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Unlocking the Economic Growth amid Technological transition: An Analysis of Hybrid Skills Acquisition among Professionals in Peshawar, Khyber Pakhtunkhwa

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Abstract: Over the next decade, technological transition will build or kill millions of workers. Many workers have become hybrids; merging skills set that were never previously associated with each other, such as statistical analysis and marketing, or architecture and programming. Specific abilities serve as hybridizing powers, allowing them to spread through various positions. This research also concentrates on the effects of such changes on the demands by the employers. The objectives of the research included to investigate in the hybrid skills set-soft and hard skills, which are the most demanded skills now a days in Peshawar region; to analyze the level of economic benefits attainted upon acquiring the hybrid skills to the teaching faculty professionals. As the present research is conducted to know the effects of technology on the teaching professional only so purposive sampling was used. As the research is of descriptive nature the Cronbach's Alpha and One-way ANOVA were employed to the data. After the analysis, it was obvious that technology has impacted the education sector and that the soft skills from the hybrid skills set have become equally important long side the traditional i.e. hard skills. Furthermore, there is difference in the monetary benefits attainted by the teaching professionals in private and public universities in Peshawar, Khyber PakhtunKhwa. The current study enables people to comprehend the kinds of hybrid skills that are prevalent in Peshawar and that job seekers need to acquire in order to find employment, as well as enabling those who are already employed to continue in their existing roles. The current study may contribute to closing the knowledge gap between what academic institutions teach and produce and the capabilities that industry will require in the future. This study contributes to the knowledge on hybrid skills set needed to stay employed or get hired by the teaching professionals in public and private universities of Peshawar, Khyber PakhtunKhwa. Hybrid positions are high-potential jobs, but exploiting their potential would

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necessitate different strategies for educators and businesspeople, as well as any other discipline. There is ample research in this field in UK, USA and India. This study contributes to the research literature on the technology driven hybrids skills set by the teaching professionals in universities of Peshawar, Khyber PakhtunKhwa.

Keywords: Soft Skills, Hybrid Skills, Universities, Peshawar, Khyber PakhtunKhwa

1. Introduction

In today's world it is seen how automation, Artificial Intelligence (A.I) and digital technologies have altered the nature of the jobs, thus giving rise to hybrid job economy. In the hybrid job economy, the employers are creating a sharp rise in demand of hybrid skill set from their employees. Increasingly many jobs are hybrids- comprising skill sets which are more of both soft as well as hard skill. "Hard skills encompass the knowledge needed for a job as well the technical expertise and. People skills, interpersonal traits, and personal attributes are other names for soft skills."(Robles, 2012).

When workers acquire a hybrid skill set, their employability rises. Accordingly, "employability is the continuous, lifelong process of acquiring new information, experience, and focused learning that enhances one's marketability to enhance their capacity to obtain and hold jobs through various labour market fluctuations."(Sigelman, Bittle, Markow, & Francis, 2018).

"Hybrid tasks are growing at a rate twice as fast as the overall job market, and they pay 20–40% more than their more traditional counterparts, according to their analysis on the hybrid employment economy."(Sigelman et al., 2018). "The reason behind such a demand for hybrid lies in the fact that this strategy assists in the convergence of skills within and through organizations in order to reap the benefits of employee diversity." (Ra, Shrestha, Khatiwada, Yoon, & Kwon, 2019). In 2018, Workforce analytics firm Burning Glass Technologies predicted the hybrid

job market would expand by 21% in the coming decade, which should further motivate professionals to diversify their skills set.

Technology alone could never lead and promise growth unless the human resource is well equipped with the relevant skills. “Certain disruptive abilities that can be implemented across several fields are the true drivers of hybridization.” (Sigelman *et al.*, 2018). In this case, technology applies to instruments and computers that can be used to solve real-world problems. “The fourth industrial revolution (industry 4.0) heralds far-reaching changes in the nature of work.”(Ra *et al.*, 2019).

The manifestations do not matter, the World Economic Forum’s 2018 study on technology. There are two main trends in literature about the impact of technology on skills and job. Firstly, alarming views on work loss caused by technology have been updated to a greater degree, a positive outlook that expects an enlargement in jobs. Upcoming jobs, however, can appear in various sectors and the need for employees to learn new skills. “Secondly, the key trend is that new positions are more likely to require higher cognitive abilities and non-routine skills. Tasks which are unlikely to be substituted for automation” (Ra *et al.*, 2019).

