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Perceptions of Industry Stakeholders on the Quality of Graduates from Pakistani Educational Institutions

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ABSTRACT

This study explores the perceptions of the industry professionals on the quality of graduates coming out of Pakistani institutions. With the use of a strictly designed questionnaire, the study evaluated five key areas of graduate competence, including technical proficiency, interpersonal aptitudes, professional preparedness, job-specific competencies, and a propensity to engage in lifelong learning. A survey in mixed methods research design was used on 450 respondents chosen from education, technology and corporate markets. Findings indicate that there are general gaps in technical areas, especially using artificial-intelligence platforms and digital learning management systems. Although graduates demonstrate a reasonable level of understanding of theoretical constructs, the ability to transfer the theoretical knowledge into practised workplace performance is not reinforced. The study is therefore suggesting that Pakistani institutions should work harder to be in line with industry needs, balancing the theory with practical competency growth and developing a spirit of unceasing professional growth. These recommendations have a lot of ramifications to the policymakers, institutional administrators and industry players who strive to meet the long-standing gap between academic preparation and vocational expectations.

Keywords: *graduate employability, educational quality assessment, industry-academia alignment, Pakistani higher education, stakeholder perceptions*

INTRODUCTION

In this modern knowledge economy, education quality has taken centre stage in determining the national productivity and global competitiveness (Gull, 2022). The fact that Pakistan is striving to develop a sound human-capital base in line with the demands of an ever more digitised world environment has heightened the level of concern surrounding the need to maintain consistency between graduate competencies and industry requirements (Pervez et al., 2024). The persistent mismatch between the academic offerings and the demands of employers is an insurmountable challenge, with far-reaching consequences to the career path of the individuals and the economic foundation of the nation (Senkrua, 2021).

The last ten years have seen a massive restructuring of Pakistani educational institutions, including the primary level of education to the tertiary one (Laghari, 2024). However, continued questioning about the effectiveness of these reforms in reducing the gap in competences between the graduates and the industry requirements persists (Ahmed et al., 2014). Industry stakeholders are in a privileged situation whereby they can evaluate the real virtues and inadequacies of existing pedagogical methods (Weli, & Onyekwere, 2021).

In this paper, the interest will be on identifying the way industry practitioners perceive the quality of graduates on a continuum of performance scales, such as technical and interpersonal skills, workplace preparation, and flexibility in the face of changing workplace environments (Indrawati et al., 2023). Through a systematic examination of these evaluation tools, the study will be able to identify the various areas in which institutional curricula will have to be optimised in order to better meet the twin demands of student growth and employer satisfaction (Jackson & Dean, 2024).

The relevance of this question is supported by the fact that Pakistan now has an increased national concern regarding digital transformation and the modernization of technologies and the diversification of the economy (Jabeen et al., 2024). With the gradual advancement of industries in terms of the changes in the technologies and the models of operation, the need in the agile professionals, able to work with the rapidly changing demands, has grown exponentially. As a result, a subtle understanding of the industry stakeholder views is essential to the educational establishment that wants to be responsive and effective in equipping students with professional success that is long-lasting (Rook & Sloan, 2021).

The motivation behind such study is a convergence of related necessities. To begin with, the growing sophistication of the modern workplace necessitates a more finer understanding of the competency gap between the institutional outputs and the employer requirements (Mateus, et al., 2020). Conventional academic testing tends to favor the academic performance at the cost of the applied competence thus establishing a split between the learning setting and the practices (Kassab & Al-Shafei, 2021).

Second, the economic direction of Pakistan is increasingly dependent on human capital investment and skill-oriented industries. The national Vision 2025 roadmap highlights the main strategic importance of education and human resource development to the continued development of the economy (Government of Pakistan, Planning Commission, 2014). Without an empirically based understanding of industry attitudes, the educational reform projects are bound to be overly ineffective in mitigating the most relevant gaps in graduate preparedness (Mainga, et al., 2022).

Third, the pace at which technology develops has radically remodelled the essence of professional labour in all industries (Whiting, 2020). The competencies that used to hold high value ten years ago might no longer be necessary now, and completely new sets of skills have emerged as something indispensable (Lim & Rasul, 2022). To maintain effectiveness in graduation preparation, educational institutions need to be alert of such changing imperatives to remain relevant in the ever-changing job market (Anas, et. al., 2023).

Fourth, COVID-19 increased a rapid pace of digitalization in any industry and created a sense of acute need of technological literacy and adaptive ability. This interference increased the pre-existing disparities of digital skills, which served to amplify the importance of curricular changes to adapt to the emerging market realities (Toquero, 2022).

Lastly, the growing international competition in the labor market of skilled professionals also requires Pakistani graduates to be prepared to meet the international standards in order to remain competitive. Niwaz, Khan and Khan (2013) concluded that only competent graduates of the universities get chances of their jobs in multinational companies as these companies try to meet their targets through these intellectuals. Realising the perception of industry stakeholders regarding the quality of graduates prepares institutions to recognize and prioritize the programmatic improvements that can drive the outcomes of global competitiveness.

Although the Pakistani education system has continued to invest and implement reforms in overcoming the education system, there are still considerable concerns about the quality and marketability of graduates as they enter the labor market (Tanveer, et al., 2023). Niwaz et al (2014) highlighted that in Pakistani

education, assessment and examination system does not meet the needs of 21st century education. As employer representatives have a habit of reporting, freshly graduated graduates do not possess the necessary competencies needed to perform effectively in their professional work, including technical skills, applied problem-solving skills, and professional interpersonal skills (Tariq, et al., 2022).

