

ASSESSING THE IMPACT OF EDUCATIONAL EXPERIENCES AND SKILLS ON GRADUATE EMPLOYABILITY AND CAREER SATISFACTION

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Abstract

Graduate employability and career satisfaction have become critical concerns in the context of an increasingly competitive and dynamic labor market. This study examines the impact of educational experiences and skill development on employability and career satisfaction among graduates using a quantitative, data-driven approach. The research utilizes a structured dataset comprising variables such as internships, projects, certifications, soft skills, networking abilities, job offers, and career satisfaction. Descriptive statistics, correlation analysis, and multiple regression techniques were employed to analyze the relationships among these variables. The findings reveal that educational experiences, particularly certifications and project-based learning, are significant predictors of employability, with certifications emerging as the most influential factor in securing job offers. Additionally, soft skills are identified as the strongest determinant of career satisfaction, indicating the importance of interpersonal and problem-solving abilities in achieving long-term professional fulfillment. The results also demonstrate a strong positive relationship between employability and career satisfaction, suggesting that better employment outcomes contribute to higher levels of satisfaction. Overall, the study highlights the importance of integrating academic learning with practical experience and skill development. It emphasizes the need for higher education institutions to adopt a holistic approach to curriculum design that aligns with industry demands. The findings provide valuable insights for educators, policymakers, and students seeking to enhance employability and achieve sustainable career success.

Keywords: Graduate employability; Career satisfaction; Educational experiences; Soft skills; Skill development

1. Introduction

Graduate employability has emerged as a primary issue among higher education institutions, policymakers, and employers in the past few years across the globe. The rising competitiveness in the global labour market combined with the fast build-up in technology has increased the need to have graduates who are not only learned but also skilled in their work and flexible. Consequently, higher education no longer remains judged based on its academic outcomes only, but on its capacity to equip students to make a successful career move and achieve a long-term professional growth (Holmes, 2013; McQuaid and Lindsay, 2013; Tomlinson, 2017).

Internships, project-based learning, and work-integrated learning are two commonly-known educational experiences that are vital in improving employability. Such experiences offer the students a chance to put into practice the theoretical knowledge they have acquired in the real-world situations hence enhancing their workplace preparedness. Nonetheless, studies indicate that gaps remain in the effectiveness of institutions of higher learning to develop the employability skills especially in the ability to match academic programs to the demands of the industry (Jackson, 2013; Jackson, 2015; Finch et al., 2013). This shows that there should be constant enhancement of the curriculum and practical learning experiences. Besides educational experiences, acquisition of skills particularly the soft skills have become an important determinant of employability. Employers are paying more attention to such competencies as communication, teamwork, adaptability, and problem-solving because they are critical to operating efficiently in a contemporary workplace (Succi and Canovi, 2020; Messum et al., 2016). Moreover, the notion of employability is not limited to the technical expertise but has wider definitions of capital (including social and cultural capital) that determine the capacity of graduates to find and maintain employment (Tomlinson, 2017; Cai, 2013).

The individual traits and the self-management skills in the career also contribute to the transition between education and employment. Active career planning, networking and skill development by graduates enhance their perceived employability and employment success (Jackson and Wilton, 2017; Okay-Somerville and Scholarios, 2017). Furthermore, the work experience collected during higher education contributes greatly to the level of readiness of graduates to the labor market (Monteiro et al., 2016). The implication of these findings is that the concept of employability is not entirely based on education attainment but is a dynamic process that entails continuous skill acquisition and personal agency (Holmes, 2015).

In addition to employability, career satisfaction has emerged as a significant measure of career success in the long run. Although getting a job is a major achievement, the satisfaction is determined by various types of issues, such as the quality of the job, the possibility of development, and the correspondence with individual aspirations. The changing state of work, which also encompasses the trends of internal mobility and career advancement, also affects the way people experience and assess their careers (Ray, 2024). This highlights the significance of studying not only the employment status of graduates but also the level of satisfaction with their career performance.

Although the research on the employability and skills continues to increase, there is still a gap in the literature where the effect of the combination of the educational experiences, skills and individual characteristics is studied, in relation to employability and career satisfaction. Most of the available literature dwells on each of these factors separately hence restricting a full picture of the interaction of these factors. Thus, this research will fill this gap by examining the effect of educational experiences and skills on the graduate employability and career satisfaction through empirical evidence.