One should strive to develop a particular skill set based not only on what is in demand, but also on relevance to their field of work or profession with regard to their personality, likes and dislikes, otherwise their career may be short-lived. “The solution is to build a learning society in which people learn constantly in both formal and informal environments, at all stages of their careers.” (Ra *et al.*, 2019). This learning could be attainted through various measure like “trainings” (Tahir, Yousafzai, Jan, & Hashim, 2014), upon doing certified courses, “internships”(Patacsil & Tablatin, 2017) and the “higher education” (Sigelman *et al.*, 2018). The present study tends to find the actual benefits upon acquiring the hybrid skills. The possible agreed outcomes in all articles are

1. Technology’s impact is such that it is rewriting the jobs’ description as well as creating new ones. “This trend's

primary component is technology, although it's only the driving cause" (Sigelman *et al.*, 2018).

2. Some jobs that are labor intensive get automated simultaneously whereas rest of occupations less susceptible to automation on the point of having hybrid skills. "though they require analysis and judgments , the hybrid jobs are less likely to be automated than other roles" (Sigelman *et al.*, 2018).
3. Multifactor productivity is crucial for employability. "Employability skills are one of the most essential soft skills that workers in the manufacturing sector can learn." (Chan et al., 2018).
4. The economic benefits upon having hybrid skills set are long term.
5. Personal management, career building, learning and work exploration are all equally important.

The attainment of hybrid skills set is the long process which relies upon employers and workers or staffs, which are considered primary actors. Secondary participants are the educational system and its members (education sector), as well as their constituents and the legislation that will have an impact on employers, staff, and educational institutions.

For years, economists, corporate executives and labor experts have cautioned that a coming automation revolution and new technologies will upgrade the workforce, replace and de-skill some workers while transforming how and where work is done, for almost everyone.

Improving one's abilities helps one's human capital expand, and as a result, economic growth, productivity, and profitability are seen to be related to one's human capital. "The professionals are required to adopt

and upgrade skills to remain employed. It is suggested, that the workers ought to be given relevant trainings for uprising jobs" (Works, 2017). "You don't have to come from a non-technical background to profit from gaining more technical abilities; you can diversify."(Joyce, 2020). There are also economic benefits accrued to employees where economic benefits are benefits that can be quantified, such as net profits, sales, etc., in terms of money generated. How one calculates economic advantages really depends on what he analyses.

1.2 Research Questions

Which skills, out of a hybrid skill set that includes both soft and hard skills, are most in demand by teaching professionals in public and private colleges in the Peshawar region of Khyber PakhtunKhwa? What are the economic benefits to teaching professionals in public and private universities in the Peshawar region of Khyber PakhtunKhwa from obtaining hybrid skills? Among the training, internship, higher education and online learning, which contributed more in built up of hybrid skills.

1.3 Objectives

To investigate in the hybrid skills set-soft and hard skills, which are the most demanded skills now days in Peshawar region of Khyber PakhtunKhwa.

To analyze the level of economic benefits attainted upon acquiring the hybrid skills to the teaching faculty professionals in universities in Peshawar region of Khyber PakhtunKhwa.

To know among the training, internship, higher education and online learning, which contributed more in built up of hybrid skills.

1.4 Research Methodology

The research is of descriptive nature, primary data has been collected and analyzed by reliability tests like Cronbach Alpha and one-way ANOVA. The current study is descriptive. In the Peshawar region of Khyber Pakhtunkhwa (KP), a descriptive survey is constructed and utilised to

analyse the vital skills needed and obtained by the teaching faculty professionals of public and private colleges. “Explaining the data and demographic features is the aim of a descriptive analysis.”(Chan *et al.*, 2018). As the primary data is collected with the help of questionnaire, the analysis gives us the result in numbers, which makes it quantitative study. The results generalized from descriptive analysis, The present researcher is able to identify the hybrid talents that are most crucial for teaching faculty professionals at public and private universities in the Peshawar region of KP to learn by using Cronbach alpha and One-way ANOVA. Descriptive approach has been used widely by many researchers like (Chan *et al.*, 2018; Patacsil & Tablatin, 2017; Tahir *et al.*, 2014) in their respective studies as this approach holds best in studying such phenomenon. A descriptive research design is adopted to collect required data. In this research only primary data is used. The data collected and results obtained using IBM SPSS to fulfil the goals that this study has set forth.

