

Availability of Needed Information to Educational Administrators in Pakistan: A Survey

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ABSTRACT: This study aimed at exploring the status of needed information and its availability to educational administrators in Pakistan. To achieve these objectives, literature reviews and a questionnaire survey were conducted. For this survey, the educational administrators (i.e., principals of schools and colleges and Registrars/Deans/Chairpersons in universities) were identified as the target population and were selected through cluster sampling. The respondents were from the Punjab Province and Islamabad Capital Territory (ICT). In total, 297 (99%) responses were received and analyzed quantitatively. Recommendations and conclusions were drawn in the light of the findings of this study. The study is the first one of its type that attempted to probe the status of needed information and its availability to educational administrators and planners in Pakistan. The findings of the study can be useful to design information services and facilities for educational administrators not only in Pakistan but also in other countries of the world with similar conditions.

I. Introduction

Our society is undergoing profound and rapid changes as a result of the development of information superhighways. These changes are evident in the economic, social, cultural and political aspects of our society. The digital revolution in information and communication technologies (ICT) has created the platform for a free flow of information, ideas and knowledge

across the globe. This revolution has made a profound impact on the way the world functions and has transformed it to an evolving information society.

The concept of “education” is also changing from the formal and pre-defined curriculum in the industrial society to the life-long learning in today’s information society. Life-long learning certainly reflects a new comprehension of the need for education in society. The "redefinition" seems to be the conceptual answer to the increasingly complex needs and possibilities for development and learning in the information society (Danish Technological Institute, 2003). World Education Forum (2000) reaffirms education as the key to sustainable development, peace and stability within and among countries, thus an indispensable means for effective participation in the societies and economies of the twenty-first century, which are affected by rapid globalization.

The role of educational administrators is very important in this information society. They provide instrumental leadership and manage the day-to-day activities in schools, preschools, day care centers, colleges, and universities. They set educational standards and goals and establish the policies and procedures to achieve them. They also supervise managers, support staff, teachers, counselors, librarians, coaches, and other employees. They develop academic programs, monitor students’ educational progress, train and motivate teachers and other staff, manage career counseling and other student services, administer record-keeping, prepare budgets, and perform many other duties. They also handle relations with parents, prospective and current students, employers, and the community. In an organization, one administrator may handle all these functions. In universities or large school systems, responsibilities are divided among many administrators, each with a specific function (US, Bureau of Labor Statistics, 2008).

Information needs of educational administrators are different according to the level at which information users are operating (national or regional) and the type of decisions they make (planning and strategic, management and supervision, operational, recipients of programs etc.), macro level (policy, planning, strategy development), intermediate level (management and control), and micro level (operations and recipients of programs) (UNESCO, 2006). Thus, the

educational administrators can be divided in three broader categories regarding their information needs and managerial responsibilities. These levels are as followed:

a. Macro Level: administrators at this level are responsible for strategic decisions concerning the planning of the whole of the education system. The category of decisions at this level concerns the general policy and attainable medium- or long-term objectives. More aggregated information is required for setting the objectives on the national, regional or provincial level (Carrizo, Sauvageot & Bella, 2003).

b. Intermediate Level: this level comprises decision-makers who are in charge of management and control of the allocation of resources for an efficient and equitable distribution. This level translates the general objectives into more technical and operational decisions. It, therefore, requires more specific data to detect eventual malfunctions and to optimize the use of resources (Carrizo, Sauvageot & Bella, 2003). The actual project/course manager requires more detailed information on inputs, process and outputs of programs, detailed budgetary information, and impact of the programs, etc. Educators would also require information on educational and pedagogical issues (UNESCO, 2006).

c. Micro Level: corresponds to operational tasks, and to more daily activities, closer to the institution (i.e. school, college or university department). The decision here has local and immediate reach and hence will require more detailed information.

Thus, these three decision-making levels, which sometimes overlap each other at the administrative levels, require distinct information. They are, however, linked because decisions at the macro level would be relevant and efficient in as much as they are based on precise and reliable information gathered from the lower levels. The information system should necessarily integrate these complex relations between the different levels of decision-making to fulfill its role efficiently (Carrizo, Sauvageot & Bella, 2003).

1. Uncovering Information Needs of Educational Administrators

Organizations, more than ever, are concerned about the successful planning and design of computer-based information systems. The concern begins with the correct determination of the critical information needs of top management and other members, and extends to the methods and techniques that will transform these information needs into information systems.

Administrators are a distinct group of information users, whose information needs and preferences are largely conditioned by the demands and context of their work. Their work is open-ended because they have to tackle with a wide range of issues, but also in the sense that many of the problems have no apparent closure in the short-term, their resolution having to unfold over time (Auster & Choo, 1996).

At a planning forum, a few thoughtful policymakers and educational administrators stressed on the need of research on issues related to the inputs and outcomes of education, the structure and process of education, the core of teaching and learning, and the broader context in which education operates. They believed that in order to be effective, research on governance, finance, policymaking, and management must address the issues and questions that decision makers really care about (US, Department of Education, n.d.).

McCracken and Gillespie (n.d.) have pointed out that research findings often fail to reach key decision makers either in the proper form or in time to assist in decision making. Also little is known about major problems, for which educational administrators need information, methods of seeking information used by these decision makers, information normally used, or the criteria employed in selecting information.

Keeping this reality in view, many studies were reviewed by the researchers to determine the pattern of information needs of educational administrators. The general studies related to the administrators/managers/executives helped the researchers in understanding the nature of their responsibilities for which they need information whereas specific studies related to educational administrators helped in understanding the different aspects of educational administrators'

information needs. Consequently, these studies helped in determining the important variables for questionnaire survey, designed for finding educational administrators' information needs for the study underway. Management information is data converted to information, which allows managers at all levels in all functions to make timely and effective decisions for planning, directing, and controlling the activities for which they are responsible (Lucey, 1995).

S. M. de-Alwis and Higgins (2001) have reported the results of a study, which indicate that the types of information *considered very important* for decision making include competitor trends, followed by regional economic trends and that types of information *considered important* include business news, followed by political, social, and supplier trends, regulatory information, use of information technology, demographic trends, and new management methods. Sources given a very high preference rating were personal contact for competitor trends and the use of government publications for obtaining regulatory information. Respondents also preferred the use of government publications for local economic information and the use of newspapers for political trends and business news. According to the research findings reported by McCracken and Gillespie (n.d.), local educational administrators generally perceived little need for information in problem resolution. Most decision making was in the absence of an information search.

2. Research on Information Needs of Educational Administrators in Pakistan

The role of information in decision making, administration and policy formulation or in national and educational development is not fully appreciated in the developing world. It, therefore, plays a minor role in the general flow of communication.

As it is evident from the above reviewed literature that many user groups are studied by the researchers in the developed world but the situation in Pakistan is not hopeful. According to Anwar (2007), very little interest has been shown for information needs' research in Pakistan by both the academics and the practitioners. No study can be traced in the past, which tried to explore the information needs and/or seeking behavior of educational administrators. In the field

of education, very few studies were conducted to assess the needs of educationists either for staff development or for analyzing their training needs.

