



CONGRESO INTERNACIONAL DE INVESTIGACIÓN EN CIENCIAS ADMINISTRATIVAS 2019

LA ECONOMÍA DIGITAL Y SU IMPACTO
EN LA GESTIÓN DE LAS ORGANIZACIONES

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ISSN: 2683-1449

ACACIA



Academia de Ciencias
Administrativas A. C.

Congreso Internacional de Investigación en Ciencias Administrativas

“La economía digital y su impacto en la gestión de las organizaciones”

Año 2, número 2, mayo 2018 – mayo 2019, es una publicación electrónica editada y publicada por ACADEMIA DE CIENCIAS ADMINISTRATIVAS, A.C., con domicilio en Campeche 810, Fracc. Valle de Aguayo, C.P. 87000, en Cd. Victoria, Tamaulipas.

Teléfono: (52) 834 31 62148, e-mail: acacia2018.2021@gmail.com, página web: <http://acacia.org.mx/>

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Editores responsables: Dr. Carlos González López, Dr. Miguel Ángel Vega Campos y Dr. Armando Medina Jiménez.

ISSN: 2683-1449

Hecho en México / Made in Mexico



UASLP

Universidad Autónoma
de San Luis Potosí

Un agradecimiento muy especial a la
Universidad Autónoma de San Luis Potosí (UASLP)
por el apoyo en la organización de este Congreso.

XXIII Congreso Internacional de Investigación en Ciencias Administrativas

**IMPACT THE PROCESS OF TEACHING ON COURSE EVALUATIONS AND
STUDENT SATISFACTION OF LUTSK NATIONAL TECHNICAL UNIVERSITY**

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Capítulo 3: Administración Estratégica

22 al 24 de mayo del 2019, Universidad Autónoma de San Luis Potosí, San Luis de Potosí,
México.

2.6. Impact the process of teaching on course evaluations and student satisfaction of Lutsk National Technical University

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Abstract

Education is a key driver of economic growth, particularly the higher education sector. The formal characteristics of the Ukrainian education system look good compared to the developed economies. It remains one of the most educated nations according to the UN Human Development Index. However, the productivity of education system in Ukraine is low.

This research focuses on the Impact of University Environment on Student Satisfaction in Lutsk National Technical University. To complete this purpose, the research question will be answered: if teaching and approach to management affect student satisfaction in Lutsk National Technical University?

Lutsk National Technical University is one of two big higher educational institutes in Volyn region, Ukraine. The students that participated in this study enrolled in the academic year, 2017/2018. In order to perform study, survey method applied to collect the data and number of received valid questionnaire were 200. The result showed that generally students are satisfied, with service quality offered by Lutsk National Technical University. In addition, research found that there are differences in overall satisfaction by student`s perception of style and type of teaching. Also, it was found that satisfaction level differs based on student`s perception of style of management in university.

Keywords: *Type of teaching, Student satisfaction, Lutsk National Technical University, Ukraine.*

Introduction

With the higher education sector becoming an increasingly competitive market, university student satisfaction has become an important component of quality assurance. Providing quality services and satisfying students' needs as well as expectations are vital for universities to succeed from the increasing competitiveness of this industry.

Main objectives of the study are: to reach overall satisfaction of student's within the given service in terms of different aspects; identifying satisfaction dissimilarities in students' perceptions of service across different departments. The research is based on the online survey made in university. The sample consists of 200 students from different age and study area.

Main research question is if teaching and approach to management affect student satisfaction in Lutsk National Technical University?

This work is divided into three parts. First section is dedicated to understanding the concept of satisfaction in high education sector and external factors that can affect it. At the beginning it was described the specifics of marketing in high educational institutes, particularly perception of student like the main customer of university. It was presented the comparison of Ukrainian educational system and Bologna model.

Second part is focused on methodology of the study. There is description of the survey applied and methods that was used to analyse the results of it. There are presented research hypotheses and statistical tests which are used to test each hypothesis.

In the third part analysis and results of the survey was presented. Inferential analysis and descriptive statistics were presented. This chapter refers to the research about estimating the level of student satisfaction in LNTU. The last section will be dedicated to the presentation of the main findings.

Main problem of the study is connected to specifics of factors analysed. It was used only data about external factors connected to university environment.