1.4.1 Research Gap

Researchers focused their investigations on the development of hybrid skill sets that automation has sparked. This research focused on hybrid skills in Khyber Pakhtunkhwa on provincial level in Pakistan but there is no study on national level to have an understanding of hybrid skills sets acquisition on country level so this becomes a research gap. Upgrading oneself with both hard and soft skills is necessary to get in demand because more education less unemployment.

2. Literature Review

Sigelman et al. (2018), conducted a research on how automation and arrival of new technologies changes every job with every second spent. The researcher used the secondary data for analysis. According to their study, jobs have become more hybrids i.e. to carry out duties of work; the employees need to have multi-disciplinary knowledge and skills. These

jobs are also making up to 20 to 40% high paying than their traditional counterparts. The study pointed out five broad skill areas which needed skill adaptation namely, The study found that the theme of lifelong learning is the key to success. It concluded that hybrid skills- mostly soft skills are the most demanded and its demand will continue to grow. Further, it proposed that there should be collaboration between employers and the educators for filling the rising demand for hybrid skills.

Frey and Osborne (2017), examined the vulnerability of jobs with increased computerization. The methodology adopted was to estimate the computerization probability for nearly 702 professions by employing Gaussian process classifier. The impact on US labor market outcomes due to future computerization was evaluated keeping the foremost objective of investigating the jobs at threat along analyzing the association between professions probability of computerization, educational achievement and pays.

(Asian-Bank, 2018), showed the positive outlook of impact of technology on skills and explained how Innovations increase productivity, which lays the groundwork for higher-paying jobs and economic expansion. The study made clear that while some activities of a profession can be automated by technologies, the complete job cannot. Automation of jobs only progresses in areas where it is both technically and financially viable. The study discovered that new industries and jobs are created by technological advancement and economic expansion. In the fields of health care, education, finance, insurance, real estate, and other industries, there have been several job titles created, as well as new job categories that have emerged and will likely exist in the future. This increased the need for improving existing abilities and acquiring new ones. The majority of non-routine cognitive, social, and information communication technology (ICT) work would see an increase in demand. Average real wages for non-routine jobs increased faster than for routine and manual job.

Works (2017), discussed the link between the technological revolutions and economic growth. He highlighted the outcomes of automations. The framework of study was based on previous research, but the structure was expanded for the varying proportion of tasks performed by robots across industries. The model reduced the shift in jobs and salaries on exposure to robots, which is measured as the national penetration of robots into each industry times the local labor market employment share of that industry). Sex, business, occupation, schooling, and wage percentiles were also considered in the study. The jobs impact for males was found to be 1.5-2 times greater than for females, and the results are concentrated in the manufacturing industries. Except for managerial positions, negative results are seen in all professions. Not unexpectedly, there are significant reductions in blue-collar employment with repetitive manual tasks, such as assembly workers, transport workers, and machinists. The study found that increasing robots in the economy had a negative and positive impact on wages and employment.

Joyce (2020), discussed that jobs changes are unexpected, soft and hard skill combinations. The implementation of a single skill in fact raised wages by up to 40 percent. The study further discussed that hybrid occupations rely on skill sets from broadly distinct areas that are typically unrelated. The hybrid jobs are dynamic, multidisciplinary, and combine left-brain technical abilities with right-brain creative abilities. The study explained that big data and analytics skills expanded career opportunities, especially in fields such as data science, but the greater effect is on professions that once had nothing or little to do with statistics, such as business and marketing, according to the Hybrid Work Economy study. A growing number of practitioners used the data science expertise to raise questions and discuss issues. The researcher further discussed that the online education is a fantastic tool for developing hybrid skill sets, including the ability to expand your education with an advanced certification or portion of a degree to more effectively combine humanities skills with technology skills, coding skills communication

skills, design skills data analysis skills, etc. and better position yourself in the job market today.