For example, Gul (2005) has assessed the needs of educational administrators at college level in Punjab for designing a training model for the professional development of educational administrators/principals. The study consisted of the following stages: (a) assessment of training needs and problems of educational administrators; (b) designing a training model on the basis of findings and literature; and; (c) validation of training model by Delphi Technique. The principal researcher recently supervised two MLIS research theses at the Islamia University of Bahawalpur. These two studies aimed at finding the information needs and seeking behavior of college and school teachers as well as administrators within the city of Bahawalpur. Both the studies highlighted the problem of scattered information and non-availability of a uniform source/system of educational information (Khan, 2008; Iqbal, 2008).

II. Research Statement

It is a fact that educational administrators are the key planners of educational enterprise of a country. Their role can be more effective if they are well-informed about the domain of their work and if needed information is readily available to them. Developed countries have fully realized this and have developed user-centered information centers, systems, and services after closely studying the information needs and seeking behavior of educational administrators.

In Pakistan, however, no such efforts are made by the government authorities, academicians or practitioners to study the information needs and seeking behavior of educational administrators with a view to assisting in designing the user-centered services and systems. As a result, educational administrators often complain for the non-availability of needed and reliable information.

The issues addressed in this study will hopefully lead the researchers to identify the state of needed information and its availability to educational administrators in Pakistan.

III. Objectives of the Study

The objectives of the study are as follows:

- To identify the degree of information needs and its availability to school, college and university administrators in Punjab province and ICT.
- To discover the administrative task for which they usually need information.
- To furnish the recommendations based on the findings.

IV. Research Methodology

The current study is descriptive in nature and based on literature review, survey, and personal visits. Detailed description of the research methodology is as follows:

1. The Survey

Keeping in view the objectives of the study, the educational administrators (i.e., registrar/deans/department heads in universities and principals of schools and colleges) were identified as the target population for a survey in the form of a questionnaire. The respondents were from the Punjab province and Islamabad Capital Territory (ICT). The choice of the Punjab for the questionnaire survey is based on three main grounds: (1) The researchers are based in Punjab and logistic support for the fieldwork was most conveniently available in this region; (2) Circumstances in Baluchistan and NWFP provinces were not in favor of a field survey; (3) The population of the province was estimated 86,084,000 in 2005 and is home to over half of the population of Pakistan. About 50% of the educational institutes are situated within Punjab province and ICT. Of the 71 public universities of Pakistan, 35 are in Punjab and ICT. Of the 227,791 public and private educational institutes, 110, 648 are in Punjab Province and ICT.

2. Sampling Procedure and Frame for Survey

Cluster sampling was used for the survey. It is a sampling technique used when "natural" groupings are evident in a statistical population. With this technique, the total population is divided into groups or clusters and a sample of the groups is selected. Then the required information is collected from the elements within each selected group.

One version of the cluster sampling is area sampling or geographical cluster sampling. Because a geographically dispersed population can be expensive to survey, greater economy than simple random sampling can be achieved by treating several respondents within a local area as a cluster. Cluster sampling is useful when it would be impossible or impractical to identify every person in the sample (Wikipedia, 2009).

For the sampling purpose the Punjab province and ICT were divided into clusters and sub-clusters and each *district* was designated as a primary cluster. Responses were attempted from each district. Then, each district was divided into sub-clusters (i.e. *Tehsils*). Sub-clusters were randomly selected. Elements (i.e. schools and colleges) were selected according to a defined criterion. To get a reasonable response, 300 responses (in total) were targeted from the three groups of respondents (i.e., schools, colleges, and universities).

This sampling technique was employed based on following grounds:

- a) The available lists of schools and colleges, especially in the remote and far-flung areas, were declared less reliable by the competent authorities (EDO & DEOs, etc.). This fact can also be traced from the literature. According to Belt (September, 2007), “It’s not unusual in Pakistan to hear of public schools that receive no books, no supplies, and no subsidies from the government. Thousands more are 'ghost schools' that exist only on paper, to line the pockets of phantom teachers and administrators.” So, the researchers redesigned the sampling procedure and switched from the simple random sampling to the handpicked sampling of the elements from randomly selected sub clusters. On the other hand, all the public universities were selected within Punjab province and ICT.
- b) The targeted population are busy people and difficult to consult in large number without any personal reference.
- c) Schools and colleges were selected on the basis of their year of establishment. Oldest schools and colleges from each district were selected purposively to reduce the chance of selecting the ghost institutes (i.e. fake institutes which exist only in lists, not in reality or where no proper staff and building is available) from the lists at random.

d) To reduce the sampling bias due to handpicked sampling, all the districts of Punjab province were selected for the study and tehsils were further selected randomly.

V. Data Analysis and Discussion

The quantitative data were analyzed with the help of SPSS (version-15). This section presents the analysis of responses.

1. Respondents' Personal Profile

The respondents were asked different questions related to their particulars, such as gender, age, academic qualification, professional experience, publications, etc.

Table 1: *Frequency Distribution of Designation of the Respondents*

Designation	Frequency	Percentage
Principal	113	38.0
Chairs/Heads of the Dept.	82	27.6
Vice Principals	65	21.9
Registrars	14	4.7
Deputy/Asst. Registrars		
Other categories	7	2.3
Deans	6	2.0
Directors	5	1.7
Asst. Directors	5	1.7
Total	297	100

Table 1 shows that of the 297 respondents, 196 (66%) were male and 101 (34%) were female. One hundred and one (34%) responses were received from universities, followed by 99 (33.3%) from colleges, and 97 (32.7%) from schools. Thus the response rate from the university sector is slightly higher than the other two sectors of education. The respondents were asked to specify the administrative positions at which they were working. It was found that most of the respondents were working as principals (113, 38%) either in school or college sectors. The second category

of high response was of chairs/heads of the departments in higher education institutes (82, 27.6%). The third category was of school and college vice principals (65, 21.9%). Other categories include registrars, deputy/assistant registrars (14, 4.7%), administrative officers (7, 2.3%), directors, assistant directors, and deans (5, 1.8%).

Table 2: *Academic Qualification of the Respondents*

Designation	Frequency	Percentage
MA	72	24.2
MA-MED	42	14.1
MA-BEd	22	7.4
MSc	29	9.8
MSc-MED	8	2.7
MSc-BEd	3	1.0
Mphil	28	9.4
MEd	1	0.3
BEd	5	1.7
FCPS	2	0.7
PhD	70	23.6
PhD-Post doctorate	3	1.0
Missing	12	4.0
Total	297	100

Table 2 shows a variety of academic qualifications. Seventy-two (24.2%) respondents had qualification of Masters of Arts (MA), 42 (14.1%) MA-MEd, 29 (9.8%) Masters of Science (MSc), 28 (9.4%) Mphil, and 22 (7.4%) MA-BEd. Other small responses were of MSc-MEd (8, 2.7%), BEd (5, 1.7%), MSc-BEd (3, 1.0%), FCPS (2, 0.7%) and MEd (1, 0.3), while 12 (4.0%) respondents did not mention their qualification. The highest academic qualification was PhD-Post doctorate (3, 1.0%), followed by PhD (70, 23.6%).

