The Impact of Technological Integration on Student Perceived Employability with Mediation Role of Student Learning Experience: Evidence from International Programs in Egyptian Private Universities

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Abstract

The purpose of this research is to empirically investigate the effect of Technological integration on Student perceived employability with mediating role of Student learning experience. The objectives of this research are: to investigate how Technological integration affects perceived employability in the Egyptian Private universities, to examine how Technological integration affects Student learning experience in the Egyptian Private universities, to identify how Student learning experience affects Student perceived employability in the Egyptian Private universities, to investigate the mediation role of Student learning experience between Technological integration and Student perceived employability in the Egyptian Private universities. The study followed the quantitative approach and data gathered from a survey of 412 acceptable responses. The results were analysed employing by structural equation model analyses (SEM) using analysis of a moment structures (AMOS) software. The main conclusions drawn from this study show that all hypotheses are supported. This study contributes to educational policy by identifying factors that mediate the relationship between technological integration and student perceived employability, this study can inform the development of educational policies aimed at fostering a supportive learning environment conducive to enhancing students’ career readiness. Moreover, Policymakers can utilize the evidence generated from this study to formulate and implement educational policies that promote the integration of technology in international programs across Egyptian private universities, thereby fostering a culture of innovation and competitiveness.

Keywords: Technological Integration, Student Perceived Employability, Student Learning Experience.

Introduction

Higher education plays a vital role in preparing students for the challenges and opportunities of the globalized world (The World Bank, 2022). One of the main objectives of higher education is to enhance students’ employability, which is defined as the possession of knowledge, skills, and attributes that make graduates more likely to gain employment and be successful in their chosen occupations. Employability is affected by various personal and contextual factors, such as academic achievement, generic skills, work values, career self-management, personal circumstances, and external labor market factors (World Economic Forum, 2021). One of the emerging factors that influence employability is technological integration, which is the incorporation of ICTs into teaching and learning activities in higher education. Technological integration can improve students’ learning experience by providing more interactive, flexible, and personalized learning environments. (Gillett & Phillips, 2018).

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According to UNESCO, (2022) one of the main challenges facing higher education in the twenty-first century is to prepare students for the dynamic and uncertain labor market. Higher education institutions (HEIs) need to equip their graduates with the knowledge, skills, and competencies that are relevant and valued by employers and society. One of the ways to achieve this goal is to integrate technology into teaching and learning practices in higher education. Technology can enhance students’ learning experience by enabling them to access diverse and updated information sources, communicate and collaborate with peers and instructors, receive timely and constructive feedback, and engage in authentic and meaningful learning tasks. (OECD, 2019)

Perceived employability refers to how students evaluate their acquired skills and abilities to secure a job and succeed in their chosen careers after graduation (Rothwell et al., 2008). Developing employability skills is now considered a key outcome of higher education. Prior studies have suggested that technology integration in teaching can help improve the development of 21st century skills needed for employability, such as communication, collaboration, creativity, and problem-solving (Scott, 2015). However, the mechanisms of this relationship have not been extensively studied.

Technology integration in higher education has become increasingly important to enhance student learning experiences and prepare graduates for the modern workforce (Ghavifekr & Athirah, 2015). Recent studies have shown that effective use of technology in the classroom can improve student engagement, motivation, and academic achievement (Henrie et al., 2015). However, research on how technology integration specifically influences student perceived employability is still limited, especially in the context of international programs at Egyptian private universities.

Previous studies have highlighted the positive influence of technology on student learning outcomes (Johnson et al., 2016; Wang et al., 2023). However, less attention has been paid to the role of technological integration in shaping students’ perceived employability in the context of international programs. Understanding this relationship is vital as it can provide valuable insights into the effectiveness of integrating technology into higher education curricula (Ruzive et al., 2021).