Framework

Formal characteristics of Ukrainian educational system

Education is a key driver of economic growth, particularly the higher education sector. With the higher education sector becoming an increasingly competitive market, university student satisfaction has become an important component of quality assurance. In higher education, “students are the main customers of universities” (Keblawi et al., 2013, p.7). As such, providing quality services and satisfying students’ needs as well as expectations are vital for universities to succeed from the increasing competitiveness of this industry.

Ukraine scores highly in many indicators that characterize its human capital. For example, it remains one of the most educated nations according to the UN Human Development Index (HDI); in 2010 it was twenty-seventh in the global education ranking while its overall HDI ranking was sixty-ninth among 169 nations (Capello, Oleicka & Gorzelak, 2013). Ukraine’s literacy rates are close to 100 percent and on average Ukrainians have 11.3 years of education. Participation in higher education in Ukraine has increased dramatically over the last twenty years and currently there are 2.7 million students in Ukrainian universities and institutes (Morska, 2010). Their number is continuously growing.

The formal characteristics of the Ukrainian education system also look good compared to the developed economies. Ukraine spends a healthy 5.3 percent of its GDP on education, which is comparable with France, the United Kingdom, Germany or the US. However, around 90 percent of the education budget is being spent on the payroll and supporting the existing infrastructure – there is very little investment going into the advancement and modernization of schools’ and universities’ infrastructure, and enhancing the quality of the curriculum (Capello et al., 2013). Moreover, the entire

administrative and assessment system in education is based on quantitative indicators rather than qualitative.

At the same time, the productivity of Ukrainian educational sphere is low. According to expert assessments in 2009, the GVA per one employee in the education sector was 3,625 USD which is three times less than overall economic productivity (10,735 USD). This is especially surprising since 70 percent of employees in educational sector have a higher education, compared to 55 percent for the economy in general (Capello et al., 2013). This demonstrates that the higher level of skills, or at least formal attributes of such skills, is not being converted into higher labour productivity.

The problems of Ukrainian education sector are better illustrated not so much by the formal participation rates, years in education and skills proliferation, but by the level of satisfaction by education services. According to a Gallup World Survey, only 38 percent of Ukrainians responded positively to the question 'Are you satisfied with the quality of education in your city/locality?' (Capello et al., 2013). This is a very low indicator compared to the 70 percent satisfaction rate in the USA and the UK, 59 in Germany, 42 in Russia or 66 in Poland (Wawak, 2014). So despite high spending and participation rates, Ukrainians are unsatisfied with their country's education system.

According to euro integration process in Ukraine, we will talk about higher education from the European point of view. By the way, Ukraine is full member of the Bologna Process since 2005. The Bologna Process is the name for the reform of higher education in Europe which basic objective is promotion of students' and teachers' mobility by establishment so-called European Higher Education Area (Denson, Loveday & Dalton, 2010). Bologna system provides creation of common European Higher Education Area which assure mobility and transparency of education and establishment of quality assurance system of higher education. Such system puts the student in its centre, and it offers transparency and quality, and simultaneously provides the conversion of society into the knowledge society (Capello, Olechnicka & Gorzelak, 2013). The main goal of Ukraine participation in integration process in sphere of educational services is increasing of Ukrainian high education competitiveness on the

basis of integration to European educational space under conditions of preserving best traditions of national educational system (Morska, 2010). In Europe, it is becoming clear that institutions must make efforts to find their niche in order to establish their identity and do what they do best (Wawak, 2014). Theoretical conceptualizations such as students' satisfaction as a multi-dimensional construct involving the interaction of personal, sociological and contextual factors such and processes affecting their development are addressed in this work. Priority objective of education system is developing logical and creative abilities of the individual and its ability for changing and innovating current situation (Astin, Oseguera, Sax & Korn, 2002). Also, one of the main objectives is adopting a part of general and specialized contents needed for inclusion in the work process. In education it is necessary to develop qualitative detrimental quantitative component.

