.

The fourth question asked about if there any gaps in their education that they feel need to be addressed before entered to the workforce. The findings indicated that students overwhelmingly highlighted the lack of practical experience as a major gap in their education. Many felt that the curriculum did not provide enough hands-on opportunities, particularly in areas like IoT, AI, and Machine Learning, which require real-world application. There were also mentions of insufficient lab time, with some students pointing out that more interactive, project-based learning would be beneficial. Furthermore, the lack of exposure to current industry tools and frameworks was seen as another gap that needed addressing.

Participants expressed a strong demand for integrating emerging technologies into the curriculum. They highlighted the importance of including more courses on AI, IoT, Cloud Computing, mobile applications, Blockchain, and Cybersecurity. These rapidly growing fields are seen as essential for gaining a competitive advantage in the job market. Additionally, some students specifically mentioned Web3

technologies and Cloud Computing as crucial areas that should be incorporated into their studies to keep pace with evolving industry trends and better prepare graduates for future career opportunities.

The last question asked about effectiveness of the resources and support services (e.g., academic advising, career counseling, labs) provided by the institution. This was received a generally negative response. Many students reported that academic advising, career counseling, and lab resources were inadequate or ineffective. Issues like poor internet connectivity, insufficient lab facilities, and lack of personalized career guidance were frequently mentioned. While a few students expressed satisfaction with certain services, such as academic advising or career counseling in specific areas, the overall consensus indicates that improvements are needed to make these services more impactful in supporting student learning and career development.

4. Discussion

The findings of this study reveal distinct trends in the perceptions of BITAM and CS in the employment possibility. BITAM students generally expressed higher confidence in their employability, attributing this to the multidisciplinary nature of their program, which they believed made them more versatile and adaptable. In contrast, CS students, while confident in their technical skills, were more concerned about the rapidly evolving nature of the IT industry and the need for continuous learning to stay relevant.

The findings of confidence in securing a job in the IT field and the factors influencing students to join the IT program at SUZA align with some previous studies while differing from others. One key area of agreement with other research is the significant role of personal interest in shaping career choices. The results show that a majority of students were motivated to join the IT program primarily due to their passion for the field, rather than external influences such as family, friends, or high school teachers. This finding aligns with studies that emphasize intrinsic motivation as a primary driver for students choosing IT careers. Scholars such as Smith & Johnson (2023) have highlighted that personal interest often outweighs external influences, as students drawn to technology and problem-solving tend to pursue IT out of their own curiosity and aspirations rather than societal expectations. The finding of this study relates to the theory of human development and capability approach to explore students' views on the job preparation.

While some findings align with prior research, this study diverges in key areas. Unlike studies suggesting strong family and teacher influence on career choices, SUZA students appear more self-driven. Only a small number of credited family or teachers for influencing their decision to pursue IT, contrasting with Ng & Law (2014), who found family expectations significant in many cultures. This suggests a shift toward independent decision-making. Additionally, 65% of students enrolled due to job market preparedness. However, among 30 employed graduates, none worked abroad—all were employed locally in government or private sectors, highlighting domestic opportunities in the IT field.

The findings on students' expectations regarding IT-related jobs reveal significant insights into career aspirations, with software development emerging as the most preferred field. A total of 88 graduates and 11 continuing students expressed interest in software development, making it the most sought-after IT career path. This aligns the study of Patel & Kumar (2020), which found that software development is consistently a top choice among IT students worldwide due to its lucrative opportunities, dynamic nature, and high demand across various industries. Similar trends have been also observed in studies by Brown and Williams (2019), which highlight the growing appeal of software engineering, particularly in regions experiencing rapid digital transformation.

Interest in networking systems, cybersecurity, database management, and IT technician roles among SUZA students reflects global trends in IT career preferences. At SUZA, networking systems attracted 45 graduates and four continuing students. This aligns with the findings of Smith & Clark (2018), who emphasized that networking is a key focus in developing economies due to the growing need for robust digital infrastructure. Likewise, cybersecurity drew interest from 43 graduates, consistent with global studies highlighting it as a fast-growing field, driven by rising concerns over data breaches and cyber threats. Miller & Johnson (2021) observed that the increasing prevalence of cyber risks has created a high demand for cybersecurity experts, making it a desirable career path. Interestingly, no continuing students at SUZA showed interest in cybersecurity, which may indicate that career awareness in this area grows after graduation or with more advanced exposure during studies.

These findings generally mirror global patterns, with software development, networking, and cybersecurity emerging as top choices. However, the limited interest in IT administration and teaching suggests a lack of awareness or guidance regarding the full range of IT career options. The study also found slight differences in employment expectations between BITAM and Computer Science (CS) students. CS graduates were mostly employed in software development and networking, while BITAM graduates were more frequently employed as IT technicians and in database management roles.