This study aims to address this gap by examining how technology integration affects student perceived employability, and whether this relationship is mediated by enhanced student learning experiences. It will focus specifically on international programs at Egyptian private universities, where technology use and student expectations regarding employability may differ from public institutions. The findings will provide insights for universities on how to leverage technology effectively to enrich learning experiences and better prepare graduates for the global job market. The primary aim of this study is to evaluate the effect of Technological integration on Student perceived employability with mediating role of Student learning experience. The study is guided by the following objectives:

1- To investigate how Technological integration affects perceived employability in the Egyptian Private universities.
2- To examine how Technological integration affects Student learning experience in the Egyptian Private universities.
3- To identify how Student learning experience affects Student perceived employability in the Egyptian Private universities.
4- To investigate the mediation role of Student learning experience between Technological integration and Student perceived employability in the Egyptian Private universities.

**Literature Review and Theoretical Framework**

Technological integration is considered as the independent variable, Student learning experience is considered as the mediator variable, and perceived employability is considered as the dependent variable.
Technological integration

Technological integration refers to the incorporation of various digital tools and resources into the teaching and learning process. It encompasses the use of computers, mobile devices, online platforms, and educational software to enhance instructional delivery and student engagement (Martin et al., 2022). The integration of technology in education has been shown to have a positive impact on student learning outcomes, including improved critical thinking skills, increased motivation, and enhanced problem-solving abilities (Martin et al., 2022).

Technological integration can have various benefits for students, such as improving their access to information, communication, collaboration, feedback, assessment, motivation, engagement, interactivity, flexibility, personalization, creativity, problem-solving, critical thinking, and self-regulation skills (Lee et al., 2010).

However, technological integration can also have challenges and limitations, such as technical issues, digital divide, cyberbullying, plagiarism, privacy, security, ethical, and legal concerns (Pedro et al., 2020). Moreover, technological integration may not automatically lead to better learning outcomes and employability prospects for students. The effectiveness of technological integration depends on various factors, such as the type, level, quality, purpose, and context of technology use; the pedagogical design and implementation of technology-enhanced learning activities; the alignment of technology with the curriculum and learning objectives; the support and guidance provided by instructors and peers; the feedback and evaluation mechanisms; the attitudes and perceptions of students and instructors; and the expectations and requirements of employers and society (Lee et al., 2010).

Student learning experience

Student learning experience is the totality of the academic and non-academic experiences that students have during their higher education studies, such as curriculum, teaching, assessment, feedback, support, extracurricular activities, and campus environment (Bovill et al., 2011). Student learning experience is a key determinant of student engagement, learning outcomes, and satisfaction (Trowler & Trowler, 2010). Student learning experience can also enhance student employability by developing relevant knowledge, skills, and attitudes that are valued by employers (Yorke & Knight, 2006).

Student learning experiences are pivotal in shaping academic outcomes. Trigwell & Prosser (1991) proposed a conceptual framework highlighting the interactive and dynamic nature of the learning environment, emphasizing the importance of both student and teacher factors.

Enhanced learning experiences, encompassing factors like skill-development, critical thinking, and peer collaboration, also positively predict students’ perceived employability (Scott & Willison, 2021). Students who are actively engaged and challenged become more work-ready and confident in their professional capabilities (Wickramasinghe & Perera, 2010).

Perceived Employability

Employability refers to a set of skills, knowledge, and attributes that enable individuals to secure and maintain employment (Yorke & Knight, 2006). Perceived employability refers to an individual’s belief in their ability to secure and maintain employment in their chosen field (Fugate et al., 2004). It is influenced by various factors, including education, skills, work experience, and personal attributes (Fugate et al., 2004). Prior Research suggested that technological integration in education can positively influence student perceived employability by equipping them with the necessary digital skills and competencies sought by employers (Pérez et al., 2023; Selwyn, 2016).

Further, student perceived employability is an important aspect of higher education, as it is linked to graduate satisfaction and employment outcomes (Bowen et al., 1997). A number of studies have investigated...
The Impact of Technological Integration on Student Perceived Employability...