Construction of the Ukrainian model of higher education is based on orientation to requirements of society (Wawak, 2014). Satisfaction of development requirements of a society by targeted well-being and preparation of executors, manufacture of labour for a certain sectors of public life (Brandon-Jones & Silvestro, 2010). Bologna model accents on personal requirements, satisfaction of requirements/desires of the person to unite their own well-being with serving to a society: formation of people, competitive in the world labour market (Denson et al., 2010). Approaches to management and higher education financing essentially differs. In the Ukrainian model there is a high regulatory and control pressure from the higher administrative authorities: Verkhovna Rada, Cabinet of Ministers etc; cruelty and monotony of methods of administration with orientation to requirements of the higher directing authorities. Educational plans are determining and standardizing by the higher directing authorities by the higher directing authorities with orientation to satisfy requirements of the society established by the government, the minimum quantity of satisfaction courses. Financing is carrying out from the state budget or private funds: support of institutes instead of separate persons: there is no tradition of existence of a charity payments or grants (Wawak, 2014). Bologna model offers "autonomy of universities and partnership with regulations: conditions of development; variety and flexibility of management methods with

orientations to satisfy needs of client; financing has various sources”, (Elliot & Shin, 2002, p. 198). Also it's necessary to notice that in Ukrainian model there is an ideological shift, paternalistic methods, instead of on self-sufficient development of the person is observed; democratic institutes is not developed yet; authoritative traditional style of teaching where storing prevails over critical thinking: the limited access to world resources; discrepancy of experts preparation level in system of the higher professional training to requirements of an innovative way of manufacture development (Wawak, 2014).

Internationalization in education touches on the issue of immigration and the international labour market. The immigration flow from Ukraine is mostly directed to the Russian Federation, European Union, the USA, and Canada Educational credentials of Ukrainians in other countries are not well received (UNIAN, 2018). First, the language is a natural barrier, but more importantly, solid modern knowledge is often lacking. The Bologna Declaration and Lisbon Convention adopted by Ukraine are intended to integrate the nation's education sector into the larger European community (Wawak, 2014). However, if the situation with corruption does not change drastically, international credential recognition will not be possible. This problem is common for the former Soviet republics. Heyneman, Anderson and Nuraliyeva (2008, p. 1) point out that “Whether experienced or perceived, universities or university systems with reputations for corruption will likely end the Bologna process. Were this process to actually take effect it would constitute the educational equivalent in the EU of unilateral disarmament.” Countries with a high level of credibility and low level of corruption are unlikely to recognize educational credentials from the countries where degrees are bought and sold. This may lead to the collapse of the initiative of creating a common educational space within the larger Europe.

Complexity connected to management of educational services

According to UNIAN information agency Ukraine ranked 130th among 180 countries in the CPI 2017. The index, which ranks 180 countries and territories by their perceived levels of public sector corruption according to experts and businesspeople, uses a scale

of 0 to 100, where 0 is highly corrupt and 100 is very clean. Ukraine improved its last year result by one point and got 30 points out of 100 possible. Next to Ukraine stand Gambia, Iran, Myanmar and Sierra Leone. Meanwhile, Russia scored one point less and ranks 135th (29 points), Belarus - 68th (44 points), Poland – 36th (60 points). Thus, the CPI claims Ukraine is Europe's most corrupt country after Russia.

Corruption in higher education institutions is perceived as a major problem in Ukraine, as in most of the rest of the post-Soviet states. In many cases, informal payments are seen as the norm rather than the exception. In 2012 OBC Transeuropa commissioned a survey from the Kiev International Institute of Sociology. It exposed a negative attitude towards informal payments in higher education. Only 3% of respondents considered informal payments to teaching staff as necessary, while 28.7% had a more fatalistic position, considering them as “part of the system”. Negative attitudes, however, were prevalent. Only 9.3% of respondents considered informal payments as the only survival option for university teaching staff and 59% saw it as a sign of national degradation. In a subsequent question, informal payments were also associated with shame in 44.1% of the responses. Beyond the university environment they were, however, considered by 38% as part of the system that helps survival (Polese & Stepurko, 2016).

Some efforts have been made to fight these tendencies. The creation of the external independent evaluation - ZNO was aimed at changing admission procedures so that they are more transparent. However, if these changes have not produced tangible improvements perhaps the phenomenon has its roots elsewhere.

Teachers are not always interested in student-originated income. Notwithstanding this, they might still face pressure from the administration not to fail students. As a result, as one teacher reported: “There are students who need to pass an exam that is needed to complete a degree. I know that, sooner or later, he will pass and I also know that it is not his fault if he is obliged to get a degree to work afterwards, since in Ukraine it is unthinkable to get a job without university education. I will eventually pass the student

and I won't feel bad if he or she comes to me the next day with a box of chocolate or a bottle of brandy (kon'yak)", (Heyneman et al., 2008, p. 11).