Table 3: *Frequency Distribution of Age Categories of the Respondents*

Years	Frequency	Percentage
20-25	7	2.4
26-30	8	2.7
31-35	17	5.7
36-40	28	9.4
41-45	32	10.8
46-50	60	20.2
51-55	45	15.2
56-60	58	19.5
60 onwards	10	3.4
Missing	32	10.8
Total	297	100

Table 3 shows that the respondents' age varied from 20 to 60 years onwards. The highest response was from age groups of 46-50 (60, 20.2%), 51-55 (45, 15.2%) and 56-60 (58, 19.5%).

Table 4: *Professional and Administrative Experience of the Respondents*

Years	Professional Exp.	Administrative Exp.
1-5	25(8.4%)	138(46.5%)
6-10	27(9.1%)	67(22.6%)
11-15	37(12.5%)	35(11.8%)
16-20	50(16.8%)	19(6.4%)
21-25	40(13.5%)	6(2%)
26-30	47(15.8%)	6(2%)
31-35	30(10.1%)	1(0.3%)
36-40	9(3%)	0
40 onwards	1(0.3%)	0
Missing	31(10.4%)	25(8.4%)
Total	297(100%)	297(100%)

Table 4 shows that professional experience of the respondents varied from one to more than 40 years. Fifty (16.8%) respondents had 16-20 years of experience. The high responses lie between 11 to 35 years of professional experience. Like the professional experience, respondents' administrative experience also varied between 1 to 35 years. Most of the respondents had administrative experience of 1-5 years (138, 46.5%). The other highest response was of administrators having experience of 6-10 years (67, 22.6%).

2. Information Needs of the Respondents for Administrative Tasks

Administrators are a distinct group of information users, whose information needs and information seeking preferences are largely conditioned by the demands and context of their work (Auster & Choo, (Eds.), 1996). Keeping this reality in view, the authors attempted to discover the administrative responsibilities for which educational administrators usually need information. The following section uncovers the different aspects of their information needs and seeking behavior.

i) Different Administrative Tasks Performed by the School, College and University Administrators

The respondents were provided with a comprehensive list of administrative tasks and were asked to indicate the tasks they feel were related to their administrative responsibilities and for which they usually need information. Frequency distribution of cumulative and sector-wise responses is presented in Table 5.

Table 5: *Frequency Distribution of Different Administrative Tasks for Which Information is Needed by the School, College and University Administrators*

R	Administrative Tasks	School	College	University	Total
		Admin.	Admin.	Admin.	
1.	Planning	82 (84.5%)	88 (88.9%)	91 (90.1%)	261 (87.9%)
2.	Decision making	67 (69.1%)	66 (66.7%)	85 (84.2%)	218 (73.4%)
3.	Rules & procedures	76 (78.4%)	66 (66.7%)	75 (74.3%)	217 (73.1%)
4.	Teaching & Research	69 (71.1%)	69 (69.7%)	71 (70.3%)	209 (70.4%)
5.	Budgeting	78 (80.4%)	75 (75.8%)	52 (51.5%)	205 (69.0%)
6.	Problem solving	70 (72.2%)	69 (69.7%)	59 (58.4%)	198 (66.7%)

7.	Handling students' affairs	66 (68%)	73 (73.7%)	58 (57.4%)	197 (66.3%)
8.	Teachers/staff training	74 (76.3%)	73 (73.7%)	47 (46.5%)	194 (65.3%)
9.	Team work	65 (67%)	68 (68.7%)	61 (60.4%)	194 (65.3%)
10.	Staff development	67 (69.1%)	66 (66.7%)	60 (59.4%)	193 (65.0%)
11.	Official correspondence	56 (57.7%)	66 (66.7%)	68 (67.3%)	190 (64.0%)
12.	Government policies	76 (78.4%)	61 (61.6%)	52 (51.5%)	189 (63.6%)
13.	Day to day official activities	66 (68%)	54 (54.5%)	64 (63.4%)	184 (62.0%)
14.	Time management	65 (67%)	63 (63.6%)	55 (54.5%)	183 (61.6%)
15.	Curriculum development	64 (66%)	57 (57.6%)	60 (59.4%)	181 (60.9%)
16.	Monitoring	66 (68%)	65 (65.7%)	48 (47.5%)	179 (60.3%)
17.	Current affairs	64 (66%)	61 (61.6%)	47 (46.5%)	172 (57.9%)
18.	Controlling	66 (68%)	60 (60.6%)	37 (36.6%)	163 (54.9%)
19.	For seeking government grants	68 (70.1%)	47 (47.5%)	45 (44.6%)	160 (53.9%)
20.	Personal professional development	55 (56.7%)	58 (58.6%)	47 (46.5%)	160 (53.9%)
21.	Leadership roles	65 (67%)	47 (47.5%)	44 (43.6%)	156 (52.5%)
22.	Personnel evaluation	58 (59.8%)	48 (48.5%)	46 (45.5%)	152 (51.2%)
23.	Emerging new scenarios	51 (52.6%)	48 (48.5%)	43 (42.6%)	142 (47.8%)
24.	Fund raising	60 (61.9%)	50 (50.5%)	32 (31.7%)	142 (47.8%)
25.	Reducing uncertainty	54 (55.7%)	41 (41.4%)	42 (41.6%)	137 (46.1%)
26.	Building trust & goodwill	54 (55.7%)	50 (50.5%)	31 (30.7%)	135 (45.5%)
27.	Crisis management	53 (54.6%)	46 (46.5%)	29 (28.7%)	128 (43.1%)
28.	Forecasting	44 (45.4%)	42 (42.4%)	41 (40.6%)	127 (42.8%)
29.	Showing personal concern	46 (47.4%)	41 (41.4%)	27 (26.7%)	114 (38.4%)
30.	Growth of corporate culture	51 (52.6%)	35 (35.4%)	20 (19.8%)	106 (35.7%)
31.	To choose between alternatives	48 (49.5%)	27 (27.3%)	28 (27.7%)	103 (34.7%)
32.	Political Scenarios	42 (43.3%)	31 (31.3%)	26 (25.7%)	99 (33.3%)
33.	Marketing strategies	39 (40.2%)	26 (26.3%)	24 (23.8%)	89 (30.0%)

Table 5 shows that 261 (87.9%) respondents were engaged with planning and needed information for this purpose. Of them, 82 (84.5%) were from the school sector, 88 (88.9%) from the college sector and 91 (91.1%) from the university sector. Two hundred and eighteen (73.4%)

respondents were responsible for decision making. Of them, most of the administrators (85, 84.2%) were from the university sector. Information about different rules and procedures was needed by 217 (73.1%) respondents. Information for teaching and research was required by 209 respondents (70.4%), and for budgeting by 205 respondents (69.0%). One hundred and ninety-eight respondents (66.7%) needed information for problem solving or handling the complaints. Information for handling students' affairs was needed by 197 respondents (66.3%). Information relevant to teachers' or staff's training and team work was needed by 194 respondents (65.3%). Most of the respondents who needed information for teachers' or staff's training were from the school sector (74, 76.3%), followed by the college sector (73, 73.7%). Such information need was very low among administrators in the university sector.