This issue manifests itself in a number of patterns. There is an established and documented mismatch between skills developed in academic programmes and those sought by employers (Mateus, et al., 2020). A large number of graduates face a severe challenge to convert theoretical in practice, which is the indicator of the lack of a proper delivery of the experiential learning (Dev, 2025). Additionally, the blistering pace of technology has also created a strong mismatch in the development of curriculum and the changes in industry needs, which have resulted in graduates being unprepared in terms of modern employment technologies (Zhou, et al., 2025).

This effect also indicates similar trends. The endemic mismatch between academic preparation and the demands of the employment is still relevant (Pervez et al., 2024). The lack of avenues of experiential learning is a problem often faced by graduates who find it difficult to put theoretical understandings into practice (Jackson, & Dean, 2024). According to Niwaz, Kayani & Kayani (2011) conventional system of Pakistan does not produce targeted progress due to shortage of high quality teachers from schools to universities. The ever-increasing technosphere advancement also increases the disparity between the learning curriculum and the requirements of the industry, making the graduates even more lacking in the skills of the modern workplace.

These insufficiencies have significant consequences. Recent graduates have been reported to take longer onboarding periods, lower productivity, and increase training expenses. Even the graduates themselves experience increasingly growing challenges in finding the right jobs or progressing in their careers due to lack of competencies. According to Lutz et al., (2021) the total economic effect is a lack of competitiveness on the national level and impaired economic growth because human capital is not growing at the rate that the industry needs.

The rationale behind this study is a conglomeration of urgent demands that Pakistan is facing in the educational and economic landscape. The growing complexity of the contemporary working environment requires a more in-depth insight into the gap in competency between the output of the institution and the expectations of the employer; the traditional academic evaluation is more inclined towards theoretical accomplishments, whereas practical competence is overlooked, and, as a result, a gap between the educational setting and the field of work is created.

The economic direction of Pakistan is more and more related to human capital and the industries developed based on skills, as it is described in the Vision 2025 roadmap, which predicts the vision of the nation to have the education and human resource development as the main focus of the national strategic agenda. Lack of empirically based understanding of industry perceptions means any educational reform effort is likely to be fruitless when it comes to filling the most troubling areas of graduate readiness. Moreover, the increasing traction of the change in technologies has fundamentally reconstructed the essence of professional work in all sectors, making some competencies unnecessary and pushing absolutely new skills to the level of necessity.

The crises induced by COVID-19 have further heightened the sense of urgency of digital literacy and adaptive capacity, intensifying the existing inequalities and highlighting the fact that responsive curricular reform is urgently needed. Lastly, the increased international competition in the global labour market requires the Pakistani graduates to be of international standards of professional competence. The systematic knowledge of the stakeholder perception in the industry is thus necessary to be in a position to provide the

education institutions with evidence that they can use to focus on reforms that would increase their competitiveness and employability internationally.

Significance of the Study

The outcomes of this research work cut across various stakeholder groupings and deal with a range of features of educational reform and economic development in Pakistan. The study creates empirical data that can be used to guide policy making, learning practice, and development of industry-academia collaborations. Furnishing organized information about perceptions in the industry, the study can benefit practitioners with a clear direction in curriculum modification, teaching flexibility, and the reconstruction of the student evaluation system. Evidence-based intelligence provides educators with the tools to find out gaps in programs on the programmatic level and construct more industry-focused learning opportunities.

On the policy level, the study provides evidence-based information that is relevant to federal and provincial levels of educational decision-making. Empirical knowledge of the industry perceptions can help policy makers to lead the reform and channel resources to the highest priority competency gaps. To the employer, the study provides systematic review of graduate quality on various performance dimensions, which can help them gain a better insight on the strengths and limitations of the existing education outputs. This fact can be put to practical use in terms of recruitment strategy, training interventions planning and institutional collaborations.

The students and their families gain more clarity in the understanding of industry expectations and requirements and make more strategic decisions when planning education and career. The study is also part of the overall economic development agenda of Pakistan as it aims to develop a more competent, flexible, and internationally competitive Labor pool, as well as add to scholarship on the quality of educational assessment, and the academia industry relationship.

REVIEW OF RELATED LITERATURE

The available research on perceptions of industry of graduate quality in the literature represents a universally held issue regarding the alignment between the quality of educational output and what the job market requires. This part is used to summarize the pertinent research in the international and Pakistani settings to offer a conceptual background to the present study.

Graduate Quality in International View

According to Mateus et al., (2020) the research conducted in comparison with other international research always reveals a discrepancy in competence between what is created in educational institutions and what is needed in industries. Andrews and Higson (2008) conducted multi-national research and reported that employers continued to be disappointed with practical skills, analytical skills and preparedness to work by graduates. The essential role of experiential learning and institutional arrangements with industry in filling these gaps was highlighted in their work.

The skills mismatches identified by the Succi & Canovi (2020) included technical skills, soft skills, and adaptability as the three most significant issues in which graduates performed worse than expected by the industry. The report has also cited rapid technological change as one of the key structural forces that cause instability between what is taught in institutions and what is needed in industries.

Based on the information collected by the employers in the United States, American Association of Colleges and Universities (2023) established that although academic knowledge could be important,

practical skills, critical reasoning, and professional competencies received higher weighting. Employers were of specific concern when it came to how graduates could use the acquired knowledge in solving practical issues and their future potential to learn the profession.

Pakistani Context

In Pakistan, Pervez et al., (2024) surveyed graduate employability among the universities and reported significant disparities in technical skills and especially concerning the latest digital technologies. Their paper supported the contemporary changes in the curriculum and the development of more established industry-institution cooperation.

Abbasi et al., (2013) examined the quality of business education in Pakistan and discovered that graduates were theoretically good but lacked practical skills and professional behaviour. They emphasized the potential of internship programmes, industry-related projects and applied learning to decrease the education-employment gap.

