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THE ASSOCIATION BETWEEN FACULTY WISE ENROLLMENT TRENDS IN HIGHER EDUCATION AND EMPLOYMENT OPPORTUNITIES IN PAKISTAN

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Abstract

This research aims to explore the trend of registration in tertiary education and their corresponding employment chances in Pakistan. The research was quantitative in nature and based on admission data (2012-17) from 27 universities, employment advertisement data (2012-17) from four newspapers. The multistage, stratified, purposive, and random sampling techniques were used to collect the data from different sections of the population. Descriptive as well as the inferential statistics was used for the analysis of the data. The results showed that the higher education trend of registration was in the subjects of Basic Sciences. Moreover, maximum employment was presented for the field of Basic Sciences and less employment was published for the subjects of Social Sciences.

Keywords: *Enrollment Trends, Employment Opportunities*

Introduction

It is the education after completing 12 years of education. It continue till Ph.D. Higher education is given in different Colleges, Universities, certified schools, Teacher-Training Schools, Institutes of Law, Technology, Music, Theology, Medicine, Business, and Arts. Tertiary education enlightens the way for the development and success of a nation. It increase the power and finance of a country. It has been preferred to enhance the role to create opportunities for employments and skills (Jung, 2020) and plays an important role in the development of the nation. It covers the financial, discrete, ethnic, and Community welfares and aims to deliver benefits to all these (Ahn, Roijakkers,Fini, &Mortara, 2019). The focus of higher education is not limited to individual benefits rather it affects the individual as well as Social values. It supports to appreciate the Social values, opinions, belief, and Social class (McKinnon, 2017). It develops the intellect, serves the nation, enhances the economy, generates skillful individuals, and prepares them for employments and attractive care**ers.** It is a continuous process by which the knowledge, character, and behavior of individuals are changed (Shen & Ho, 2020) as it guides individual towards the fortune and advancement (Thinley & Hartz-Karp, 2019)**.** The admission of students is increasing at the higher educational levels all over the nations and in Pakistan (Jung, 2020). Students pursue higher education in Pakistan to grab better employment opportunities according to their field of interest. However, students have faced challenges in securing employments according to their specialized fields. This research aims to explore the trend of admission in higher education and their corresponding employment opportunities in Pakistan.

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Objectives of the Study

Following are the core objectives of the current research:

1. To explore admission trends in higher education for different faculties.
2. To explore the employment market by sampling advertisements for the years (2012-17) for available faculties matching them up with admission trends.
3. To get an idea of how enrolling into a certain discipline is associated with a career.

Research Questions

The present research focuses on the following research questions:

1. What is the admission trend at the higher education level?
2. What is the year-wise admission trend in different faculties?
3. Is there any significant difference in the admission trend among different faculties?
4. What is the status of the advertised employments for different faculties?
5. Is there any significant association between the students' admission trend and employment opportunities?
6. Is there any significant association between the students' faculty-wise admission trend and employment opportunities?
7. Is there any gap between the admission trends and the existing employment opportunities?

Literature Review

Tertiary education is given in post-secondary organizations (Dorsch, 2020). Generally, three major types of Degree-awarding institutions are working at higher education levels in the world (Altbach et al., 2019). There are two years community institutions for higher education or junior colleges, undergraduate four years colleges, and the University (Xu, Jaggars, Fletcher, & Fink, 2018). The present system of higher education consists of the sum of interconnecting institutes. These are comprising of the national and provincial departments of education and their involved sections, headquarters of university departments, the Tertiary Education Commission (HEC), and numerous institutions of tertiary education and their colleges. The institutions of tertiary education, administrative boards, which consist of a few Vice-Chancellors, Registrars, and Deans in the decision-making body (Gautam, 2020).