The factors that influence student perceived employability, including technological integration. For example, Mainga et al. (2022) found that the use of technology in the classroom can improve student perceived employability by enhancing their skills and knowledge. Similarly, Bedenlier et al. (2020) found that the use of technology can improve student motivation and engagement, leading to improved employability outcomes.

Employability of graduates is a key goal of higher education, especially with rising competition and economic pressures (Tomlinson, 2008). Studies have found that along with hard skills, development of soft skills like communication, critical thinking, and confidence also improve perceived employability (Andrews & Higson, 2008).

Technological integration has been linked to higher perceived employability through mechanisms like collaborative learning, real-world simulations, networking, profile building, and skill development (Nkho- ma et al., 2015; Ward et al., 2016). However, the impact varies based on context, culture, demographics, and implementation quality (Ferreira et al., 2021).

Theoretical Framework

Based on the literature review discussed above, the research conceptual framework was formulated as below:

Research Hypotheses

- **H1**: It is expected that technological integration has an impact on student perceived employability in the Egyptian Private universities
- **H2**: It is expected that technological integration has an impact on student learning experience in the Egyptian Private universities
- **H3**: It is expected that student learning experience has an impact on student perceived employability Egyptian Private universities
- **H4**: It is expected that student learning experience mediates the relationship between technological integration and Student perceived employability in the Egyptian Private universities.

The operational definitions for the conceptual framework are illustrated in Table (1).

Research Methodology

According to Creswell (2012) quantitative research is an investigation method that may be used to describe trends and explain the relation among variables found in literature. A questionnaire is utilized to collect data for this research. The researchers drew a convenience-sample out of the population. The sampling frame of this paper is the Egyptian students enrolled in international programs via private universities. The questionnaire is distributed via (google forms online surveys). The questionnaire’s data is analyzed using

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**Table 1- Operational Definition**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Dimensions</th>
<th>Source(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variable: Technological integration</td>
<td>Self-Efficacy</td>
<td>Kukul (2023); Niederhauser &amp; Perkm (2008)</td>
</tr>
<tr>
<td></td>
<td>Social Outcome Expectations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interest</td>
<td></td>
</tr>
<tr>
<td>Mediator Variable: Student learning experience</td>
<td>Good Teaching</td>
<td>Saputra et al., (2021)</td>
</tr>
<tr>
<td></td>
<td>Clear Goals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Appropriate Workload</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generic Skills</td>
<td></td>
</tr>
<tr>
<td>Dependent Variable: Perceived employability</td>
<td>Rothwell et al., (2008); Ma &amp; Bennett (2021)</td>
<td></td>
</tr>
</tbody>
</table>
the Statistical Package for Social Sciences (SPSS) to analyze quantitative data, including descriptive statistics (frequencies and percentages) and inferential statistics (correlations), and Structural Equation Model analyses (SEM) using Analysis Moment of Structures (AMOS) software to analyze the hypothesized model.

Results and Findings

The research questionnaire was administered to seven hundred (700) respondents, 463 questionnaires representing 66.1% were returned, and 42 questionnaires representing 6% were incomplete or ineligible or refusals and 237 (33.9%) were not reached. There were 421 acceptable responses, a response rate 60.1%, which is highly adequate for the nature of this study.

Measurement items have standardized loading estimates of 0.5 or higher (ranging from 0.502 to 0.905 at the alpha level of 0.05, indicating the convergent validity of the measurement model.

The Average Variances Extracted (AVE) should always above 0.50 (Hair et al., 2019). AVE of the particular constructs (Self-Efficacy = 0.557, Social Outcome Expectations =0.561, Interest=0.708, Clear Goals and Standards =0.546, Appropriate Workload = 0.574, Good Teaching = 0.675, Generic Skills = 0.596 and Student perceived employability = 0.695) are more than 0.500. Overall, these measurement results are satisfactory and suggest that it is appropriate to proceed with the evaluation of the structural model.