The findings on students' confidence in securing a job in the IT field, their preparedness, and salary expectations provide valuable insights when compared with other studies. The results of the study indicate that graduates exhibit a significantly higher level of confidence in securing employment (mean: 25.2, SD: 19.63) than continuing students (mean: 16.4, SD: 14.5). This finding aligns with the study of Smith & Johnson (2023), which found that IT graduates generally feel more optimistic about their job prospects than students who are still completing their studies. The increased confidence among graduates can be attributed to their exposure to practical experiences, industry interactions, and a clearer understanding of job market demands. However, this finding contrasts with the work of Presti et al. (2022), who reported that some graduates still experience uncertainty due to a perceived skills gap and lack of sufficient job market experiences.

The perception of the IT job market as competitive is shared by both BITAM and CS students, with graduates reporting a higher mean score (25.2) than continuing students (16.4). This supports Johnson & Davis (2024), who noted that IT students generally understand the challenges of a competitive employment landscape. However, the t-test value (1.0364) indicates that the difference in perception between the two groups is not statistically significant. This finding contrasts with Garcia & Lee (2017), who reported a larger gap in perception between students and graduates, especially in areas with limited IT job opportunities. Additionally, this study found that more CS graduates secured employment than those from BITAM. Specifically, 14 out of 34 CS graduates were employed, compared to 16 out of 48 BITAM graduates. These results suggest that CS graduates had better job placement, particularly in both government and private sectors. Moreover, CS graduates appeared more independent in their career choices and less influenced by employer expectations or the prestige commonly associated with IT jobs. Another key area of comparison is students' perception of how well their education has prepared them for the job market. Graduates reported a higher mean score (25.2, SD: 15.72) compared to continuing students (16.4, SD: 11.19), with a t-test value of 1.4586 indicating a noticeable difference. This is in line with Lynam & Cachia (2018) study who found that graduates often feel more prepared due to their completion of coursework, exposure to industry practices, and project-based learning. However, many

IT graduates feel inadequately prepared despite completing their studies, mainly due to gaps between academic curricula and real-world industry demands.

The importance of practical experience, including labs, projects, and internships, was strongly acknowledged by both groups, with graduates showing a higher mean score (25.2, SD: 17.74) compared to continuing students (16.4, SD: 16.13). The relatively small t-test value (1.1544) suggests that both groups share similar views on the significance of hands-on learning, supporting findings by Tymon (2013) who argued that practical experience is widely recognized as a key factor in job readiness. However, some studies, such as Taylor & Mitchell (2023) suggest that while students value internships and projects, access to quality opportunities varies significantly, which may explain the variability seen in the standard deviation values.

Regarding coursework effectiveness in preparing students for the job market, graduates rated their coursework higher than continuing students, with a t-test value of 1.6093 highlighting a notable difference. These findings align with research by Lynam & Cachia (2018), which found that coursework assessments contribute significantly to perceived preparedness. However, it also contrasts with studies such as Smith & Brown (2023), which indicate that many IT students feel coursework alone is insufficient without complementary practical exposure.

On the other hand, salary expectations revealed the most significant difference between the two groups. Graduates reported higher expected salaries compared to continuing students, with a t-test value of 1.8203 suggesting a meaningful gap. This supports findings by Brown & Williams (2022), who observed that graduates tend to have higher salary expectations due to their perceived job readiness and industry knowledge. However, some studies, such as by Jones & Lee (2024) suggest that expectations among graduates are sometimes unrealistic, leading to potential dissatisfaction when actual salaries do not meet their projections.

Furthermore, the findings of this study align closely with other research that underscores the growing importance of emerging technologies such as AI, Machine Learning, IoT, and Cybersecurity in higher education. The study by Jones & Lee (2024) and Smith & Gupta (2024) found that students are increasingly excited about these technologies due to their high demand in the job market, a sentiment echoed in the current findings. Similarly, Smith & Johnson (2023) highlight the necessity for curricula to incorporate more technical courses such as AI and Machine Learning to remain relevant, as these technologies are expected to dominate future industries. The enthusiasm for these fields suggests that students recognize the significance of mastering cutting-edge skills to enhance their employability.

The mixed opinions on the adequacy of the curriculum in preparing students for the job market align with findings from Jones & Iredale (2010), who also noted a gap between academic offerings and industry needs. This gap reflects a broader trend observed in higher education, where curricula often struggle to keep pace with rapid technological advancements. Smith & Gupta (2024)) support this assertion, arguing that the inclusion of modern technologies like Cloud Computing and Blockchain is critical to improving the relevance of IT programs.

In addition, the students raised concerns about outdated courses, such as Visual Programming, HTML, and Operating Systems. Both BITAM and CS students, including current and graduate participants, highlighted this issue. They also expressed concerns about the repetition of certain topics, particularly in basic programming languages and computer application courses. This finding concurs with the findings of Davis & Clack (2023), who also noted that traditional IT subjects often fail to align with current industry needs. The demand for more practical, industry-relevant courses in advanced programming

languages, AI, and Cybersecurity is unavoidable when advocating for curriculum updates to align with the evolving technology landscape.