2. Research Methodology

2.1 Research Design

The current study will utilize a quantitative research design in order to evaluate how educational experiences and skill development affect graduate employability and career satisfaction. The analysis of the relationships between academic factors and skills and career outcomes is done in a data-driven approach. The research is aimed at determining patterns and testing the relation between variables based on statistical methods. The design is suitable because it will enable objective measurement and empirical validation of the effect of different predictors on the results of employability and satisfaction.

2.2 Data Source and Sample Description

The research is developed on a systematic set of data that includes information about graduates academic background, education experiences, skills and career results. Some of the variables in the dataset are high school GPA, university GPA, internships, completed projects, certifications, soft skills score, networking score, employment offers, initial salary, and career satisfaction. This data was provided on Kaggle (Shamim, n.d.). The sample will be a group of recent graduates in varying academic disciplines in their formative years of professional experience. It is what makes the dataset especially appropriate to the analysis of education-employment transition and the determination of the aspects affecting employability and satisfaction.

2.3 Variable Description

The study variables are divided into dependent and independent variables according to their role in the analysis. Educational experiences, such as internships done, projects done, and certifications, and skill related variables, such as the score of soft skills and networking score are considered to be independent variables. These variables are the major factors that can be used to determine the career outcomes. The dependent variables will be employability, as evidenced by the number of job offers, and career satisfaction, as evidenced by the self-reported satisfaction score. Academic performance measures like GPA are also deemed to add more context to the analysis.

2.4 Analytical Techniques

The analysis of the data was carried out using a combination of statistical techniques. The main features of the variables were summarized with the help of the descriptive statistics and such measures as standard deviation, minimum, maximum, and mean were calculated. Correlation analysis was carried out to establish the nature and intensity of relationships between education experiences, skills, employability, and career satisfaction. Moreover, the multiple regression analysis technique was also conducted to estimate the influence of education experiences and skills on employability and career satisfaction. Importance of each independent variable was ascertained using regression coefficients. Furthermore, various data visualization techniques like the histogram, correlation matrix, and bar chart were used to ensure easy understanding of results obtained.

2.5 Hypothesis Testing

In this research work, two major hypotheses concerning the effect of education and skills on career have been formulated. The first hypothesis concerns whether there is a positive impact of education experiences (internship, project work, certification) on graduate employability. The second hypothesis will analyze the effect of skills (soft skills, network skills) on career satisfaction. In order to test these hypotheses, regression analysis has been employed and the findings will be interpreted based on the significance and magnitude of estimated coefficients. The findings can be viewed as empirical support for the formulated hypotheses.

3. Data Analysis and Results

3.1 Descriptive Statistics of Variables

The descriptive statistics give a detailed summary of the academic performance, experiential learning, skill development, and career outcomes of the respondents used in the study. As can be seen in Table 1, the mean high school GPA ($M = 3.62$, $SD = 0.19$) and university GPA ($M = 3.44$, $SD = 0.29$) show that the sample is comprised of graduates with high academic performance and who have been performing at a high level in the entire period of their education. The standard deviation of the high school GPA is relatively low, indicating minimal variation on the respondents, but university GPA has a relatively higher standard deviation, which represents that there are differences in academic performance at the tertiary level.

Table 1. Descriptive Statistics of Key Variables

| Variable | Mean | Std. Dev. | Min | Max |
|-----------------------|--------|-----------|--------|---------|
| High School GPA | 3.62 | 0.19 | 3.20 | 3.90 |
| University GPA | 3.44 | 0.29 | 2.80 | 4.00 |
| Internships Completed | 2.50 | 1.06 | 0 | 4 |
| Projects Completed | 6.24 | 1.90 | 2 | 9 |
| Certifications | 2.63 | 1.27 | 0 | 5 |
| Soft Skills Score | 7.93 | 1.31 | 5 | 10 |
| Networking Score | 6.93 | 1.32 | 4 | 9 |
| Job Offers | 2.74 | 1.36 | 0 | 5 |
| Starting Salary | 87,562 | 29,685 | 31,000 | 152,000 |
| Career Satisfaction | 7.79 | 1.37 | 5 | 10 |

Regarding the educational experiences, the respondents stated that they had a mean of 2.50 internships ($SD = 1.06$) and 6.24 academic projects ($SD = 1.90$). Such results indicate that the majority of students took part in practical learning, but the degree of participation was uneven among people. The lowest result of zero internships shows that not all graduates were exposed to the industry formally and that this might affect their employability performance. Likewise, the amount of certifications ($M = 2.63$, $SD = 1.27$) indicates that there is a tendency by the students to acquire more qualifications than the actual degree, which is the indication of the fact that the students realize the value of skills development in the competitive job market.

