

Information Sources Preferences of Postgraduate Students at University Level

Muhammad Yousuf ¹, Dr. Muhammad Shahid Farooq ², Muhammad Jawad ³

¹ Lecturer, BS Block, Public School and College, Skardu. Email: yousuf.academics@gmail.com

² Professor & Chairman DASE, IER, University of the Punjab, Lahore. Email: shahid.ier@pu.edu.pk

³ Graduate, Department of English, National University of Modern Languages, Islamabad. Email: jawad.academic@gmail.com

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Abstract

The study aimed at identifying the information source preferences (ISP) of postgraduate students at University of the Punjab, Lahore (PU). The researchers investigated the differences in students' ISP with respect to gender, GPA, level of study, locale and use of social media. Population of the study comprised postgraduate students of PU. 330 postgraduate students were selected as the population of study using Yamane formula with margin of error of 0.05. Descriptive research design was applied. Information Seeking Behavior Questionnaire (ISBQ) was used to collect data and was analyzed using statistical software. Firstly, information source preference was analyzed as general then differences were measured based on demographic variables through frequencies, means, percentages, t-test, and one-way ANOVA. Most preferred information source was Journal Articles (Mean=4.69) as 71.5% students always consult and 26.1% often consult Journal Articles followed by Books (Mean=4.20) and Conference Proceeding (Mean=4.13). It also found that Encyclopedia was not much preferred by the postgraduate students (Mean=3.37). The PhD scholars were slightly behind than MPhil scholars in consulting Books, Theses & Dissertations and Reports. It is recommended to provide training sessions to the PhD scholars and postgraduate students with backgrounds from private institutions on relevant and updated information sources.

Keywords: Information source consulted, searching behavior, preferred information sources, postgraduate's information preferences.

Introduction

Rapid innovations in technology and knowledge explosion makes it hard for the students of 21st century to learn and understand all the existing literature relevant to their field of study. These changes swiftly effects the information source preferences (ISP) of students (Nasution et al., 2018; Ocepek, 2018; Spezi, 2016; Sycz-Opoń, 2019; Ye, 2022).

Information seeking behavior is the totality of actions and responses of the student in order to search, locate, gather and extract relevant information from different information sources in order to satisfy their information need (Kuhlthau, 2008). This starts with the identification of a gap in their learned previous understanding of the targeted topic. Therefore, they take some decisions in order to fill those gaps including decision to start information seeking, consult more relevant information source (IS), application of valid searching strategies and decision to close the information seeking process (Akanbi, 2022; Spezi, 2016).

A person's preference is a greater liking for one alternative over another alternatives (Merriam-Webster, 2019), in this case the available IS will be the alternative and the IS with greater liking compared to the other available sources would be the information source preferences (ISP). The aim of ISP is to support learning activities by providing relevant information to satisfy the information need. Promoting relevant ISP directly promotes sort of learning which helps in the transformation of a dependent learner into an independent learner (Boyum & Aabo, 2015; Nasution et al., 2018; Rowlands et al., 2008; Scheel, 2022; Sycz-Opoń, 2019). Educators considered effective selection of valid IS is necessary to ensure retrieval of quality information. Research established a firm association between ISP and learning (Kuhlthau, 2008), and considered the process of information seeking as a mode of learning (Kuhlthau, 2008; Lone, Mir & Ghanie, 2017; Selwyn & Gorard, 2016).

Wilson (2000) revealed a significant association between students' professional knowledge and professional skills and the ISP. Student's information about different IS, ways of citing an IS, the format of their work, and the approaches of their academic writing control their ISP. Some studies discovered that students generally prefer to consult more than one IS such as books, articles, authorities etc., and take it as superior way to seek information (Elsharnouby, 2015; Sycz-Opoń, 2019; Wilson, 2000). According to Lone, Mir and Ganie (2017), problems to access the relevant information are; expensiveness of relevant information and limited library coverage. Another study reveals that PhD students use electronic sources of books, articles for collecting data (Boyum & Aabo, 2015). Annalaura Carducci et al. (2019) identified internet as the most preferred information sources at 77.7%. Use of internet and information source preferences moderates the social motivation of students (Ye, 2022).