Information for staff development, official correspondence, and government policies was needed by 193 (65%), 190 (64%) and 189 (63.6%) respondents respectively. One hundred and eighty-four (62%) respondents needed information for performing different day-to-day official activities and most of them were from the school sector (66, 68%). Time management, curriculum development, monitoring, current affairs, controlling, seeking government grants, personal professional development, leadership roles, personnel evaluation, emerging new scenarios, fund raising, reducing uncertainty, building trust and goodwill, crisis management, forecasting, showing personal concern, growth of a particular corporate culture, to choose between alternatives based on cost, benefits and outcomes, political scenarios and marketing strategies were also among the administrative tasks for which all three categories of respondents showed their information needs. Information need for these tasks (except for personal professional development) was highest among administrators in the school sector. In Pakistan, universities are autonomous bodies and are independent in most of their decision making. So university administrators mostly need information for the tasks related with planning and decision making rather than for routine matters. On the other hand, the school sector is far behind in independent decision making, facilities, and access to information. So their information needs for routine matters is higher than the other two sectors. The college sector falls between both in terms of facilities and access to information. Their need for information about handling the students' affairs is higher than the other two sectors, which might be due to the teenagers who newly enter college.

ii) Degree of Need and Availability of Different Type of Information for Administrative Work

The respondents were asked to mention the degree of need and availability of different types of information for their administrative work. The ratio scale was used to assess the degree of need and degree of availability of information to educational administrators. The researchers executed the reliability analysis on the 4-point ratio scale, used to assess the degree of respondents' information needs. The Cronbach alpha is 0.905, which is above 0.8. Therefore, the scale is reliable. Similarly, reliability analysis was executed on the 4-point ratio scale, used to assess the degree of availability of needed information to the respondents. The Cronbach alpha is 0.931, which is also above 0.8. Therefore, the scale is reliable.

iii) Degree of Need and Availability of Different Type of Information to School Administrators

According to the responses, information related to educational policy, leave, financial, pension and purchase rules, government grants, education codes/calendars of their own institutes, and staff development was most needed by the school administrators (Mean values are 3.70, 3.70, 3.61, 3.61, 3.55, 3.54, 3.52 and 3.50 respectively). Such information was, to some extent, available to school administrators (Mean values for degree of availability are 2.89, 3.10, 2.77, 3.05, 2.69, 2.63, 2.93, and 2.53 respectively).

Information related to the curricula of Punjab/Federal Boards, student activities, personnel evaluation methods, Government of Punjab employment rules, current data about educational developments, current trends in education, national comparison reports of different teaching programs and teaching methods, IT solutions for administrative work, personnel working behavior, market value of their school alumni, different options and alternatives related to administrative work, community perception about their school, evaluated and aggregated data about education, demographic data related to education, (i.e., number of schools, teachers, students etc.), human relations, Government of Pakistan employment rules, competitors' strengths & weaknesses, employment rules of other provincial governments of Pakistan and rules of other private schools were, to some extent, needed by school administrators. (Mean values are 3.47, 3.43, 3.39, 3.36, 3.33, 3.33, 3.29, 3.26, 3.24, 3.24, 3.21, 3.20, 3.20, 3.12, 3.00, 2.98, 2.88 and 2.63 respectively).

The analysis of degree of availability of this information shows that information related to the curricula of the Punjab Board, student activities, the Government of Punjab and Pakistan employment rules, and human relations is available, to some extent, (Mean values are 2.68, 2.71, 2.72, 2.57, and 2.56 respectively). Whereas, information related to other aspects is least available to school sector administrators (Mean values are 2.36, 2.13, 2.37, 1.98, 2.14, 2.46, 2.36, 2.04, 2.45, 1.91, 2.23, 2.32, 2.24 and 2.00 respectively).

Only information related to politics at the institutional and national levels are least needed and available to school administrators (Mean values are 2.45 and 2.11 respectively).

Descriptive statistics of degree of information need and its availability to school administrators are presented in Table 6.

Table 6: *Degree of Need and Availability of Different Type of Information to School Administrators*

R	Information Needed and Available About:	Mean Scores of Need	Mean Scores of Availability
1.	Education policy	3.70	2.89
2.	Leave rules	3.70	3.10
3.	Financial rules	3.61	2.77
4.	Pension rules	3.61	3.05
5.	Government Grants	3.55	2.69
6.	Education codes/calendar of your own institute	3.54	2.63
7.	Purchase rules	3.52	2.93
8.	Staff development	3.50	2.53
9.	Curriculum of Punjab/Federal Boards	3.47	2.68
10.	Student activities	3.43	2.71
11.	Personnel evaluation methods	3.39	2.36

12. Govt. of Punjab employment rules	3.36	2.72
13. Current data about educational developments	3.33	2.13
14. Current trends in education	3.33	2.37
15. National comparison reports of different teaching programs & teaching methods	3.29	1.98
16. IT solutions for administrative work	3.26	2.14
17. Personnel working behavior	3.24	2.46
18. Market value of school alumni	3.24	2.36
19. Different Options and alternatives related to administrative work	3.21	2.04
20. Community perception about your school	3.20	2.45
21. Evaluated and aggregated data about education	3.20	1.91
22. Demographic data related to education	3.14	2.23
23. Human Relations	3.12	2.56
24. Govt. of Pakistan employment rules	3.00	2.57
25. Competitors' strengths & weaknesses	2.98	2.32
26. Employment rules of other provincial governments	2.88	2.24
27. Rules of other private schools	2.63	2.00
28. Politics at institutional and national level	2.45	2.11