FutureLearn (2020), explained that the pandemic has had an influence on people's lives in ways that many of us could never have anticipated. In addition to the awful loss of life, livelihoods and entire industries have been destroyed. People remained resilient and resourceful, resulting in the development of new ways of working and new skills. These new abilities have the potential to be quite beneficial in the future. The research paper discussed how emerging innovations have managed to alter those workers' environment. They use the examples the fields of programming and data analysis. Previously, a reasonable amount of technical knowledge and preparation was needed by practitioners in these positions. Developments in technology and modern tools, however, meant that some of these tasks could now be performed by a variety of company and marketing positions. A web development tool, and Google Analytics, and web analytics software, are two examples outlined. Both of these tech suits were much more available to other practitioners for previously specialized tasks.

Hjertstrand, Norbäck, and Persson (2020), explained that in today's celebrity economy, elite abilities have become critical. The present world created a multi-period model of skill formation in which it is illustrated that people with temporary disadvantages need to make greater efforts to obtain access to elite education. The study found support in soccer data for this mechanism: Youth football is dominated by players born early in the year, but late-born (but not too late) youngsters can emerge as the year's biggest stars. It also demonstrated how high elite education standards will raise the expected lifetime welfare for underprivileged pupils if youth disregard the "too much" future.

Chan *et al.* (2018), employability skills in the manufacturing sector were analyzed from the perspective of employers. The study set out to investigate the difficulties Malaysian graduates encountered in getting their skills evaluated by employers in the manufacturing sector, taking

into account factors such as gender, firm size, and business type. The study analyzed the data using descriptive and inferential analyses. It was quantitative research. It used random sampling which chose sample of total of 182 respondents from 400 employers in BatuPahat, Malaysia. Questionnaire was used to collect primary data using 3-point Likert scale rating. It pretested 30 employers of manufacturing industry. The Cronbach Alpha value was 0.712, considered acceptable. The study used t-test and ANOVA. The result showed that there exists no significance between the employer's perceptions and gender along manufacturing sector type, but there do exists relevant significance for company's size. The study concluded that communication skills have greater demand and that the graduates need to have better and updated employability skills for securing a job.

Patacsil and Tablatin (2017), suggested a skill breach methodology involving the internees of IT and evaluating the significance of IT skills breach as perceived by IT industry and students, Philippines. A descriptive study was carried comprising of survey based on purposive sampling in which the respondents were asked to fill questionnaire. Cronbach alpha value of 0.833 was obtained. The findings unraveled that communication and teamwork as dominant skills to be owned by IT graduates as perceived by respondents. The study also showed the industry held hard skills less important. The research proposed enriching of soft skills along hard skills into curriculum of university.

Ra *et al.* (2019), discussed in their study that how the start of the industry 4.0 foreshadows the transformation of the work nature. It heightened the fact that automation is happening phenomenon, displacing workers thus creating new occupations. This article stresses upon strengthening learning skills prevailing in industry 4.0. Mostly secondary data was used. The study provided with the rising trends in academics system and identified the trends demanded by firms regarding learnability. In the end

paper suggested a learning society which inculcates learnability on every step of workforce development.

2 Materials and Methods

This section's objectives are to examine the materials connected to the data to reveal the study's goals by computing and approximating the taken into account data, as well as by looking through and talk about the outcomes. In addition, it covers the research area, objectives, methods of recognition, new technique investigation, research variables, and model gathering for desired outcomes. Additionally, this study analyses methods to answer research questions and objectives.

2.1 Area of Study

This study is about the acquisition of certain hard and soft skills set required to get high in demand in job market in Khyber Pakhtunkhwa. Time period is year 2020. In Pakistan there was no such work done at that time. Is therefore unique in itself and beneficial to society, professionals who want to know the areas to focus to improve their employability.

3 Theoretical framework

Human Resource Economics examines individual, family, and business investments in many types of human capital, such as education, on-the-job training, and health. Other branches of economics include labor economics, education economics, and personnel economics, among others. The enhancement, development and growth of skills one has come in human capital formation. It can be described as the economic value of a worker's experience and skills. There have been conducted eminent studies internationally regarding the importance of new skill set being in demand in job economy. The seminal study by Burning Glass

technologies were the first to identify the hybrid trends in 2015, which after then has been observed a sharp rise in the hybrid skills trend initiated by various types of technologies. The Burning Glass holds jobs as more hybrid if

- They needed skills that were not commonly requested in their field.
- They necessitated competence clusters that often included several functional domains.
- They necessitated a more diverse collection of core skills and competencies.