It is reported that the student found to be accessing multiple IS are also better performing academically than the others (Meyer et al., 2008; Muydinovich, 2022) and established the importance of teaching the ways of searching and retrieving relevant information like best electronic and library sources, valid journals, quality authors, appropriate databases, etc. (Howlader & Islam, 2019; Sycz-Opoń, 2019) which may benefit them in academically.

Study of Nazir (2015) and Soni et al., (2018) identified 21st century ISP of research scholars. They found electronic IS mostly dominating among the researchers. Furthermore, books, journals, thesis & dissertation and online databases which are electronically available are considered as the main IS. The case of PhD students are slightly different than other students as they use both library and Google Scholar while consulting an information (Boyum & Aabo, 2015).

Different students use different strategies to search information such as straight topic specific titles or chaining information (Winne, 2022; Zhong et al., 2018), if they are slow in identification of keywords and application of searching strategies like Boolean then they rely on less relevant information sources (Ballouk, 2022; Currie et al., 2010). Proper instruction of information seeking and selection of relevant sources improves their academic success and learning engagements (Shao & Purpur, 2016). Vance et al. (2012) study on how library instruction influence students' success, experiences higher GPA of instructed students compared to those uninstructed. Majority of students are now started using social media for information searching after COVID-19 (Akanbi, 2022; González-Padilla & Tortolero-Blanco, 2020).

Kuhlthau developed information search process model (ISPM) in 1993 by considering information search as a process comprised of some practical actions to collect and understand relevant information to answer the encountered problem. This model tries to cover the feelings, thoughts and actions of information seekers during the course of information searching, common to each stage of model which are initiation, selection, exploration, formulation, collection and presentation (Fitzgerald, 2018)

The assessment and retrieval of valid information is becoming very tougher for students day by day due to rapid increase in the literature. The quantity and quality of available source, new searching techniques and online protocols are also changing rapidly causing inconvenience for new researcher while selecting the best amongst them. So it is necessary to address their behavior, knowledge, and perspective concerning these areas which may impact their academic performance. Hence, this study investigated the ISP of postgraduate students at PU.

Objectives of the Study

The objectives of research were to:

1. Identify the information source preferences of postgraduate students at university level.
2. Compare the information source preferences of postgraduate students based on gender, GPA, level of study, locale and use of social media.

Hypothesis

H₀1: There is no statistical difference between ISP scores based on postgraduate students' gender.

H₀2: There is no statistical difference between ISP scores based on postgraduate students' level of study.

H₀3: There is no statistical difference between ISP scores based on postgraduate students' GPA.

H₀4: There is no statistical difference between ISP scores based on postgraduate students' locality.

H₀5: There is no statistical difference between ISP scores based on postgraduate students' use of social media.

Research Methodology

Research Design

Descriptive research method under the quantitative approach was used in this research to identify the information source preferences of postgraduate students at university level.

Participants of the Study

The population of the study were postgraduate students studying at University of the Punjab (session 2018-2019). 330 postgraduate students were selected as the population of study using Yamane formula with margin of error of 0.05 through random sampling (as cited in Singh & Masuku, 2014)

Research Instrument

Information Seeking Behaviour Questionnaire (ISBQ; Yousuf, 2019) based on Five-point Likert scale with reliability value of .872 was used to collect data.

Data Analysis and Interpretation

Descriptive statistics [i.e. mean, standard deviation, percentages] and inferential statistics [T-test and ANOVA] were applied to investigate the ISP of postgraduate students at PU and variation in ISP based on demographical variable.