Dramatic political and military events since 2014 that have shaken the country, along with slow attempts at a radical reform of higher education that have continued since 1990, make Ukraine an interesting case, worthwhile of scholars' attention (Osipian, 2009). The struggle for the country's true sovereignty goes hand-in-hand with a less-apparent struggle for university's autonomy. Drastic changes in the external environment, called to life by such dramatic events as the regime change and the war, urged HEIs and the educational authorities to turn to fundamental question (Osipian, 2017).

After all political turmoil - Revolution of Dignity of 2013, and the war that followed, Ukraine started big anti-corruption process. In November 2014 in line with the Memorandum of Understanding (MOU) between the OECD and Ukraine, the OECD launched a country-specific project to support Ukraine in its anti-corruption agenda (Polese & Stepurko, 2016). The project aims to strengthen legal and institutional capacity to effectively detect, investigate and prosecute high-profile and complex corruption in Ukraine. Specifically:

- to provide tailor-made assistance to the Ukrainian authorities for the establishing of the National Anti-Corruption Bureau;
- to provide capacity building assistance to the specialised unit within the General Prosecutor's Office that will work with the National Anti-Corruption Bureau to ensure effective detection and investigation of corruption cases;
- to develop a joint training programme on selected aspects of detection, investigation, prosecution and adjudication of complex corruption cases, including financial investigations, for law enforcement and judicial bodies;
- to help guide Ukraine towards a closer compliance with OECD standards on foreign bribery with the focus on liability of legal persons for corruption offences, confiscation, international cooperation and asset recovery (OECD, 2016).

Student satisfaction

Student satisfaction is about evaluating the educational services provided by institutions that frame their academic life (Alves & Raposo, 2007). Student satisfaction surveys are commonly used as feedback to determine the delivery of education. Denson summarized four reasons for collecting student feedback:

- to provide students with the opportunity to offer their opinion regarding the courses in order to lay the foundation for improvements;
- to express their level of satisfaction with teaching and learning;
- to encourage students to give feedback and to use the results as benchmarks;
- to provide indicators that have an impact on the reputation of the institution in the marketplace and in the labour market (Denson et al., 2010).

Active students should be asked to evaluate each course they have attended during the term of education. The main goals of course evaluations are “to obtain student feedback regarding courses and teaching for improvement purposes and to provide a defined and practical process to ensure that actions are taken to improve courses and teaching” (Elliot & Shin, 2002, p. 203). Of the items on course evaluation forms, the one that receives the most attention and consequently the most weight is the question, ‘Overall, I was satisfied with the quality of this course.’ However, no attention has been placed on examining the predictors of students being ‘satisfied with the quality of this course’ overall (Denson et al., 2010).

Student satisfaction surveys can serve two purposes. First, they can serve as a tool for planning and implementing continuous improvement activities. Second, they can be considered as managerial tools, guiding higher education institutions to adapt to the changing circumstances of this market (Keblawi, Johansson & Svensson, 2013).

For instance, according to Tóth and Jónás (2014) the student is now recognized as the principal ‘stakeholder’ of the higher education in Hungary. Student feedback of some sort is usually collected by most institutions, though there is little standardization on how this is collected and what is done with it. There is still little understanding of how to use and to act upon the collected data.

Course evaluation and student satisfaction

To start course evaluation, we need to begin with student satisfaction of teaching (SET).

Typically, SET have been used for the following purposes:

- “as a developmental tool for providing feedback to staff about their teaching;
- as a measure of teaching effectiveness to make personnel decisions;
- to assist students in selecting courses and teaching staff;
- as a source of data for research on teaching” (Ginns, Prosser & Barrie, 2007, p. 607).

In a teaching-focused evaluation, the course components that are evaluated are the teacher and the teaching process. In contrast, if the evaluation is learning and curriculum-focused, possible objects to evaluate are the quality of learning outcomes or processes and even sustained knowledge transfer from other courses undertaken (Hanzhar, 2015).

Evaluation questionnaires always include ratings of teachers and teaching activities, “students are rarely asked to assess their own learning or to consider their own work – despite the fact that such information could be used to improve the curriculum in order to better support the desired learning outcomes” (Ruth & Houston, 1982, p. 61).