Based upon the above distinction, determining the organization's dominant technologies is essential before delving into the impact of developing digital technology on skills and organisations. (Dhondt *et al.*, 2019).

4.1 Data Sources

The current study is descriptive in origin. In the Peshawar region of Khyber Pakhtunkhwa (KP), a descriptive survey is constructed and utilised to analyse the vital skills needed and obtained by teaching faculty professionals of public and private colleges. As the primary data is collected with the help of questionnaire, the analysis gives us the result in numbers, which makes it quantitative study. The results generalized from descriptive analysis, applying Cronbach alpha and One-way ANOVA, permits the researcher to determine the hybrid skills that are the most important to be acquired by the teaching faculty professionals of public and private universities in Peshawar region of KP. Descriptive approach has been used widely by many researchers like (Chan *et al.*, 2018; Patacsil & Tablatin, 2017; Tahir *et al.*, 2014) in their respective studies as this approach holds best in studying such phenomenon.

4 Empirical framework

This research is basically designed to study the most demanded skills of the hybrid skills set as well as to know the economic benefits accrued upon attaining those skills. Population means the totality of individuals from which a sample is taken. In the present study, teaching faculty professionals in the public and private universities of Peshawar region of KPK is the population, which comprises about 3627 total faculty, including PhDs and non-PhDs of both public and private universities of Peshawar in the year 2017-18 (Higher Education Comission, 2017-18). The private universities comprise about 1653 total PhDs and non-PhDs faculty in the year 2017-18 (Higher Education Comission, 2017-18). The public universities comprise about 1974 total PhDs and non-PhDs faculty in the year 2017-18 (Higher Education Comission, 2017-18).

Keeping in view the nature, cost, Covid-19 pandemic and limitations of the research understudy, it is suitable to employ purposive sampling and draw out the sample of teaching faculty professionals in private universities, mainly in higher ranks education namely, Professors, lecturers etc, in order to be able to draw generalizations of important hybrid skills demanded as well as acquired in Peshawar, KP. In this essence the sample drawn out of the total sample is 52 respondents, with 26 respondents each from private and public universities in Peshawar, KP.

Various non-probability sampling approaches are grouped together under the term "purposeful sampling." Purposive sampling's primary goal is to concentrate on unique features of a population that are interesting and will best allow the current study to address research concerns. In this study, purposeful sampling is used since it makes the most sense given the circumstances. "Choosing the right people to include in the sample is made possible by selecting the sample based on knowledge of the research problem."(Ali, 2014). One of the most economical and time-efficient methods of sampling that is now available is purposeful sampling. Purposeful sampling can be your best bet if there aren't many primary data sources available to support the study.

Data analysis is a method of analyzing, cleaning the data, modification and designing, with the goal of highlighting the required knowledge that supports this decision-making. Since this study examines the most demanded skills of the hybrid skills set of teaching professionals in Peshawar, KP, along with the economic benefits to them; to extract the precise results for the data analysis, all **52** questionnaires were entered into the computer software application SPSS 23 version. In the present study the population of teaching faculty professionals in the public and private universities of the KPK region of Peshawar comprises of about 3627 total faculty professors. The data was obtained from 560 respondents using a questionnaire using the purposive of sampling. The questionnaire was further divided into three parts, Section A consisting of the prerequisite details, and the B&C sections consisting of relevant questions to the present research. Pilot testing was used as technique to draw out any flaws in the questionnaire. Furthermore, one way ANOVA was used to check whether there were any statistically significant variations between the means of two i.e. soft skills and hard skills.

5 Results and Discussions

The first objective of the research was to investigate in the hybrid skills set-soft and hard skills, which are the most demanded skills now a days by the professionals in public as well as private universities in Peshawar region of KPK. In order to achieve the objective of the present research, the average score was used. The reason it was utilized was to determine the importance of certain skills from the hybrid skills set. The average mean scores were calculated for all the dimensions of hybrid skill sets. This methodology was adopted by Chan, 2018 and Patacsil, 2017. The following table 4.2.1 presents the average mean scores and specifies the differences in importance of all skills as well as highlights important skills.

