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USING IT TOOLS IN SOCIOLOGICAL SURVEYS FOR DETERMINING THE SOCIAL PROFILE OF ASTANA IT UNIVERSITY STUDENTS

Abstract. The article gives an overview of Astana IT University (AITU) experience in using IT tools in sociological study for determining the social profile of an AITU student based on the data of sociological surveys. The purpose of the study is aimed at summarizing the experience how IT tools can be used in gathering and processing data and survey result analysis. In this article the features of various software and hardware tools, the process of applying information technologies at different stages of sociological research that affect the effectiveness of sociological research are discussed. The aim of the study is to determine the effectiveness of various software (from word processors to statistical packages) and hardware (from cell phones to modern computers) tools at different stages of conducting a sociological survey.

The most common problems the sociologist may run into when looking for a survey tool are technical, design, legal, and expertise one as well as problems with length, survey fatigue and interpreting respondents' mood. It is highly likely in case of long, confusing, or complicated surveys the questions can be skipped or responded mindlessly by respondents and be resulted in confusing results and inaccurate responses. Long surveys more than 10-15 minutes can course respondents mind fatigue which can lead and result the dishonest responses and survey dropout. The respondents can be tired with especially open-ended questions which require careful and deep thinking. The problem of selecting adaptive tools for conducting sociological research for obtaining the most reliable and high-quality information lies in the lack of a universal IT tool for implementing sociological research at its all stages.

The model of the university efficiency promotion for sustainable development is presented to compare the progress of university efficiency in learner recruiting, hiring of local and international staff, the number of staff participated in the program of professional development, the number of laboratories and IT technologies, the range of national and international partners etc. Stages of Data- driven decision-making approach in university efficiency promotion are presented in detail.

Keywords: IT tools, sociological study, sociological survey, social activity, youth groups, educational services, social life, social environment.

Introduction

Sociological studies are a reliable tool for the formation of a holistic sociological portrait of a freshman, which can help to build strategies to involve students in the university's active social life. Social activity has its own specifics and features and allows a person to express his/her will and desire in a variety of manifestations.

Reliable and timely information based on the survey results guarantees effective management of social life of university students. The implementation of management activities in many areas can be based on the results of sociological surveys. The need in using information technology at all stages of sociological research follows from the modern understanding of informatization within the sociology framework. The usage of information technologies at various stages of sociological research creates optimal conditions for processing data and making appropriate decisions. The use of information technologies at various stages of sociological research allows reducing the time for sociological research data processing and avoiding routine processes. Hardware and software are only tools to achieve the goal. However, at the present stage data processing is not rational and sometimes impossible without computer technology and modern software.

AITU widely practices the use of IT tools in sociological studies aimed at improving the education quality, considering the students' expectations and requirements. Each type of survey is aimed at identifying certain students' characteristics, the main factors affecting the stakeholders' satisfaction by the university educational services. Sociological surveys aimed at obtaining information from various educational services and the results make it possible to draw effective practical conclusions about the students' attitude to the education system within the university. Social activity favorably affects not only society but an individual who performs the very social activity as well.

Problem statement

One of the problems which the sociologist may face with within the sociological studies is the programming expertise level, which is difficult to identify. Is it required for sociologist to be an experienced or professional IT specialist? According to [1] creating the survey may course a problem if a sociologist has no experience with programming languages. We may distinguish some problems which we may face in sociological studies.

One of them is problems with survey design connected with its layout relating to length, the response scales limit, text questions box etc. The respondents might get annoyed with the survey length. It should be considered how long is the questionnaire because the respondents may be bored, and the results of the answers could be irrelevant. A choice limitation in response scales can also be a design problem because there can be different scales depending on the survey type. One more problem is related to text questions, where text box can also course the problem with one-line answer boxes. A short answer is usually suggested even if there is no limit on the character numbers.

Automagical data transfer to the IT platform or website is a problem of technical nature, regarding the survey tool functionality. Survey Monkey and Google Sheets forms is one of the ways of automagical data load.

One more problem related to legal issues are the respondent's personal information, concerning email address to contact them for a follow-up survey. However, it is possible for a good survey tool to separate the metadata for providing anonymity.

Important area of easy, flexible, and convenient online surveys is capturing the respondents' real feeling about the problems mentioned in the survey, because being completely online it is impossible to fix and notice facial expressions or body language. It is only possible the responses to decode what customers really feel. There are some platforms like Qualaroo as a tool for mood analysis for turning random text into organized data. Specific keywords can be decoded with the help of software IBM Watson, and it is possible to use the analysis for tracking respondent's mood.

Students are interested in social activities, but, along with this, only a third of them are ready actively participate in university social life. Another part of students does not strive or

are not interested at all. Social activity is a complex concept which reflects the learners' integration in a social environment of a higher educational institution. Moreover, there can be noted several problems that require special attention. Social activity favorably affects not only society, but also a person who performs the social activity. The number of research have been done in this area. The role of media in formation the environmental consciousness of a person is determined in [2]. [3] contains the analysis of the modern youth's installations towards labour in the Republic of Kazakhstan. In [4] Problems and prospects of Vocational guidance of young people in Kazakhstan are discusses. Information flows about critical social media such as political trust and protest behaviour among college students in Kazakhstan are discussed in [5]. Factors in the formation of personal qualities of the future specialist, contributing to the development of his inner freedom are discussed in [6]. In [7] methodology, program, methods of sociological research are given full attention.