The success of any country lies in presenting the extension of the tertiary education system in the country. As tertiary education was being encouraged throughout the world, it decreased unemployment and increased the progress in the world (Rahman, Farooq, &Selim, 2021). There are many factors in the selection of tertiary education subjects which played a dynamic role in the choices of students. These factors include school experiences; students' selection of subject, student experience to study subjects with close relative's effect, the importance of the subject area, educational environment, and employment opportunities. No doubt, tertiary education was not given so much importance in Pakistan in the past. As tertiary education was being encouraged throughout the world, it decreased unemployment and increased the progress in the world (Rahman, Farooq, &Selim, 2021). A research study conducted in Canada by Mann et al. (2020) found that Natural and Applied Sciences needed 0.6% of employees in 2016 and there was a demand for 0.1% of employees in the Health sector and 0.05% employees in Business Administration. Moreover, employment opportunities increased in the subjects of Basic Sciences, Social Sciences and Physical Sciences like Biology, Physics, Management, and chemistry the admission has increased in the public and private tertiary education organizations (Choudaha & van Rest, 2018).

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Similarly, Zatsiorsky, Kraemer, and Fry (2020)found that the well-educated people of the world were taking interest in training related to employments at the tertiary education level, or making a strong association between employment and tertiary education. Moreover, another study described that Sciences Degree provided the chances of good employments in the future. The subjects related to the Basic Sciences were specific for the purpose of getting attractive employments like Physics, Medicine, Technology and Chemistry Technicians (Southwick & Charney, 2018). Likewise, another research study found that the maximum employments were for the graduates of Science, Technology, Engineering, and Math (STEM) (JOBS, 2020).

Moreover, another study found that the students with Arts degrees did not get an employment as compared to Science graduates. Arts Degree holders had to wait for the employment or they failed to get the employment soon (Rohde, France, Benedict, and Godwin , 2020). Similarly, Rohde et al. (2020) stated that the students of Arts, Management, and Political Science did not get employments after getting the Degree for three years. Moreover, another study related to Science and Arts graduation degree holders shows that the employment rate among the male Science graduates is very low as compared to the Arts and Business. Moreover, there is a need to focus on the real situation of employment opportunities for the graduates. RissleR, Hale, Joffe, and Caruso (2020) found that graduates of IT and Computers could not get employments after six months of completing their Degree. Moreover, a study conducted by Colombo and Piva (2020) found that Engineering, Building, and Management degree graduates got very rare employments during the last six months of completing their degree. The same study also found that 33.2%, 29.8%, 17.6%, 2.4%, and 8.4% of graduates from Science, Physics, Chemistry, MEd, and Mathematics graduates were enrolled in these subjects respectively. Furthermore, the same study found that (46.7%) of Arts graduates were doing employments in the field of Arts, Culture or Sports, Design, Commercial Artists (3.3%), Fine artists (7%), Web designers (1.9%), the product of cloth and its Engineers (3.2%), Photojournalists (2.7%), melodious instrument players (2.6%). Moreover, (11.1%) of sports graduates were doing employments as a teacher, (and 7.6%) of graduates were doing employments in the Management area.

Material and Method

Data regarding admission trends were obtained from Registrars of the universities. This data was archival and was extracted using their tables and figures. Secondly, employment advertisement data collected from four newspapers were also descriptive and requires a descriptive design.

Population

The study comprised of 8667 students who were enrolled in one general category university of the province of Punjab during the semester of Fall 2017 and all the students who had passed their sixteen years of education from a public sector university and currently working in any public sector organization.

Sample

Two newspapers published in Urdu and two newspapers published in the English language were selected as the data source for the employment opportunities in the public sector. Moreover, only the employment advertisements published on Sunday in the sampled newspapers were considered for the study.

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Results and Discussions

Section 1. Enrollment Data

Table 4.1 *Admission Data for Six Years (2012-2017) and Gender for Social Sciences, Business Administration and Basic Sciences*

Degree	Faculty	2012	2013	2014	2015	2016	2017	Men	Women	Total
	Basic Sciences	4453	4634	4748	5204	5292	4023	15917	12437	28354
	Social Sciences	2845	3331	3063	5078	4548	3468	8738	13575	22313
	Business Administration	1551	2290	1791	2119	1436	1176	5895	4468	10363
Grand Total	All Faculties			8849	10255	9602	12401	11276	8667	30550
				30480	61030					

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The following graphs summarize the information from table1.