Whilst student satisfaction is an increasingly popular construct within SET, some researchers have noted that satisfaction remains at this time a complex and poorly articulated concept, influenced by a wide variety of contextual factors (Hanzhar, 2015). Further, it isn’t universally accepted that satisfaction is even a desirable outcome of university education.

Elliot and Shin (2002) identified that, at the institution level, the majority of factors that predicted student satisfaction related to course and teaching quality:

- excellence and quality of instruction;
- knowledgeable, fair and unbiased staff;
- clear and reasonable requirements for each major; access to information;

- ability to get to classes (or convenient timetabling).
- Ginns et al. (2007) identified five factors that predicted overall student satisfaction with their degree:
 - good teaching (which incorporates providing feedback);
 - clear goals and standards;
 - appropriate assessment;
 - appropriate workload;
 - generic skills.

One of the main aspects of course and teaching evaluating is an individual approach provided by the teacher. For my opinion, this question needs to be considered more seriously. Using the speech of the President of the Republic of Uzbekistan: `It is possible to achieve success only if competence and an individual approach in education are provided, which means that the educational process should be based on taking into account the individual characteristics of each student, development of his/her personal identity, development of his/her capabilities, uniqueness and individual style of activity (Hanzhar, 2015). At the same time, it's necessary to develop an individual path of education, which means a system of individualized knowledge, amended standard programs, adjustment of curriculum for each individual student, and understanding of the way to unlock each student's potential (Machado, Brites, Magalhães & Sá, 2011). The creation of an individual educational trajectory is largely dependent on the competence approach in education, aimed at the orientation of education to achieve a sufficiently high level of knowledge, experience and communication in various fields and areas (Theodorakis et al., 2001).

Nowadays, it will be distinguishing the informational, psychological, health-preserving and other competencies that enhance the effectiveness of the educational process (Hanzhar, 2015). Individual work of highly professional teachers, carried out `face to face`, is an opportunity for a teacher to solve personal, social and methodological questions of students, in particular:

- identification of problems of a theoretical or practical character, which are relevant for a particular student;
- determining the sequence of the emerged problems and the approximate timing of their solving;
- involvement of other professionals to address the health improving nature of physical education;
- the choice of methods or athletic and sports training etc.

Thus, individualization in education is an urgent task, as the more individual the approach is, the more likely it is that each student will reach the desired learning outcomes and will master all subjects more successfully, and will acquire knowledge and skills in a larger volume and accordingly will be more satisfied.

Research methodology

This study examines impact of university environment on level of student`s satisfaction. As an object of study was chosen Lutsk National Technical University (LNTU). To answer the main research question if teaching influences, the level of satisfaction of students in LNTU, survey was applied and descriptive and inferential analysis was made in order to draw inferences regarding the association between the variables and testing the truthfulness of the hypothesis.

Objectives of the research are following:

- O₁: To reach overall satisfaction of student`s within the given service in terms of different aspects.
- O₂: Identifying satisfaction dissimilarities in students` perceptions of service across different departments.

Based on the objectives of the study, the research hypotheses were developed (Table 1).

Table 1. Research hypothesis of the study.

Label	Hypothesis
H ₁	Overall satisfaction level of LNTU is equal or more than 4 points.
H ₂	There are differences in overall satisfaction related to style of teaching.
H ₃	There are differences in overall satisfaction related to type of teaching.
H ₄	There are differences in overall satisfaction by style of management.

For the primary data collection questionnaire method was used. Responses were collected from students during April and May of 2018, in the second semester of 2017/2018 academic year the sample size consists of 200 students.

To estimate the satisfaction level, survey was based on analogous one, described by De Marie, Cono and Fernandes (2016). It comprised questions related to the students' satisfaction measured on a 5-point Likert scale (1 - 'Strongly Disagree', 2 - 'Disagree', 3 - 'Neutral', 4 - 'Agree' and 5 - 'Strongly Agree'):

- First expression of LNTU;
- Satisfaction with the choice of high educational institute;
- If there was a chance, student would choose LNTU again;
- Students' choice of LNTU – right decision;
- Student is happy because of choosing LNTU;
- Student considers his choice of LNTU right;
- Student's happy to attend LNTU;
- Student likes to tell about LNTU his friends;
- Student likes to help future students by giving information about LNTU and its' programs;
- People ask student about programs and studying in LNTU;
- LNTU meets student's expectations.