The skill-based measures demonstrate that respondents have rather high scores of soft skills ($M = 7.93$, $SD = 1.31$) and networking skills ($M = 6.93$, $SD = 1.32$). These findings show that graduates tend to believe they are well qualified in interpersonal communication, teamwork and professional networking, which are key qualities in contemporary workplaces. The mean score on the soft skills is relatively higher than networking, which means that students are quite confident in interpersonal skills, but there is still room to enhance professional networking skills.

In relation to employability results, the mean number of job offers that graduates have received stands at 2.74 ($SD = 1.36$). This implies that the respondents have better employment prospects. Nonetheless, there are variations since some individuals have not received any job offer, while others have received up to five offers. The average salary of the respondents is fairly good, with an average of INR 87,562 ($SD = INR 29,685$). There are variations in salaries among the respondents. Career satisfaction is fairly high ($M = 7.79$, $SD = 1.37$).

In order to further demonstrate employability outcomes, Figure 1 shows the distribution of the job offers among the respondents. The number reveals that most of the graduates had two to four job offers and it implies that a considerable percentage of the sample had successful employment experiences. It is also relatively evenly distributed, with high-performing individuals having multiple offers and a smaller number of people with fewer opportunities

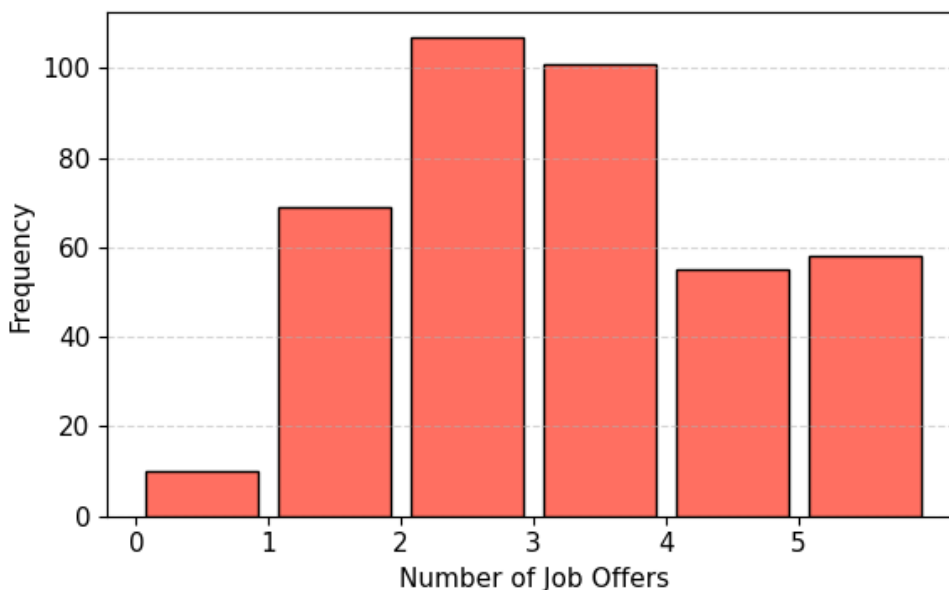


Figure 1. Distribution of job offers among graduates.

3.2 Correlation Analysis

The correlation analysis was used to test the relationships among educational experience, skills, employability, and career satisfaction. Table 2 demonstrates that all the variables are strongly positively correlated, which implies a high level of interdependence between the factors being tested. The variables of educational experience such as internships, projects and certifications are highly related to job offers implying that practical learning and other qualifications are critical in improving the employability.

Table 2. Correlation coefficients among key study variables.

| Variables | Internships | Projects | Certifications | Soft Skills | Networking | Job Offers | Career Satisfaction |
|-----------------------|-------------|----------|----------------|-------------|------------|------------|---------------------|
| Internships Completed | 1.00 | 0.96 | 0.94 | 0.96 | 0.96 | 0.97 | 0.96 |
| Projects Completed | 0.96 | 1.00 | 0.94 | 0.96 | 0.96 | 0.96 | 0.96 |
| Certifications | 0.94 | 0.94 | 1.00 | 0.94 | 0.94 | 0.97 | 0.96 |
| Soft Skills Score | 0.96 | 0.96 | 0.94 | 1.00 | 0.97 | 0.97 | 0.97 |
| Networking Score | 0.96 | 0.96 | 0.94 | 0.97 | 1.00 | 0.97 | 0.97 |
| Job Offers | 0.97 | 0.96 | 0.97 | 0.97 | 0.97 | 1.00 | 0.99 |
| Career Satisfaction | 0.96 | 0.96 | 0.96 | 0.97 | 0.97 | 0.99 | 1.00 |