Composite reliability (CR) assesses the reliability of a construct in the measurement model. CR of (Self-Efficacy = 0.825, Social Outcome Expectations =0.787, Interest=0.906, Clear Goals and Standards =0.828, Appropriate Workload = 0.843, Good Teaching = 0.926, Generic Skills = 0.88=52 and Student perceived employability = 0.948). So, it clearly identified that in measurement model all construct have good reliability.

Assessment of Multicollinearity

Tolerance and variance inflation factors (VIF) were assessed to detect multicollinearity. Hair et al. (2011) suggested that multicollinearity should be considered if the VIF value exceeds 5 and the tolerance value is less than 0.20. Table 2 shows that multicollinearity did not exist among the exogenous latent constructs as all VIF values were <5 and tolerance values exceeded 0.20 as suggested by Hair et al. (2011). Thus, multicollinearity is not an issue in the present study.

Measurement model Results: The 8 factor was subjected to CFA using the AMOS software. DF was 591 (it should be more than 0), $\chi^2$/DF has a value of 2.082, that is less than 3.0 (it should be less than or equal 3.0). The RMSEA was .048 (it should be less than or equal 0.08). The TLI index was .944 which is very close to 1.0 (a value of 1.0 indicates perfect fit). The CFI was .950. All indices are close to a value of 1.0 in CFA, indicating that the measurement models provide good support for the factor structure determined through the CFA.

Structural model summary: The results of structural model using the AMOS software, shows that DF was 610 (it should be more than 0), $\chi^2$/DF has a value of 2.751, that is less than 3.0 (it should be less than or equal 3.0). The RMSEA was .061 (it should be less than or equal 0.08). The TLI index was .909 which is very close to 1.0 (a value of 1.0 indicates perfect fit). The CFI was .917. All indices are close to a value of 1.0 in CFA, indicating that the measurement models provide good support for the factor structure determined through the CFA.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy</td>
<td>.460</td>
<td>2.175</td>
</tr>
<tr>
<td>Social Outcome Expectations</td>
<td>.458</td>
<td>2.185</td>
</tr>
<tr>
<td>Interest</td>
<td>.462</td>
<td>2.166</td>
</tr>
</tbody>
</table>

Table 3: Structural model - Fit Indices

<table>
<thead>
<tr>
<th>Goodness of Fit Measures</th>
<th>Name of index</th>
<th>Model Result</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-Square</td>
<td>$\chi^2$</td>
<td>1677.864</td>
<td>accepted</td>
</tr>
<tr>
<td>Degrees of Freedom</td>
<td>DF</td>
<td>610</td>
<td>accepted</td>
</tr>
<tr>
<td>Chi-Square/ Degrees of Freedom</td>
<td>$\chi^2$/DF</td>
<td>2.751</td>
<td>accepted</td>
</tr>
<tr>
<td>Comparative Fit Index</td>
<td>CFI</td>
<td>.917</td>
<td>accepted</td>
</tr>
<tr>
<td>Tucker Lewis Index</td>
<td>TLI</td>
<td>.909</td>
<td>accepted</td>
</tr>
<tr>
<td>Root Mean Square Error of Approximation</td>
<td>RMSEA</td>
<td>.061</td>
<td>accepted</td>
</tr>
</tbody>
</table>
Structural model

Discussion

This study explores the analytical part performed to test the hypotheses the researcher is seeking to fulfill the research objectives. A discussion of findings and conclusion could now be presented.