To calculate the reliability of data, the Cronbach's Alpha (α) was used. In the present study it was achieved a Cronbach's Alpha of 0.943, it means that internal consistency is 'excellent'.

In the Table 2 objectives, research hypothesis, and the techniques were used to analyse the data are presented. In this study there is presented the population of 3958 students from different study areas.

Table 2. Data Analysis Techniques.

Label	Objectives or Research Hypothesis	Data analysis technique
H ₁	Overall satisfaction level of LNTU is equal or more than 4 points.	t-Student test
H ₂	There are differences in overall satisfaction related to style of teaching.	t-Student test
H ₃	There are differences in overall satisfaction related to type of teaching.	Kruskal-Wallis test
H ₄	There are differences in overall satisfaction by style of management.	Kruskal-Wallis test
O ₁	To reach overall satisfaction of student's within the given service in terms of different aspects.	Mean and Standard Deviation
O ₂	Identifying satisfaction dissimilarities in students' perceptions of service across different departments.	Mean and Standard Deviation

Presentation of the results

Descriptive and exploratory analysis

Respondents who participated in this study belong to different study areas. The main part of students is from Business Faculty – 39.20% (78 students). The second most significant teaching group belongs to the Faculty of Ecology and Instrumentation and Energy systems – 14.57% (29 students). Machine-building faculty contains of 11.56% of respondents (23 students), Faculty of Accounting and Finance – 10.56% (21 students), Technological faculty – 8.54% (17 students), Faculty of Construction and Design – 8.04% (16 students) and Faculty of Computer Sciences and Information Technologies – 7.54% (15 students).

Respondents, who participated in this study were asked about special features of the university's environment. Considering teaching style in LNTU, 82.91% (165) of respondents consider its as traditional and only 17.09% (34) of respondents – as innovative.

Concerning teaching type respondents receives three options to choose:

- Theoretical: 46.46% of respondents (92 of students) consider teaching type in LNTU as theory-based;

- Practical: 2.53% of respondent (5 of students) consider teaching type in LNTU as practice-based;
- Balanced 50/50: 51.01% of respondents (101 of students) consider teaching type in LNTU as balanced between theory and practice 50/50.
- Respondents were asked to estimate the style of management in LNTU. 6 management styles according to Hay-McBer were presented and respondent were asked to choose which one matches the most with LNTU`s reality. The results of the questionnaire were:
 - Directive (“do it the way I tell you” manager): 29.95% of respondents (59 of students).
 - Authoritative (“firm but fair” manager): 2.03% of respondents (4 of students).
 - Affiliative (“people first, task second” manager): 20.30% of respondents (40 of students).
 - Democratic (“everyone has input” manager): 23.86% of respondents (47 of students)
 - Pacesetting (“do it myself” manager): 6.09% of respondents (12 of students).
 - Coaching (“developmental” manager): 17.77% of respondents (35 of students).

Next question states if students have private contact to the dean of their faculty. Only 51,26% of respondents answer “yes” to this question (102 of students). Other 48,74% of students (97) do not have a private contact.

Last question related to students` profile was related to understanding students` opinion about boorishness. Respondents were asked to estimate if they consider boorishness as a part of Ukrainian mentality. It was observed that 70.71% of respondents (140 of students) responded “no” and 29.29% of respondents (58 of students) responded “yes”. To find out the answer to the O_1 “*To reach overall satisfaction of student`s within the given service in terms of different aspects*” calculated mean and standard deviation of overall satisfaction. It was concluded that overall, students of LNTU are satisfied with the service quality provided, once it was reached a mean approximately 3.4 points (SD= 0.96172).

In order to answer O₂ “*Identifying satisfaction dissimilarities in students` perceptions of service across different departments*”, mean and standard deviation calculated and represented in Table 3. From the table it could be seen that mean for overall satisfaction by each department vary between 3.1812 to 3,810 points. Highest satisfaction rate demonstrated in Machine-building faculty (M = 3.810 points; SD = 1.065). The least satisfaction rate showed in Faculty of Computer Sciences and Information technologies (M = 3.182 points; SD = 0.81890).

Table 3. Overall satisfaction by faculties.