Specifically, the relationship between certifications and job offers is very strong in the positive sense, showing that more the students have more certifications, the higher are their chances of getting several job opportunities. In the same way, the outcomes of projects completed and internships also demonstrate good correlations with the job offers, and it proves the significance of experiential learning as the means of narrowing the gap between what students learn in school and what the industry demands.

The skill-related variables show high correlations with the employability and career satisfaction as well. Career satisfaction is closely correlated with soft skills and networking skills, implying that interpersonal competencies and professional relations play an important role in defining the perception of success in the career of individuals. Importantly, job offers and career satisfaction are correlated exceptionally high ($r \approx 0.99$), which means that the better the employment results are, the higher the satisfaction levels.

Figure 2 illustrates these relationships showing the correlation between the key variables. The figure also demonstrates that the positive relationships between all the variables are always high, which confirms the fact that educational experiences and skill development are interconnected and impact the employability and career satisfaction together.

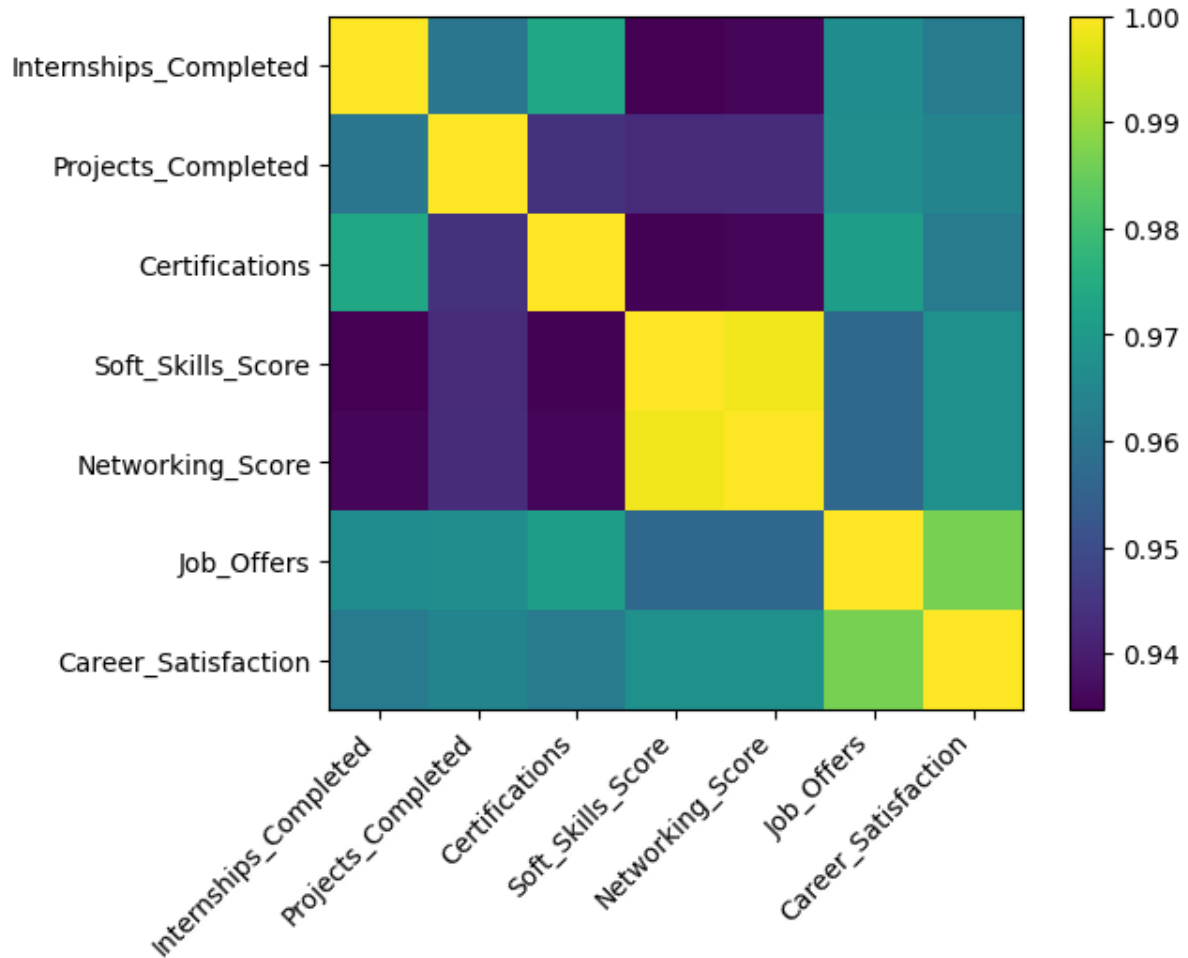


Figure 2. Correlation matrix showing the relationships among educational experiences, skills, employability, and career satisfaction.

3.3 Regression Analysis and Hypothesis Testing

Regression analysis was done to further explore the relationship between educational experiences and skills and employability and career satisfaction. Table 3 presents the results that shed light on the relative significance of the various predictors.

Table 3. Regression coefficients showing the impact of educational experiences and skills on employability and career satisfaction.

| Predictor | Job Offers (β) | Career Satisfaction (β) |
|-----------------------|------------------------|---------------------------------|
| Internships Completed | 0.06 | 0.14 |
| Projects Completed | 0.22 | 0.19 |
| Certifications | 0.44 | 0.26 |
| Soft Skills Score | 0.19 | 0.30 |
| Networking Score | 0.04 | 0.12 |

In employability in terms of job offers, the most powerful predictor is the certifications ($\beta= 0.44$) then the projects completed ($\beta = 0.22$) and finally the soft skills ($\beta= 0.19$). These results show that practical credentials like certifications and project assignments are important in boosting job opportunities. The contribution of internships ($\beta = 0.06$) and networking skills ($\beta = 0.04$) is also positive but with relatively small impacts.

Soft skills are determined as the most significant factor in the model predicting career satisfaction ($\beta = 0.30$), then certifications ($\beta = 0.26$) and projects ($\beta = 0.19$). This points out the fact that the factors of interpersonal competencies are more important in long-term satisfaction.

This association is also demonstrated in Figure 3 which depicts the mean career satisfaction at various levels of the soft skills. The figure shows an apparent increasing trend meaning that graduates who possess a higher level of soft skills claim to be more satisfied which supports the regression results.