Data Analysis and Interpretation

Descriptive Statistics of Postgraduate Students' ISP

Table 1

Information sources consulted by Postgraduate Students (N=330)

Sr. #	Consulted Source	Mean	%ages				
			Never	Rarely	Sometimes	Often	Always
1	Overall ISP	3.81	.7	8.2	28.7	34.0	28.4
2	Book	4.20	.6	1.2	16.1	42.1	40.0
3	Article	4.69	.0	.0	2.4	26.1	71.5
4	Thesis & Dissertations	3.79	.4	4.2	31.8	43.0	20.6
5	Official Docs	3.50	1.2	11.2	37.9	36.1	13.6
6	Reports	3.47	.0	11.3	44.2	30.6	13.9
7	Conference Proceedings	4.13	.9	3.0	24.2	25.8	46.1
8	Encyclopedia	3.37	1.8	14.8	40.6	29.7	13.0
9	Dictionaries	3.51	.9	14.5	36.7	28.8	19.1
10	Directories	3.64	.6	13.4	24.8	43.6	17.6

The ISP of the postgraduate students is good (Mean = 3.81, Often=34%, Always=28.4%). The ISP scores for Articles (Mean=4.69, Often=26.1%, Always=71.5%), Books (Mean=4.20, Often=42.1%, Always=40.0%) and Conference Proceedings (Mean=4.13, Often=25.8%, Always=46.1%) are respectively higher while ISP scores for Encyclopedias is lowest (Mean=3.17, Often=29.7%, Always=13.0%). Articles are the most preferred information source by the postgraduate students.

Demographical Variations in Postgraduate Students' ISP

Table 2

ISP of Postgraduate Students based on Gender (N=330)

Sr. #	Consulted Source	Gender	Mean	%ages				
				Never	Rarely	Sometimes	Often	Always
1	Book	Males	4.08	.6	2.3	21.1	40.6	35.4
		Females	4.33	.6	.0	10.3	43.9	45.2
2	Article	Males	4.66	.0	.0	2.9	28.0	89.1
		Females	4.72	.0	.0	1.9	23.9	74.2
3	Thesis & Dissertations	Males	3.76	.6	5.7	30.3	44.0	19.4
		Females	3.83	.0	2.6	33.5	41.9	22.0

4	Official Docs	Males	3.41	1.1	14.3	38.3	35.4	10.9
		Females	3.60	1.3	7.7	37.4	36.8	16.8
5	Reports	Males	3.42	.0	10.9	48.0	29.7	11.4
		Females	3.54	.0	11.6	40.0	31.6	16.8
6	Conference Proceedings	Males	4.09	1.7	4.0	24.6	23.4	46.3
		Females	4.18	.0	1.9	23.9	28.4	45.8
7	Encyclopedia	Males	3.32	2.9	14.9	40.6	30.9	10.9
		Females	3.43	.6	14.9	40.6	28.4	15.5
8	Dictionaries	Males	3.43	1.1	15.4	39.4	26.9	17.1
		Females	3.59	.6	13.5	33.5	31.0	21.4
9	Directories	Males	3.63	1.1	12.0	25.1	46.2	15.4
		Females	3.66	.0	14.8	24.5	40.6	20.1

To compare the ISP of postgraduate students on the basis of gender, descriptive analysis (means and percentages) was applied. Result of descriptive analysis shows that female students seemed to be more consulting all the aforementioned information sources than male students. A substantial difference in mean scores of the following information sources preferred by females [Books (Means=4.33), Official Docs (Means=3.60) & Dictionaries (Means=3.59)] were projected by the data than male students [Books (Means=4.08), Official Docs (Means=3.41) & Dictionaries (Means=3.43)]. Further responses on always consulted an information source was calculated and results revealed higher percentages for Articles (Males=89.1%, Female=74.2%), and lowest percentage for Always scored by Male for Encyclopedia and Official Docs (10.9%) indicating the regular preference of these information sources by the postgraduate students for their studies.

Table 3

ISP of Postgraduate Students based on Level of Study (N=330)