a. Descriptive Statistics

Table 6.1Average mean scores of all skills

Hybrid skills set	N	Range	Sum	Mean	Std. Deviation
Soft skills: **Agile thinking**	52	2.00	128.00	**2.4615**	.60913
Interpersonal communication	52	1.00	146.00	**2.8077**	.39796
Critical thinking	52	2.00	142.00	**2.7308**	.48971
Decision making	52	2.00	144.00	**2.7692**	.46927
Negotiation	52	2.00	127.00	**2.4423**	.69771
Team work	52	1.00	150.00	**2.8846**	.32260
Collaboration	52	2.00	139.00	**2.6731**	.58481
Self confidence	52	2.00	142.00	**2.7308**	.52824
Self management	52	1.00	144.00	**2.7692**	.42544
Leadership	52	2.00	137.00	**2.6346**	.56112

Hybrid skills set	**N**	**Range**	**Sum**	**Mean**	**Std. Deviation**
Work ethics	52	2.00	141.00	**2.7115**	.53638
<u>Hard skills:</u> **Public speaking**	52	1.00	154.00	**2.9615**	.19418
Record keeping	52	2.00	137.00	**2.6346**	.59504
Curriculum development	52	2.00	109.00	**2.0962**	.35753
Administration	52	2.00	107.00	**2.0577**	.50151
Digital operations	52	2.00	114.00	**2.1923**	.52537
Technical skill	52	2.00	117.00	**2.2500**	.83725
Data analytics	52	2.00	111.00	**2.1346**	.44408
I.T skills	52	2.00	138.00	**2.6538**	.62260
Valid N (listwise)	52				

Source; Author's compilation

The table depicts the calculated average mean scores for the all the skills included in the hybrid skill sets, where N= total number of respondents i.e. 52. The descriptive analysis was used by various authors. “Descriptive SPSS were applied to see the reliability and consistency” (Tahir *et al.*, 2014).(Patacsil & Tablatin, 2017).

Soft skills include agile thinking, interpersonal communication, critical thinking, decision-making, negotiation, team work, collaboration, self-confidence, self-management, leadership, and work ethics. Hard skills include public speaking/lecture delivering, record keeping, curriculum development, administration, digital operating skills, technical skills, data analytics, and I.T skills.

The soft skills with the highest average mean scores were team work 2.88, interpersonal communication 2.8, and self-management. Whereas, soft skills with lowest means scores were negotiation 2.4, and agile thinking with mean score 2.4. According to this analysis, the most appreciated as well as demanded soft skills were team work, interpersonal communication and self-management and least in demand were negotiation and agile thinking. The reasons being that as the professionals belong to education sector so the most relevant were these skills in public and private universities in Peshawar, KP.

The hard skills with highest average mean scores were public speaking/ lecture delivering 2.96, I.T skills 2.65, and record keeping 2.6. Whereas, hard skills with lowest mean scores were administrative work 2.05, and curriculum development 2.09. According to this analysis, the most appreciated as well as demanded hard skills were public speaking/lecture delivering, I.T skills and record keeping, reasons being that these most needed to the teaching professionals.

The values in the table showed that as the P-value is set at less than 0.05 i.e. 0.008, there is significant diffrence in the attainment as well as importance given to the hybrid skills set in public and private universities in Peshawar, KPK.

Table 6.2 Paired Samples Statistics for Soft skills and Hard skills in public and private universities

	Mean	N	Std. Deviation	Std. Error Mean
Soft skills	**2.0962**	52	.49545	.06871
Hard skills	**2.3846**	52	.49125	.06812

Source: IBM SPSS, author's calculation

In the above table N= 52 which shows the sample size taken for the present research. By comparing the two means of skills, from the above table 4.2.3, it specifies that attainment of hard skills is more focused by the teaching professionals in public and private universities of Peshawar, KP. The mean value of soft skills (2.09) is less than the mean value of hard skills (2.38), thus giving more weightage to hard skills from the hybrid skills set in public and private universities combine.

However, the table 4.2.4 below showed the paired t-test of public universities of Peshawar, KP.

Table 6.3 Paired Samples t-test for the hybrid skills set in public universities

	Paired Differences							
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	Df	Sig. (2-tailed)

soft_skills - Hard_skills	0.03095	0.22150	0.04344	-0.12042	0.05852	-0.712	25	0.483

Source: Author's calculation

In the above table N=26, which is the number total number of respondents taken from the public university using purposive sampling. As in the table 4.2.4, the P-value is greater than 0.05 i.e. 0.483, it specified that in the public sector universities of Peshawar, KP; there is not much significant difference when it came to the attainment of the hybrid skills set.