According to Mayer and Fischer data usage include types of data collected and accessed, the data capture motivations, and the data systematic use barriers. They claim that capture of various data, including performance measures, financial data, program evaluation data with diverse motivations contributes to organizational improvement in marketing, accountability which leads to effective data-driven decision making. They state that organizations face with prominent barriers, including challenges in identifying meaningful information, lack of technical ability, inability to prioritize data work, as well as external influences. Challenges are met in synthesizing the available literature, with a high degree of fragmentation resulting in many disconnected constructs, measurements, and theories [8].

Kline and Dolamore claim that there are varying attitudes about efforts to be data driven suggesting that data as an organizational value has not yet been solidified. To track the efficiency and effectiveness, the human service organizations encouraged to utilize performance measurement of large, often messy, datasets. Tracking performance measures can be used in promoting an internal culture that clarifies the data meanings and the data incorporation into decision-making processes [9]. In Huang et.al. opinion in the era of big data (BD), data and information safety are the most valuable assets for organizations' safety decision-making. The meta-process SBD mining according to different requirements of safety management applications are influencing factors of BD-driven safety decision-making SDM [10].

As a result of the study, the problems that need to be paid attention can be highlighted via the sociological surveys based on the IT tools usage. Respondents' feedback about the insufficient awareness of existing measures and forms of socio-public activity is a quite serious problem, since it entails a small number of students included in the extracurricular life of the university, and, therefore, deprives the rest of the students with the possibility of additional self-realization.

Research methodology

To determine the presence of favorable conditions for the development of the social activities we have analyzed quantitative and qualitative data on the results of 3 surveys: "Why I chose AITU", "To be an active student is your choice", "Youth groups and their influence on the university public processes" [11, 12, 13].

The main research methods used are quantitative and qualitative result analysis, based on the formation of a study sample, collection, control, and data processing via the effective IT tools. Questions were developed to research the conditions of social awareness and to determine the students' opinion on their social activities. Student survey was conducted anonymously.

Methods and IT tools selected for the field research survey were Google form questions with a numerical answer; questions with a verbal answer in a closed form with formalized answer options; in open form with free exposure of the response. Entering and processing data was carried out according to the statistical program SPSS (Statistical Package for the Social Sciences), specially designed for processing and analyzing quantitative data, consisting of several components: creating the matrix for data input; entering profiles into the program and data control; data cleaning and updating; data processing based on special SPSS program procedures.

Quantitative analysis was compiled based on statistical data of AITU students' number who took part in the surveys "Why I chose AITU", "To be an active student is your choice", "Youth groups and their influence on the university public processes".

Discussion

To conduct sociological research and obtain relevant information, a sociologist must practice with software and hardware, which often require special knowledge. In this regard, the choice of hardware and software for the implementation of a sociological survey is conducted in accordance with the availability, cost, user-friendliness, and the capabilities of the tools within the study framework.

Sociological research is carried out according to a pre-designed program and consists of several stages. The field stage (or the stage of collecting primary social information) is associated with the collection of information "in the field", i.e., in practical actions of the researcher to obtain information from people its carriers. Information is collected using various types of survey (questionnaire, interview, expert, etc.), observation, document analysis, experiment. At the field stage, from the point of view of the use of information technologies in sociological research, data is collected. An indispensable assistant in the collection of primary social information is computer technology. Using the capabilities of the Internet and hardware at the field stage allows to speed up the process of obtaining primary social information.

The organization of a social survey using information technology at the field stage has several advantages when the time for collecting primary information is reduced. Work with some respondents is carried out using electronic forms sent by e-mail. Questionnaires of respondents (electronic and paper versions, digitized) can also be sent by e-mail.

The second stage on the preparation and information processing is operational and procedural since it aims at collecting data about the object under study. The procedure for checking the collected array includes a review for accuracy, completeness and quality of filling, and rejection of those that do not meet the requirements. Processing of primary social information includes the following types of work: coding of primary social information, data entry into the sociological research database, error control and data analysis using mathematical methods. The information processing program makes it possible to obtain quantitative characteristics of the case under study.

The use of IT technologies makes it possible to reduce the volume of paper questionnaires due to the use, for example, smartphones and communicators or electronic questionnaire forms when the risk of information loss is minimized. Various general and special-purpose software is used for data processing at AITU. It is rather problematic to choose a software product in the optimal ratio for sociological research. After analyzing the possibilities of the available packages for conducting sociological research, it is possible to demonstrate the advantages of the Microsoft Office package. A comparative analysis of the characteristics of the main software products intended for the organization of sociological research is given in Table 1.