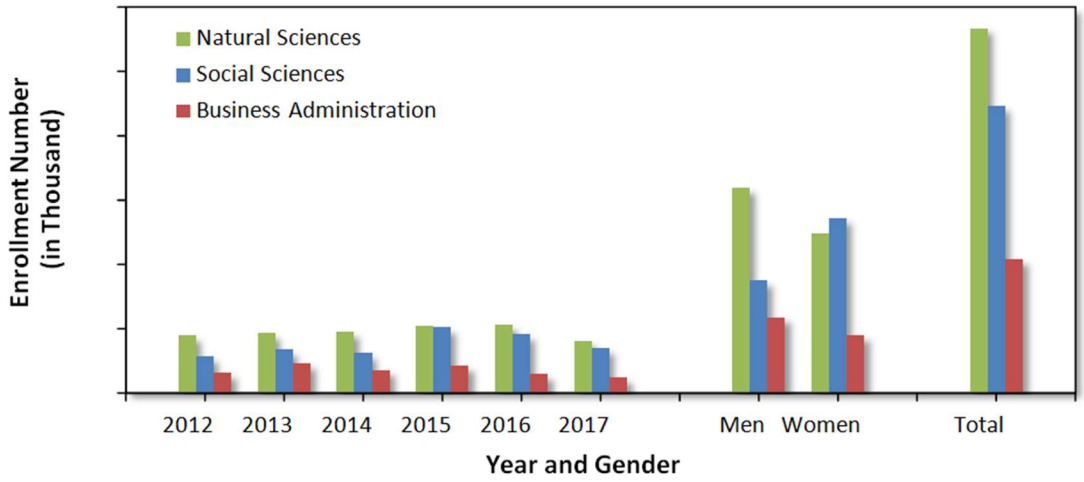

Figure 4.1. Year and gender-wise comparison

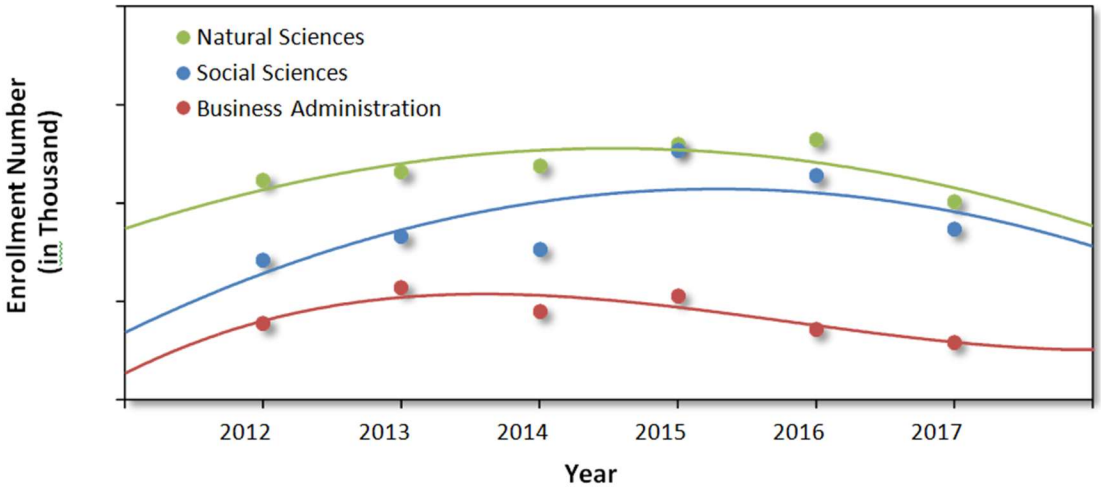

Figure 4.2. Admission trends for the period 2012-17

The above figure shows trends in admissions over six years displaying a rise and fall in admissions for three faculties, for example, admissions in 2015 rose from the previous three years for all faculties and then started todeclinetotheyear2017. One trend in Social Sciences is worth noting, and that is after 2014 the numbers of admissions for Social Sciences were very similar to Basic Sciences

(2015) and remained close to Basic Sciences in2016and2017. The Maximum admission was found in the year 2016 in the Basic

Sciences, And in 2015 for Social Sciences, and in 2013 for the Administrative Sciences.