Sr. #	Consulted Source	LoS	Mean	%ages				
				Never	Rarely	Sometimes	Often	Always
1	Book	MPhil	4.22	.4	.8	15.4	43.2	40.2
		PhD	4.11	1.4	2.8	18.3	38.1	39.4
2	Article	MPhil	4.69	.0	.0	3.1	24.3	72.7
		PhD	4.68	.0	.0	.0	32.4	67.6
3	Thesis & Dissertations	MPhil	3.83	.4	5.0	28.6	43.2	22.8
		PhD	3.66	.0	1.4	43.6	42.3	12.7
4	Official Docs	MPhil	3.49	1.2	11.6	37.5	37.1	12.6
		PhD	3.54	1.4	9.9	39.4	32.4	16.9
5	Reports	MPhil	3.50	.0	9.7	45.1	3.5	14.7
		PhD	3.37	.0	16.9	40.8	31.0	11.3
6	Conference Proceedings	MPhil	4.12	1.2	3.1	23.6	26.5	45.6
		PhD	4.15	.0	2.8	26.8	22.5	47.9
7	Encyclopedia	MPhil	3.36	2.3	15.4	40.2	28.2	13.9
		PhD	3.42	.0	12.6	42.3	35.2	9.9
8	Dictionaries	MPhil	3.48	1.2	15.1	36.7	28.6	18.6
		PhD	3.59	.0	12.7	36.6	29.6	21.1
9	Directories	MPhil	3.62	.8	15.1	25.1	39.8	19.2
		PhD	3.37	.0	7.0	32.9	57.8	11.3

To compare the ISP of postgraduate students on the basis of LoS, descriptive analysis (means and percentages) was applied. Result of descriptive analysis shows that MPhil students seemed to be

more consulting Books (Mean=4.22), Articles (Mean=4.69), Thesis & Dissertations (Mean=3.83), Reports (Mean=3.50) and Directories (Mean=3.62) than PhD students. While PhD students' scores are higher than MPhil students in Official Docs (Mean=3.54), Conference Proceedings (Mean=4.15), Encyclopedia (Mean=4.15) and Dictionaries (Mean=3.59). A substantial difference was found for the responses on always consulted an information source revealed higher percentages for Articles MPhil=72.7%, PhD=67.6%) and lowest percentage for Always scored by Encyclopedia (PhD=9.90%) indicating the regular preference of these information sources by the postgraduate students for their studies.

Table 4

ISP of Postgraduate Students based on Locale (N=330)

Sr. #	Consulted Source	Locale	Mean	%ages				
				Never	Rarely	Sometimes	Often	Always
1	Book	Rural	4.15	1.2	2.4	12.2	48.8	35.4
		Sub-Urban	4.30	.0	.0	14.9	40.4	44.7
		Urban	4.16	.6	1.3	18.8	39.7	39.6
2	Article	Rural	4.70	.0	.0	2.4	25.6	72.0
		Sub-Urban	4.74	.0	.0	2.1	21.3	76.6
		Urban	4.66	.0	.0	2.6	29.2	68.2
3	Thesis & Dissertations	Rural	3.79	1.2	1.2	32.9	46.4	18.3
		Sub-Urban	3.93	.0	3.2	25.5	46.8	24.5
		Urban	3.71	.0	6.5	35.1	39.0	19.4
4	Official Docs	Rural	3.59	.0	9.8	34.1	43.9	12.2
		Sub-Urban	3.46	3.2	8.5	43.6	28.7	16.0
		Urban	3.47	.6	13.6	36.4	36.4	13.0
5	Reports	Rural	3.39	.0	9.8	51.2	29.2	9.8
		Sub-Urban	3.60	.0	11.7	36.2	33.0	19.1
		Urban	3.44	.0	11.7	45.5	29.8	13.0
6	Conference Proceedings	Rural	3.93	.0	3.6	35.4	25.6	35.4
		Sub-Urban	4.26	1.1	2.1	20.2	23.4	53.2

		Urban	4.16	1.3	3.2	20.8	27.3	47.4
7	Encyclopedia	Rural	3.38	.0	12.2	45.1	35.4	7.3
		Sub-Urban	3.44	1.1	18.1	36.2	25.5	19.1
		Urban	3.33	3.2	14.3	30.9	29.3	12.3
8	Dictionaries	Rural	3.45	.0	13.4	42.7	29.3	14.6
		Sub-Urban	3.59	2.1	10.6	35.1	30.9	21.3
		Urban	3.49	.6	17.5	34.4	27.3	20.2
9	Directories	Rural	3.52	.0	15.9	23.2	53.6	7.3
		Sub-Urban	3.64	2.1	13.8	21.4	43.6	19.1
		Urban	3.71	.0	11.7	27.9	38.3	22.1

