STUDENT VALUE CO-CREATION BEHAVIOUR IN THE HIGHER EDUCATION SERVICE ECOSYSTEM: AN EMPIRICAL EXPLORATION

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Abstract: *This article addresses students' value co-creation behaviour, framed by the Service-Dominant logic approach, within the context of the marketization of the higher education service ecosystem. The objective is to explore how students integrate their cognitive and behavioural activities during their academic trajectory. The study surveyed 375 first-year undergraduate students, all with weighted grade point averages (GPA) in the range of 8.5 to 9.5 out of 10, at a public university in Mexico, a region characterized by a strong presence of the prevalent passive customer-student analogy tendency. A principal component analysis was also conducted to assess the grouping of the eight original dimensions included in the scale implemented for this ecosystem. In addition, a non-hierarchical cluster analysis was employed to categorize the students according to their co-creation behaviour. The results identify three segments of students: the first with a high willingness to cocreate value, the second characterized by a proactive attitude but lack of interest in relationships with peers and teachers, and the third characterized by a low level of co-creation in all dimensions assessed. These findings highlight that not all students engage in co-creation behaviours during their academic pursuits, even when they achieve outstanding grades. The results suggest some considerations for operationalizing value co-creation in the context of the educational service ecosystem, highlighting its implementation as a dynamic and nonlinear process, considering predelivery and postdelivery. It also highlights the relevance of involving students in activities beyond traditional activities during their service experience. Finally, this study stresses the need to adopt a long-term perspective rather than seek immediate student satisfaction, suggesting the importance of designing more sustainable educational policies and strategies.*
Keywords: academic experience; customer-student; cognitive and behavioural activities; marketization; service-dominant logic.

1. Introduction. The higher education service ecosystem worldwide is facing several challenges in enhancing or developing better management practices, which increasingly attract the attention of sectorial and academic experts. On the one hand, there is a growing educational offer; hence, higher education institutions are forced to seek better positioning through marketing strategies, as companies in other economic sectors do, to maintain and increase their enrolment (Seeman & O'Hara, 2006; Koris & Nokelainen, 2015; Dollinger et al., 2018). On the other hand, in many Latin American (LATAM) countries, there have been constant changes in education budget and investment decisions (Torres & Puiggros, 2019; Pedroza Flores & Reyes Fabela, 2022). Specifically, Mexico has registered considerable budget reductions and conditioned it on the specific results and performance criteria established by the government and market forces (Pedroza & Reyes, 2022). Even though many universities are autonomous in their decisions, the government conditions the budget under strict indicators of student recruitment, retention, and terminal proficiency. This results in universities focusing on attracting, retaining, and graduating as many students as possible. This scenario has forced higher education institutions to restructure their management, reorient their academic priorities and unconsciously their social mission (Torres & Schugurensky, 2002; Knobel & Leal, 2019; Salmi, 2020) because they have found the easiest way to maintain their enrolment in the classic customer service approach, adopting the student/customer analogy and privileging student satisfaction at any cost through ideologies such as "the customer is always right." The higher education ecosystem has widely rejected this approach because its implementation implies considering the student a passive actor who receives value during the exchange and exempting them from responsibility (Rajagopal, 2010; Wueste & Fishman, 2010; Spence, 2019) and who privileges immediate satisfaction but not necessarily learning and skill development (Molesworth et al., 2011; Judson & Taylor, 2014; Díaz-Mendez et al., 2017).

This passive service customer management focus is being left aside in service management, such as health care (Funaki, 2007; Yeung, 2018), and even in hospitality, where the value expected is comfort and relaxation (Harris & Reynolds, 2004; Finney, 2019; Kim & Baker, 2020). Nevertheless, several higher education institutions are still committing to this approach, even when the expected value is personal transformation and professional training in the higher education service ecosystem. These practices are part of the "Marketization of higher education" that has led to "pollution in the higher education service ecosystem", causing alterations in healthy functioning and the achievement of long-term academic objectives (Molesworth et al., 2010; Judson & Taylor, 2014; Díaz-Mendez et al., 2017). In a strategic orientation that enables higher education institutions to face the crossroads of applying marketing strategies in a complex service ecosystem, researchers and academics are adopting a more reflective stance on market approach limitations and their impact on academia to avoid undermining their sustainability (Contu, 2020). In this regard, recent developments in the literature and perspectives on services have emerged, such as Service Science (Maglio & Spohrer, 2008), Many-to-Many Marketing (Gummesson, 2006; 2014), the Viable Systems Approach (Barile et al., 2012; Barile et al., 2014), Service Logic in Marketing (Grönroos, 2006, 2011) and Service-Dominant Logic (SDL) (Vargo & Lusch, 2004,2008,2017). These service developments provide an active student-centred approach and understanding of their role in academic activities (Díaz-Mendez et al., 2017).