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Table 4.3 *Comparison of faculty-wise admission trend:*

		ANOVA			
Admission	Squares of Sum	Df	Square Mean	F	Sig
Between Groups	783932.972	2	391966.486	1.480	.234
Within Groups	19333730.975	73	264845.630		
Total	20117663.947	75			

Faculty wise comparison (ANOVA) of total admission over six years (2012-17) also revealed no significant difference ($p > .05$), mean admission for Business Administration ($M = 1727.17$, $SD = 705.72$) was similar to Basic Sciences ($M = 1417.70$, SD=353.73) which was similar to Social Sciences (M=1859.42, SD=1164.86).

Section2: Employment Advertisement Data

As far as the when compare the employment available between diverse faculties, it can be detected that the bulk of employments were available for the graduates of Basic Sciences whereas least employments were available for the graduates of Social Sciences. The association between male and female employment advertisements is revealed in the diagram beneath.

Table 4.4.

Employment Ads in Four Newspapers (2012-17) for Degree and Faculty across Gender

Degree	**Faculty**	**Total**
BS Program	Natural Science	7234
BS Program	Social Science	830
BS Program	Business Administration	1727

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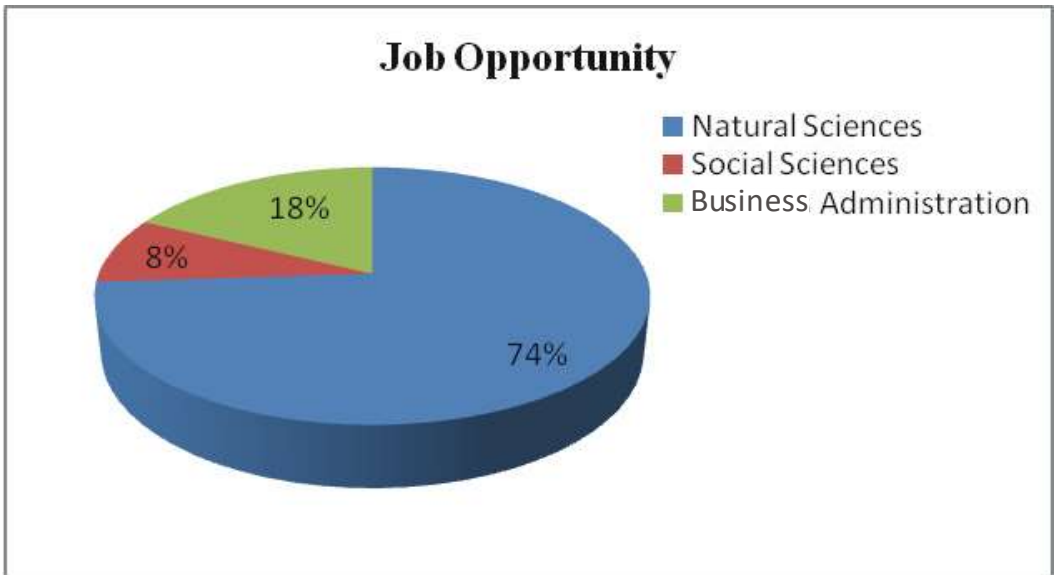

Figure 4.4: Employment opportunities in different fields of study

The above diagram indicates that employment available in different areas of study. It is also clear that 74% of employments were advertised in the area of Basic Sciences; 18% of employments were published in the field of Business Administration whereas only 8% of employments were published in the area of of Social Sciences.