Salman, et al. (2022) concentrated on technical education and discovered that students who had graduated in vocational and technical institutes often lacked practical skills in delivering job performance. The focus of their recommendations was capital investment in the infrastructure of laboratories, modernisation of equipment, and institutionalisation of the partnership between the industry and the institution.

Skills Gap Literature

The phenomenon of skills gap has been widely theorised and studied empirically. Cappelli (2015) has conceptualised the skills gap as being the difference between the competencies required by employers, and those that job applicants actually have. Such a gap is manifested in various ways, such as a lack of technical capabilities, soft-skills constraints, and poor professional preparedness.

Cappelli (2015) discussed the nature of skills mismatch in developed economies and found that increasing technological change is the prevailing structure that leads to competency mismatch. His studies have highlighted the importance of institutions being more in touch with the industry needs by ensuring a continuous employer involvement and collaboration.

Soft Skills Literature

The importance of soft skills in the determination of graduate employability has been gaining an increasingly greater acknowledgement in the current academic literature. According to Hussein (2024), the most consequential soft skills that support the achievement of professional success are communication, teamwork, leadership, and critical problem-solving. The paper has revealed that although technical capabilities can be employed to obtain the first job, it is interpersonal and professional capabilities that often direct the further promotion. Salimon, et al. (2025) found that employers rated soft skills as having equal importance to technical skills, and that a number of them rated them higher. Their results, therefore, lead to the need to more carefully and systematically integrate the development of soft-skills into formal school curricula.

Literature Gaps

Even though the amount of extant scholarship is quite rich, there are a few gaps. There are scant empirical studies perform in the study of industry stakeholder perceptions in the Pakistani setting using a multi-dimensional framework, to encompass the entire range of graduate competencies. The majority of literature

available takes a sector or level lens, but the current study takes a more general, cross-sectoral one. In addition, the empirical focus on industry perceptions of the graduate's capability to engage in constant learning and professional adaptability is inadequate, and these qualities are becoming more and more valuable in dynamic and technology-intensive workplaces.

METHODOLOGY

The study is based on positivist epistemological orientation, which focuses on objective quantification and systematic analysis. The research design used was quantitative research design, as it has the ability to impact a systematic collection of data through a large and heterogeneous respondent pool and also to conduct a rigorous analysis of the collected data using the statistical analysis tool and inferences relating to the generalisation of the results.

The survey design used was cross-sectional, whereby information was gathered at one specific time among the stakeholders in the industry. This design was suitable in capturing the existing perceptions and attitudes and also help in making comparative analysis across the category of respondents and industry sectors. The cross-sectional approach is also snapshot; therefore, the findings can be directly used in the decision-making on the policy level as well as in practice.

The primary data collection involved the use of the structured questionnaire that was used on the industry players in various organisational sectors. The scale also included closed-ended scales based on Likert scale and multiple-choice questions to elicit exhaustive data on the attitudinal data. Standardisation made the process consistent in terms of collecting data and compatible with quantitative analysis processes.

Population and Sample

The target group included the industry players who have direct and long-term interaction with graduates of Pakistani educational institutions. This involved employers, talent acquisition managers, human resource professionals as well as senior organisational leaders who were involved in recruitment, training and performance appraisal.

Aggregate random sampling method was used to obtain proportionate representation of various sectors of industry and typological organisation. The criteria of stratification included sector (education, technology, business, government) and organisational size (small, medium, large), which guarantees that the results cover the scope and heterogeneity of the industry outlooks. The final sample consisted of 450 industry stakeholders. The table 1 illustrates the spread of the participants in the organisational categories.

Table 1: Population and Sample Distribution

Sector / Organization	**Population Size**	**Sample Size**	**Percentage**
Ministry of Federal Education & Professional Training	200	60	13%
Provincial Education Departments (Total)	1,000	150	33%
Punjab Education Department	350	53	12%
Sindh Education Department	250	37	8%

Khyber Pakhtunkhwa Edu. Dept.	230	35	8%
Baluchistan Education Department	170	25	5%
Public-Sector Employers (Total)	700	140	31%
Govt. Primary Schools	230	46	10%
Govt. Elementary Schools	230	47	10%
Govt. Secondary Schools	240	47	11%
Private-Sector Employers (Total)	550	100	22%
Allied Schools Network	160	32	7%
Lahore Grammar School	130	26	6%
Divisional Public Schools	130	23	5%
Other Private Schools	130	19	4%
Total	2,450	450	100%

The sample represents the structural diversity in the education sector in Pakistan in that both public and private organisational environment is represented. The highest percentage is the private sector (22%), then comes the public-sector employers (31%), and provincial education departments (33%). The calibration of this distribution is that the research should capture views in diverse organisational settings as well as educational delivery level. The Ministry of Federal Education and Professional Training also provides a policy level perspective of graduate quality perception by contributing 13 % of the sample.

Instrument of the Study

The research tool was a structured questionnaire that was developed to elicit industry stakeholder perceptions in various dimensions of graduate competence. The questionnaire was based on the existing models of graduate employability testing and localised to the specifics of the local educational environment in Pakistan. It included not only rating items to measure quantitative perception but also multiple-choice items to gain a specific insight into certain areas of concern. The questionnaire was structured in six thematic parts:

1. **Technical Skills Section** - Evaluates the perceptions of the stakeholders with regard to the technical skills proficiency of the graduates in the main technical areas, such as learning management systems, formative assessment tools, artificial intelligence tools, digital authoring tools, and basic statistical and spreadsheet abilities.

2. **Soft Skills Section** - looks at the perceptions of the communication skills, ability to work in teams, problem-solving and critical thinking skills of graduates.