Regarding the first objective: To investigate how Technological integration affects perceived employability in the Egyptian Private universities. Due to the individual tests of significance of the relation among the variables. As expected, a relationship between Self-Efficacy and Student perceived employability

Direct Effect Tables

Table 4: Standardized Direct Effects

<table>
<thead>
<tr>
<th>Variables</th>
<th>Interest</th>
<th>Social Outcome Expectations</th>
<th>Self-Efficacy</th>
<th>Student Learning Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student learning experience</td>
<td>.647</td>
<td>.416</td>
<td>.261</td>
<td>.000</td>
</tr>
<tr>
<td>Student perceived employability</td>
<td>.589</td>
<td>.433</td>
<td>.736</td>
<td>.372</td>
</tr>
</tbody>
</table>

Indirect Effect Table

Table 5: Standardized Indirect Effects

<table>
<thead>
<tr>
<th>Variables</th>
<th>Interest</th>
<th>Social Outcome Expectations</th>
<th>Self-Efficacy</th>
<th>Student Learning Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student learning experience</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Student perceived employability</td>
<td>.241</td>
<td>.155</td>
<td>.197</td>
<td>.000</td>
</tr>
</tbody>
</table>
(β = 0.736, CR (Critical Ratio) = 25.590, CR > 1.96, p = 0.000, p<0.05). Therefore, \((H1_1): Self-Efficacy has an impact on Student perceived employability in the Egyptian Private universities.\) is supported. This result is consistent with (Nilsson, 2016; Nilsson & Ellström, 2012; and Jackson, 2016). Existing research across postsecondary contexts demonstrates that students exhibiting higher academic self-efficacy often feel more employable upon graduation. For instance, Dunne (2015) noted strong correlations between student pharmacists’ drug information literacy self-efficacy and their perceived ability to obtain a job in the pharmaceutical industry. The scholars posit that greater confidence in core competencies leads to boosted perceptions of labor market viability. Similarly, Tomlinson (2008) observed significantly higher final-year employability ratings among UK undergraduate students with robust self-efficacy versus those doubting their overall abilities. Qualitative data further highlighted themes among highly self-efficacious learners associating their positive skillsets with readiness for the transition into full-time careers.

\(H1_2: Social Outcome Expectations has an impact on Student perceived employability in the Egyptian Private universities. (β = 0.433, CR (Critical Ratio) = 12.717, CR > 1.96, p= 0.000, p<0.05)\) is supported. Therefore, \((H1_2): Social Outcome Expectations has an impact on Student perceived employability in the Egyptian Private universities.\) is supported. Students who believe their program will confer career advancement and prestige are more likely to proactively develop their skills and professional networks. In turn, this cultivates greater perceived employability upon graduation (Nguyen et al., 2024; Tchibozo, 2007). However, Thirunavukarasu et al.,(2020) argued that, social outcome expectations’ impact may depend on learning context. Their mixed-methods study of 200 engineering students found social outcome expectations alone did not necessarily translate to perceived employability; rather, collaborative project-based learning experiences seemed to strengthen the relationship by providing opportunities to develop interpersonal skills and demonstrate abilities to others.

\(H1_3: Interest has an impact on Student perceived employability in the Egyptian Private universities. (β = 0.589, CR (Critical Ratio) = 6.122, CR > 1.96, p = 0.000, p<0.05)\) is supported. Therefore, \((H1_3): Interest has an impact on Student perceived employability in the Egyptian Private universities.\) is supported. The relevance of technological skills and interests in enhancing employability has been emphasized by various scholars. For instance, research by Barak et al. (2016) highlighted the importance of technological interest as a predictor of individuals’ readiness for technologically oriented jobs, suggesting that interest in technology significantly influences employability prospects. Research has found that students who have access to technology and digital resources are more likely to perceive themselves as employable and have higher career aspirations (Al-Harthi, 2011). This finding is consistent with the idea that technology can provide students with a sense of control over their learning experiences and career paths, leading to increased motivation and confidence in their abilities. However, the relationship may depend on how technology is incorporated into learning.