Specifically, the SDL highlights the concept of value co-creation, which has allowed the evolution of how customers participate in value exchange, leaving behind the passive concept that used to receive value, for behaviour that includes co-responsibility in the design and production of the service, as well as considering that the customer develops and generates their own experiences (Grönroos, 2011; Vargo & Lusch, 2017). In education, value co-creation refers to the simultaneous exchange of multidirectional knowledge that involves not only professors and learners but also all participants (internal and external) who are part of the network of relationships (Ranjan & Read, 2016; Dollinger et al., 2018). In this regard, one of the critical factors in understanding student-centred educational services is student co-creative behaviour (Elsharnouby, 2015; Magni et al., 2020). Based on the preceding, student value co-creation behaviour emerges as a critical element for ecosystem functioning because education requires a high level of student involvement to achieve the expected benefits (Dollinger et al., 2018). However, this participation is mainly defined and measured by the grades students obtain from an evaluation by the faculty based on the learning process and outcomes. Nevertheless, it does not necessarily measure the co-creative behaviours of students during the educational process, such as their willingness to cooperate, their commitment to seek and share information, their changes in habits, and the inclusion of extracurricular activities in their student life, as well as their participation in co-producing, co-designing, and co-delivering value.

Despite the theoretical foundations of value co-creation in educational services, empirical evidence and operationalization of this topic have been lacking, especially concerning students' role as cocreators (Moreno & Calderón García, 2017; Cavallone et al., 2021; Voropai et al., 2019). Hitherto, no empirical evidence has

considered the students as cocreators in academic activities in a higher education services ecosystem in Mexico, considering their social, cultural, and technological particularities as developing countries. In this regard, the following question arises: what is the student's current value co-creation behaviour during interactions in academic activities in the higher education service ecosystem?

This research aimed to measure the value co-creation behaviour of students based on the SDL approach by identifying the integration of their cognitive and behavioural activities during academic activities in the higher education ecosystem in Mexico to segment them according to their participation as co-creators. The main contribution lies in empirically examining university students' co-creation behaviour within a marketization-criticized ecosystem, aiming to halt the rejection of service sciences in university management by leveraging advancements, such as the SDL approach, because this approach considers educational complexity and shifts students away from traditional, outdated treatment as passive customers awaiting value from the university.

The originality of this work lies in the fact that even though advances in service science have sought to contribute to marketing in educational management, there is not enough empirical evidence to explore the participation of students as ecosystem actors and responsible for value. Moreover, this research endeavours to bridge the existing gap in empirical evidence regarding student participation in the educational ecosystem in Mexico, thereby offering a unique contribution to the broader discourse on higher education management and service science. This study begins with a comprehensive literature review on the marketization of higher education, the co-creation of value in the academic ecosystem, and the role of students as co-creators. The detailed methodology underpins the systematic presentation of the results, followed by a discussion section contextualizing the findings in the literature reviewed and the global higher education landscape. The research culminates with conclusions that draw practical and theoretical implications, contributing significantly to the knowledge in the field.

2. Literature Review.

2.1. Higher Education Marketization

Higher education marketization in the LATAM region is increasing among public and private universities in response to growing competition to attract, maintain, and retain students (Lowrie & Hemsley-Brown,2011; Molesworth et al., 2011; Judson & Taylor, 2014). In this context, and in trying to survive and grow over time, universities implement various mostly sales-oriented practices, promising student satisfaction by generating minimal or no effort during each teaching-learning process (delivery of perceived value rather than value co-creation in the longer term). This focus on satisfaction allows higher education institutions to have more "satisfied students" but not necessarily better trained disciplinarily and professionally since the implementation of generic, outdated, or inadequate marketing strategies in the higher education service ecosystem does not contribute to the fulfilment of academic objectives (Wueste & Fishman, 2010; Molesworth et al., 2010; Judson & Taylor, 2014).

The current student role in academic activities is based on the indiscriminate use of the metaphor of a customer-student, receiving value, so little or nothing is needed to achieve the expected benefits, allowing the faculty to be responsible for the students acquiring disciplinary knowledge and developing skills. Following the metaphor, the professor must implement teaching strategies that seek mostly to make the student "happy", similar to a guest at a resort (Sharrock, 2000; Porfilio & Yu, 2006; Xu et al., 2018). However, through higher education, students must develop advanced technical, professional, and discipline-specific skills and knowledge. To achieve this goal, many education strategies and pedagogical tools may cause immediate "dissatisfaction", since this implies that students are subjected to pressure and stress to develop work competencies, such as decision-making, in changing, complex, hostile, and competitive environments (Muukkonen et al., 2020).