3. **Work Readiness Section** - Assesses the perceptions of the capacity of graduates to integrate into workplace settings, apply theoretical content to practical application and how well graduates can handle the pressures and demands of the workplace.

4. **Job Specific Skills Section** – Research examines the stakeholder ratings of graduate familiarity with industry-specific tools and technologies, and the prevalence of industry-recognised certifications and training degrees to graduates.

5. **Continuous Learning Section** – Investigates the readiness of graduates to gain new skills and the initiative to obtain professional development opportunities.

6. **Recruitment Section** - looks at the stakeholder recruitment trends and general satisfaction with Pakistani learning institution graduates.

Validity And Reliability of the Instrument

The instrument validity was determined by several supplementary methods. In order to achieve content validity, the questionnaire has been tested through an extended procedure by multidisciplinary panel of experts that included educational researchers, senior industry professionals and human resource professionals. The panel assessed relevance, completeness and appropriateness of individual items and gave systematic feedback on the general design of the instruments. To test face validity, a representative sub-group of industrial stakeholders were pre-tested on the instrument to ensure that it was clear, understandable and in context. The feedback gained in the course of the pre-testing was used to make specific adjustments to wording and organisation of items.

The instrument reliability was evaluated in three ways. Internal consistency was tested using the Cronbach alpha, which had coefficients of between 0.78 and 0.92 among the various sections which are good and excellent respectively. Test-retest reliability was determined by administering to a subsample of 50 respondents at two timepoints of tests separated by a time interval of two weeks; the resulting correlation value of 0.85 assured that there was no change in the temporal stability. Inter-rater reliability coefficients were also established and were between 0.82 and 0.89 meaning that there was strong agreement between raters.

Data Collection and Data Analysis

Data was collected during an estimated period of three months, specifically the months of March to May 2024, through a multi-stage process that was aimed at covering the entire population and getting the highest possible response rates.

Stage 1 - Recruitment of respondents: Preliminary contact with the potential respondents was made by means of an official organizational communication and the formation of professional contacts. Terms of participation and objectives of the study were made transparent, with a focus on voluntary participation all through.

Stage 2 - Questionnaire Administration: The questionnaire tool was administered through an electronic (internet-based survey and email services) and a paper-based method to ensure the respondent can choose the most appropriate formats and the survey tool does not pose a challenge to the infrastructural requirement.

Stage 3 - Follow-up Communications: The non-respondents were systematically followed up at regular times through email reminders and telephone follow-ups to participate and contribute to maximum completeness of responses.

There were 450 fully filled questionnaires returned out of 500 targeting population of 450, which gave a response rate of 90%. The level of response is very high and therefore adds high reliability and generalisability of the study conclusions.

The SPSS version 28.0 was used to perform statistical analyses. All the variables were calculated using descriptive statistics such as frequencies, percentages, means and standard deviations to describe the distribution of stakeholder perceptions. Chi-square tests were used to test the relationship between the variables that were categorical and one-way ANOVA was used to compare the mean values between the respondent groups. An analysis was done through Pearson correlation analysis to investigate interdisciplinary relations, and the multiple regression analysis was used to find out the strongest predictors of overall satisfaction with graduate quality.

RESULTS

The results of this exploration are described below and supported by the tables and visual illustrations to ensure the overall interpretation of the views of the industry stakeholders on the quality of graduates.

Table 2: Technical Skills Assessment

Technical Skill	Excellent	Very Good	Good	Satisfactory	Poor	Mean Score
Learning Management Systems	12%	18%	25%	30%	15%	2.82
Formative Assessment Apps	8%	15%	22%	35%	20%	2.56
Artificial Intelligence Tools	5%	10%	18%	32%	35%	2.18
Authoring Tools	10%	20%	28%	25%	17%	2.81
Basic Statistics & Spreadsheets	15%	25%	30%	20%	10%	3.15

The technical skills test indicates significant difference in the perceptions of the stakeholders in the various areas of competency. The performance of the graduates is relatively higher in basic statistics and spreadsheet applications (Mean = 3.15), which shows a plausible background of data literacy basics. Nonetheless, the most urgent issue is the level of competence in the artificial intelligence tools (Mean = 2.18), as 35% of the respondents consider graduates as incompetent in this aspect. Also learning management systems and authoring tools have moderate performance, whereas formative assessment applications have a significant gap to fill. All of these findings lead to the conclusion that educational curricula should be more fully represented in terms of the contemporary digital technologies.