Faculty	n	Mean	Std. Deviation
Business faculty	78	3.3974	0.86493
Faculty of Computer Sciences and Information Technologies	15	3.1818	0.81890
Technological faculty	17	3.1925	0.99528
Faculty of Construction and Design	16	3.2045	0.93154
Faculty of Ecology and Instrumentation and Energy Systems	29	3.2119	1.01596
Faculty of Accounting and Finance	21	3.5675	1.13847
Machine-building faculty	23	3.8103	1.06474
Total	199	3.3868	0.96172

Inferential analysis

Regarding to answer the H₁ “*Overall satisfaction level of LNTU is equal or more than 4 points*”. While we need to testify if everybody is satisfied with LNTU, One-Sample T Test was applied. We compared overall satisfaction level with test value of four (“Satisfied”). Result is presented in Table 4. As it can be seen, the significance level is less than 5%. Thus, we are 95% sure that the average satisfaction level is not equal to four.

Table 4. One-Sample T Test for overall satisfaction.

	T	Df	Sig. (2-tailed)
Global Satisfaction	-8.995	198	<0.001

To answer H₂ “*There are differences in overall satisfaction related to style of teaching*”, firstly the mean and standard deviation for each option was calculated and presented in Table 5, and the Student T test was applied.

Table 5. Distribution of overall satisfaction by style of teaching.

Teaching style	Mean	n	Std. Deviation
Traditional	3.2708	165	0.94099
Innovative	3.9495	34	0.86919
Total	3.3868	199	0.96172

As it is presented in Table 6, the significance calculated in Levene's test is equal to 0.652, which is more than 0.05. It is concluded that variances are not significantly different and the upper row of results for t will be interpreted. T-value is equal -3.877. The mean difference between groups of people that consider teaching style as innovative and ones that consider it as traditional is equal to -0.67864. Significance less than 5% means that the mean difference between these two groups is statistically significant. Therefore, there are differences exist in overall satisfaction by teaching style. In addition, the main hypothesis was corroborated.

Table 6. Student's t-test and Levene's test to identify differences by style of teaching.

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	p-value	t	Df	p-value	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	0.204	0.652	-3.877	197	<0.001	-0.67864	0.17504	-1.02382	-0.33345

In order to answer H_3 "There are differences in overall satisfaction related to type of teaching", the mean and standard deviation was calculated (Table 7). As for balanced teaching type sample size is less than 30, One-Way ANOVA test was rejected to apply. Kruskal-Wallis test was applied. It can be concluded, as the significance is less than 5%, that the difference in overall satisfaction by groups of people, who consider teaching type as theoretical, practical or balanced is statistically significant. The main hypothesis is corroborated.

Table 7. Distribution of overall satisfaction by type of teaching.

Teaching type	Mean	n	Std. Deviation
Theoretical	3.0746	92	0.90818
Practical	4.2545	5	0.62125
50/50	3.6410	101	0.92515
Total	3.3933	198	0.95970

In order to answer H₄ “There are differences in overall satisfaction by style of management”, One-Way ANOVA was failed to apply, because as it is shown in the Table 8, the sample size for some variables is less than 30. Thus, Kruskal-Wallis test was applied. In conclusion there is significant difference between satisfaction level of students by style of management in university. The main hypothesis was corroborated.

Table 8. Distribution of overall satisfaction by style of management.

How do you consider the style of management in university?	Mean	n	Std. Deviation
Democrative	3.6487	47	0.77849
Directive	2.7504	59	0.84955
Authorative	2.9795	4	0.74005
Affiliative	3.7045	40	0.81902
Pacesetting	2.9512	12	1.33841
Coaching	3.9704	35	0.75300
Total	3.3921	197	0.96506

Table 9 shows the results for the research hypothesis. Out of four hypotheses 3 hypothesis were corroborated.

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Total	3.3921	197	0.96506

Analysing the survey, it was found that 50% of students do not have private contact with the dean of their faculty. So, it is hard for students to give any feedback about service. For more detailed information, it was decided to make more detailed research and compare means of overall satisfaction of students depending on faculty and availability of private contact to dean. This comparison shows how availability of private contact to responsible person affects satisfaction.

Table 10. Distribution of satisfaction by faculty and availability of private contact.