Table 4.5

The association between the students' admission trend and employment opportunities:

	N	Pearson r	Sig. (2-tailed)
Admission Employment Opportunity	76	.617	.058

The overhead table reveals the association between the trend of admittance and employment opportunities. It is also clear that there is not a significant association between the employments advertisement and the students' trend of admittance in diverse areas of study (r = -. 617, *p* =. 058>. 05).

Table 4.7

The association between the students' faculty-wise admittance trend and employment opportunities

	Faculty	N	Pearson r	Sig.(2-tailed)
Admission Employment	Social Sciences	24	-.037	.864

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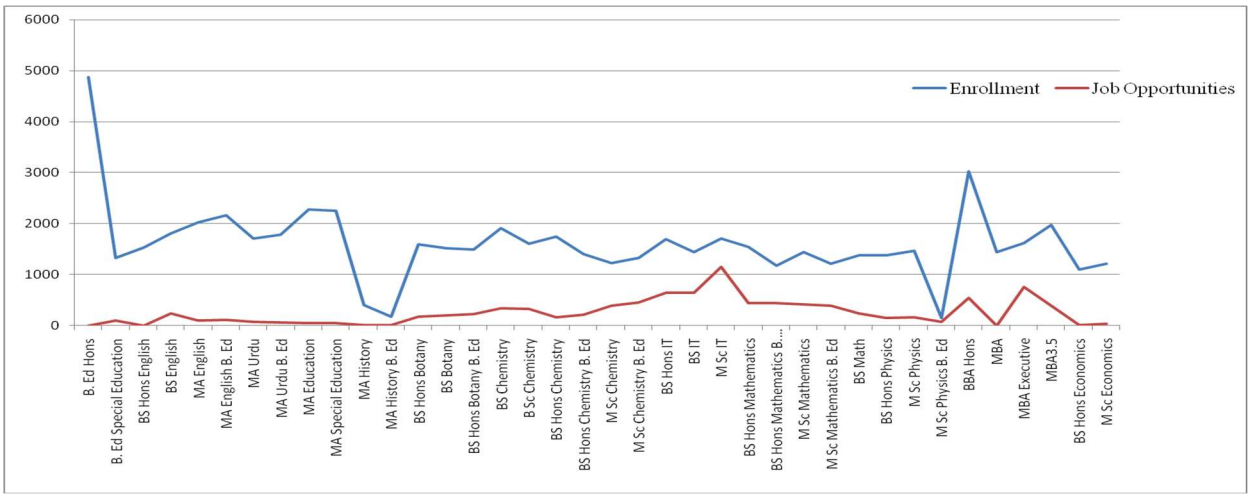
Opportunity				
Admission Employment Opportunity	Basic Sciences	40	.343**	.030
Admission Employment Opportunity	Business Administration	12	.566**	.045

**Correlation is significant at the 0.05 level (2-tailed)

In the given overhead table, the association between the admission trend and employment advertisement based on faculties is described. It shows that for the faculty of Social Sciences, there existed an insignificant correlation (r=-.037, *p*=.864>.05). Whereas for the faculty of Basic Sciences, a significant correlation (r=.343, *p*=.030<.05) between the trend of admission and employment opportunities was found. Similarly, for the faculty of Business Administration a positive correlation (r=.566, *p*=.045<.05) was observed between the trend of admission and the employment opportunities.



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Finally, the next diagram shows the gap between the trends of admission in the tertiary education level and the existing employment opportunities. Likewise, a clear picture of the trend of admission at the university level and the employment opportunities in the marketplace can be seen in the figure below. It shows that for the subjects of Social Sciences, the gap between employments and admission is greater for the Business Administration, this gap is small. There occurred a reasonable, but widespread gap between the employment opportunities and the trend of admission and the faculty of Basic Sciences.