Figure 1: Technical Skills Assessment – Mean Scores

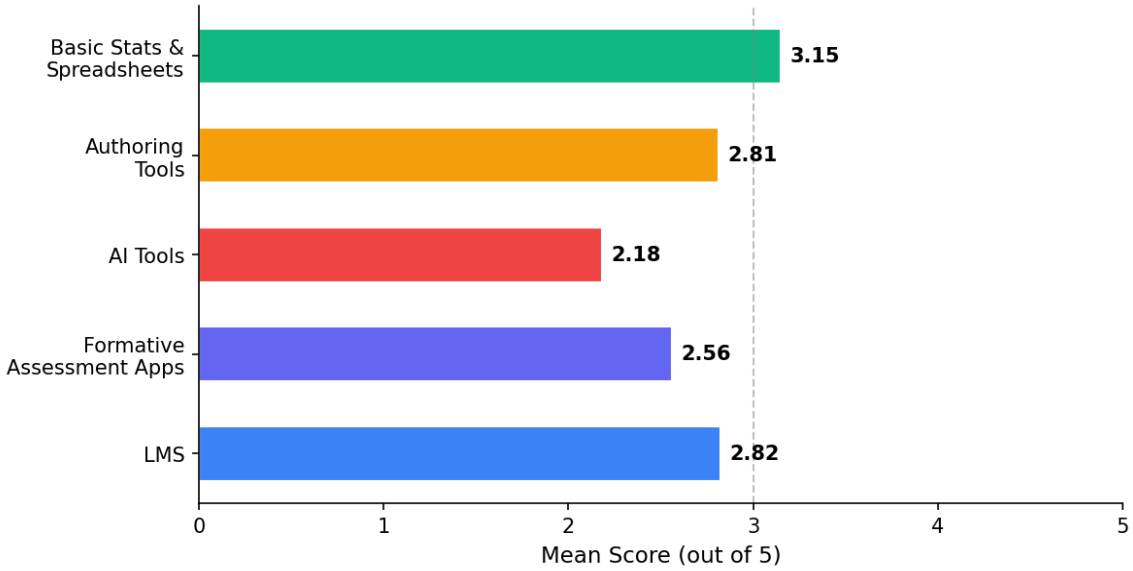


Table 3: Soft Skills Assessment

Soft Skill	Excellent	Very Good	Good	Satisfactory	Poor	Mean
Communication Skills	14%	22%	28%	24%	12%	3.02
Teamwork & Collaboration	16%	24%	30%	22%	8%	3.18
Problem-Solving & Critical Thinking	11%	19%	26%	28%	16%	2.81

The analysis of the soft skills reveals that teamwork skills and collaboration skills have the highest mean score (3.18) meaning that there is relative institutional success in building the collaborative work dispositions. There are moderate communication competencies (3.02). Problem-solving and critical-thinking abilities are in contrast having the least average score of the soft skills (2.81) with 44% of the respondents rating graduates as either satisfactory or poor in this critical field. This observation highlights the necessity of incorporating more purposive and systematic development of analytical and evaluative thinking under educational programmes.

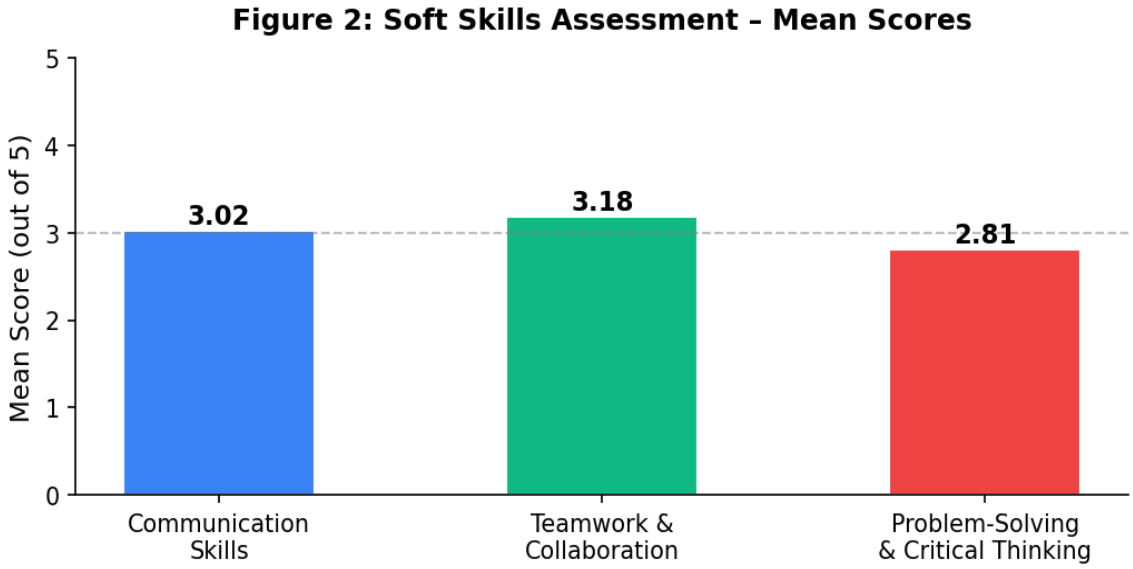


Table 4: Work Readiness Assessment

Work Readiness Indicator	Excellent	Very Good	Good	Satisfactory	Poor	Mean
Adaptation to Professional Environment	9%	18%	27%	31%	15%	2.75
Application of Theoretical Knowledge	7%	16%	24%	33%	20%	2.57
Handling Workplace Pressures	6%	14%	23%	35%	22%	2.47

The results of the work readiness assessment show a worrying trend on all three measures, as the mean scores are spread even below the 3.0 mark. The lowest scores are registered in terms of the ability to handle pressures in the work environment (Mean = 2.47), where 57% of participants rated graduates as being satisfactory or poor. Poor performance is also documented in the use of theoretical knowledge into a practical setting (Mean = 2.57), indicating that there is a high theory-practice gap. All these findings point

to the fact that education institutions have to significantly enhance experiential learning delivery and professional preparation programs.