Note: Most=4, To some extent=3, Least=2, Not at all=1

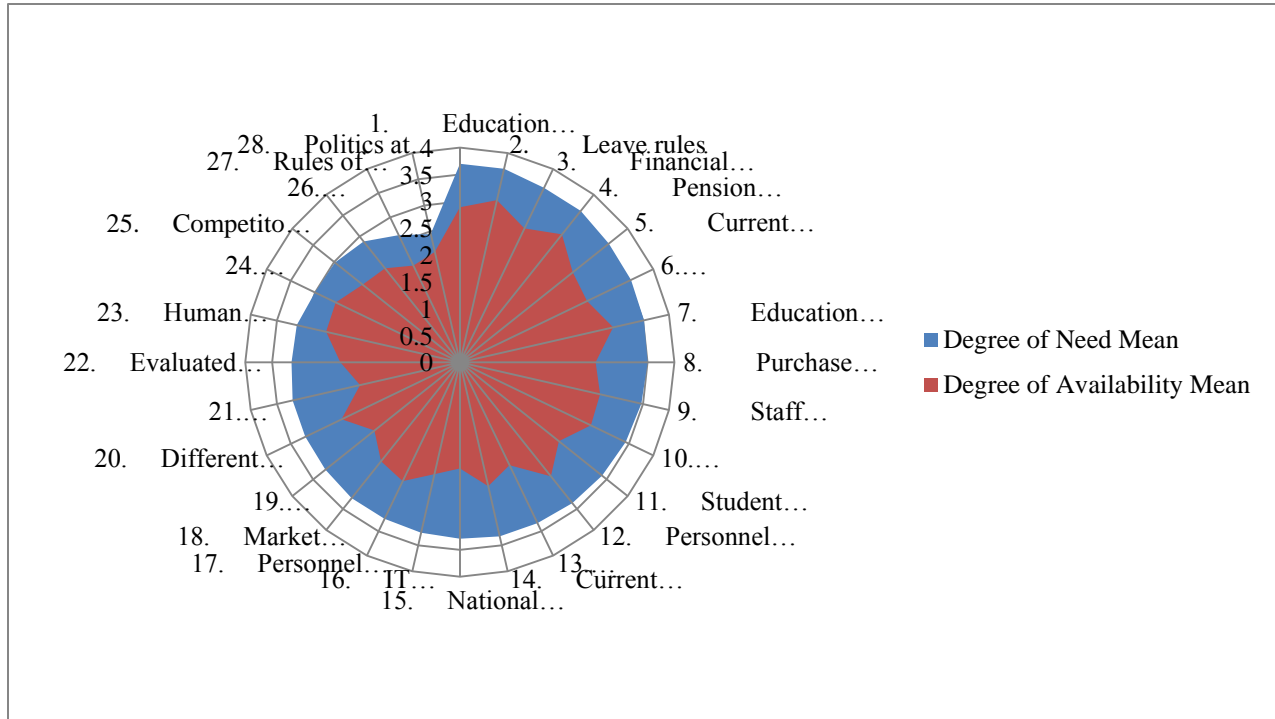


Figure 1: Radar Chart Shows Degree of Need and Availability of Information to School Administrators

Figure 1 graphically presents the difference between degree of need and degree of availability of different educational administration-related information to school administrators. To see the significant difference between the means of the degree of need and that of the degree of availability of information to school sector administrators, further statistical procedure (i.e., Paired Samples *t*-Test) is used. The paired sample correlations point out that there is significant correlation between the degree of need and the degree of availability; the use of Paired Samples *t*-Test is, therefore, justified.

The Paired Samples *t*. Test indicates that there is significant difference between the means of the degree of need and that of the degree of availability of information to administrators in the school sector. All the pairs show significant difference (sig= .000). Thus, it can be concluded that information need about different aspects (reported above) is much higher than its availability to administrators in the school sector in Punjab and ICT.

iv) Degree of Need and Availability of Different Type of Information to College Administrators

Analysis of data related to administrators in the college sector reveals that they mostly need information about current trends in education, purchase rules, educational policy, staff development, leave, pension, and financial rules, current data about educational developments, personnel evaluation methods, student activities, and human relations (Mean values are 3.71, 3.69, 3.67, 3.64, 3.62, 3.61, 3.60, 3.60, and 3.52 respectively).

The status of availability of such information is not very encouraging for the college sector administrators as well. Information related to current trends in education and current data about educational developments was least available to them (Mean values are 2.36, and 2.10 respectively). While information related to purchase rules, education policy, staff development, leave, pension, and financial rules, personnel evaluation methods, student activities, and human relations was available, to some extent, to them (Mean values are 2.95, 3.05, 2.58, 2.96, 2.87, 2.88, 2.64, 2.66, and 2.63 respectively).

Information related to government grants, personnel working behavior, the Government of Punjab employment rules, different options and alternatives related to administrative work, market value of their college alumni, national comparison reports of different teaching programs and teaching methods, education codes/calendar of their own college, research output of their college and faculty members, information technology (IT) solutions for administrative work, evaluated and aggregated data about education, ranking criteria of colleges, competitors' strengths and weaknesses, demographic data related to education, (i.e., number of colleges, teachers, students etc.), community perception about their college, the Government of Pakistan employment rules, curricula of other boards and universities, research output of other colleges and faculty members, politics at institutional and national level, rules of other boards and universities, employment rules of other provincial governments of Pakistan and education codes of other colleges was, to some extent, needed by the college administrators (Mean values are 3.48, 3.46, 3.45, 3.43, 3.39, 3.38, 3.37, 3.37, 3.36, 3.29, 3.17, 3.16, 3.14, 3.06, 2.90, 2.86, 2.70, 2.61, 2.54, and 2.51 respectively).

Information related to government grants, personnel working behavior, the Government of Punjab employment rules, education codes/calendar of their own college, and research output of

their own college and faculty members was, to some extent, available to them (Mean values are 2.63, 2.60, 2.67, 2.72, and 2.50 respectively).

On the other hand, information about different options and alternatives related to administrative work, market value of their college alumni, national comparison reports of different teaching programs and methods, IT solutions for administrative work, evaluated and aggregated data about education, ranking criteria of colleges, competitors' strengths & weaknesses, demographic data related to education, (i.e., number of colleges, teachers, students etc., community perception about their college, the Government of Pakistan employment rules, curricula of other boards and universities, research output of other colleges and faculty members, politics at institutional and national level, rules of other boards and universities, employment rules of other provincial governments of Pakistan and education codes of other colleges was least available to them (Mean values are 2.21, 2.36, 2.00, 2.25, 1.98, 2.16, 2.45, 2.31, 2.39, 2.36, 2.35, 2.06, 2.34, 2.20, 1.87, and 1.74 respectively).

Descriptive statistics of degree of information need and its availability to college administrators are presented in Table 7.

