

# The Effect of the COVID-19 Pandemic on Foreign Students Studying in Hungary

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**Abstract**—Satisfying foreign student needs has been in the center of research interest in the past several years. Higher education institutions have been exploring factors influencing foreign student satisfaction to stay competitive on the educational market. Even though foreign student satisfaction and loyalty are topics investigated deeply in the literature, the academic years of 2020 and 2021 have revealed challenges never experienced before. With the COVID-19 pandemic, new factors have emerged that might influence foreign student satisfaction and loyalty in higher education. The aim of the current research is to shed lights on what factors influence foreign student satisfaction and loyalty in the post-pandemic educational era, and to reveal if the effects of factors influencing satisfaction and loyalty have changed compared to previous findings. Initial results show that students are less willing to participate in online surveys during and after the pandemic. The return rate of the survey instrument is below 5%. Results also reveal that there is a slight difference in what factors students deem important during pandemic times regarding their satisfaction and loyalty. The results of the current study help us determine what factors higher education institutions need to consider, when planning the future service affordances for their foreign students, that might influence their satisfaction and loyalty.

**Keywords**—COVID-19, foreign students, loyalty, pandemic, satisfaction.

## I. INTRODUCTION

THE effects of the COVID-19 pandemic are insurmountable and extensive enough that it seriously affects the higher education systems globally. Therefore, research into the effects of the pandemic on higher education institution (HEI) students has been on the rise in the past years.

Latest research on the implications of the COVID-19 pandemic on education reveal that the pandemic is viewed as a disruption in case of students and has serious academic and socioemotional implications [1]. It was also uncovered that converting the teaching and study process online had negative consequences on students. Student reactions to the pandemic and to switching to online education varied by personality types, adaptability, and associations [2]. Nevertheless, there is little known about how the pandemic affected foreign students. They are a specific cohort of students studying abroad and away from their home countries. Therefore, it can be assumed that the pandemic restrictions had severe consequences on foreign students and their lack of intercultural encounters [3].

Foreign student satisfaction has been widely studied in the literature. Previous studies reveal that factors such as university image, perceived quality, word-of-mouth recommendations

affect the satisfaction of foreign students [4]. However, the recent developments on how the pandemic affected foreign student satisfaction and what factors became less or more important for this cohort of students is understudied.

Therefore, the aim of the current study is to shed lights on what factors foreign students deem important during a pandemic in terms of their satisfaction and loyalty. This study contributed to the existing literature by pinpointing those elements of satisfaction that are of key importance in a pandemic situation. This research is considered a case study at a Hungarian university.

After the introduction, foreign student satisfaction and loyalty are described in the second chapter. The third chapter investigates the pandemic's effect on education, while the fourth chapter entails the primary research of this paper. Conclusions are drawn in the final chapter.

## II. STUDENT SATISFACTION AND LOYALTY

### A. Student Satisfaction

The concept of satisfaction has been studied in the literature extensively. It was initially defined as a broad concept, which meant the comparison of expectations and perceived quality of services [5]. Others stated that it is not only expectations, but customers' previous experience, opinion and other consumers' word-of-mouth recommendations also influence the satisfaction of the consumer [6]. Satisfaction became especially important in the service sector, due to the nature of services [7] and different methods for measuring consumer satisfaction has surfaced. The most widespread methods for measuring consumer satisfaction includes the SERVQUAL and SERVPERF measurement scales that are intended to examine service quality in case of five different dimensions [8], [9]. Other methods include several customer satisfaction indices [10], [11].

In the higher education literature, the expectation disconfirmation theory is used the most to describe student satisfaction [5], which states that student satisfaction equals the subjective comparison between student expectations and experience [12], [13]. Another common view in the literature states that student satisfaction means the comparison between student expectations and service quality perceptions [4].