This study also highlights a significant gap in practical experience, with many students emphasizing the need for hands-on opportunities, particularly in fields like IoT and AI. This resonates with the study of Jones & Lee (2024) who found that a lack of practical application often hampers students' job readiness. It also emphasis the importance of project-based learning and internships in preparing students for the workforce.

Overall, these findings align with other previous research that highlights the impact of education, practical experience, and exposure on job confidence and expectations. However, variations in perceived preparedness, coursework effectiveness, and salary expectations suggest that institutional factors, access to opportunities, and regional job market conditions may influence students' perspectives in ways that differ from global trends.

5. Summary and Conclusion

5.1. Summary of Findings

The goal of this study was to provide a comparative analysis between BITAM and CS students' perceptions of employability on IT jobs, to identify factors influencing BITAM and CS students join IT programs, to distinguish differences in employment expectations between BITAM and CS students, and determine factors influence the confidence of BITAM and CS students in securing IT employment.

In addressing the research question one, the researcher identified various influential factors that influenced students to join IT programs. The study found that BITAM and CS students share some similarities. The most reason found influenced them is personal interest. This particularly influenced with interested in technology, nature of the programs and high starting salary expectation. Though, there are other factors marginally influenced students to join IT programs included motivation from family, friends and less high school teachers.

To answer the research two, to distinguish differences in employment expectations between BITAM and CS students. The study found slightly differences in the employment expectations between the two groups (BITAM and CS) where both groups have high expectation of employment sooner after graduation. Though, a number of employments is limited in Zanzibar (Mkwawa, 2020), most of the graduates were more interested in government institutions compared to private sectors. Among 30 graduates who are employed, 24 of them are working at government institutions and 6 at private companies. As it indicated in the findings 11 and 8 graduates are employed as software developers and database managers, respectively. This finding therefore, denoted that most the BITAM and CS graduates at SUZA are employed in these jobs compared with other IT related jobs.

To address the research three about factors, influence the confidence of BITAM and CS students in securing IT employment. The study found that graduates in both groups have a higher level of confidence in securing IT job. Participants believed that BITAM and CS curricula well prepared for them to the job markets. Activities such as practically sessions, course work assessment, projects, and internships are well organized and equipped students with skills and attitudes. Though, students raised some challenges to be addressed, these include outdated or less relevant of some courses or topics, and gaps found in the curricula that needs to be addressed before entered graduates to the job markets.

Based on these findings, both BITAM and CS curricula needs to be replacement of some courses or topics with recent ones that aligned with the technology industry's needs. Participants suggested to replace the

outdated courses or topics with ones that are more practical, and industry demand also to add more hands-on courses like IoT, AI, Cybersecurity, data science and Machine Learning which require real-world application. These could interest IT industries employees to demand more students from these two programs. SUZA should also collaborate closely with industry, including the private sector, to update or review its curricula every three years. This ensures alignment with the evolving technological markets, as technology is constantly changing. Since most students (BITAM and CS) are attached with government institutions during practical training, the opportunity is present to reach the potential while working with private sectors.

Finally, BITAM and CS students, with support from SUZA, should collaborate closely with private sector companies and organizations to ensure they understand the skills in demand within these firms. This collaboration will help promote careers in technology and secure support, such as funding and internships, from both local and international technology organizations. The goal is twofold: first, to attract more students to join IT programs, and second, to prepare students for employment and self-employ in IT-related careers.

5.2. Limitation

The study surveyed both continuing and graduate BITAM and CS students from the Department of Computer Science and IT at SUZA in Zanzibar, Tanzania. The researcher focused on only two programs offered by the department, although it was noted that there are other similar programs within the same department. Additionally, while the survey was conducted online, many students, particularly graduates, could not be reached due to the unavailability of their contact information. To obtain more comprehensive results, future surveys should aim to reach a larger number of graduates. No non-response bias was identified in this study. Furthermore, the study focused on students' perceptions of employability in IT jobs, rather than external factors such as self-esteem or the limited availability of jobs, which could also influence students' insecurity about finding IT employment. Future research could explore these additional factors.

5.3. Conclusion

This study offers valuable insights into the employment perceptions of BITAM and CS students at SUZA. By comparing these two groups, it highlights the factors that influence students' confidence and expectations regarding their employability. The findings emphasize the importance of a balanced educational approach that combines technical proficiency with managerial and soft skills, ultimately preparing graduates for the dynamic and competitive IT job market. Future research could examine how partnerships with the private sector and curriculum improvements can further close the gap between education and employment expectations.

Disclosure Statement

No potential conflict of interest was reported by the author.

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