Table 7: *Degree of Need and Availability of Different Type of Information to College Administrators*

R	Information Needed and Available About:	Mean Scores of Need	Mean Scores of Availability
1.	Current trends in education	3.71	2.36
2.	Purchase rules	3.69	2.95
3.	Education policy	3.67	3.05
4.	Staff development	3.64	2.58
5.	Leave rules	3.63	2.96
6.	Pension rules	3.63	2.87
7.	Financial rules	3.62	2.88
8.	Current data about educational developments	3.61	2.10
9.	Personnel evaluation methods	3.60	2.64
10.	Student activities	3.60	2.66

11. Human Relations	3.52	2.63
12. Government Grants	3.48	2.63
13. Personnel working behavior	3.46	2.60
14. Government of Punjab employment rules	3.45	2.67
15. Different Options and alternatives related to administrative work	3.43	2.21
16. Market value of your college alumni	3.39	2.36
17. National comparison reports of different teaching programs & teaching methods	3.38	2.00
18. Education codes/calendar of your college	3.37	2.72
19. Research output of your college & faculty members	3.37	2.50
20. IT solutions for administrative work	3.36	2.25
21. Evaluated and aggregated data about education	3.29	1.98
22. Ranking criteria of colleges	3.28	2.16
23. Competitors' strengths & weaknesses	3.17	2.45
24. Demographic data related to education, i.e., No. of colleges, teachers, students etc.	3.16	2.31
25. Community perception about your college	3.14	2.39
26. Government of Pakistan employment rules	3.06	2.36
27. Curriculum of other boards and universities	2.90	2.35
28. Research output of other colleges & faculty members	2.86	2.06
29. Politics at institutional and national level	2.70	2.34
30. Rules of other boards and universities	2.61	2.20
31. Employment rules of other provincial governments of Pakistan	2.54	1.87
32. Education codes of other colleges	2.51	1.74

Note: Most=4, To some extent=3, Least=2, Not at all=1

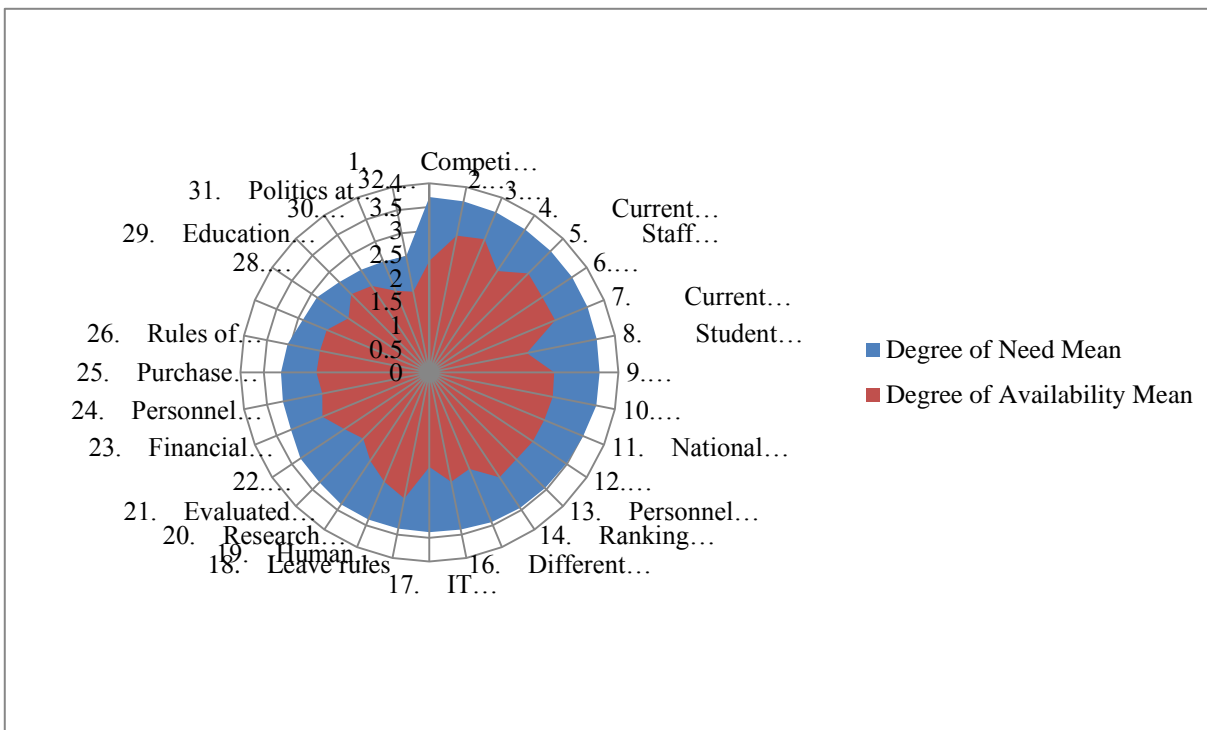


Figure 2. Radar Chart Shows Degree of Need and Availability of Information to College Administrators

Figure 2 graphically presents the difference between the degree of need and the degree of availability of different educational administration-related information to college administrators. To see the significant difference between the means of the degree of need and that of the degree of availability of information to college sector administrators, further statistical procedure (i.e., Paired Samples *t*-Test) is used. The paired sample correlations point out that there is significant correlation between the degree of need and the degree of availability. Therefore, the use of Paired Samples *t*-Test is justified.

The Paired Samples *t*-Test indicates that there is a significant difference between the means of the degree of need and that of the degree of availability of information to administrators in the college sector. All the pairs show significant difference (sig= .000) (except for ‘politics at institutional and national level’, sig= .003). Thus it can be concluded that information need about different aspects (reported above) is much higher than its availability to administrators in the college sector in Punjab and ICT.

v) Degree of Need and Availability of Different Type of Information to University Administrators

Information about competitors' strengths and weaknesses, education policy, research output of their university/faculty members, current data about educational developments, staff development, and government grants was most needed by university administrators (Mean values are 3.96, 3.56, 3.56, 3.56, 3.53 and 3.51 respectively).

Information about competitors' strengths and weaknesses and current data about educational developments was least available to them (Mean values are 2.28, 2.48 respectively), while information related to education policy, research output of their university/faculty members, staff development and government grants was, to some extent, available to them (Mean values are 3.02, 2.80, 2.52, and 2.75 respectively).

On the other hand, to a degree, they needed information about current trends in education, student activities, education codes/calendar of their own university, demographic data related to education, (i.e., number of universities, teachers, students etc.), national comparison reports of different teaching programs and teaching methods, curriculum of other universities, personnel evaluation methods, ranking criteria of universities, market value of their university alumni, different options and alternatives related to administrative work, IT solutions for administrative work, leave rules, human relations, research output of other universities/faculty members, evaluated and aggregated data about education, community perception about their university, financial rules, personnel working behavior, purchase rules, rules of other universities, pension rules, the Government of Pakistan employment rules, education codes of other universities, and Government of Punjab employment rules (Mean values are 3.45, 3.43, 3.38, 3.38, 3.37, 3.33, 3.32, 3.29, 3.29, 3.28, 3.24, 3.24, 3.22, 3.21, 3.20, 3.20, 3.15, 3.13, 3.11, 3.06, 2.93, 2.82, and 2.74 respectively).

The analysis of the degree of availability shows that information about current trends in education, student activities, education codes/calendar of their own university, curricula of other universities, ranking criteria of universities, leave rules, human relations, financial, purchase and pension rules, rules of other universities, the Government of Pakistan and Punjab employment

rules was, to some extent, available to university administrators (Mean values are 2.62, 2.56, 3.20, 2.83, 2.66, 2.81, 2.68, 2.50, 2.71, 2.59, 2.67, 2.70 and 2.58 respectively).