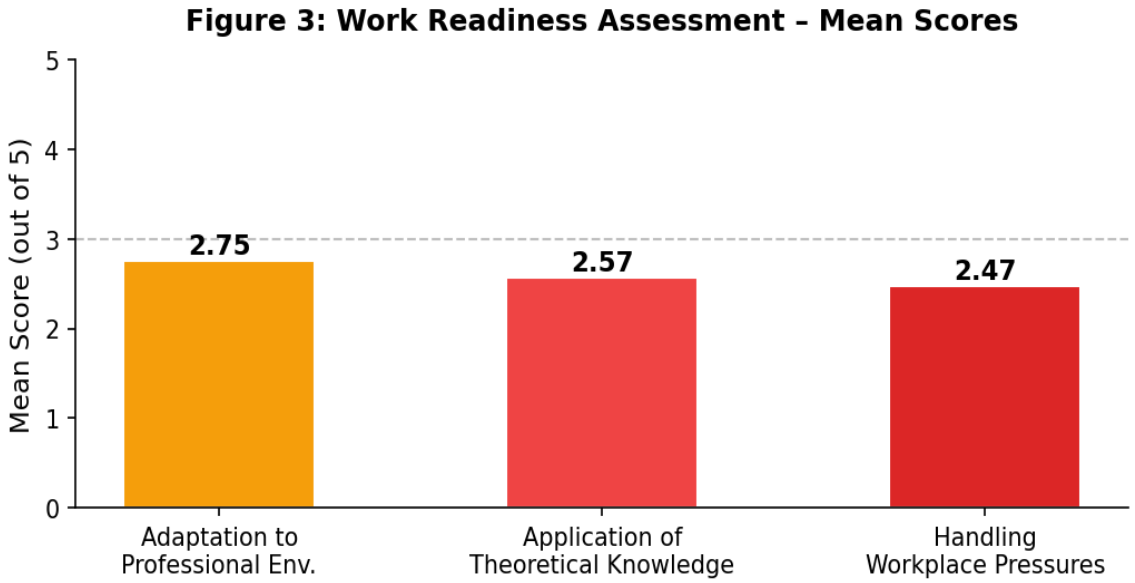


Table 5: Job-Specific Skills Assessment

Agreement Level	**Proficiency in Industry Tools**	**Necessary Certifications**	**Mean Score**
Strongly Agree	8%	10%	**2.80 (Overall)**
Agree	22%	18%	
Uncertain	25%	30%	
Disagree	30%	28%	
Strongly Disagree	15%	14%	
Mean Score	**2.78**	**2.82**	

Findings of Job-specific skills indicate widespread stakeholder dissatisfaction that graduates have mastered tools and professional certifications, which are industry-relevant. Only 30% of the respondents said they believed that graduates have sufficient knowledge in industry-specific tools, and 45% said they believed that they do not. Likewise, 28% only verified that graduates have relevant professional certifications, and 42% disagreed. The high rate of indecisive answers (25-30%) to itself is eloquent that indicates that not all graduates can prove their undivided control over job-specific competencies to potential employers in a way that is apparent.

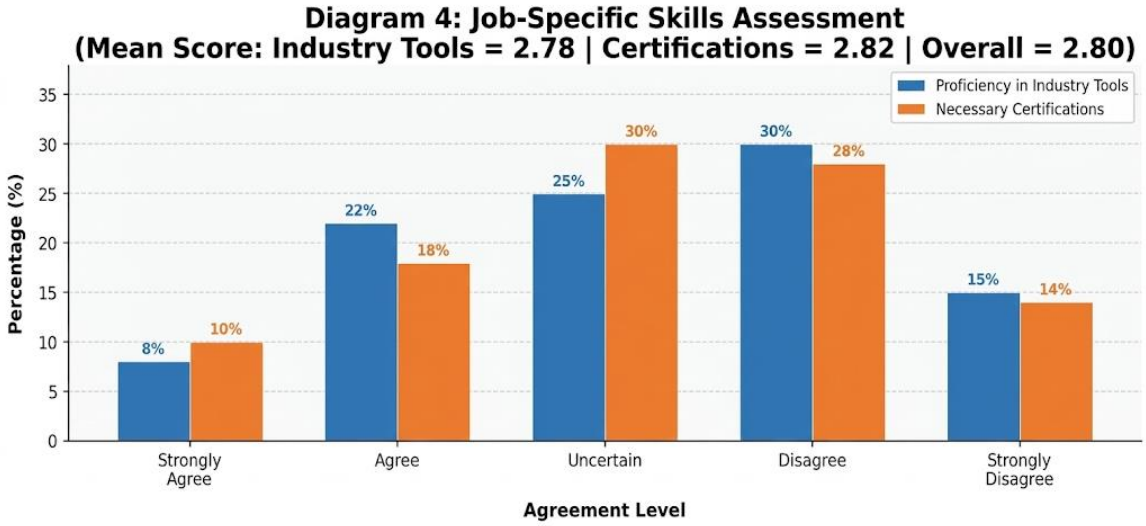


Table 6: Continuous Learning Assessment

Agreement Level	**Willingness to Learn**	**Proactive Development**	**Mean Score**
Strongly Agree	18%	12%	**3.24 (Overall)**
Agree	35%	28%	
Uncertain	22%	25%	
Disagree	20%	25%	
Strongly Disagree	5%	10%	
Mean Score	**3.41**	**3.07**	

The most favourable results are provided by continuous learning assessment in all the domains assessed. The willingness to learn new skills by graduates is least likely to attract with the overall mean score (3.41), and the percentage of those who respond to this question indicates that 53% of the respondents do not refute this view. Active participation in professional development is positively related with a moderate intensity (3.07), with 40% of the respondents indicate their agreement towards the statement. These results indicate that the Pakistani institutions have been fairly competent in instilling the receptive attitude towards learning and professional growth of graduates which is an excellent base on which the further development of competencies can be based.