Based on the results, \(H1: Technological integrations have an impact on Student perceived employability in the Egyptian Private universities.\) is supported. Technological integration in education has been shown to have a positive impact on student employability. A study by Metilda, & Neena (2017) found that the use of technology in higher education enhances students’ digital skills, which are highly valued by employers. A growing body of research has examined the impact of technological integration on student perceived employability. Studies have shown that integrating technology into the curriculum can lead to increased student engagement, motivation, and satisfaction, which in turn can enhance their perceived employability (Franklin & Bolick, 2007; Hew & Brush, 2007). Technology can also provide students with opportunities to develop the digital skills and competencies that are highly valued by employers, such as critical thinking, problem-solving, collaboration, and communication (Thornhill-Miller et al., 2023). These skills are essential for success in the 21st century workplace, and students who possess them are more likely to be perceived as employable by potential employers.
However, the relationship between technological integration and student perceived employability is not always straightforward. Some studies have found that the impact of technology on employability is contingent on factors such as the type of technology used, the quality of the implementation, and the level of student engagement (Tymon, 2013; Cheng et al., 2022). Additionally, the role of student learning experience is critical in mediating the relationship between technology and employability. Students who have positive learning experiences with technology are more likely to perceive themselves as employable than those who have negative experiences (Ertmer & Ottenbreit-Leftwich, 2010; Sivo et al., 2018).

Regarding the second objective: To examine how technological integration affects student learning experience in the Egyptian Private universities. The results show that, H2.1: Self-Efficacy has an impact on Student learning experience in the Egyptian Private universities. ($\beta = 0.261$, CR (Critical Ratio) = 4.853, CR > 1.96, p = 0.000, p < 0.05).

H2.2: Social Outcome Expectations has an impact on Student learning experience in the Egyptian Private universities. ($\beta = 0.416$ CR (Critical Ratio) = 14.026, CR > 1.96, p = 0.000, p < 0.05).

H2.3: Interest has an impact on Student learning experience in the Egyptian Private universities. ($\beta = 0.647$ CR (Critical Ratio) = 22.024, CR > 1.96, p = 0.000, p < 0.05).

Based on the results, H2: “Technological integrations have an impact on Student learning experience in the Egyptian Private universities” is supported. Several studies have examined the role of technology in enhancing student learning experiences. Technological tools like online learning platforms, simulations, and virtual reality help foster collaborative learning, higher-order thinking, and real-world skill application (Kumar et al., 2022; Aljarrah et al., 2022). Such enriched learning experiences with technology in turn bolster student confidence in their employable competencies (Spence & Hyams-Ssekasi, 2015).

Furthermore, technology-enabled learning has been linked to greater engagement, motivation, and perceived relevance of university coursework for students’ future careers (Henderson et al., 2017). By providing more dynamic, self-directed learning, educational technology can heighten students’ career readiness and marketability (Rashid & Asghar, 2016).

Moreover, Empirical studies across contexts demonstrate technology integration improves engagement, motivation, and academic performance by enabling active learning (Shaukat & Zafar, 2010). Such enriched experiences are found to boost perceived competence and career-readiness among university students (Kongmanus, 2016).

Regarding the third objective: To identify how Student learning experience affects Student perceived employability in the Egyptian Private universities. The result shows that, pertaining to H3: Student learning experience has an impact on Student perceived employability in the Egyptian Private universities ($\beta = 0.372$, CR (Critical Ratio) = 3.716 CR > 1.96, p = 0.000, p < 0.05) is supported. The significance of the student learning experience as a determinant of employability has been noted by Pitan & Muller (2019), who stress the role of international programs in providing students with a well-rounded academic and social experience, positively impacting their employability. Studies have shown that technology integration can have a positive impact on student learning outcomes, such as improved academic achievement, increased motivation, and enhanced engagement (Dichev & Dicheva, 2017; Al-Abdullatif & Gameil, 2021). Moreover, the concept of student learning experience as a predictor of employability is underscored by studies such as Abela et al., (2020) and Cheng et al., (2022). They both emphasize how a positive learning experience, particularly in international programs, contributes significantly to students’ broader skill development and professional readiness, thus enhancing their employability prospects.