In higher education marketization, the expected value in higher education is disciplinary knowledge and personal transformation in the students, as well as the acquisition and development of skills for their professional life, which implies joint work accompanied by discipline, effort, and perseverance. The social value that a university co-creates with a student is not transferable and requires following methodologies, guidelines, and policies. Like many medical procedures can cause discomfort in terms of immediacy but are applied to the improvement of health, many teaching strategies and tools are implemented for students to develop generic and specific skills needed for the long term but not for their immediate satisfaction and comfort, just as happens with the customer who buys a hamburger or pays for the entertainment service, seeking immediate comfort and joy.

2.2. Value co-creation in the higher education ecosystem

The marketing discipline seeks to further evolve toward a service-based exchange logic, advocating a systemic understanding of value co-creation and the influence of the context in which the value of use is developed; hence, expressly, value co-creation in service ecosystems is understood as a marketing and management strategy that focuses on innovatively involving the customer to generate value (Perks et al., 2012; Sutarso et al., 2019). It also ends the traditional view of the producer–customer relationship, an approach that higher education institutions seem not to abandon since co-creation advocates a reciprocal balance of participation between the organization and the customer. Higher education institutions that seek to generate value do not boast that they know the student's needs in an ideal way to "offer value". Instead, value co-creation implies being focused on generating the most significant possible participation and interaction of the student during the different teaching-learning processes to achieve a better result than when HEIs consider value as if it were tangible (Dollinger et al., 2018; Bovill, 2020). The SDL bases the exchange on service, integrating two dependent elements into its structure: service and value. Service is the application of one's resources for the benefit of another actor as the basis of the exchange. In addition, value is always cocreated, referring to the fact that the faculty is not the only one responsible for generating learning and developing skills in students since it is built by multiple actors, always including the student as an agent of the ecosystem. In addition, "actors cannot deliver value, but they can participate in the creation and provision of value propositions", which means that faculty cannot "deliver knowledge" to the student but can be generated jointly (Vargo & Lusch, 2017). In addition, value is phenomenological, considering that what is valuable for one actor in a specific place and time may not be so for another actor or that same actor at another time and place (Maglio & Spohrer, 2008; Vargo et al., 2008). Based on the previous statement, within the ecosystem, such value is cocreated by its actors, including the student, such that even when the same teaching strategies and tools are applied with the maximum faculty effort, the results of the student's performance in the course may be different (Díaz-Mendez et al., 2017).

Another value co-creation characteristic is multidimensionality, which is cocreated through multiple coordination actions and institutional arrangements so that elements such as social context and culture determine the concept of value and its creation in each university community. Therefore, university value is born from perspectives in a specific context and changes according to time and space. Finally, value co-creation emerges, which means that all actors must exchange resources within an ecosystem; in this sense, the self-organization of the ecosystem occurs through interactions between multiple actors and various institutional arrangements. Therefore, value can be co-created or co-destructed, which makes it clear that the students, as actors in the ecosystem, are responsible for creating or destroying their knowledge.

Pointing to the co-creation and co-destruction of value in the ecosystem, opposite but intimately close results, Dollinger et al. (2018) emphasize that higher education co-creation is built by coproduction and value in use. These two elements do not entirely escape from the generic basis of the co-creation of customer value proposed by Tommasetti et al. (2017). However, specifically in the higher education service ecosystem, the depth and quality of interactions (coproduction) are emphasized due to the essentiality of students' active participation in the teaching-learning process, which involves the integration of their knowledge and experiences. Additionally, the fact is not enough that students are willing to "participate" in such sessions since the quality of their interaction is a crucial element. Moreover, the value in use in the classroom implies that students impact their service experience, so they personalize their value in use and lead them to permeate this value in the long term (Leonard et al., 2015; Rubalcaba, 2022).

Crawford et al. (2020) mentioned the factors that lead to higher education co-creation behaviour, community involvement, and interactive technology and highlighted that interaction is achieved through communication, pointing out that the effectiveness of the institution depends mainly on the communication capacity of its members. On their part, higher education institutions provide facilities, resources, knowledge, and skills to facilitate the student training process through their professors. However, students integrate their skills and ability to complete the value triangle described by Bovill (2020) (quality, communication, and participation); communication is the main element for the dynamism of the service such that the interaction between students and faculty is not only critical during the sessions but also essential for generating value.