TABLE 1. CHARACTERISTICS OF PACKAGES USED IN SOCIOLOGICAL RESEARCH

Packages	Features	Usage
MINITAB, S-plus, SPSS, SAS, STATISTICA, SYSTAT, CSS, etc. (Specialized statistical packages)	Mathematical statistics methods are used for sociological research data processing and. Knowledge is required for sociological research data processing and analysis interpretation by mathematical methods.	In systematic sociological study when the universal packages functions are not sufficient.
Microsoft Office package (Universal)	Software packages installed on office and home personal computers. Ability to use Microsoft Office 365 "Cloud" technologies. Adapted information as a part of every software package.	The use of universal Microsoft Office package in a sociological survey with a small specialists' staff. There are no issues with display of data compatibility and correctness.

At the third stage of preparing the final report, the sociologist most often uses a text editor. The formation of conclusions is a creative process, and no software and hardware tools at the present stage of information technology development can replace a competent specialist. However, with the help of Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Microsoft Visio, Microsoft Office package, the results of the study can be clearly illustrated.

The IT tools were very helpful in the sociological surveys "Why I chose AITU", "To be an active student is your choice", "Youth groups and their influence on the university public processes". The results of data processing become a source about the real marketing situation related to factors that influence the choice of a university; identifying the level of the students' social activity, as well as the awareness of young people about various social groups that currently exist at the university to determine the social profile and activity of student youth.
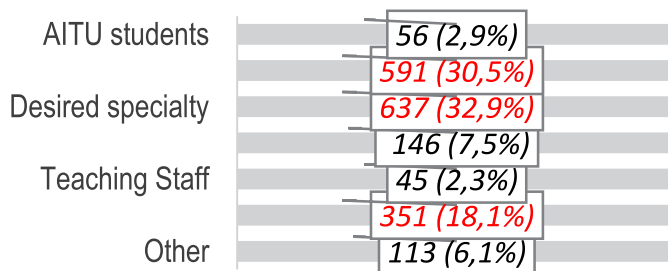
The object of the survey "Why I chose AITU" is the AITU 1st year students. The purpose of the study is to identify factors affecting the applicants' university choice. According to the 2022–2023 AITU admission, 2103 undergraduate students and 192 master students have been enrolled to the first-year educational programs. As a part of the study, 1,939 respondents were interviewed. Freshmen of 10 undergraduate and master students of 3 educational programs were covered. According to the survey result, most respondents (45.4%) receive information about AITU from social network, in the second place, 28.6% of the respondents choose friends as the information source. In third place are parents and relatives. If we apply the method of logical grouping, then the media and TV, social networks and the AITU website – 45.4% in total will be in the first place

According to the survey results, a source of information about AITU for bachelors:

- social networks (33.6%);
- Friends (28.7%);
- Parents/relatives (13.3%).

The choice of the university applicants is of particular interest. The results to the question "What criteria did you focus when choosing a university?" are presented in Table 2, where most respondents have chosen the option "desired specialty." So, in quantitative terms, it is 637 respondents (32.9%) of the total number of respondents (students) participating in the survey. The second most popular answer "AITU prospects" were selected by 591 respondents (30.5%) of the total number that took part in the survey. "The image of the university" among factors affecting 18.1% of respondents' choice took the third place.

TABLE 2. Survey results for the question: WHAT CRITERIA DID YOU FOCUS
WHEN CHOOSING A UNIVERSITY?

AITU students	56 (2,9%)
	591 (30,5%)
Desired specialty	637 (32,9%)
	146 (7,5%)
Teaching Staff	45 (2,3%)
	351 (18,1%)
Other	113 (6,1%)

Among the leading answers that the respondents gave in open ended questions were "3-year study" – 34 (1.8%), and other options indicated in Figure 1. As a result of the survey, the choice of respondents mainly fell on the answer option "by aptitude to ICT" – 67.9%, 14.3% made their choice at the parents' insistence and 13.7% in solidarity with friends. Only 2.4% made their choice on family traditions.
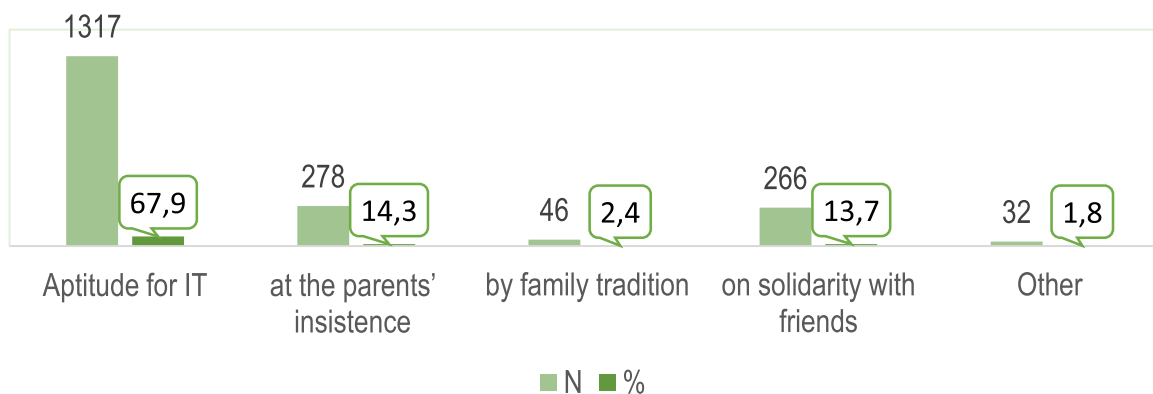

Figure 1.