To compare the ISP of postgraduate students on the basis of locality, descriptive analysis (means and percentages) was applied. Result of descriptive analysis shows that students of sub-urban background seemed to be more consulting Books (Mean=4.30), Articles (Mean=4.74), Thesis & Dissertations (Mean=3.93), Reports (Mean=3.60), Conference Proceedings (Mean=4.26), Encyclopedia (Mean=3.44) and Directories (Mean=3.59) than students of rural and urban backgrounds. While students rural background scored higher in Official Docs (Mean=3.59) than others and students with urban background seemed to more preferring directories (Mean=3.71)) than others. Further a huge difference was found for the responses on always consulted an information source revealed higher percentages for Articles (Rural=72.0%, Sub-urban=76.6%, Urban=68.2%), and lowest percentage for Always scored by Encyclopedia (Rural=7.3%) and Directories (Rural=7.3%) indicating the regular preference of these information sources by the postgraduate students for their studies.

Table 5

ISP of Postgraduate Students based on GPA (N=330)

Sr. #	Consulted Source	GPA	Mean	%ages				
				Never	Rarely	Sometimes	Often	Always
1	Book	<= 3.44	4.15	.0	1.5	18.4	43.5	36.6
		3.441-3.670	4.21	1.0	.0	14.4	46.5	38.1
		>3.670	4.25	1.0	2.0	14.7	36.3	46.1
2	Article	<= 3.44	4.63	.0	.0	5.3	26.7	68.0
		3.441-3.670	4.73	.0	.0	1.0	24.7	74.3
		>3.670	4.74	.0	.0	.0	26.5	73.5
3	Thesis & Dissertations	<= 3.44	3.69	.0	7.6	32.9	42.7	16.8
		3.441-3.670	3.88	.0	2.1	35.1	36.1	26.7

4	Official Docs	>3.670	3.85	1.0	2.0	27.5	50.0	19.5
		<= 3.44	3.52	.8	7.6	42.0	38.2	11.4
		3.441-3.670	3.48	1.0	13.4	35.1	37.1	13.4
5	Reports	>3.670	3.48	2.0	13.6	35.3	32.4	16.7
		<= 3.44	3.50	.0	9.2	44.3	33.5	13.0
		3.441-3.670	3.47	.0	10.3	43.3	35.1	11.3
6	Conference Proceedings	>3.670	3.43	.0	14.7	45.2	22.5	17.6
		<= 3.44	4.11	.8	3.8	28.2	17.6	49.6
		3.441-3.670	4.15	1.0	1.0	23.8	29.9	44.3
7	Encyclopedia	>3.670	4.13	1.0	3.9	19.6	32.4	43.1
		<= 3.44	3.39	.8	14.5	42.0	30.5	12.2
		3.441-3.670	3.44	3.1	10.3	38.1	36.1	12.4
8	Dictionaries	>3.670	3.28	2.0	19.6	41.2	22.5	14.7
		<= 3.44	3.62	.0	13.7	32.1	32.8	21.4
		3.441-3.670	3.58	.0	12.4	39.2	26.8	21.6
9	Directories	>3.670	3.29	2.9	17.6	40.3	25.5	13.7
		<= 3.44	3.60	.0	16.0	25.2	42.0	16.8
		3.441-3.670	3.70	1.0	10.3	24.7	45.4	18.6
		>3.670	3.65	1.0	12.7	24.5	44.1	17.6

To compare the ISP of postgraduate students on the basis of GPA, descriptive analysis (means and percentages) was applied. Result of descriptive analysis shows that students with >3.670 GPA seemed to be more consulting Books (Mean=4.25) and Articles (Mean=4.74) than students with 3.441-3.670 and <= 3.44 GPA. While students with 3.441-3.670 GPA seemed to more preferring Directories (Mean=3.70), Encyclopedia (Mean=3.44), Conference Proceedings (Mean=4.15), and Thesis & Dissertations (Mean=3.88) than students with <= 3.44 and >3.670 GPA. Further students with <= 3.44 GPA preferred Dictionaries (Mean=3.62), Reports (Mean=3.50) and Official Docs (Mean=3.52) more than students with 3.441-3.670 and >3.670 GPA. A substantial difference was found for the responses on always consulted an information source revealed higher percentages for Articles (<= 3.44=68.0%, 3.441-3.670=74.3%, >3.670=73.5%), and lowest percentage for Always scored by Official Docs (<= 3.44=11.4%) and Encyclopedia (<= 3.44=12.2%, 3.441-3.670=12.4%) indicating the regular preference of these information sources by the postgraduate students for their studies.