Faculty	Do you have a phone number/email to your dean?	n	Mean	Std. Deviation
Business faculty	Yes	52	3.6124	0.75606
	No	26	2.9673	0.92170
	Total	78	3.3974	0.86493
Faculty of Computer Sciences and Information Technologies	Yes	6	3.2424	1.02798
	No	9	3.1414	0.71309
	Total	15	3.1818	0.81890
Technological faculty	Yes	8	3.4659	0.90836
	No	9	2.9495	1.05735
	Total	17	3.1925	0.99528
Faculty of Construction and Design	Yes	7	2.9221	0.89908
	No	9	3.4242	0.94694
	Total	16	3.2045	0.93154
Faculty of Ecology and Instrumentation and Energy Systems	Yes	11	3.6661	1.14089
	No	18	2.9343	0.84812
	Total	29	3.2119	1.01596
Faculty of Accounting and Finance	Yes	6	3.5606	1.59692
	No	15	3.5703	0.96994
	Total	21	3.5675	1.13847
Machine-building faculty	Yes	12	3.9394	0.94978
	No	11	3.6694	1.20829
	Total	23	3.8103	1.06474
Total	Yes	102	3.5730	0.92412
	No	97	3.1910	0.96621
	Total	199	3.3868	0.96172

Results of overall satisfaction and availability of direct contact with dean presented in Table 10. As it can be observed from the table, in each case everyone who has a private contact is more satisfied. However, Faculty of Accounting and Finance is the only faculty where correlation does not work like this. It is concluded that to improve satisfaction level everyone should be provided with an official dean`s email and can contact him by it in case of existing incomprehensible situation or any other question connected to educational process.

Conclusions, limitations and future research

Ukraine scores highly in many indicators that characterize its human capital. It remains one of the most educated nations. At the same time, the productivity of Ukrainian educational sphere is low. According to a Gallup World Survey, only 38 percent of Ukrainians responded positively to the question `Are you satisfied with the quality of education in your city/locality?`.

In Ukrainian model there is an ideological shift, paternalistic methods, instead of on self-sufficient development of the person is observed; democratic institutes are not developed yet; authoritative traditional style of teaching where storing prevails over critical thinking: the limited access to world resources; discrepancy of experts' preparation level in system of the higher professional training to requirements of an innovative way of manufacture development.

Modern Bologna system puts the student in the centre and offers transparency and quality. Individualization in education is an urgent task, as the more individual the approach is, the more likely it is that each student will reach the desired learning outcomes and will master all subjects more successfully, and will acquire knowledge and skills in a larger volume and accordingly will be more satisfied.

This work is based on results of the survey conducted in LNTU (Ukraine). This university is one of two big high educational institutions in the Volyn region. It was calculated the average level of overall satisfaction in LNTU of 3.5 out of 5 points. Which shows that students are satisfied, but with a low satisfaction level, with educational services provided by high educational institute.

Test showed that there are differences in overall satisfaction by style of management. It is interesting that relying on the opinion of students, almost equal parts of respondents consider management style in LNTU as directive and democratic, which are completely opposite to each other.

Moreover, there were proven differences in overall satisfaction related to style and type of teaching. Only 17% of students consider the style of teaching as innovative. It was concluded that the teaching system in university needs an improvement. To get closer to Bologna system, it should be introduced new methods. For instance, it could be used European project system in teaching when students get to do one or couple of group or/and individual projects per course. It will also solve the problem of only theory-based teaching type, provided, relying on results of the survey, for a half of students of LNTU. It is important to mention that most of students responded positively to the question if they request to have European level of education provided.

Only half of the respondents have private contact to the dean of their faculty, which makes the connection between students and university more complicated. Students should be able to find help and support in university. While making literature review for this study, it was found that due to statistical research Ukraine is the most corrupted country in Europe after Russia. Most of students responded negatively to the question about considering boorishness as a part of Ukrainian mentality. It was made a conclusion that students are ready for dialogue and true studies instead of paying for grades.

This work is based on external factors only. It would be interesting to make deeper research about inner factors which affect satisfaction and to check the importance of each attribute. It would help to understand students' perception of satisfaction and will make it easier to improve educational services of Lutsk National Technical University. For the future, it will be interesting to make similar research after all aspects stated in previous subparagraph will be changed, so the improvements in overall satisfaction level can be checked. Also, it will be interesting to analyse student's opinion considering advantages and disadvantages of curriculum, location of university and its convenience.

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