To the question "What other universities have you considered?" there was no restriction on the number of respondents' answers. The total number of answers is 2789. Applicants considered more than 70 universities, including universities not only in Kazakhstan, but also foreign ones. Among the main AITU competitors in the education market are KBTU, SDU, IITU.

The purpose of sociological survey "To be an active student – your choice" is to study the level of AITU students' social activity, which aimed at determining the forms of extracurricular activities; the most/least important qualities of a socially active individual; the students' participation and attitude to the project activities, identifying the causes of students' social activity. 1322 students which is 62.8% of the total number took part in the survey.

To the question "What do you mean by social activity?" 32.8% of respondents chose the option "Student self-government (circles, clubs, tips)", 28.1% believes that participation in events (conference, seminars, etc. d.) And in the opinion of 19.9%, these are clubs and associations of different areas. More details can be found in Table 3.

TABLE 3. Survey results for the question: WHAT DO YOU UNDERSTAND BY SOCIAL ACTIVITY?

Charity	59	4,4%
Student self-government (circles, clubs, councils)	436	32,8%
Clubs and associations of various fields	265	19,9%
Participation in events (conferences, seminars, etc.)	374	28,1%

The survey results show that social activity is an important element for AITU students ("definitely, yes" and "more likely, than no" - 91.6%) prevail over options that exclude the importance of this phenomenon ("rather no than yes" And "definitely, no" – 8.4%).
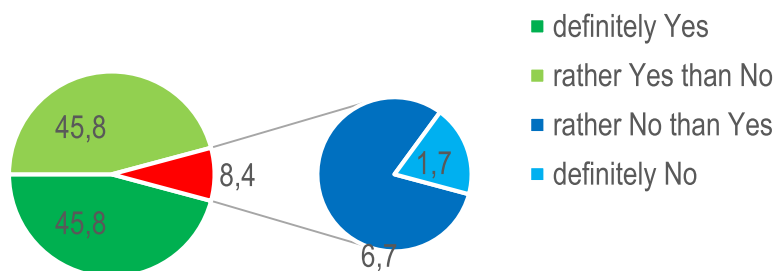

Figure 2. Do you consider social activity to be an important element in human development?

To the question "How often will you take part in the university social life?" 51.7% indicated that it was quite rare and will not take part in the socio-public life of the university, less than a half (48.4%) noted that they will often take part in the socially public life of the university.

The share of respondents as a "participant" in various areas of public life is 48.3%; as a viewer/observer - 23.8%, as an assistant - 15.3%, and as the organizer is only 9.3%. A little less than half are ready to take part in social activities within the university (41.1%) and 6.1% at the group level.

16.8% of respondents are ready to take part in socio-public activity 9.2% at the country level and 7.6% at the international level. 33.3% could not answer this question.

Among the socio-public areas, creativity is the leading (19%), at almost the same level there is sports (17.7%), entertainment activity (17.7%) and science, education (17.1%), volunteering (11.4 %), charity (5.2%) and politics (4.1%) are less in demand among students interviewed.

TABLE 4. Survey results for the question: WHAT AREAS OF SOCIAL ACTIVITY DO YOU LIKE TO TAKE PART?

	Quantity	Percentage
Politics	56	4,1%
Science, education	236	17,1%
Charity	72	5,2%
Creation	262	19,0%
Military Patriotic	11	,8%
Entertainment events (flash mobs, promotions, quests)	244	17,7%
Volunteering	158	11,4%
Sport	244	17,7%
Tourism	28	2,0%

According to 22.6% respondents surveyed, sociability forms social activity. There are 3 more important qualities according to respondent answers:
- responsibility (17.9%);
- sociability (17.4%);
- organization (16.6%).
No less important qualities according to respondents' answers are:
- determination (9.2%);
- independence (6.9%);
- mobility (9.1%).

TABLE 5. Survey results for the question: WHICH OF THE FOLLOWING QUALITIES, IN YOUR OPINION, FORMS SOCIAL ACTIVITY?

	Quantity	Percentage
Responsibility	862	17,9%
Sociability	838	17,4%
Communication	1085	22,6%
Mobility	438	9,1%
Organization	797	16,6%
Independence	332	6,9%
Purposefulness	444	9,2%
Difficult to answer	7	,1%

To the question "What opportunities gives the student participation in social activity?" 99.1% of respondents replied that this is an opportunity to achieve personal goals. About 1% of the respondents indicates different options, such as: new acquaintances, self-realization and interesting leisure time. According to the study, 43.9% of respondents are convinced that the knowledge gained during participation in social activity will be useful in other areas, 47.3% replied rather Yes. In general, for 84% surveyed, self -realization is an important component as social activity.

Figure 3. Survey results for the question: What opportunities does the student get to participate in social activities?