However, the table 4.2.5 below showed the paired t-test of private universities of Peshawar, KP.

Table 6.4Paired Samples t-test for the hybrid skills set in private universities

	Paired Differences					T	Df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pairsoft_skils 1 - hard_skils	0.09965	0.20367	0.03994	0.01739	0.18191	2.495	25	0.020

Source: IBM SPSS, author's calculation

In the above table 4.2.5 the paired t-test showed p-value less than 0.05 i.e. 0.02, which showed that there is significant difference when it comes to the attainment of hybrid skills set in the private universities of Peshawar , KP. The professionals are not equipping themselves equally with the soft

skills and hard skills. The following table 4.2.3 (c) shows the mean values of hybrid skills set.

Table 6.5, the means of hybrid skills set in private universities

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Soft skills	**2.3240**	26	0.13573	0.02662
	Hard skills	**2.2244**	26	0.17243	0.03382

Source: IBM SPSS, author's calculation

In the above table N=26 which represents the total respondent/sample size taken from the private universities. The comparison of means showed that from the hybrid skills set, the soft skills are more valued and attainted by the private sector teaching professionals of Peshawar, KP.

The following table 4.2.7 showed the One-way ANOVA results applied to the data of the all universities.

Table 6.6 One-way ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
Soft skills	Between Groups	0.031	1	0.031	1.181	0.282
	Within Groups	1.315	50	0.026		

	Total	1.346	51			
Hard skills	Between Groups	0.087	1	0.087	3.028	0.088
	Within Groups	1.434	50	0.029		
	Total	1.521	51			

Source: IBM SPSS, author's calculation

In the above table 4.2.7, the p-value for both the soft skills and hard skills are more than the significance level 0.05, i.e. for soft skills the value is 0.282 and hard skills are 0.088 which more than the significance level set at 0.05.Thus, it means that both skills namely soft skills and hard skills are equally important to the professional in the private as well as the public universities in Peshawar, KP.

It is therefore concluded that both skills namely soft skills and hard skills are equally important to the professional in the private as well as the public universities in Peshawar, KP.

The level of economic/monetary benefits attained upon acquiring soft as well hard skills from the hybrid skills set by the teaching professionals in both private and public universities in the Peshawar, Khyber PakhtunKhwa.

According to Burning Glass, "the first and the most profound finding is that high-paying jobs of the future are more complex as well as multidisciplinary and what Burning Glass calls hybrid" (Sigelman *et al.*, 2018).

The tests run showed the independent t-test applied to know which of the skill contributes more to the monetary upgrading of the teaching professionals.

By looking at the calculations received, it is clear that soft skills have bigger mean value of 2.52 when compared to the hard skills mean of 2.08. It is easily comprehended that teaching faculty has accrued monetary benefits by investing in attainment of the soft skills.

The third objective of the present study was to analyze the level of economic benefits attainted upon acquiring the hybrid skills to the teaching faculty professionals in public and private universities in Peshawar region of KP. This learning could be attainted through various measure like "trainings" (Tahir *et al.*, 2014), upon doing certified courses, "internships"(Patacsil & Tablatin, 2017) and the "higher education" (Sigelman *et al.*, 2018). The present study tends to find the actual benefits upon acquiring the hybrid skills. The frequency table was used to find out the various important sources of the hybrids skills.

a. Descriptive statistics:

The following table shows the frequency table highlighting various important sources

Table Frequency table of soft skills

Soft skills	Frequency	Percent	Cumulative Percent
1. Agile thinking			
training/job	7	11.7	13.5
higher education	43	71.7	96.2
online learning	2	3.3	100.0
2. Interpersonal communication			
training/job	43	71.7	82.7
Internship	8	13.3	98.1
higher education	1	1.7	100.0

Soft skills	Frequency	Percent	Cumulative Percent
3. Critical thinking			
training/job	6	10.0	11.5
higher education	44	73.3	96.2
online learning	2	3.3	100.0
4. Decision making			
training/job	38	63.3	73.1
higher education	14	23.3	100.0
5. Negotiation			
training/job	34	56.7	65.4
Internship	3	5.0	71.2
higher education	15	25.0	100.0
6. Team work			
training/job	36	60.0	69.2
Internship	3	5.0	75.0
higher education	13	21.7	100.0
7. Collaboration			
training/job	36	60.0	69.2
Internship	1	1.7	71.2
higher education	14	23.3	98.1
online learning	1	1.7	100.0
8. self confidence			
training/job	35	58.3	67.3
higher education	15	25.0	96.2