Table 6

ISP of Postgraduate Students based on Use of Social Media (N=330)

Sr. #	Consulted Source	USM	%ages					
			Never	Rarely	Sometimes	Often	Always	
1	Book	Always	4.19	.9	1.3	17.4	39.1	41.3
		Sometime	4.21	.0	1.3	13.8	47.5	37.5

		Never	4.27	.0	.0	6.7	60.0	33.3
2	Article	Always	4.70	.0	.0	1.7	26.4	71.9
		Sometime	4.66	.0	.0	3.8	26.3	70.0
		Never	4.67	.0	.0	6.7	20.0	73.3
3	Thesis & Dissertations	Always	3.79	.4	4.7	32.3	40.4	22.1
		Sometime	3.84	.0	2.5	28.8	51.3	17.5
		Never	3.60	.0	6.7	40.0	40.0	13.3
4	Official Docs	Always	3.48	.4	12.8	38.7	34.9	13.2
		Sometime	3.53	3.8	6.3	37.5	38.8	13.8
		Never	3.67	.0	13.3	26.7	40.0	20.0
5	Reports	Always	3.47	.0	11.9	43.8	29.8	14.5
		Sometime	3.49	.0	8.8	47.5	30.0	13.8
		Never	3.47	.0	13.3	33.3	46.7	6.7
6	Conference Proceedings	Always	4.13	.9	4.3	23.0	24.7	47.2
		Sometime	4.16	.0	1.3	23.8	31.3	43.8
		Never	3.93	.0	.0	46.7	13.3	40.0
7	Encyclopedia	Always	3.37	1.7	13.6	43.0	29.8	11.9
		Sometime	3.41	2.5	16.3	36.3	27.5	17.5
		Never	3.27	.0	26.7	26.7	40.0	6.7
8	Dictionaries	Always	3.56	.9	13.2	35.7	29.8	20.4
		Sometime	3.35	1.3	18.8	40.0	23.8	16.3
		Never	3.53	.0	13.3	33.3	40.0	13.3
9	Directories	Always	3.66	.9	13.6	21.3	46.8	17.4
		Sometime	3.64	.0	13.3	46.7	33.3	6.7
		Never	3.33	.0	12.5	31.3	36.3	20.0

To compare the ISP of postgraduate students on the basis of USM, descriptive analysis (means and percentages) was applied. Result of descriptive analysis shows that those students who always USM for their studies seemed to be more consulting Articles (Mean=4.70), Thesis & Dissertation (Mean=3.79), Dictionaries (Mean=3.56) and Directories (Mean=3.66) compared to the students who never USM or sometime USM for their studies. While students who USM sometimes for their studies have higher scores in Encyclopedia (Mean=3.41), Conference Proceedings

(Mean=4.16), Reports (Mean=3.49) and Thesis & Dissertations (Mean=3.84) than others while students who never used USM for their studies seemed to more prefer Official Docs (Mean=3.67) than others. Further a huge difference was found for the responses on always consulted an information source revealed higher percentages for Articles (Never=73.3%), and lowest percentage for Always scored by Report (Never=6.7%), Encyclopedia (Never=6.7%) and Directories (Sometime=6.7%) indicating the regular preference of these information sources by the postgraduate students for their studies.

Comparison of Postgraduate Students' ISP based on Demographics

Table 7

Comparison of ISP based on Gender(N=330).