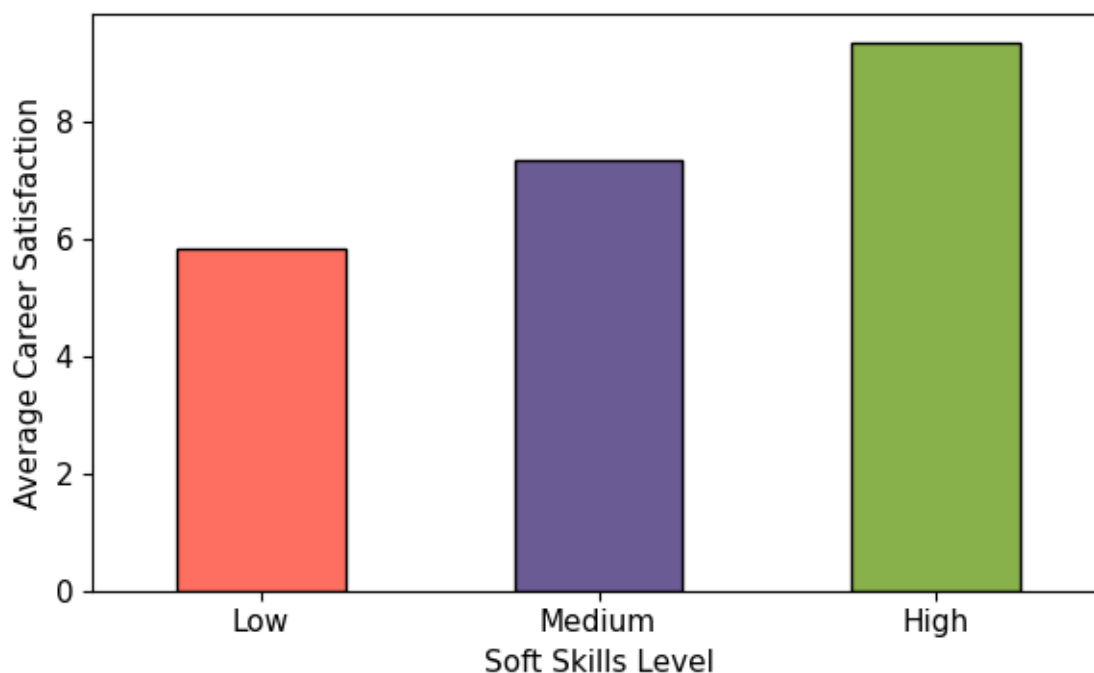


Figure 3. Average Career Satisfaction by Soft Skills Level

Altogether, the findings demonstrate that educational experience and skills play a crucial role in graduate employability and career satisfaction. Employability depends on certifications and project-based learning, whereas the soft skills are the most relevant when it comes to career satisfaction. The high correlation between variables observed indicates that a combination of academic learning and practical experience and skill development as a holistic approach is critical to attaining successful career outcomes.

4. Discussion

The results of this research are significant in the development of the role of educational experiences and skills in determining graduate employability and career satisfaction. The findings have shown that education and skill based factors play an important role in career outcomes, but the effect differs when employability or satisfaction is taken into account. These results are aligned with the previous studies that point to the multidimensionality of the concept of employability and the success in a career (Álvarez-González et al., 2017; Guilbert et al., 2016).

The analysis brings out the fact that education experiences, especially certifications and project-based learning, are important in improving employability. The high impact of certifications and projects on the employment opportunities gives weight to the thesis statement that employers are becoming more and more focused on practical and demonstrable skills than on the academic ones. This result is consistent with the previous research that highlights the significance of human capital growth and hands-on learning to enhance employment outcomes (Donald et al., 2019; Guo et al., 2020). Also, the findings are correlated with the employability capital framework, which postulates that graduates that proactively develop skills and experiences become more competitive in the labor market (Anderson and Tomlinson, 2021).

The impact of internship and networking skills is also positive but is smaller in scale as compared to other forms of experience which means that not all types of experience are equally influential in terms of employability. This can be a difference in the quality, relevance or intensity of such experiences. However, the positive correlation confirms the presence of literature that emphasizes the significance of professional networks and on-the-job exposure to improve the employability (English et al., 2021). Graduates are now expected to take a proactive role in advancing their career through active lifelong learning and networking in the background of changing career trends and boundaryless careers (Arthur, 2014; Hirschi, 2018).