The purpose of sociological study "Youth groups and their impact on public processes at the university" is to identify the awareness about various social groups. As part of the study, 1,506 respondents were interviewed. According to students' opinions there are the following classification of social groups:
- Gamers (main enthusiasm are video games);
- Animes (passionate about the Japanese culture of animated series);
- creators (who are fond of various kinds of creativity, starting with drawings and ending with dancing);
- informals (distinguished, mainly due to their unusual appearance);
- K-popers (the musical and dance work of Korean culture);
- activists (socially active within the university).

In Table 6 the following survey results have been obtained.

TABLE 6. Survey results for the question: WHAT DO YOU DO MOST OFTEN IN YOUR FREE TIME?

	Quantity	Percentage
on social networks, watch YouTube	1149	24,6
listen to music	698	14,9
walking with friends	659	14,1
surfing the Internet	510	10,9
play computer games	467	10,0
watch TV shows, videos	386	8,3

Thus, all respondents know what they do in their free time except study.

TABLE 7. Survey results for the question: WHAT INFORMAL GROUPS DO YOU KNOW?

Known in general		index	informal groups	index	Known in AITU	
Quantity	Percentage				Quantity	Percentage
1139	18,3	1	animers	1	1198	21,9
1091	17,5	2	gamers	2	1118	20,5
984	15,8	3	k-pop	3	948	17,3
734	11,8	4	informals	5	545	10
707	11,4	5	activists	4	670	12,3
444	7,1		creators		391	7,2
554	8,9		freaks		319	5,8
443	7,1		graffiti artists		152	2,8
35	0,6		other		27	0,5
6	0,1		none		7	0,1
86	1,4		find it difficult to answer		89	1,6

In order to investigate the degree of identification with any subculture, we considered the distribution of answers to the question «Do you consider yourself to be the part of subculture?" 30.4% of the respondents do not attribute themselves to any of the listed groups, 18.6% attribute themselves to gamers and 17.3% to anime. After analyzing the question answers "What subculture do you consider yourself?", we found out that there is no mass belonging to any subculture among students. The answers were distributed as follows: in the gender section, most of all the male respondents are uniquely unicorn as-gamers, and the female is K-popers.

TABLE 8. Survey results for the question: WHAT SUBCULTURE DO YOU CONSIDER YOURSELF TO BE?

	male		female		refusal to answer		total
	Quantity	%	Quantity	%	Quantity	%	Quantity
gamers	371	87,5	52	12,3	1	,2	424
animers	277	70,1	116	29,4	2	,5	395
creators	110	57,9	80	42,1			190
informals	59	72,8	22	27,2			81
k-pop	55	28,8	133	69,6	3	1,6	191
activists	102	60,4	65	38,5	2	1,2	169
graffiti artists	27	77,1	8	22,9			35
freaks	56	80,0	14	20,0			70
none	436	62,8	252	36,3	6	,9	694
find it difficult to answer	18	50,0	7	19,4	11	30,6	36
Total	967		517		22		1506

In more detail, the motives by which young people, become participants in a certain subculture, according to the results of the study, were distributed as follows:

TABLE 9. Survey results for the question: WHY DO YOU THINK YOUNG PEOPLE JOIN INFORMAL GROUPS?

	Quantity	Percentage
interest in trying something new	811	10,8
the influence of companies and friends	678	9,0
coincidence of personal interests	670	8,9
desire to find new friends	571	7,6
desire to stand out from the crowd	560	7,4

According to the majority of the (69.7%) of our university, the most important reason why young people leave informal groups is a change of interests under the age influence.

TABLE 10. Survey results for the question: WHAT DO YOU THINK ARE THE REASONS WHY YOUNG PEOPLE LEAVE INFORMAL GROUPS?

reason	Quantity	Percentage
change of interests due to age	1059	69,7
influence of relatives and social environment	96	6,3
the collapse of the subculture	90	5,9
conflicts between members of the subculture	85	5,6
subculture going out of fashion	81	5,3
other	28	1,8
all the above	22	1,4
find it difficult to answer	58	3,8

In general, as the survey showed, most AITU students positively assess the role of youth subcultures and, in the opinion of half of the respondents, does not have any influence and it can be noted the tolerant relationship.
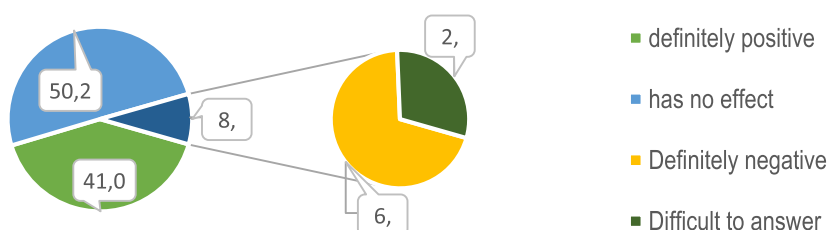

Figure 4. Distribution of answers to the question
"How do you assess the role of youth subcultures in general?"

Relation to the negative youth groups actions is negative. More than half of the respondents (54.2%) does not approve, 36.8% indicated the answer option "indifferent / no".

Figure 5. Distribution of answers to the question "how do you personally feel
about the actions of negative youth groups?"

The two-dimensional measurement showed that "disapproving" relates to the actions of
negative youth groups-K-POP, "indifferent / in no way"-creators. But those who are "approving"
of negative youth groups actions - "graffiti".