Gender	N	Mean	SD	t-value	df	Sig. (2-tailed)
Male	175	33.79	4.83	-2.082	328	.038
Female	155	34.88	4.58			

An independent-samples t-test was conducted to compare the ISP scores for males and females. There was a significant difference in scores for males ($M = 33.79$, $SD = 4.83$) and females ($M = 34.88$, $SD = 4.58$), $t\text{-value}(328) = -2.082$, $p = .038$, two-tailed. Therefore, the null hypothesis is rejected.

Table 8

Comparison of ISP based on Level of Study(N=330).

Gender	N	Mean	SD	t-value	df	Sig. (2-tailed)
MPhil	279	34.32	4.74	-.099	328	.921
PhD	71	34.25	4.77			

An independent-samples t-test was conducted to compare the ISP scores for MPhil and PhD students. There was no significant difference in scores for MPhil ($M = 34.32$, $SD = 4.74$) and PhD ($M = 34.25$, $SD = 4.77$), $t\text{-value}(328) = -.099$, $p = .921$, two-tailed. Therefore, the null hypothesis is accepted.

Table 9

Analyses of Variance of Postgraduate Students' Locality on ISP (N=330).

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	55.931	2	27.966		
Within Groups	7737.766	327	22.440	1.246	.289

A one-way between groups analysis of variance was conducted to compare postgraduate students' ISP on USM. USM was divided into three groups (1: Rural; 2: Sub-urban; 3: Urban). There was no statistically significant difference at the $p > .05$ level in ISP scores for the three groups: $F(2, 327) = 1.246$, $p = .289$. Therefore, the null hypothesis is accepted.

Table 10

Analyses of Variance of Postgraduate Students' GPA on ISP(N=330).

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17.160	2	8.580		
Within Groups	7376.537	327	22.558	0.380	0.684

A one-way between groups analysis of variance was conducted to compare postgraduate students' ISP on USM. USM was divided into three groups (1: ≤ 3.44 ; 2: 3.441-3.670; 3: >3.670). There was no statistically significant difference at the $p > .05$ level in ISP scores for the three groups: $F(2, 327) = 0.380$, $p = .684$. Therefore, the null hypothesis is accepted.

Table 11

Analyses of Variance of Postgraduate Students' Use of Social Media on ISP (N=330).

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.295	2	2.648		
Within Groups	7388.402	327	22.595	0.117	0.889

A one-way between groups analysis of variance was conducted to compare postgraduate students' ISP on USM. USM was divided into three groups (1: Always; 2: Sometimes; 3: Never). There was no statistically significant difference at the $p > .05$ level in ISP scores for the three groups: $F(2, 327) = 0.117$, $p = .889$. Therefore, the null hypothesis is accepted.

Discussion and Conclusion

The study identified the information source preferences of postgraduate students at University of the Punjab, Lahore. It is concluded from the results that students highly preferred journal articles while not much preference has been given to Encyclopedias for studies. According to the results, female students have been found to be preferring books, articles, official docs and dictionaries slightly more than male students. Students with sub-urban background are consulting more information sources than rural and urban students. Students with higher GPA prefers more books and articles while students with lower GPA prefers while PhD students are preferring official documents, conference proceedings and encyclopedias. Study of Akanbi (2022) endorsed that student use of social media for their studies and is positively associated with their performance. The finding of this study shows that those who always use social media for study seems to be more preferring articles, thesis and dissertation, dictionaries and directories than other students. While those sometime use social media for study purposes are preferring conference proceedings, thesis and dissertation, reports than other groups. The results revealed variation in students ISP based on gender, GPA, locale, level of study and use of social media. Soni et al.(2018) stated that students prefer electronic books, journals and thesis just because they experience factor of convenience while consulting such electronic sources (Shahid, 2022; Soni, 2018). Such results is supported by the studies whose findings indicated the information source consultations and preference of students (Boyum & Aabo, 2015; González-Padilla & Tortolero-Blanco, 2020; Howlader & Islam, 2019; Spezi, 2016; Soni et al., 2018; Vance et al., 2012; Wang, 2022).

Recommendations

It is recommended to provide training sessions to the postgraduate students with background from University of the Punjab on nature and retrieval of relevant and updated information sources. Use of multiple information sources may be encouraged in order to cultivate the culture of cross-checking and verifying the information sources.

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