Enhanced learning experiences shape students’ mindsets, competencies and employability beliefs (Tomlinson, 2017). Students who are actively engaged and feel supported in learning report greater confidence in their abilities and job prospects after graduation across cultural contexts (Wickramasinghe & Per-
era, 2010). Further, Mainga (2022) asserts that a positive learning experience, particularly in technological domains, enhances students’ practical skills and problem-solving abilities, contributing to their perceived employability and readiness for the job market.

Regarding the fourth objective: To investigate the mediation role of Student learning experience between Technological integration and Student perceived employability in the Egyptian Private universities. The result shows that, a statistically significant indirect effect between Self-Efficacy and Student perceived employability through Student learning experience ($P = 0.003, P<0.05$), The results of the mediation effect indicate that there is partial mediation effect of the student learning experience between the relationship of Self-Efficacy and Student perceived employability. Therefore, (H4: Student learning experience mediates the relationship between Self-Efficacy and Student perceived employability in the Egyptian Private universities) is supported. A study by Chow et al., (2019) found that self-efficacy beliefs influence students’ engagement and persistence in learning activities, which in turn contribute to their perceived employability. This underscores the importance of considering the mediating effect of the learning experience in understanding the impact of self-efficacy on employability.

The mediating role of student learning experiences in the relationship between self-efficacy and perceived employability is explored in research by Donald et al. (2018). Their findings suggest that positive learning experiences can enhance the employability beliefs of students, acting as a mediator in the process. However, akin to technology integration dynamics, several reports indicate that the connection between heightened self-efficacy and employability hinges considerably on the nature of students related educational experiences.

A statistically significant indirect effect between Social Outcome Expectations and Student perceived employability through student learning experience ($P = 0.008, P<0.05$), The results of the mediation effect indicate that there is partial mediation effect of the student learning experience between the relationship of Social Outcome Expectations and Student perceived employability. Therefore, (H4: Student learning experience mediates the relationship between Social Outcome Expectations and Student perceived employability in the Egyptian Private universities) is supported. The mediating role of student learning experiences in the relationship between social outcome expectations and perceived employability is investigated by Tomlinson & Nghia (2020). Their findings suggest that positive learning experiences mediate the influence of social factors on students’ perceived employability.

Additionally, students encountering negative environments seemingly express diminished employability confidence regardless of social outcome expectations. As an illustration, Gbadamosi et al., (2015) noted that among Botswana university students anticipating economic rewards like jobs or promotions for strong academic performance, those experiencing unfavorable pedagogical approaches still rated their skills and job readiness poorly.

A statistically significant indirect effect between Interest and Student perceived employability through Student learning experience ($P = 0.003, P<0.05$), The results of the mediation effect indicate that there is partial mediation effect of the student learning experience between the relationship of Interest and Student perceived employability. Therefore, (H4: Student learning experience mediates the relationship between Interest and Student perceived employability in the Egyptian Private universities) is supported. Recent research by Irwin et al. (2019) establishes the mediating role of student learning experience in the relationship between technological integration interest and perceived employability. The findings suggest that technological integration interest influences students’ engagement and learning experiences, ultimately shaping their perceived employability and preparation for future careers. Furthermore, Students who have positive learning experiences with technology are more likely to perceive themselves as employable than those who have negative experiences (Ma & Bennett, 2021; Zhao et al., 2022).
Based on the results, (H4: Student learning experience mediates the relationship between Technological integrations and Student perceived employability in the Egyptian Private universities) is supported. The role of student learning experience as a mediator between technology integration and perceived employability has not been extensively investigated in the literature. However, some studies have suggested that student learning experience can influence both the effects of technology integration on student engagement and the effects of student engagement on perceived employability. For instance, a study by Scott and Willison (2021) found that student learning experience, measured by the level of satisfaction, enjoyment and relevance of the employability skills module, moderated the relationship between technology integration, measured by the use of Edmodo as an educational social media platform, and student engagement, measured by the level of participation, interaction and feedback. The study showed that technology integration had a positive impact on student engagement only when the student learning experience was high, indicating that the quality of the learning experience can enhance or diminish the benefits of technology integration. To bridge the gap between technological integration, learning experiences, and employability, the study drawn on the work of Bennett (2019). Their research highlights the mediating effect of positive learning experiences in enhancing students’ perceived employability.