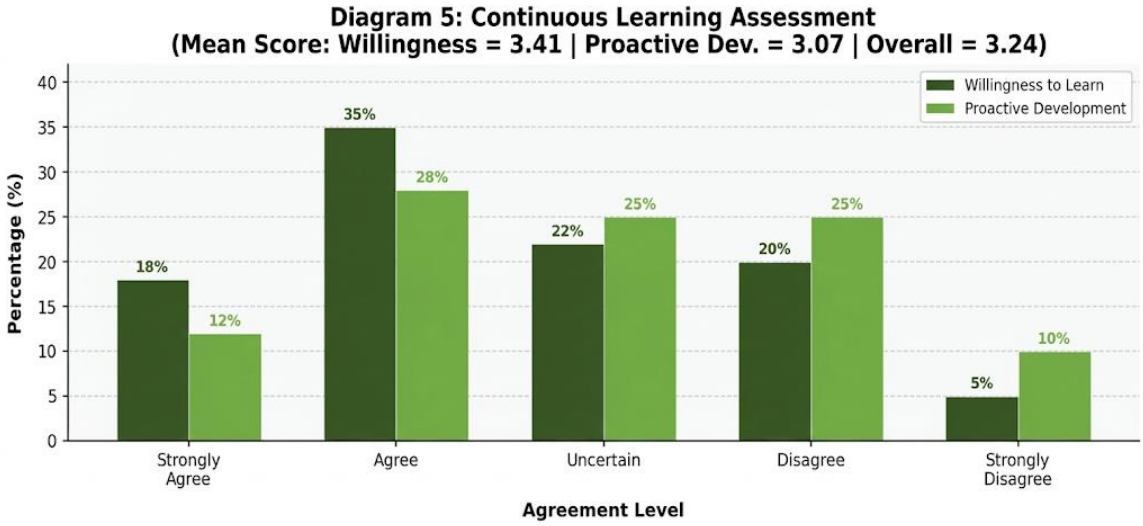


Table 7: Recruitment Patterns and Satisfaction

Statement	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	Mean
Regularly Recruit from Pakistani Institutions	25%	40%	15%	15%	5%	3.65
Satisfied with Overall Graduate Quality	12%	28%	25%	25%	10%	3.07
Intend to Hire More Graduates in Future	15%	30%	30%	20%	5%	3.30

Recruitment data shows that Pakistani educational institutions are still significant sources of human resources as 65% of the respondents indicated that they routinely recruit in these institutions. Nonetheless, the level of satisfaction with graduate quality is still medium with only 40% of the respondents having positive sentiments. The intention to recruit graduates ahead is an indicator of optimism (Mean = 3.30) with 45% indicating a desire to hire more graduates. The large share of the undecided answers (25-30%), reflects ambivalent experiences in the directive institutions and might demonstrate that the employers are holding on before they can see any hope of improvement in the quality of graduates.

Figure 6: Recruitment Patterns & Satisfaction

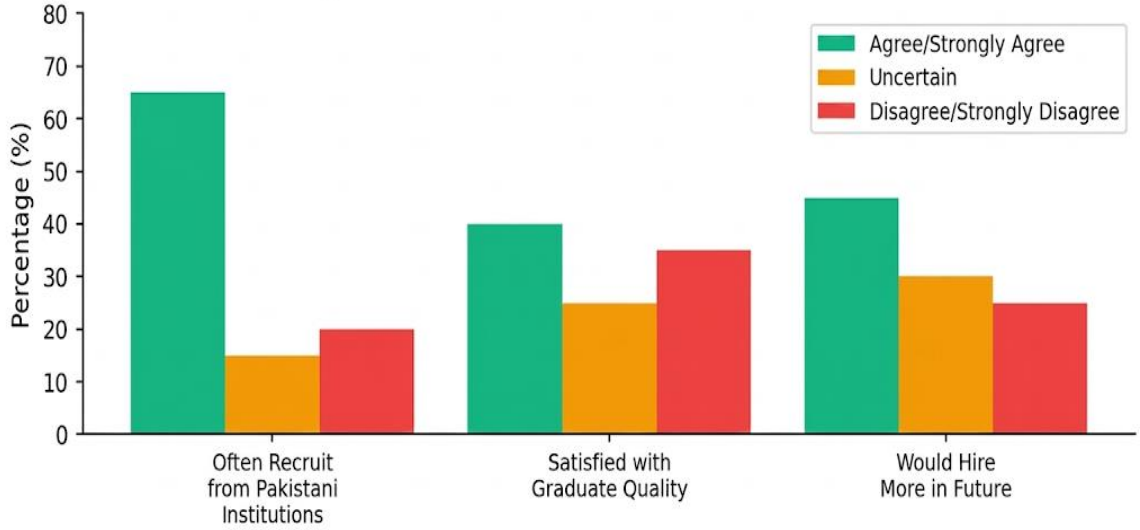
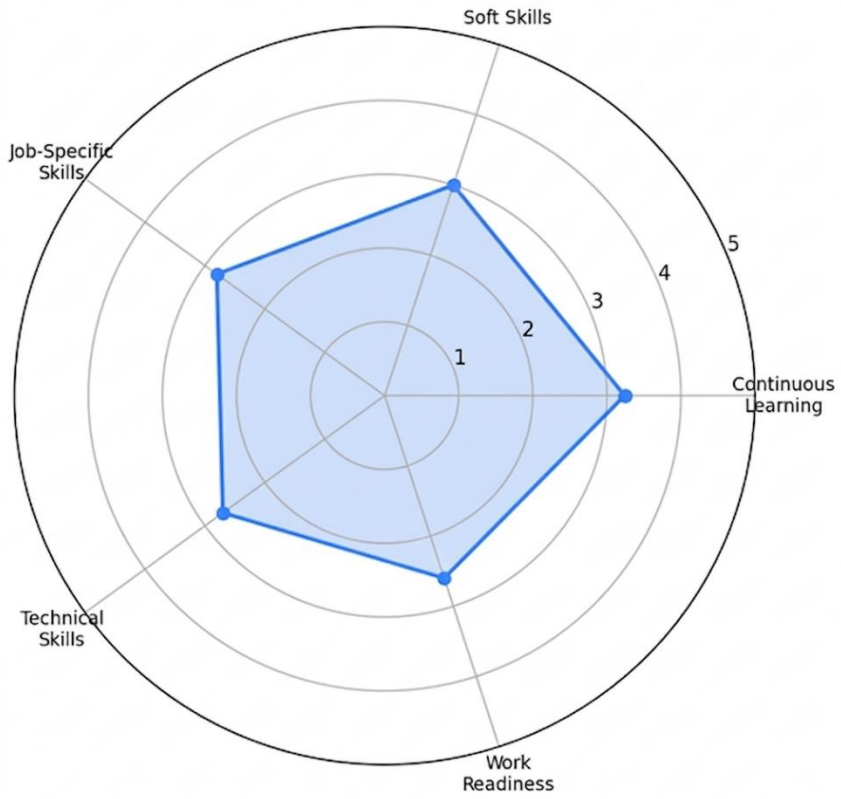