Similar to the measurement of satisfaction, the measurement of foreign student satisfaction varies in the literature. The review of HEI literature revealed that both qualitative and

quantitative methods are used for the measurement of student satisfaction. The most used qualitative measurement method includes in-depth interviews, where students can share their deeper thoughts about the service quality of the HEI [14]. The Critical Incident Technique can reveal those key moments of the student life, which influences their satisfaction [15]. Another widely used method includes focus group discussions, where students can reflect on each other's point of views and conflicting ideas can occur [16], [17].

The general measurement methods for satisfaction constitutes the basis of foreign student satisfaction measurement, which is based on consumer satisfaction indices [18], [19]. The modified scales of SERVQUAL and SERVPERF are used extensively in higher education research. However, as researchers felt the need for a more specific tool especially tailored for higher education, new measurement methods appeared. The HedPERF scale measures student satisfaction with the HEI service environment [20]. On the other hand, the scale of CUL-HedPERF includes the measurement of cultural factors added to the original measurement tool [21]. Hofstede's cultural dimensions are also examined in the framework of the EDUQUAL method, which takes cultural differences into account when looking at the service perceptions of students [22]. While HEQUAL, HESQUAL and SERQUAL also pose possible measurement scales for the examination of HEI students [23], [24].

Due to recent global events and the consequences of the COVID-19 pandemic, there is a rising research interest in revealing what factors are important for foreign students regarding HEI service quality during the pandemic. This current study proposes to add to the literature by investigating the importance of several factors that might influence foreign student satisfaction during the pandemic as a case study in Hungary.

### *B. Student Loyalty*

Besides the study of student satisfaction, student loyalty is a topic that has been widely explored in connection with perceived service quality of HEIs. Researchers initially determined loyalty as an equal to satisfaction and consumer retention [25], [26]. However, this view was later challenged. Another debated question in the loyalty literature is if it can be measured by repurchase of the product or service [27], [28]. As the more complex approach of loyalty states, it can be considered not only as a repurchase, but emotional attachment, commitment, and word-of-mouth recommendations [27], [29].

The review of literature revealed studies that were investigating the influencing factors of foreign student loyalty, in which factors were categorized based on primary research findings about service quality and loyalty towards the HEIs [30]. Student loyalty was found to be influenced by the location of the HEI, the study programs offered by the HEI, the quality of teaching and communication with the teaching faculty [31], [32]. Moreover, student supporting facilities, tangibles and equipment were also found to influence student loyalty [33].

The relationship between foreign student satisfaction and foreign student loyalty was examined in previous research. It

was found that word-of-mouth recommendations play a key role in foreign student loyalty [4]. Other studies revealed that not specifically university-, or HEI-related factors can also influence foreign student loyalty [34], [35]. Therefore, in the current paper, foreign student loyalty is viewed as a concept that could be influenced by both university-related and not strictly university-related aspects.

### III. THE PANDEMIC'S EFFECT ON HIGHER EDUCATION

As measuring foreign student satisfaction and loyalty is of key importance for HEIs, the recent global events of the pandemic cannot be left unspoken. As on other aspects of life, COVID-19 had a substantial effect on HEIs as well. There is a renowned interest in measuring student satisfaction with HEI services during the pandemic, as both teaching and administrative practices had to move mostly online [36].

The pandemic impacted teaching methodologies of HEI teachers. Online tools became crucial, and teachers' wit was needed for tasks to be solved online, which was proven to boost motivation, engage students in online classes and result in good learning outcomes. Methods such as gamification and co-creation were applied in the online space and successfully reached similar outcomes to in-classroom activities [37].

Another unprecedented effect of the pandemic affected the foreign student study environment and the foreign students themselves. With the staying and studying at home measures, many foreign students were isolating in a foreign country [38]. This situation does not only affect student motivation but can also have a serious effect on students' mental health and can cause a change in study habits. Moreover, foreign students were found to face financial obstacles, changes in lifestyle and social life, while facing mental health problems [39]. In the latter case, successful intervention measures were taken for the benefit of foreign students, which resulted in an increase in their satisfaction [39].

An additional effect of the pandemic on the higher education was uncertainty. Similar to HEIs, students were adapting to the continuously changing regulations in the institutions. Therefore, their learning environment could not stabilize [40].

Hungarian HEIs switched instantly to online education starting from 12 March 2020. Therefore, foreign students had to stay in their rent or dormitories, from which they needed to take online classes. Policy actors could not predict at that point for how long the restrictions stay at place. In-classroom education started again in September 2021. The current paper researches the period in between 12 March 2020 and 1 September 2021 and investigates foreign student satisfaction. The paper aims to provide an overall insight into what foreign students deemed significant during the pandemic-affected months of studying abroad under extreme circumstances.

### IV. PRIMARY RESEARCH

The research undertaken in this paper took place at the University of Szeged, Hungary; most of the responses came from the Faculty of Economics and Business Administration. Being a relatively new faculty of 20 years, English-language

programs have started only 6 years ago. Due to the pandemic situation and transferring to online education between March 2020 until September 2021, there was a halt in foreign student numbers. However, this study is interested to reveal what happened during the online education months and what factors were students satisfied with and whether foreign students can be deemed loyal or not.

#### A. Methodology and Sample

The current paper relied on an online questionnaire sent out to all the faculty's foreign students during the online education and pandemic period. A setback during the study was the relatively low willingness of students to fill in the questionnaire. Out of the approximately 200 foreign students at the Faculty of Economics and Business Administration, only 83 participated in the research. 8 students from the Faculty of Medicine also filled in the questionnaire. The total number of responses was 91. The language of instruction was English. Students' country of origin ranged from Nigeria, Laos, Japan, China, Jordan, to Turkey and many more. Most scholarship holders arrive with the Stipendium Hungaricum scholarship provided by the Hungarian government. Table I shows the data of respondents.

As previously mentioned, it was extremely hard to reach foreign students during the time of the study. Therefore, due to the low number of responses, this study cannot be deemed representative. This research is of exploratory nature.

TABLE I  
PARTICIPANTS' INFORMATION

Finances	Study program	Number of students
Fee paying	BSc	19
Fee paying	MSc	6
Scholarship	BSc	40
Scholarship	MSc	18
Scholarship	PhD	8
Altogether		91

Previous literature provided the scales to measure student satisfaction. Elements included tangibles, competences, preparedness, quality of classes and online study material [41], [42]. Questions were asked in the form of 5-point Likert scales. Question items' wording was modified to fit the pandemic situation, but still corresponding to the literature of higher education marketing. Results of the research are introduced in the next chapter.

#### B. Results

As the data collection had certain difficulties; mean scores and standard deviation were calculated to compare and analyze the data. The overall satisfaction of foreign students with COVID-19 measures were examined first based on 91 answers from students. On a 5-point Likert scale 1 meant 'Not at all satisfied', 5 meant 'Extremely satisfied'. Table II shows the results. The overall satisfaction with how the pandemic situation is being handled is just a bit over an average of 3, while the standard deviation can be considered quite big ( $M = 3.53$ ;  $St.dev. = 1.14$ ). These results indicate lower satisfaction to

previous studies.

TABLE II  
OVERALL SATISFACTION OF FOREIGN STUDENTS

Likert-scale	Number of students
1	6
2	10
3	24
4	32
5	19
Mean	3.53

If we compare the two faculties' students, we can see that there is a difference between their perception of the pandemic measures. Foreign students, who study at the Faculty of Medicine were more critical of how their faculty handled the pandemic and less satisfied. While students at the Faculty of Economics were found to be more satisfied.

First, the overall foreign student experience was investigated with the help of 5 Likert-scale questions, the results of which can be seen in Table III. There are only minor differences in the satisfaction of foreign students regarding their experience. They agreed the most with their choice of university and city despite the pandemic situation. This finding is crucial for the university, as students do not seem to regret their choice to study abroad, even though they face a worldwide crisis.

TABLE III  
STUDENT EXPERIENCE

Scale item	Mean	Standard deviation
My experience of the university and the city itself is very satisfactory even though a worldwide pandemic is afoot.	3.47	1.12
Overall, I am satisfied with my university and the city itself regardless of the pandemic.	3.78	1.01
I made the right decision when I chose this university and this city regardless of the pandemic.	3.84	1.13
I am satisfied with the service provided by my university during the pandemic (teaching, education, etc.).	3.46	1.25
Mean	3.71	

Secondly, Likert scale items' means were calculated to compare what factors students were satisfied with during the pandemic situation. Teachers' competences, the curriculum, teachers' preparedness, tangibles, living in the city, opportunities to go out, online class quality and job opportunities were investigated in the period. Results are shown in Table IV.

Most means of each examined factor are above average ( $M = 3$ ), except for job opportunities ( $M = 2.96$ ). None of the items' means reach 4. Foreign students were most satisfied with teachers' competences and the curriculum. While they were the least satisfied with online class quality and job opportunities during the pandemic. These extreme cases are examined further in the paper.

In the study, teachers' competences received the highest mean score. The items of this category can be found in Table V. It was found that respondents were most satisfied with the clear and informative way of teachers' presenting the course material online ( $M = 4.01$ ;  $St.dev. = 1.04$ ). On the other hand, they were least satisfied with teachers' understanding of student

needs during the pandemic ( $M = 3.57$ ;  $St.dev. = 1.19$ ).

TABLE IV  
STUDENT SATISFACTION

Scale category	Mean
Teachers' competence (7 items)	3.88
Curriculum (4 items)	3.85
Teachers' preparedness (5 items)	3.84
Tangibles (4 items)	3.81
Living in the city (3 items)	3.66
Opportunities to go out (3 items)	3.64
Online class quality (4 items)	3.62
Job opportunities (3 items)	2.96
Mean	3.66

TABLE V  
TEACHERS' COMPETENCES

Scale item	Mean	Standard deviation
University teachers understand students' needs during the pandemic.	3.57	1.19
Teachers are reliable (I can count on them to keep their promises) during the pandemic	3.78	1.13
Teachers present the course material in a clear and informative way during the pandemic (e.g.: online)	4.01	1.04
Teachers convey the essence of the study material effectively online.	4.00	1.02
Foreign students always know the evaluation criteria of a subject during the pandemic.	3.99	0.94
Students always get relevant feedback to their work even online (marks and written or explained).	3.82	1.06
Mean	3.88	

The second highest mean score belonged to the presentation of curriculum, the results of which can be found in Table VI. The mean scores of the items are relatively similar. Respondents were most satisfied with how the teachers present the course material ( $M = 3.93$ ;  $St.dev. = 0.94$ ), while they were the least satisfied with teachers' conveying the essence of this study material online ( $M = 3.78$ ;  $St.dev. = 1.09$ ). The difference between the two results can be considered minor.

TABLE VI  
PRESENTATION OF CURRICULUM

Scale item	Mean	Standard deviation
Teachers present the course material in a clear and informative way.	3.93	0.94
Teachers convey the essence of the study material effectively online.	3.78	1.09
Foreign students always know the evaluation criteria of a subject during the pandemic.	3.86	1.02
Students always get relevant feedback to their work even online (marks and written or explained comments).	3.84	1.02
Mean	3.85	

Compared to the highest means, online class quality and job opportunities received the lowest mean scores from respondents. Table VII shows the results regarding online class quality. There are more significant differences between these scores. Respondents were the most satisfied with the study material that is easily available online ( $M = 4.03$ ;  $St.dev. = 0.91$ ), while they least agreed with the fact that online courses are pleasure to attend ( $M = 3.34$ ;  $St.dev. = 1.33$ ).

TABLE VII  
ONLINE CLASS QUALITY

Scale item	Mean	Standard deviation
Online courses are pleasure to attend (I enjoy going).	3.34	1.33
Most classes are interesting even online (the material is interesting and is presented in a good way).	3.41	1.16
The online study material is well-developed.	3.69	1.09
The online study material is easily available.	4.03	0.91
Mean	3.62	

The lowest overall mean can be attributed to job opportunities. As Table VIII shows, there is only a minor difference between the mean scores, as responding foreign students were moderately satisfied with the availability of jobs, internships, and volunteer opportunities during the pandemic.

TABLE VIII  
JOB OPPORTUNITIES

Scale item	Mean	Standard deviation
Availability of jobs or part-time jobs during the COVID-19 pandemic.	2.88	1.16
Availability of internships during the COVID-19 pandemic.	2.98	1.18
Availability of volunteering (at charities) during the COVID-19 pandemic.	3.02	1.06
Mean	2.96	

Foreign students were also asked in the form of Likert-scale questions whether they would recommend studying at this university and city and whether they would choose it again or not. The results are somewhat surprising and can be found in Table IX. Despite the pandemic situation, the mean scores regarding loyalty can be considered relatively high. Respondents would recommend the whole study-abroad process in spite of the pandemic ( $M = 4.05$ ;  $St.dev. = 1.09$ ), the mean score of which is among the highest ones of the study.

TABLE IX  
LOYALTY OF FOREIGN STUDENTS

Scale item	Mean	Standard deviation
I would choose studying in the city again (I love living in this city) despite the pandemic.	3.56	1.19
I would choose this university again for my studies (I love this university) regardless of the pandemic.	3.57	1.20
I would recommend studying in this city to others despite the pandemic situation.	3.81	1.17
I would recommend studying at this university to others despite the pandemic situation.	3.86	1.19
I would recommend the whole study-abroad process to others despite the pandemic situation.	4.05	1.09
I would do the experience of studying here abroad again despite the current pandemic situation.	3.86	1.14
I would do my next degree here despite the current pandemic situation.	3.22	1.33
Mean	3.70	

## V. CONCLUSIONS

As a conclusion, we can state that the respondents were mostly moderately satisfied with the examined factors despite the pandemic situation. Most categories' overall means were above 3.6, except for job opportunities.

Respondents were most satisfied with teachers' competences

and the curriculum, while they were least satisfied with online class quality and job opportunities, which poses a discrepancy in the study. This might be due to the fact that online class quality was referring to the fact that online classes were a pleasure to attend. Therefore, the majority of the students voted upon no, even if the teacher was prepared and was conveying the study material effectively online.

Another interesting finding is that even though respondents were not satisfied with online class quality, the satisfaction with easily available online study material was among the highest mean score in the study. This shows that the examined university did their best to transfer all the study material on the commonly used university central platform, where students could easily reach them.

The measurement of job opportunities during the pandemic might have been biased, as most students were not looking for a job, but they were eager to survive the situation. However, based on the responses we can state that respondents were less satisfied with what options they had regarding jobs or volunteering.

As for the loyalty of foreign students, it is a surprising finding that respondents would still study abroad despite the pandemic. They mostly agreed with the fact that they would recommend the city and the school for study-abroad purposes despite the pandemic. Therefore, we can conclude that the benefits of studying abroad might outweigh the hardships of the pandemic, and the pandemic would have affected the study-abroad process no matter where it was happening.

Overall, the study contributes to the higher education marketing literature by looking at foreign students' satisfaction and loyalty at a Hungarian university during the pandemic. Findings are surprisingly revealing no significant differences to previous studies. However, the importance of easily available online study material and the need of students to be understood by the faculty can be considered higher than before.

As a result of this research, teaching practitioners gained insight into the level of satisfaction of foreign students with certain factors during the pandemic. This research was also one of the firsts to examine foreign students at this specific Hungarian university. Moreover, both teachers and students benefited from the research, as teachers gained advice on what to improve, while students might have felt involved with their university during the survey.

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