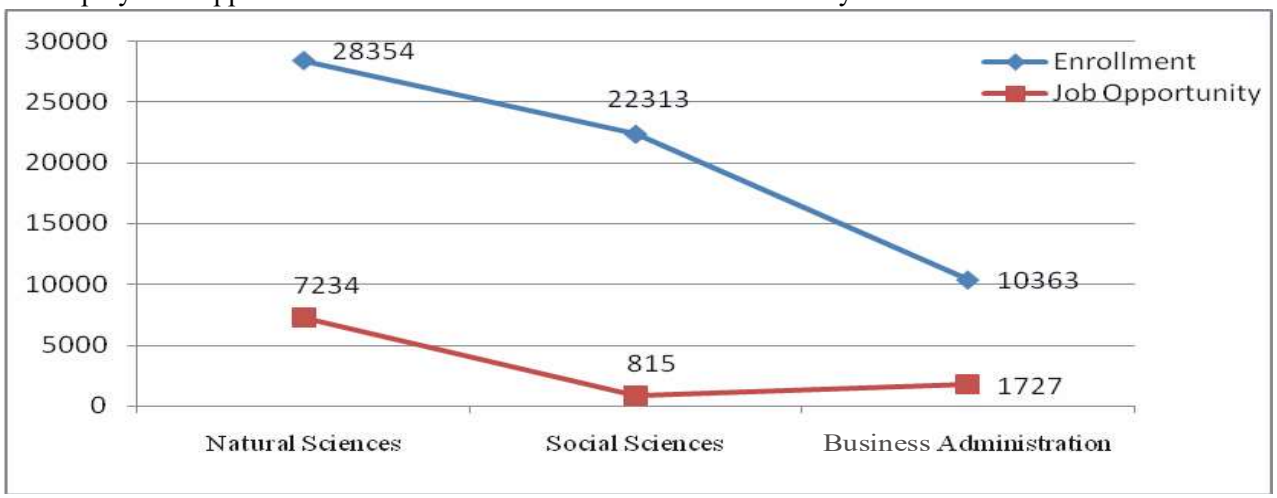

Figure 4.10: Gap between the trends of admission and the existing employment opportunities

Finding

1. The highest admission trend (46%) was observed for the Faculty of Natural Science, whereas the lowermost admission (17%) trend was found in the subjects of Business Administration. In the Faculty of Social Sciences (37%) students were enrolled.
2. During the selected study period, the admission trend was the highest for the Basic Sciences in 2016 (5292), for Social Sciences in 2015 (5204), and the Business Administration in 2013 (2290). Similarly, the lowest admission for the selected period was observed in Basic Sciences in 2017(4023), for Social Sciences in 2012 (2845), and in the Business Administration in 2017 (1176).
3. It was also found that 74% of employments were published in the field of Basic Sciences, 18% in the field of Business Administration, and 8% in the field of Social Sciences.
4. Similarly, it is found that there was an insignificant association ($r=-.617$, $p=.058>.05$) between the employment published and the students' admission trend in dissimilar fields of study.
5. It is found that for the faculty of Social Sciences, there existed an insignificant co-relation ($r=-.037$, $p=.864>.05$) between the admission trend and the employment opportunities whereas for the Faculty of Basic Sciences, a significant co-relation ($r=.343$, $p=.030<.05$) was found between the admission trend and employment opportunities. Similarly, for the faculty of Business Administration a strong and positive co-relation ($r=.566$, $p=.045<.05$) was observed between the admission trend and the employment opportunities.

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6. In the same way, the association between the area of study and employment advertisement based on Faculty shows that for the faculty of Social Sciences, there existed insignificant co-relation (r=-.462, *p*=.000<.05) whereas for the faculty of Basic Sciences, a significant and negative correlation between the admission trend and employment opportunities was found (r=-.096. *p*=.000<.05). Similarly, for the faculty of Business Administration a strong and positive co-relation (r=.410, *p*=.000<.05) was observed between the admission trend and the employment opportunities for the University graduates.
7. It was found that for the subjects of the Social Sciences, the gap between the published employments and admission trend was the maximum whereas, for the Business Administration, there is a minimum gap. There existed a moderate, but wide gap between the employment opportunities and the admission trend and the Faculty of Basic Sciences.