TABLE 11. DISTRIBUTION OF ANSWERS TO THE QUESTION "HOW DO YOU PERSONALLY FEEL
ABOUT THE ACTIONS OF NEGATIVELY MINDED YOUTH GROUPS?"

	negatively	indifferently	positively
gamers	56,4%	36,6%	4,2%
animers	57,7%	35,4%	4,6%
creators	47,9%	45,8%	3,7%
informals	46,9%	40,7%	9,9%
k-pop	59,7%	32,5%	5,2%
activists	50,9%	40,8%	5,9%
graffiti artists	40%	25,7%	25,7%
freaks	51,4%	30%	11,4%
none	55,6%	37%	3,9%
find it difficult to answer	8,3%	22,2%	2,8%

Based on the results of the surveys we may offer the Model of the university promotion for
sustainable development efficiency for promoting AITU brand.
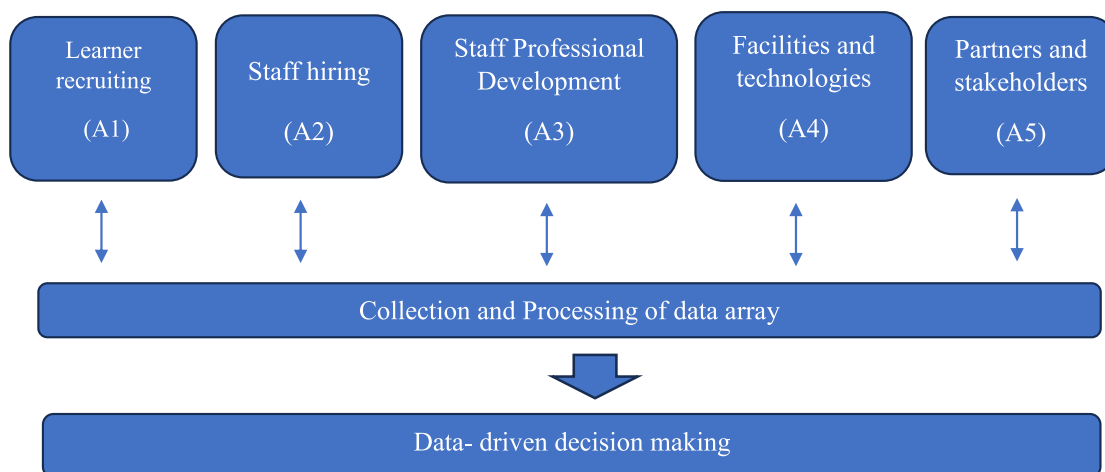
$$M/\text{per academic year} = \frac{A1 + A2 + A3 + A4 + A5 \text{ etc.}}{\text{Number of programs}}$$

Figure 6. Model of the university efficiency promotion for sustainable development

This model of the university efficiency promotion and sustainable development gives us opportunity to compare the progress of university efficiency in learner recruiting, hiring of local and international staff, the number of staff participated in the program of professional development, the number of laboratories and IT technologies, the range of national and international partners etc. Applying the model of university sustainable development gives the opportunity to track the progress effectiveness in AITU academic services, research, and social development and compare the results of each academic year in progress.
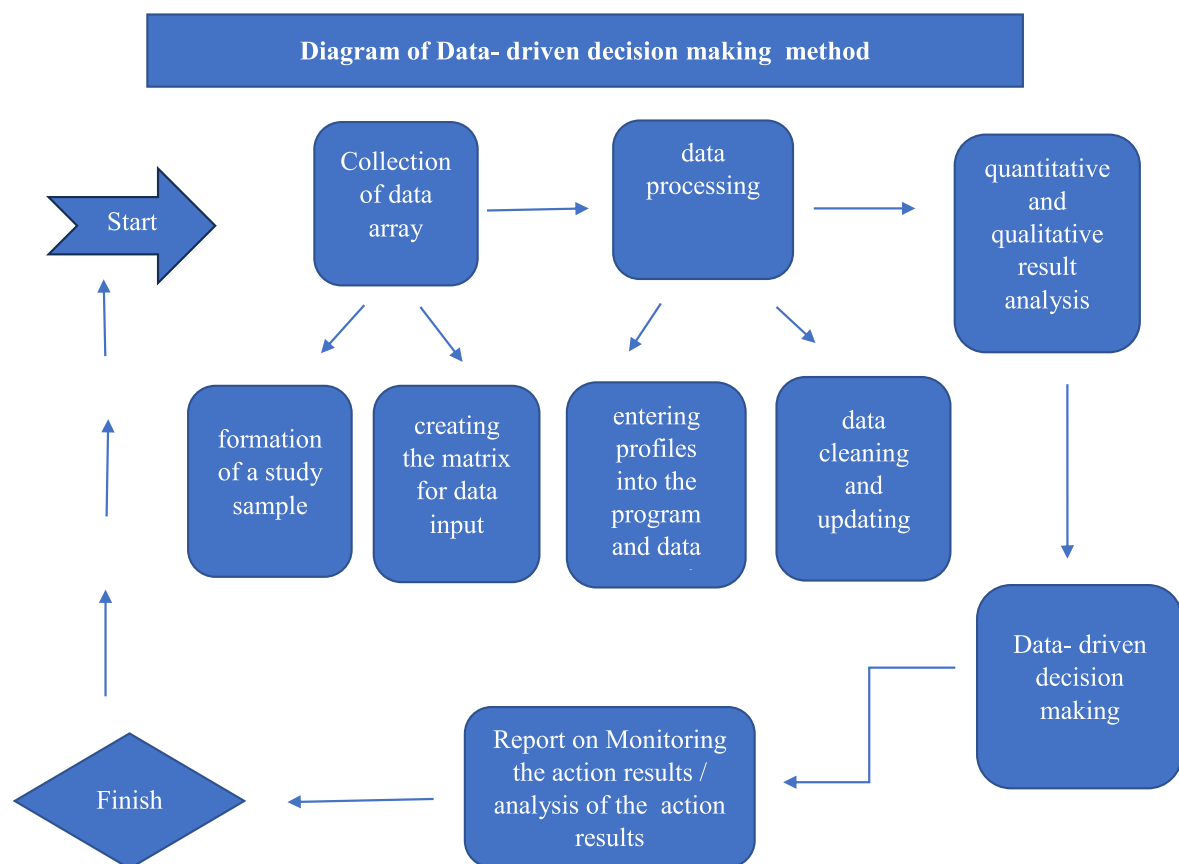