Table 8: Overall Assessment Summary

Assessment Domain	Mean Score	Standard Deviation	Rank
Continuous Learning Orientation	3.24	0.89	1st
Soft Skills Competencies	3.00	0.92	2nd
Job-Specific Skills	2.80	0.96	3rd
Technical Skills	2.70	1.02	4th
Work Readiness	2.60	0.98	5th

The general evaluation of the domains ranked continuous learning orientation as the best rated (Mean=3.24) and soft skills competencies (Mean= 3.00). The most scope of improvement is seen in the area of technical skills, job specific skills and work readiness where work readiness has the lowest overall mean (2.60). The fact that the standard deviation values in all domains are quite high implies that there is indeed high level of variability in the assessment of stakeholders in this regard and this implies that the quality of graduates is not a consistent exercise across schools and types of programmes.

Figure 7: Overall Graduate Capability Profile



FINDINGS

The research brings the following most important findings:

1. There are significant gaps found in graduate technical competencies, particularly in the area of emerging technologies like artificial intelligence platform, learning management system and formative assessment applications. Although undergraduates still have a fairly strong base in the basic data analytics and spreadsheet tools, graduates have an acute lack of more advanced and modern digital tools.

2. The graduates have a decent degree of teamwork and teamwork competence and have a sufficient capacity to communicate. Still, their problem-solving and critical-thinking skills require significant development, which can be seen with the lowest scores in the area of soft-skills assessment.

3. The area of concern is work readiness and graduates have poor preparation in all three indicators measured regarding their readiness to work in a professional environment. Stakeholder reports reveal that graduates are having specific challenges in adjusting to workplace cultures, putting academic knowledge into practical application, and responding positively to occupational challenges.

4. The stakeholders in the industry have drawn significant dissatisfaction regarding the competency of the graduates in terms of sector specific tools and technologies, and due to the ability to develop the pertinent professional certifications. The findings of such a kind highlight a serious structural disconnect between the academic programs and the changing needs of the industry.

5. The most positive outcome can be connected with the receptiveness of graduates to the learning process and their positive attitude to the professional development. This disposition in itself would not be enough, but it provides a good base on which other oriented competency development can be built.

6. Despite reported quality issues, industry players continue to recruit talent in Pakistani learning institutions thus confirming their relevance in terms of structure as human-capital providers. The level of satisfaction is however average, and the future intentions to hire are not decisive but optimistic.

CONCLUSIONS

The following conclusions are drawn from the cumulative evidence:

1. There is a high level of structural maladaptation between the academic curriculum and the industry needs, especially in regard to technical expertise and practice. Institutions of higher learning should thus develop a more organized and systematic interaction with industry stakeholders in order to keep abreast with the changing competency needs.

2. The general focus on theoretical education in Pakistani educational institutions seems to be at the cost of developing practical skills. Therefore, the amount of exposure to applied learning that students require is much higher in forms of structured internship programs, industry infused projects and through experiential learning programs.

3. Schools should hasten the adoption of modern and new technologies in the teaching programs and the curriculum. The global whirlwind speed of technological transformation requires an approach of constant curricular forms as opposed to the periodic forms.

4. Although the level of teamwork and communication skills is proven by graduates, critical thinking and analytical problem solving skills have to be developed significantly. These abilities need to be better inculcated throughout all the disciplinary programs.

5. The systematically low work readiness indicators imply that schools and universities need educational programs that are elaborate, systematic, and effective to compute the difference between the academic preparation and the professional reality. Career counseling, industry-engagement event, professional development workshop, and mentorship initiative are some of the interventions that are justified.

6. Optimistic attitude towards learning recorded amongst the graduates is a significant institutional resource. The culture of lifelong learning and professional self-renewal within the educational programs should be purposely utilized to leverage this strength.

RECOMMENDATIONS

The recommendations that can be made to the consideration of the concerned stakeholder groups include the following:

1. Carry out a systematic and extensive curriculum audit to bring academic content into focus with current and future industry needs especially in areas of technical skills and digital technology skills.

2. Partner with industry stakeholders in forge formal, carefully designed partnerships hence co-creating curricula, designing internship systems, producing mutual faculty-industry interactions, and developing research ventures.

3. Considerably increase the opportunities of practical and applied learning in the form of projects, the development of skills in laboratories, and the practice of resolving real-life problems, built directly into academic programs.

4. Formalize soft-skills training within all academic curriculum by having specific focused communication training sessions, team learning projects, and coordinated critical-thinking training.

5. Install end-to-end quality-control systems with employer feedback loops that will guarantee continuous correspondence between educational products and the industry standards.

6. Establish enabling regulatory frameworks that institutionalize and reward industry-academic partnership, which ensure that institutions of learning are structurally receptive to changes in the labour market.

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