Contrarily, demographic data related to education, national comparison reports of different teaching programs and teaching methods, personnel evaluation methods, market value of their university alumni, different Options and alternatives related to administrative work, IT solutions for administrative work, research output of other universities/faculty members, evaluated and aggregated data about education, community perception about their university, personnel working behavior and education codes of other universities was least available to them (Mean values are 2.47, 2.14, 2.47, 2.27, 2.18, 2.49, 2.33, 2.04, 2.45, 2.38, and 2.34 respectively).

Information about politics at the university and national level and employment rules of other provincial governments of Pakistan was least needed and least available to university administrators (Means of need are 2.49 and 2.33 and means of availability are 2.49 and 1.90 respectively).

Descriptive statistics of degree of information need and its availability to university administrators are presented in Table 8.

Table 8: *Degree of Need and Availability of Different Type of Information to University Administrators*

R	Information Needed and Available About:	Mean Scores of Need	Mean Scores of Availability
1.	Competitors' strengths & weaknesses	3.96	2.28
2.	Education policy	3.56	3.02
3.	Research output of your university/faculty members	3.56	2.80
4.	Current data about educational developments	3.56	2.48
5.	Staff development	3.53	2.52
6.	Government Grants	3.51	2.75

7. Current trends in education	3.45	2.62
8. Student activities	3.43	2.56
9. Education codes/calendar of your own university	3.38	3.20
10. Demographic data related to education	3.38	2.47
11. National comparison reports of different teaching programs & teaching methods	3.38	2.14
12. Curriculum of other universities	3.37	2.83
13. Personnel evaluation methods	3.33	2.47
14. Ranking criteria of universities	3.32	2.66
15. Market value of your university alumni	3.29	2.27
16. Different Options and alternatives related to administrative work	3.29	2.18
17. IT solutions for administrative work	3.28	2.49
18. Leave rules	3.24	2.81
19. Human Relations	3.24	2.50
20. Research output of other universities/faculty members	3.22	2.33
21. Evaluated and aggregated data about education	3.21	2.04
22. Community perception about your university	3.20	2.45
23. Financial rules	3.20	2.68
24. Personnel working behavior	3.15	2.38
25. Purchase rules	3.13	2.71
26. Rules of other universities	3.11	2.59
27. Pension rules	3.06	2.67
28. Government of Pakistan employment rules	2.93	2.70
29. Education codes of other universities	2.82	2.34
30. Government of Punjab employment rules	2.74	2.58
31. Politics at university and national level	2.49	2.49

32. Employment rules of other provincial governments of Pakistan

2.33

1.90

Note: Most=4, To some extent=3, Least=2, Not at all=1

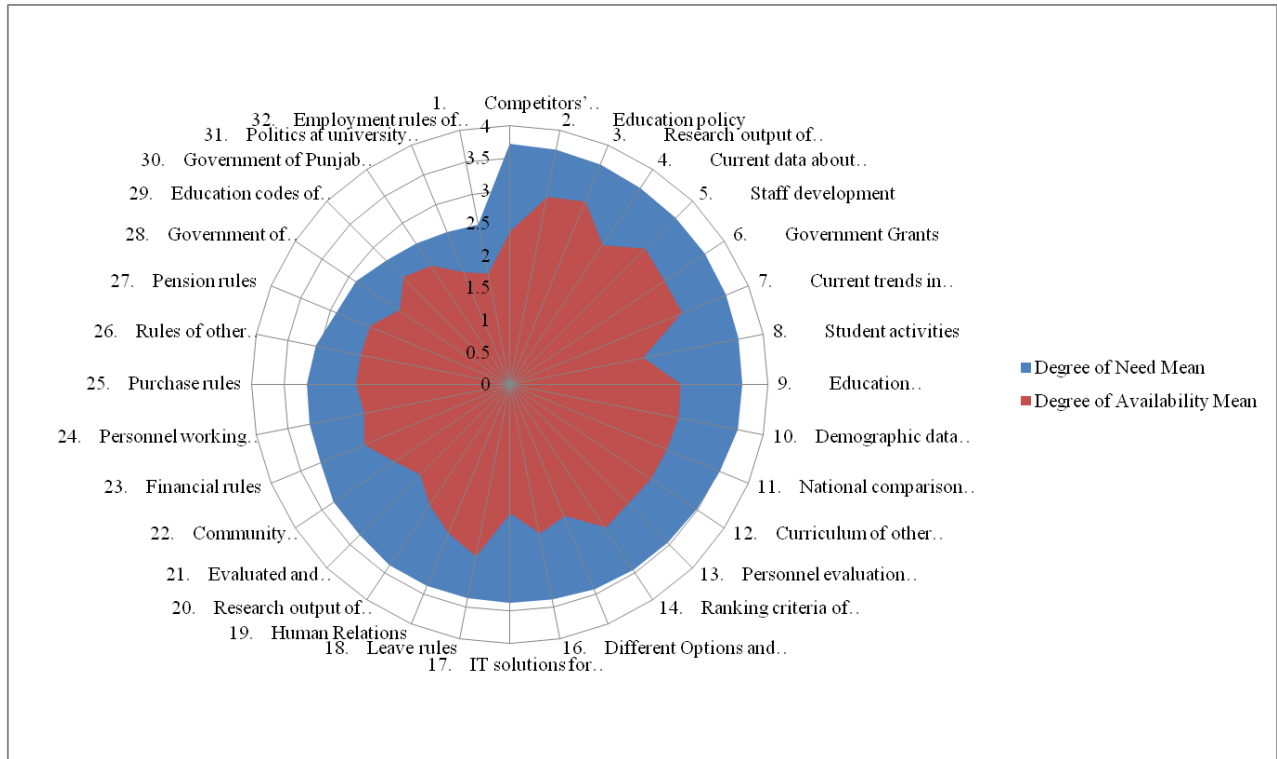


Figure 3. Radar Chart Shows Degree of Need and Availability of Information to University Administrators

Figure 3 graphically presents the difference between the degree of need and the degree of availability of different educational administration-related information to university administrators. To see the significant difference between the means of the degree of need and that of the degree of availability of information to university administrators, further statistical procedures (i.e., Paired Samples *t*-Test) was used. The paired sample correlations point out that there is significant correlation between the degree of need and the degree of availability. Therefore, the use of Paired Samples *t*-Test is justified.

The Paired Samples *t*-Test indicates that there is significant difference between the means of degree of need and that of the degree of availability of information to university administrators. There is no significant difference between the means of degree of need and that of the degree of availability of ‘Government of Punjab employment rules’, sig= .138; and ‘Politics at institutional and national level’, sig= 1.000. All other pairs show significant difference at .000, except for ‘Govt. of Pakistan employment rules’, sig= .036; and Education codes/calendar of their own university, sig= .049. Thus it can be concluded that information need about almost all the aspects (except for ‘Govt. of Punjab employment rules’ and ‘Politics at institutional and national level’) is much higher than its availability to university administrators in Punjab and ICT.