Figure 7. Diagram of Data-driven decision-making method

Methods of Data-driven decision-making approach in university efficiency promotion consist of several stages.

1 stage considers collecting data array using various types of survey (questionnaire, interview, expert, etc.), observation, document analysis, experiment we form a study sample and create the matrix for data input.

2 stage of operational and procedural data processing includes entering profiles into the program and data control then data cleaning and updating which prevent the data fluctuation. The procedure for checking collected array includes a review for accuracy, completeness and quality of filling, and rejection of those that do not meet the requirements. Processing of primary social information includes the following types of work: coding of primary social information, data entry into the sociological research database, error control and data analysis using mathematical methods.

3 stage of quantitative and qualitative result analysis of the data is done to prepare the final report. For the formation of conclusions are used Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Microsoft Visio, Microsoft Office package.

4 stage is making decision based on data analysis. On the meetings of university bodies measures for improving actions are considered.

5 final stage represents analysis of the effectiveness of measures and actions done for effective management.

Data-driven decision-making approach can be implemented in any field of university activities to assess the effectiveness of processes including learners recruiting, staff hiring and professional development, the technical provision, and others in any academic period. For example, to check the effectiveness of the planned actions results we may initiate the same research and compare the results of the first and the second investigation.

Results

The sustainable development of Astana It University can be demonstrated by increasing the number of learner recruiting, local and international staff hiring, the number of staff participated in the program of professional development, the number of laboratories and IT technologies, the range of national and international partners and so on.

The effectiveness of model implementation displays the promotion of efficiency. For example,

In 2019 the number of AITU students was 614, in 2020 the total number was 1800, in 2021 the total number of learners was 3177 and in 2022 the total number of learners was 5112.

Within this time from 2019 till 2023 there was the growth in the number of educational programs. So, in 2019-2020 there were 9 programs, in 2020-2021 there were 11 educational programs, in 2021-2022 there were 18 educational programs, in 2022-2023 there are 21 educational programs.

According to the Model we can calculate and identify the efficiency progress per academic year.

According to the Module formula we may mathematically calculate the AITU sustainable development and promotion of learner recruiting efficiency per academic year.

$$M = A/N$$

Where M stands for the indicator of academic year, A is the number of students and N is the number of educational programs.

$$M_1 = \frac{614}{9}, \quad M_2 = \frac{1800}{11}, \quad M_3 = \frac{3177}{18}, \quad M_4 = \frac{5112}{21}.$$

Where M_1, M_2, M_3, M_4 the academic period from 2019 till 2023 respectively.

The results $M_1 = 68$; $M_2 = 163$; $M_3 = 176$; $M_4 = 243$ demonstrates that AITU has the leap in number of students within these 4 academic years and in the number of educational programs as well. Learners' recruiting indicator demonstrate the recruitment stability which evidence AITU sustainable development.

The same indicator analysis could be done with any aspects of AITU educational activities, such as research, staff hiring and professional development, the technical provision efficiency progress for providing detailed analysis of university sustainable development.

Sociological research at various stages of its implementation can be automated with the help of modern information technologies. The phased use of information technology at various stages of sociological research follows from the effectiveness of IT platforms, depending on the goals and objectives of each stage of the sociological survey.

Table 12 presents a classification of the types of platforms, which are recommended at various stages of sociological survey.