Conclusion

1. The highest admission trend was found in Basic Sciences and the lowest admission trend was found in the Business Administration. No difference was found in the admission trend among different faculties. Over the six years of the study period, the admission trend in all the subjects was consistent.
2. It was also found that maximum employments were published in the field of Basic Sciences, Moderate employments were published in the field of Business Administration, and lowest employments were published in the field of Social Sciences.
3. It is found that there was an insignificant association between the employment published and the admission trend in different areas of study.
4. It is found that for the faculty of Social Sciences, there existed an insignificant co-relation between the admission trend and the employment opportunities whereas for the Faculty of Basic Sciences, a significant co-relation was found between the admission trend and employment opportunities. Moreover, for the faculty of Business Administration a strong and positive co-relation was observed between the admission trend and the employment opportunities.
5. The maximum employment gaps between the admission trend and the employment opportunities existed in the field of Social Sciences whereas, for the Business Administration, this gap was relatively small. But for the Faculty of Basic Sciences, the gap was moderate.

Discussion

The present research found that the maximum admission trend at the Tertiary Education level was found in the subjects of Basic Sciences and the minimum admission trend was found in the subjects of Business Administration. Over the six years of the research period, the admission trend in all the subjects was consistent. The results of the study were also supported by Sithole et al. (2017) found that maximum admission was found in the subjects of Basic Sciences. Another study found by Altbach et al. (2019) also supported the results of the research study by exploring that more than sixty percent of the admissions were noted in the Science subjects. Contrary, to the findings of the research, it was proposed McNally (2020) that more admissions were found in the field of Social Sciences and there were fewer admissions in the Faculty of Natural Science. Similarly, the contradiction was also noted by Kumar, Kumar, Palvia, and Verma (2019) found that more admissions were noted in the faculty of Business Administration. Moreover, Pratiwi (2019) also did not agree with the findings of study at hand that admissions for the subjects of Natural Science subjects were low. Likewise, another research study K. M. Cooper, Downing, and Brownell (2018) described that the admissions in Natural Science subjects and Technology were

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decreasing and this situation was not suitable for the Science subjects. Similarly, Rouwendal (2020) agreed that more employments were pushed in the faculty of Basic Sciences. Moreover, fewer employments were published for the Faculty of Arts and Social Sciences, Public Policy, and Education. Furthermore, Sassler, Glass, Levitte, and Michelmore (2017) agree with the results of the present research that more employments were published in the faculty of Basic Sciences.

Moreover, Braun et al. (2020) also refuted the research that more employments were published for the Faculty of Basic Sciences. Furthermore, Easton and Van Laar (2018) supported that more subject-related employments were published for males. Likewise, Rothera (2020) supported the results of the research that 16% of the individuals were doing employments irrelevant to their subjects. Similarly, Espinoza et al. (2019) did not support the results of the research that the published employments were not according to their subjects. In the same way, Ningrum et al. (2020) described that the employments were publicized for Natural Science subjects. But Social Science-related employments were not published according to the subjects that the graduates studied at the university level which was contradicted the present study to some extent. Furthermore, Rios et al. (2020) found different results that very few Social Sciences and Business Administration-related employments were published.

Recommendations

By exploring the objectives and the facts developed in this research, the following recommendations are put forward for the consideration of policy-makers.

1. The study found out that the students opt for a subject of study depending upon the public trend instead of their talents. The interested students should be guided to select the area of study at the tertiary education level as per their interest instead of the public trend which is the glamorous field.
2. In selecting the profession, the university graduates should consider their interests, subjects, and ability in choosing their career that particularly involve the subjects of Basic Sciences, Business Administration, Arts, and Social Sciences.

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