Table 9: *Degree of Need and Availability of Different Type of Information for School, College and University Administrators*

Sr	Information About:	Degree of Need				Degree of Availability			
		S. Ad.	C. Ad.	U. Ad.	Cum .	S. Ad.	C. Ad.	U. Ad.	Cum .
		Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
		n	n	n		n	n	n	
1.	Education policy	3.70	3.67	3.56	3.64	2.89	3.05	2.28	2.99
2.	Current data about educational developments	3.33	3.61	3.56	3.58	2.13	2.10	2.48	2.24
3.	Staff development	3.50	3.64	3.53	3.56	2.53	2.58	2.52	2.55
4.	Government Grants	3.55	3.48	3.51	3.52	2.69	2.63	2.75	2.69
5.	Leave rules	3.70	3.63	3.24	3.52	3.10	2.87	2.81	2.96
6.	Current trends in education	3.33	3.71	3.45	3.49	2.37	2.36	2.62	2.45
7.	Research output of your institute/faculty members	Missing *	3.37	3.56	3.48	Missing *	2.72	2.80	2.65
8.	Student activities	3.43	3.60	3.43	3.48	2.71	2.66	2.56	2.64

9. Financial rules	3.61	3.62	3.20	3.47	2.77	2.88	2.68	2.78
10. Purchase rules	3.52	3.69	3.13	3.44	2.93	2.95	2.71	2.86
11. Personnel evaluation methods	3.39	3.60	3.33	3.44	2.36	2.64	2.47	2.49
12. Education codes/calendar of your own institute	3.54	3.37	3.38	3.43	2.63	2.72	3.20	2.85
13. Pension rules	3.61	3.63	3.06	3.43	3.05	2.87	2.67	2.86
14. National comparison reports of different teaching programs & teaching methods	3.29	3.38	3.38	3.35	1.98	2.00	2.14	2.04
15. Different Options and alternatives related to administrative work	3.21	3.43	3.29	3.31	2.04	2.21	2.18	2.15
16. Ranking criteria of higher education institutes	Missing *	3.28	3.32	3.31	Missing *	2.16	2.66	2.42
17. Market value of your alumni	3.24	3.39	3.29	3.31	2.46	2.36	2.27	2.33
18. IT solutions for administrative work	3.26	3.36	3.28	3.30	2.14	2.25	2.49	2.30
19. Human Relations	3.12	3.52	3.24	3.29	2.56	2.63	2.81	2.56
20. Personnel working behavior	3.24	3.46	3.15	3.28	2.36	2.60	2.38	2.48
21. Curriculum of other institutes/boards	3.47	2.90	3.37	3.25	2.68	2.35	2.83	2.62
22. Evaluated and aggregated data about education	3.20	3.29	3.21	3.23	1.91	1.98	2.04	1.98

23. Demographic data related to education	3.14	3.16	3.38	3.23	2.23	2.31	2.47	2.34
24. Government of Punjab employment rules	3.36	3.45	2.74	3.18	2.72	2.67	2.58	2.66
25. Community perception about your institute	3.20	3.14	3.20	3.18	2.45	2.39	2.45	2.43
26. Government of Pakistan employment rules	3.00	3.06	2.93	3.07	2.57	2.36	2.70	2.55
27. Research output of other higher education institutes/faculty members	Missing *	2.86	3.22	3.05	Missing *	2.06	2.33	2.21
28. Competitors' strengths & weaknesses	2.98	3.17	3.36	3.04	2.32	2.45	2.28	2.35
29. Rules of other universities/boards/private institutes	2.63	2.61	3.11	2.78	2.00	2.20	2.59	2.24
30. Education codes of other higher education institutes	Missing *	2.51	2.82	2.67	Missing *	1.74	2.34	2.06
31. Employment rules of other provincial governments of Pakistan	2.88	2.54	2.33	2.58	2.24	1.87	1.90	2.00
32. Politics at university and national level	2.45	2.70	2.49	2.55	2.11	2.34	2.49	2.32

Note: Most=4, To some extent=3, Least=2, Not at all=1, Missing*= Not related to school sector

Table 9 presents a comprehensive overview of the degree of information needs and its availability to school, college and university administrators. Sector-wise comparison of

information needs and seeking behavior of all three groups (with Paired Samples *t*-Test) do not show major difference in their information needs and its availability, though university sector at some points seemed better in the availability of needed information.

vi) Other Suggestions and Comments

A few respondents also provided their suggestions/comments in this regard (N= 85, 28.6%). A qualitative analysis of the responses is as followed.

The respondents suggested that an efficient information system/service is strongly needed for sound planning and decision making. They further pointed out that such a system/service would boost the education sector of Pakistan up (n= 17).

They recommended that training should be provided not only to educational administrators but to the teachers as well (n= 16). Educational administrators should be provided with not only up-to-date information about rules, regulations, and methodologies for their implementation but with action-oriented solutions as well. They also need information about the status of educational policy and appraisal of its implication throughout the educational year, change in education policy, curriculum, board and university decisions, and specific website links regarding the upcoming training workshops and seminars (n= 6).

Training of educational administrators for administrative tasks was also strongly recommended (n= 5). Moreover, they stressed that the suggestions of educational administrators working at the micro level should be considered in the educational policy making process (n= 3), and special attention is required in the school and college sector, particularly in rural and remote areas (n= 2), where quality IT facilities are required for timely availability of needed information.

Moreover, computer education policies for the colleges should also be revised according to the contemporary requirements (n= 2). Free access to full-text information (both print and electronic) should be provided for improving administrative skills (n= 2). Administrators need up-to-date and accurate knowledge at the correct time for making correct decisions (n= 1). So available data should be valid and reliable (n=1), and all the educational institutes should be

interconnected with each other (n= 1). One respondent recommended that a brief analysis of the study should be communicated to the participants of the survey.

VI. Conclusion and Recommendations

Analysis of the data collected through the survey reveals that administrators' information needs and preferences are largely conditioned by the demands and context of their work. They need information for performing different administrative tasks. These tasks vary from long-term planning to daily and routine tasks. The status of availability of needed information to all three sectors is not encouraging, though the university sector seems slightly better in this regard. This gap in availability of information is badly affecting the planning and decision-making process. This finding is supported by the open-ended suggestions made by the respondents.

Based on the findings of the study, it is recommended that a valid, reliable, and efficient information system/service be developed to assist educational administrators in all three tiers of education (i.e. schools, colleges, and universities) in Pakistan. The educational administrators should be informed on the real status and issues of education enterprise. It will enable them to make realistic plans. Special attention should be given regarding the provision of better IT services/facilities to the administrators in the school and college sectors, particularly those working in remote areas. Special training programs should be developed and implemented to helping them to search and retrieve information needed effectively.

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