TABLE 12. APPLICATION OF IT TECHNOLOGIES AT THE SOCIOLOGICAL RESEARCH STAGES

Stage of sociological research	Information Technology
Field stage (or stage of collecting primary social information)	the global Internet (search engines, e-mail); smartphones and communicators, voice recorders, video cameras and other technical means; package Micro
Stage of preparation and information processing.	SPSS, SAS, S-plus, STATISTICA, SYSTAT, CSS, MINITAB etc.) statistical programs; Microsoft Office (Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Microsoft Access, Microsoft Visio, Microsoft Outlook) or other packages
Final stage	Microsoft Office (Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Microsoft Visio, Microsoft Outlook) or other packages

With the help of IT tools used in sociological study we got survey results which give enough data to form a sociological portrait of an AITU freshman. The main reason for 32.9% of students for AITU choice is the presence of the desired specialty. The main criterion for 30.5% of respondents was the AITU prospects, and 18.1% of respondents has chosen AITU due to its image.

The survey confirmed that the main information source about the educational services market is social networks (33.4%) and friends (28.6%). Respondents also give priority to such sources of information as advice, evaluation of relatives, friends, acquaintances. Thus, respondents focus on the experience and relatives' assessments and materials distributed in the media. The AITU projects were an attractive aspect for 52.4% of the respondents, 33.9% of the respondents indicated in second place the project I Code, 11.8% of the respondents indicated AITU Stories and in third place AITU Project Challenge (6.6%).

So, we can conclude that the main tool for promoting educational services of the university is the educational services of the university itself. Socio-active students identified those areas that are a source for leisure time, self-development, and socialization. In general, the socio-active students of the first year are 66.5%. It is also important to note here that most of the respondents are aimed at using various personal opportunities.

99.1% of respondents in the first place determined the possibility of achieving personal goals, 0.5% of the respondents indicated the possibility of self -realization (the third most important, students noted the opportunity to make new acquaintances (0.2%). An interesting leisure time is important for 0.1% of the respondents. In a percentage of 40% -100% for the component as socio-public activity, the "self-realization" average percentage indicator is 18%.

One of the most important components in the modern world is self – realization. As the survey results show, for students from 40 to 60%, self-realization is an important component, for 37.1% is socio-public activity, and for 30.5% this component is in the range from 20% to 40%.

According to the study results, it can be concluded that AITU freshmen demonstrate interest in creativity, science, education, entertainment events (flash mobs, promotions, quests), volunteering, sport, but to the sphere of charity, the military-patriotic and socio-political life the respondents do not particularly demonstrate interest. 68.1% of respondents associate themselves with one of the subcultures and 30, 4% of respondents do not associate themselves with any subculture. Thus, students seek to join social groups (subcultures) to experience something new. Also, one of the leading motives, according to the respondents' opinion is the influence of companies and friends, the coincidence of personal interests and the desire to find new friends.

In general, we can say that a positive attitude towards youth groups prevails, the share of respondents who recognize youth subcultures useful potential is 68.1%. Subcultures are to a greater extent act as associations of interests that help to get away from loneliness to satisfy the need in communication. According to the results of the study, the main source of information about the life of various subcultures is the telegram channel.

Conclusion

Thus, the experience of applying adaptive tools in conducting sociological research, considering modern information technologies at various stages of research have a positive effect on the effectiveness of sociological research, the accuracy of the results obtained and proves the need for experimental research in this direction. The quality of a survey is of prime importance for accurate, reliable, and valid results. Survey teams should implement systematic quality assurance procedures to prevent unacceptable practices and to minimize errors in data collection. Establishment of effective and efficient strategies towards improvement of the quality of a survey will help achieve the timely collection of high-quality data and the validity of the results.

The model of the university efficiency promotion and sustainable development is cost effective in comparison of university efficiency progress concerning learner recruiting, hiring of local and international staff, the number of staff participated in the program of professional development, the number of laboratories and IT technologies, the range of national and international partners etc. Tracking the progress effectiveness in the AITU academic services, research, and social development may be achieved by applying the Model of university sustainable development which gives the opportunity to compare the results of each academic year in progress. Data- driven decision-making approach can be implemented in any field of university activities to assess the effectiveness of processes including learners recruiting, staff hiring and professional development, the technical provision, and others in any academic period.

With the help of IT tools used in the conducted sociological surveys "Why I chose AITU", "To be an active student is your choice", "Youth groups and their influence on the university public processes" the social profile and the sources of social activity of AITU students' have been effectively determined. The factors affecting the social activity of AITU students have been analyzed. The survey results show that social activity is an important element for AITU students' social life. The main reason for AITU students' choice is the presence of the desired specialty, the AITU prospects, and AITU image. The main information source about the educational services market is social networks, friends' advice, evaluation of relatives and other. One of the most important components in the modern world is self-realization. Based on the study, it is concluded about the problems and features of the students' social activity. The study conducted made it possible to find out the main criteria for social activity for the successful process of AITU student socialization. The vast majority of AITU students are convinced that participation in the university's social life makes it possible to achieve their personal goals. According to the study results AITU students demonstrates interest in creativity, science, education, entertainment events, volunteering, sport etc.

In general, the social activity of AITU student is high, but most students who do not show social activity have internal potential, the so -called internal activity. It is worth further to work in this direction, focusing on the development of university official resources including AITU Telegram Chat-X, managing the educational and social activities, raising students' awareness of the wide range of social and public activities, creating a platform for working with youth subcultures with talented and promising youth.

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