Conclusion

The aim of this paper is to investigate the effect of Technological integration on Student perceived employability with mediating role of Student learning experience: evidence from international programs in Egyptian Private universities. It concludes the following: The direct effect between Self-Efficacy and Student perceived employability is statistically significant, the direct effect between Social Outcome Expectations and Student perceived employability is statistically significant, the direct effect between Interest and Student perceived employability is statistically significant, the direct effect between Self-Efficacy and Student learning experience is statistically significant, the direct effect between Social Outcome Expectations and Student learning experience is statistically significant, the direct effect between Interest and Student learning experience is statistically significant, the direct effect between Student learning experience and Student perceived employability is statistically significant.

Authors’ Contributions

This paper has dual contributions: both academic and practical.

Regarding the academic contribution, this research contributes to the existing body of Technological integration (Self-Efficacy, Social Outcome Expectations, Interest ), Student perceived employability and Student learning experience(Good Teaching, Clear Goals, Appropriate Workload, Generic Skills) throughout the international programs of the Egyptian private universities. This study contributes to educational policy by identifying factors that mediate the relationship between technological integration and student perceived employability, this study can inform the development of educational policies aimed at fostering a supportive learning environment conducive to enhancing students’ career readiness. Furthermore, the results show that, the estimated structural model corroborated the seven hypotheses, as Technological integration (Self-Efficacy, Social Outcome Expectations and Interest) construct explained 62.2% of Student learning experience variance (R² = 0.622), Besides, Technological integration (Self-Efficacy, Social Outcome Expectations and Interest) through Student learning experience explained 83.1% of Student perceived employability variance (R² = 0.831).

Regarding the practical contribution, the findings of this study offer practical insights for Egyptian private universities to optimize technological integration strategies in international programs, thereby enhancing students’ perceived employability and readiness for the job market. Collaboration between universities and industry stakeholders can be strengthened based on the insights gained from this research, facil-
itating the development of internship programs, experiential learning opportunities, and industry-relevant curriculum components aimed at enhancing students’ employability. Moreover, Policymakers can utilize the evidence generated from this study to formulate and implement educational policies that promote the integration of technology in international programs across Egyptian private universities, thereby fostering a culture of innovation and competitiveness.

Limitations and suggestions for future research

- The findings of this study may have limited generalizability beyond the context of international programs in Egyptian private universities. Cultural, institutional, and contextual factors unique to this setting may influence the relationship between technological integration, student learning experience, and perceived employability. Conducting comparative studies across different Egyptian private universities could offer valuable insights into the variation in the impact of technological integration on student outcomes. By comparing international programs across institutions, researchers can identify institutional factors that influence the effectiveness of technological integration strategies.

- The cross-sectional nature of the data collected may limit the ability to establish causal relationships between variables. Longitudinal studies would provide more robust evidence of the effects of technological integration on student outcomes over time.

- Conducting cross-cultural comparative studies between Egyptian private universities and institutions in other countries could provide insights into how cultural factors influence the relationship between technological integration and student outcomes. By comparing international programs across diverse cultural contexts, researchers can identify universal principles and culturally specific practices.

- Future research can delve deeper into the impact of specific technologies on student learning experiences and employability perceptions. This could involve case studies examining the implementation of specific technologies (e.g., Learning Management Systems, collaborative online platforms, virtual reality simulations) and their unique contributions to student learning and career preparation.
References:


