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Improving service quality at universities through student journey mapping

1. Introduction

Students are the key "clients" of universities for which they provide teaching and administrative services. On the other hand, students are participants in academic life who contribute to value in a special way. In order to increase students' engagement in learning, it is necessary to provide them with high-quality experiences related to their interactions with the university. The concept of student experience is related to experience marketing and customer experience research in commercial enterprises. This is not a new issue. As far back as the 1950s, Abbot (1955, as cited in Lemon and Verhoef, 2016) and Alderson (1957, as cited in Lemon and Verhoef, 2016) argued that consumers actually do not want products but experiences that will satisfy them. These views were developed in subsequent years, among others, by experimental theorists who encouraged a broader view of consumer behaviour. Views that will also include the emotional aspects of experiences and decision-making (Lemon and Verhoef, 2016, p. 70). Customer experience can be considered as an internal and subjective reaction of the customer to direct or indirect

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contact with the company (Meyer, Schwager, 2007, p. 117). As pointed out by De Keyser et al. (2015, p. 117), they can be considered as the fourth form of offer in the economy. This means that experiences are considered a separate economic offer. They are different from services just as services are different from goods. They are inherently multidimensional and include both cognitive and emotional aspects. Analysing the issue of customer experience, Lemon and Verhoef (2016) identified three main research areas covering this issue. The first is research focused on process, behaviour and outcome value, which includes models of early consumer purchasing behaviour, customer relationship management and customer engagement. Another group of studies focuses on process outcomes, including satisfaction, service quality, and relationship marketing. The last group includes customer-centric research focused on the internal organizational aspects of the customer experience. The topic of customer experiences and their importance in the perception of service quality is widely described in the literature (Palmer, 2010; Johnston and Kong, 2011; Hwang and Seo, 2016; Becker and Jaakkola, 2020). These issues are also considered in relation to services in universities (Sabri, 2011; Ciobanu, 2013; Yap, Hew and Skitmore, 2022). Cano et al. (2021) indicate that the literature on student experiences is rich and shows an upward trend. However, knowledge on how to study student experiences and use them in the process of improving services in universities is still dispersed (Matus, Rusu and Cano, 2021). There are many approaches and methods to measure student experience. Their choice often depends on the type of process to be studied and the organizational possibilities of conducting the research. The aim of the study is to determine whether student travel mapping can be an effective method supporting the improvement of administrative services related to the recruitment process for the first year of study. The method used to identify students' experiences is student journey mapping, which is a translation of the customer journey mapping method to universities, which is used in business practice to improve processes related to customer service, as well as to identify problems that arise during customer interaction with the organization, to improve their satisfaction.

2. Methods and tools for researching students' experiences

Striving to improve the quality, universities usually focus on the functional and utilitarian, and thus cognitive, aspects of services. This means that mainly student satisfaction after the service is measured and analysed. However, the focus on individual services and their characteristics does not reflect the

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inclusive nature of higher education experiences, i.e. those that encompass all life experiences of students, including, for example, affective aspects (i.e. feelings and emotions) or student involvement. The analysis of research on the quality of student experiences and higher education conducted by Tan et al. (2016) indicates certain research trends regarding the discussed issue. As the first trend, the authors mention student experience research, which focused mainly on the conceptualization of what constitutes a high-quality student experience. Within this group, attempts were made, for example, to comprehensively examine the experiences of students using the services of the university. The next group is the study of experiences in the field of education. The difference between this category and the previously mentioned one is that it focuses on the didactic experience related to the basic services provided at the university. Articles in this category looked at the impact of a student's experience on academic performance. Discussions within this group of studies concerned, among others: teaching methods, learning support and establishing academic relationships. Another group of studies concerned differences in the assessment of student experiences depending on gender. The above-mentioned authors pointed out that this is the least "researched" category, but it refers to an important problem of ensuring an equal learning environment for all. The fourth research area mentioned relates to improving the quality of student experiences. Research in this category looks at how higher education institutions can improve the quality of the student experience. Within this category, three approaches to improvement are proposed:

- a student-centred approach where higher education institutions continuously engage with students to understand their expectations and aspirations and align them with institutional expectations,
- an approach focused on managing the learning environment by improving pedagogical approaches,
- an approach focused on ensuring synergy between the physical infrastructure and the educational and operational strategies of the institution – i.e. a holistic approach to shaping the student experience.

On the other hand, Tan et al. (2016) mention the satisfaction of students in the area of education as the last research area. Research in this category focused on identifying and measuring the determinants of higher education experience that impact student satisfaction. Different methods and tools are used to study students' experiences in higher education. Based on the conducted literature research, Zeng et al. (2023) identified three main types of instruments to measure student experience:

1. College Student Experiences Questionnaire – CSEQ (Gonyea et al. 2003; Kuh, 2009).
2. Study of course experience, e.g. Course Experience Questionnaire – CEQ, which shows positive correlations with students' approach to learning, perceived course satisfaction, academic achievement and reported development of generic ("entrepreneurial") skills (Wilson, Lizzio and Ramsden, 1997).
3. SET student survey – applies to assessment of course planning, communication skills, teacher-student interaction, course difficulty, and student self-assessment of learning.

It is worth noting that the first of the tools mentioned above focuses on a relatively wide range of students' academic experiences. It contains an extensive set of questions relating to student characteristics and a description of student experiences under three main categories: university activities, university environment and estimated benefits (Gonyea et al. 2003). In turn, the other two tools, i.e. CEQ and SET are aimed at evaluating courses and teaching. Another tool that is not mentioned in mainstream student experience research is Student Journey Mapping (SJM). According to Rains (2017), student journey mapping enables campus administrators to draw unique insights from the perspective of their key audiences and can be the cornerstone of project development in higher education. This method is based on a visual representation of the sequence of events during which customers interact with the organization, for example during the service delivery process. In general terms, customer journey maps visually illustrate the processes, needs and perceptions of customers about their relationship with the company (Temkin, 2010). As indicated by Rosenbaum et al. (2017), these practices aim to streamline interactions with service providers during customer service to improve the customer experience that is related to contact points. Usually, these points are presented horizontally on visual maps according to the process schedule. The timeline is divided into three periods: before the service, during the service, and after the service. Despite the fact that CJM is not mentioned as one of the most popular methods of identifying student experiences, it is gaining more and more supporters in academic practice. In the literature, you can find examples of its use in universities. The effectiveness of CJM in the context of improving student service in academic libraries is indicated by Andrews and Eade (2013) and Samson et al. (2017). In turn, the possibilities of using CJM to increase student involvement in the context of library services are described by Fargo and Mastrangelo (2021). The pilot studies conducted by the mentioned authors focused on improving student satisfaction and assessing whether journey mapping is an effective method of improving students' library

experience by evaluating services from their point of view. In turn, the method of journey mapping in the context of the analysis of the entire student's life cycle was used by Schuhbauer et al. (2020).

3. Research methodology

In order to achieve the goal, in-depth qualitative research was conducted, which used semi-structured interviews with students of the Faculty of Economics and Management of the University of Zielona Góra, who started their engineering studies in the field of logistics in the 2020/2021 semester. A group of logistics students was randomly selected from among four majors offered at the Faculty. At the meeting inaugurating the academic year, the entire group of 77 students starting their studies in the field of logistics was invited to participate in the study. 22 students expressed their willingness to participate in the pilot study. Due to the restrictions in force at the time of the study related to the covid-19 pandemic, the interviews were conducted using a video call on an internet platform. At each of the discussed stages, students were asked about: points of contact (i.e. how they obtained information or how they contacted the university), what emotions were associated with the implementation of subsequent stages of the process, what were the key factors influencing the positive and negative reactions that appeared difficulties associated with the implementation of the stage and whether the student sees any solutions that, from his point of view, will improve the quality of service. The study was conducted based on the methodology proposed by Kalbach (2017, p. 20), according to which, prior to mapping: the framework for the process was defined, i.e. the point of view, scope, main threads and structures were defined, then the points of contact and moments of truth were identified. In addition, improvements were proposed, the purpose of which was to create value by using the mapping results to improve the analysed processes. As noted by Kalbach (2017, s. 20), maps by definition show a section of the real world. For this reason, before starting the mapping process, it was determined which areas (i.e. aspects of reality) would be included in it and which would be omitted. In connection with the above, the first stage of the preparation of the study defined the framework for the mapping process, which consisted of:

1. **Point of view and scope of research.** The target group of the study was students of the first year of first-cycle full-time studies in the field of logistics. The scope of the study covered the student's experience in contacts with the university before, during and after the recruitment process. The process of

a student's journey from the moment of the decision to undertake higher education to the moment of signing the oath and obtaining a student ID card, when a given person is formally recognized as a student, was selected for mapping. The criterion of the target group, i.e. students of the first year of full-time first-cycle studies in the field of logistics and the student's experience in contacts with the university before and after the recruitment process, was adopted as the point of view. The study was limited only to the description of the impressions associated with the recruitment process. Thus, the whole breadth of the student's experiences over a certain period of time was not examined, but focused on specific points, which allowed for a more in-depth analysis.

2. **Concentration.** In the next stage of the preparation of the study, a decision was made as to which aspects of mapping would be emphasized and which would recede into the background. For this purpose, typical examples of elements used in the description of impressions and characteristics describing the organization were analysed. When creating a map of the student's path, the focus was on the students' emotions, moments of truth and challenges, i.e. places or moments where various types of barriers appeared that made it difficult to go through the next stages if the process. In conversations with students, they are also asked about contact points (i.e. places where their interactions with the university took place) and they were asked to present ideas about possible improvements when problems arose.

3. **Structure and touch points.** In the study, the chronological layout of the map was chosen, as it seemed the most natural for describing human behaviour. In the next stage of the preparation of the study, the initial determination of the touch points, i.e. places or moments in which the interaction between the student and the university takes place. As part of the conducted research, the following potential points of touch were identified: university website, university Facebook page, advertisements, information brochures, folders, telephone calls, e-mails, mail, campus A (Student Service Office, Dean's Office, teaching rooms), campus B (Recruitment office), websites, social media, mobile applications other than the university.

4. **Personas.** In the last stage of the study preparation, personas were defined. Persona (or character) reflects the target group (e.g. full-time students, extramural students), i.e. their key behaviours, attributes and goals they set for themselves. It is a narrative description of a single person who represents a particular behavioural segment (Snarska, 2019). It is also a description of the user (student) archetype, reflecting typical patterns of behaviour, needs and

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emotions (Kalbach, 2017, s. 89). A map of the student's path can therefore be created for individual people who, however, are representatives of a specific group. The study was divided into six stages. In the first stage, the existing data sources were reviewed, i.e. the so-called static points of contact, such as websites, posters, information brochures, study regulations. Then, interviews were conducted with members of the organization – a didactic employee involved in the recruitment process and an administrative employee responsible for the recruitment process, an employee of the student service office), who were asked to describe the recruitment process from their point of view. In the next steps, a sketch of the diagram was created and then interviews were conducted with students. The last stages of the research are data analysis and the preparation of final maps of student paths. The maps have been developed based on the previously presented structure. A very important element of the study was capturing the emotions that accompanied the students during the implementation of subsequent steps in the process. The main categories of emotions were: joy, contentment, sadness, doubt, fear, anger/irritability.

4. Results

The analysis of students' journeys made it possible to identify areas in the process that, from the students' point of view, require improvement. The analysed process was divided into three phases: decision on the choice of studies, recruitment and starting education. The selected map of the student's journey, broken down into the three mentioned phases, is presented in tables 1-3. The symbol "X" in tables 1-3 denotes touch points through which students obtained information about the university or contacted the university in order to complete the next stages of the process. The map shows the journey of one of the surveyed personas – a twenty-year-old student who describes herself as an open, cheerful person who quickly makes new friends. Her favourite apps are Facebook and Messenger, and her hobby is sports.

Table 1. Student Journey Map - Phase 1

Phase/stage		Decision about the choice of studies		
Key activities		Making the decision to study	Finding and choosing a university	Familiarizing oneself with the university's offer and choosing a major
Touch points	Website of the UZ		X	X
	Other websites		X	X
	Friends and other students		X	X
Emotions		Joy	Contentment	Contentment, doubt
Key factors leading to positive relationships		Positive graduation results	Perspective of new experiences and development	Ease of finding information on the University of Zielona Góra website
Key factors leading to negative relationships				The description of the fields of study on the UZ website was unclear and too general
Difficulties				Before making a decision, the student had to search for information about logistics on the websites of other universities and in a search engine.

Source: own study

In the first phase of the journey, in the opinion of the above-mentioned persona, the description of the fields of study on the university's website was unclear and too general. Before making a decision, the student had to look for information on the chosen field of study on the websites of other universities and in a search engine . This makes the decision-making process more difficult for students (table 1).

Table 2. Student Journey Map - Phase 2

Phase/stage		Recruitment					
Key activities		Setting up an account in the recruitment system, submitting an application and paying the fee	Information on qualifying for participation in the recruitment procedure	Information on qualifying for admission to studies	Receiving information about the need to register for studies	Preparation and submission of documents	Waiting to be entered on the list of students and start classes
Touch points	Website of the UZ	X	X	X			X
	Facebook UZ						X
	Electronic payments	X					
	E-mail		X	X	X	X	
	Traditional mail					X	
	Friends and other students						X
Emotions		Content-ment	Content-ment	Joy, doubt, anger, irritation	Con-tent-ment	Content-ment, fear	Doubt, fear, irritability
Key factors leading to positive relation-ships		Simple system operation, Blik service[1]	Quick informa-tion about the result of the re-cruitment process	Email with information about the ranking list	Detai-led in-forma-tion by e-mail	Clear delivery rules	
Key factors leading to negative relation-ships				Problems with finding oneself on the ranking list		No feed-back con-firming receipt of docu-ments	There is no infor-mation about the next step

1   Blik service is a Polish mobile payment system that allows making quick electronic payments via a smartphone and the bank's mobile application.

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Difficulties	Setting up an account in the recruitment system, submitting an application		It is difficult to find your number on the ranking list, which contains several dozen similar numbers.		Uncertainty whether due to formal deficiencies in the documents, the student was not struck off the list	Ineffective search for information on what to do next
Possibilities			Facilitating - highlighting/bolding the number assigned to a student on the ranking list			

Source: own study

In the general opinion of the surveyed persona, the recruitment phase presented in table 2 was successful, but there were several problems. Submitting an application for studies via the admission system was relatively easy for her, and she found the system very intuitive. An additional advantage for her was the ability to make a quick payment with Blik. She very quickly received information by e-mail and in the system that she was qualified to participate in the recruitment process. After some time, she received an e-mail with information that a ranking list appeared in the recruitment system. So she logged into the system to check if was on the list of pre-qualified students. There was a feeling of irritation and uncertainty resulting from the fact that the student could not find herself on the ranking list with the number assigned to her (she explained that she had to find herself among dozens of other, very similar numbers). She indicated that it would be easier to highlight or bold the number assigned to her in the system.

Then the student received e-mail information about the need to register for studies and send documents simultaneously by e-mail (scans) and traditional mail (originals). Some time after sending the documents, a concern appeared on the part of the student regarding the lack of confirmation from the university

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that the documents had arrived, that everything was fine with them and that the student was definitely on the list of students and had not been deleted for any formal reasons. Indeed, according to the procedure, after receiving documents from students, student service offices send feedback only to those who have not been accepted (refusal decisions) or those who have not sent documents. The student didn't know about it. When she received feedback regarding the second major (i.e. economics), which she eventually resigned from by not sending the documents, she began to have doubts whether everything was going the right way. After some time, she realized that she was accepted, because in the admission account, she appeared on a new list of people admitted to college.

Table 3. Student Journey Map - Phase 3

Phase/stage		Beginning of studying					
Key activities		Integration with the group - joining the common log_sp group on fb	Setting up an account in the StudNet system	Familiarization with the functioning of StudNet and the UZ e-learning system	Participation in the first online classes	Attending the kick-off meeting	The student signs the oath and collects the student
Touch points	Facebook UZ	X					
	StudNet[2] and UZ e-learning system[3]		X	X	X		
	Campus A (headquarters of WEZ)					X	X
	Friends and other students		X				
	Students from the faculty or group	X	X				

2 StudNet is an online student service system, thanks to which students have the opportunity to get acquainted with, among others, their personal data, account number and payments, received and entered grades, current course and history of studies.

3 The university's internal system for online lessons.

Emotions	Joy	Doubt	Content-ment	Content-ment	Con-tent-ment	Doubt, content-ment
Key factors leading to positive relationships	A sense of be-longing and support		Ability to use the e-learning platform			The tutor of the year quickly solved the problem
Key factors leading to negative relationships		No infor-mation on how to create a StudNet account				The date of the kick-off mee-ting overlaps with a visit to BOS and online classes
Difficulty		No in-structions on what to do next				It is not possib-le to participate in an online lecture

Source: own study

In the third phase, related to the beginning of studies (table 3), the student often browsed the UZ websites, UZ Facebook, e-mail, wondering what to do next. She felt discomfort because of the lack of information with instructions on what to do next. Friends who were already studying at UZ suggested that she should set up an account in the student electronic student service system. Through trial and error, she intuitively managed to set up a password. The login was the index number assigned in the recruitment system, which she learned from her friends. After logging into the StudNet system, she looked through all the tabs and became familiar with the online learning system. It was not a big problem for her, because she worked on the same one in secondary school. Finding other students from her group on the university's FB page was a very important moment for the student. They quickly integrated and started a joint group on social media. From then on, they were in constant contact with each other via messenger. Another highlight was the opportunity to meet face-to-face with other students from the group and university staff at the inauguration meeting. The inauguration meeting got extended. After that, some students who live outside the city where the university is located, went to the student service office to sign the oath and obtain an ID card (while they were there). Classes overlapped with this and students were not sure whether the lecturer would permit the absence. However, the matter was quickly resolved.

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Interviews conducted with 22 students made it possible to gather information on the basis of which maps of students' journeys were developed. Tables 1-3 illustrate and discuss one of the maps in detail to show exactly how it is built. Due to the fact that the purpose of the study was to determine whether SJM can support the improvement of services at the university, in the further stage of the study, the information obtained from the entire group of students was analyzed in the context of the problems they encountered in the recruitment process. The synthesized results of the research are presented in table 4.

Table 4. Problem arising during the interaction of students with the university

Process stage	Touch points	Problems
Familiarizing oneself with the university's offer and choosing a major	UZ website, websites other than UZ, friends already studying at UZ	A unclear and too general description of the fields of study on the university's website.
Setting up an account in the recruitment system, submitting an application and paying the fee	UZ website, electronic payments	There are no instructions regarding the requirements for the type of photo to be attached to the application.
Information on qualifying for admission to studies	UZ website, e-mail	Difficulties in finding oneself on the ranking list. There are no detailed explanations in the system about what each status in the recruitment process means and at what point a candidates can be sure that they have been admitted to studies.
Receiving information about the need to register for studies	E-mail	Too short time to prepare paper documents for the university assigned to a foreign student.
Preparation and submission of documents	E-mail, traditional mail	No feedback on receipt of documents by the UZ. Lack of a formal document confirming the entry of the candidate on the list of students (the dean's office only sends refusal letters, which, when applying for, for example, two majors, causes concerns about the final result of the recruitment process).
Waiting to be entered on the list of students and start classes	Website of the UZ, Facebook UZ, friends and other UZ students	There is no information about the need to log in to the StudNet university portal for students and no instructions on how to do it. There is no information on how to create a classroom account (platform email address). Problems with setting up an account on StudNet and student e-mail.

Source: own study

To sum up, the analysis of the paths of students starting the first degree studies in logistics allowed for the identification of problems at individual stages of the student's journey, which are presented in table 4. Most of the problems reported by students were related to the lack of guidance or instructions or the lack of feedback from the university. The stage in which the most problems and negative emotions appeared on the part of students was the beginning of education (i.e. the time from the moment of entering the student on the list of students to the moment of taking the oath and starting classes). The beginning of this stage is the end of the recruitment process (which is the responsibility of the admissions office, and the administrative "care" of students is taken over by student service offices. It was noted that one of the potential causes of problems in the flow of information at this stage may be the functional organizational structure and the lack of a process approach, which are often the cause of the so-called "blank spots", i.e. undeveloped areas in process flows, appearing between functional cells.

5. Discussion and Conclusion

The conducted analysis showed that the recruitment and admission process was a stressful experience for the respondents. The covid-19 pandemic also contributed to this, as a result of which direct contact with university employees was limited. The results of the conducted research showed the need to introduce improvement solutions that would eliminate the negative experiences of students. First of all, students' access to employees responsible for the recruitment process should be improved and the number of communication channels should be increased. A good solution is to create a simple, visual instruction that would illustrate all stages of the candidate's journey until formally obtaining student status and starting classes at the university. The idea of creating a so-called "Welcome Point", i.e. a place where students will receive support before they learn to move freely around the university. This study has some limitations. Analysing the experiences of 22 students is an insufficient attempt to generalize it to the entire population of first-year students. The study included full-time students aged 17-20 who entered the university immediately after graduating from secondary school. Only one foreign student participated in the study. The conducted study and analysis of the literature demonstrate the existence of significant problems related to the use of SJM. As in the case of the research conducted by J. Andrews and E. Eade (2013), there were problems with persuading students to participate in the study. It is therefore necessary to rethink how to effectively motivate

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students to engage in the service improvement process. In addition, a small research sample requires verification of the proposed improvement solutions to gain acceptance of a larger group of students. Another solution is to use SJM as a supplementary method of student satisfaction surveys, which are usually carried out on a large group of people. The essence of the research, however, was to understand how to use student experience to improve the quality of services at the university, which was achieved. The obtained research results confirm that mapping the student journey can complement the methods and tools commonly used in the process approach and significantly contribute to improving their experience. These experiences, in turn, influence how students perceive the value provided to them. Thus, this study confirms the opinion of S. Samson et al. (2017) that this method can support decision-making regarding identification and overcoming barriers for users using services at the university. The student journey mapping method can be useful in the area of continuous improvement of processes, both administrative and didactic. It allows you to look at the entire process from the customers' point of view, thus contributing to the identification and elimination of the causes of lowering their satisfaction and in the context of the value created for them. Student journey mapping can be used as one of the methods supporting the process of continuous improvement at the university, as one of the additional sources of information about the process. This method focuses on the so-called points of contact, i.e. places of interaction between the student and the organization. These points can be analysed not only in the context of problems and negative emotions related to them, but also in terms of waste generated in the process (e.g. unnecessary movements appearing during the service, unnecessary processing of documents by both parties, too long waiting for service, etc.). The proposed method, despite the fact that it enables an in-depth analysis of experience, has some limitations. It is very time-consuming. It requires a lot of commitment on the part of both the interviewer and the interviewee, as well as mutual trust.

Abstract

The aim of the pilot study was to determine whether student travel mapping can be an effective method supporting the improvement of services at a university in the context of creating value for students and their participation in creating this value. In-depth qualitative research was carried out, consisting in conducting semi-structured interviews with students. The study used the customer journey mapping (CJM) method. Students' experiences

related to their interactions with the university were identified from the moment of making the decision to start studying at the university to the moment of formally obtaining student status. The experiments covered the period during the restrictions related to the covid-19 pandemic were in force. Research has shown that journey mapping can be a useful method supporting the improvement of processes related to student service during the recruitment process. It allows for an in-depth analysis of experiences, which shows not only the problems arising at the points of contact, but also feelings and emotions. The use of CJM can help University employees understand students and better adapt service-related processes to their real needs and expectations.

Keywords: *student experience, student journey mapping, service quality improvement, universities.*

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