Soft skills	Frequency	Percent	Cumulative Percent
online learning	2	3.3	100.0
9. management			
training/job	12	20.0	23.1
Internship	1	1.7	25.0
higher education	39	65.0	100.0
10. leadership			
training/job	41	68.3	78.8
Internship	4	6.7	86.5
higher education	7	11.7	100.0
11. work ethics			
training/job	38	63.3	73.1
Internship	1	1.7	75.0
higher education	13	21.7	100.0

Source: IBM SPSS

The above table 6.4.1 showed that higher education was the main source of acquiring agile thinking, critical thinking and self-management, whereas the on the job trainings were prominent source when it came to interpersonal communication, decision making, negotiation, team work, collaboration, self-confidence, leadership, and work ethics acquired by the teaching professional in public and private universities in Peshawar, KP.

Table 6.4.1Frequency table of hard skills

Hard skills	Frequency	Percent	Cumulative Percent

Hard skills	Frequency	Percent	Cumulative Percent
1. public speaking			
training/job	38	63.3	73.1
higher education	14	23.3	100.0
2. Record keeping			
training/job	32	53.3	61.5
Internship	3	5.0	67.3
higher education	17	28.3	100.0
3. Curriculum development			
training/job	39	65.0	75.0
Internship	1	1.7	76.9
higher education	9	15.0	94.2
online learning	3	5.0	100.0
4. Administration			
training/job	39	65.0	75.0
Internship	4	6.7	82.7
higher education	9	15.0	100.0
5. Digital operating skills			
training/job	6	10.0	11.5
Internship	1	1.7	13.5
higher education	6	10.0	25.0
6. Technical skills			
training/job	30	50.0	57.7

Hard skills	Frequency	Percent	Cumulative Percent
Internship	2	3.3	61.5
higher education	5	8.3	71.2
online learning	15	25.0	100.0
7. Data analytics			
training/job	9	15.0	17.3
higher education	40	66.7	94.2
online learning	3	5.0	100.0
8. I.T skills			
training/job	4	6.7	7.7
Internship	1	1.7	9.6
higher education	29	48.3	65.4
online learning	18	30.0	100.0

Source: IBM SPSS.

The above table 6.4.2 showed that among the most important hard skills the, higher education was the main source of acquiring digital operating skills, data analytics and I.T by the teaching professionals of public and private universities in Peshawar, KP. Whereas the on-the-job training was the main source of the public speaking, record keeping, curriculum development, administration work, and technical skills.

Thus, from the above statistical analysis it is concluded mainly all the sources namely job trainings, internships, higher education and online learning do contribute to the built up of the hybrid skills pool acquired by

the teaching professionals of public and private universities of Peshawar, KP.

6 Conclusion

The present research result indicated that the most relevant soft skills were team work, interpersonal communication and self-management which mean that these skills are the most needed by the teaching professionals of the private and public universities of Peshawar, KPK for them on job. Other soft skills were also needed for smooth functioning, but they were not as crucial for sustaining on the current job or getting hired to the new job. The most appreciated as well as demanded hard skills were public speaking/lecture delivering, I.T skills and record keeping, reasons being that these most needed to the teaching professionals, as these are crucial skills needed to get hired. It is therefore concluded that both skills namely soft skills and hard skills are equally important to the professional in the private as well as the public universities in Peshawar, KPK.

Based upon the statistical analysis there is difference in economic/monetary benefits attained upon acquiring soft as well hard skills from the hybrid skills set by the teaching professionals. The teaching professionals of both universities have paid much emphasis on acquiring technology driven soft skills. Thus, it is concluded that the teaching professionals are well aware of the technology driven hybrid skills set and they are equipping themselves accordingly.

The current study enables people to comprehend the kinds of hybrid skills that are prevalent in Peshawar and that job seekers need to acquire in order to find employment, as well as enabling those who are already employed to continue in their existing roles. The current study may contribute to closing the knowledge gap between what academic institutions teach and produce and the capabilities that industry will require in the future.

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