The study points out soft skills as the most powerful variable when it comes to career satisfaction. High correlation of soft skills and satisfaction implies that people are influenced by interpersonal competencies, communication skills and problem-solving skills to a very critical extent that determines their work experiences. The latter is closely aligned with other studies, which accentuate the increased value of soft skills in the contemporary workplace (Bedoya-Guerrero et al., 2024; Mwita, 2024; Yong and Ling, 2023). The rising popularity of soft skills is a symptom of the shifting workplace landscape in terms of adaptability and collaboration to achieve success in the long term (Tushar and Sooraksa, 2023).

The findings also show that there is an excellent positive correlation between employability and career satisfaction implying that the more the employment outcomes are good, the higher the level of satisfaction. Nonetheless, the regression results indicate that employment outcomes are not the only determinants of satisfaction as a factor but also individual competencies (especially soft skills). This confirms the thesis that career satisfaction is a multidimensional structure that is influenced by external results and inner abilities (Clarke, 2018; Donald et al., 2019).

In general, the results of this research support the value of using a holistic approach to education that combines theoretical

studies, practice, and skill training. Although technical and educational success are necessary in gaining employment, soft skills play a crucial role in gaining long term career satisfaction. The findings of these studies indicate that educational facilities should prioritize the acquisition of technical skills and transferable ones to enable graduates to meet the requirements of the modern labor market.

5. Conclusion

The present research has focused on how education and skill influence graduate employability and satisfaction through quantitative analysis based on actual data. It can be concluded from the results that education and skill contribute to the determination of career performance, but their impacts vary between employability and career satisfaction. It can also be said that graduates' certification and project-based learning contribute to career success, because individuals who have been involved in hands-on learning will probably get more than one job offer. On the other hand, skills, particularly soft skills, become the most significant element in deciding job satisfaction. This indicates that interpersonal skills, communication skills, and problem-solving skills are very important for attaining job satisfaction in the long run. Moreover, the study shows that there is a link between employability and job satisfaction, where job satisfaction does not depend only on employability but also depends on individual competence. These results imply that there should be a comprehensive and integrated strategy for education, which involves theoretical knowledge and practical experience as well as skills.

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