Higher education co-creation is focused on the development of disciplinary and generic skills, such as critical thinking, precise and efficient reading and writing, complex problem solving, and understanding of different contexts of diverse nature, in graduates (Hemsley-Brown, 2011; Judson & Taylor, 2014; Dollinger et al., 2018). This value is undoubtedly different from that of other service ecosystems since no other service seeks the same. This leads to an implicit complexity of the educational service, a pillar of human development that must achieve academic and personal goals for medium- and long-term students. To accomplish these student changes, pedagogy implements strategies that tend to make students "uncomfortable" during the

teaching-learning process and integrate them into value generation. This "discomfort" by taking them out of their comfort zone may be against "student satisfaction" if the student is assumed to be a passive customer.

2.3. Students as co-creators

If the classroom is considered a theatrical performance, students are not the audience for whom the teacher prepares this performance because they are part of the cast in a "leading role". Continuing with the metaphor, not all actors have the same participation since they perform different activities and use unique scripts that complement each other to give a logical sequence to the story; however, everyone must participate. In this sense, experts in the educational community agree with the need for student participation to achieve value in higher education institutions; Bovill & Felten (2016) define partnership in learning and teaching as "a collaborative and reciprocal process through which all participants have the opportunity to contribute equally, although not necessarily in the same way". Thus, as actors in the educational ecosystem, students participate in the generation of learning in a specific and unique way. The student's contribution to knowledge generation is composed of several activities that academic experts recognize. For example, OECD (2019) points out that in the knowledge economy, students need to understand complex concepts and be able to work with them creatively to generate new ideas, new theories, new products, and new knowledge. In addition, they need to be able to evaluate what they read critically, express themselves clearly both verbally and in writing, understand scientific thinking, learn integrated and usable knowledge rather than decontextualized sets of facts, and take responsibility for their continuous lifelong learning; nevertheless, to be able to achieve these skills, the professor must apply pedagogical strategies, but an active student role during the sessions is necessary (Bovill, 2020).

3. Methodology and research methods. This study adopts a quantitative approach since its main objective is to measure and quantify the contribution of students in various dimensions. This approach provides the necessary structure to collect numerical data and perform statistical analyses (Queirós et al., 2017). In addition, this was a cross-sectional study, as it sought to assess the value co-creation behaviour of students over a specific period. This method provides an accurate snapshot of the situation at a given time, which is essential for achieving the objectives set out in this research (Connelly, 2016). Additionally, explanatory research is conducted since its purpose is to obtain a deeper understanding of the topic under study. This approach allows the identification of key factors that influence students' contributions, thus adding a layer of knowledge to the quantitative results obtained (Johnson, 2001).

The scale by Tommasetti et al. (2017) is adapted for this research and comprises the following 8 dimensions: cerebral activities, cooperation, information research and collation, the combination of complementary activities, changes in habits, coproduction, co-learning, and connection. Since this was exploratory research, it was considered valid to work with a convenience sample. Students in their first year at a public university (Pachuca, Hidalgo Mexico) were surveyed from March 18 to May 26, 2022, and the authors identified student contributions to value co-creation as cocreators of value. Through convenience sampling (Sedgwick, 2013), the criterion for selecting students was a 100% passing rate in their courses, with a GPA ranging from 8.5 to 9.5 out of 10, 63% women and 37% men. From a total of 553 students surveyed, 178 were eliminated due to missing values, with 375 surveys ultimately being used for analysis.

Several scales attempt to measure customer value co-creation behaviour and include the student. However, the complexity and particularities of higher education need to be considered; for example, at some customer scales, one of the items asks whether the customer actively participates during service delivery. In this regard, the student may consider that asking several questions during class is necessary. However, their contribution to value co-creation is the sharing of prior knowledge, contrasting information, and developing participation under applied critical thinking, so there is a relevant difference between participating as a customer and participating as a learner. Therefore, it is essential to identify the value co-creation behaviour of students from the SDL perspective, always considering them cocreators rather than passive customers. In this sense, the following research question arises: How do students cocreate value in the context of Mexican higher education?

4. Results.

4.1. Exploratory Factor Analysis

First, a principal component factor analysis (with varimax rotation) was carried out on the 17 items of the value co-creation scale of Tommasetti et al. (2017) to check whether, when applied to the field of higher education institutions and student participation in the teaching-learning process, they are grouped into the exact eight dimensions. The reliability of this scale was assessed using Cronbach's alpha, the value of which reached 0.904, i.e., above the minimum level of 0.7 established by Nunnally (1978); moreover, eliminating any of the items initially suggested was not necessary. The results of the component factor analysis allowed

us to reduce the 17 items into three dimensions, which explained 57.34% of the variance (Table 1). The KMO value is 0.921, a value considered very good according to Kaiser (1974).

Table 1. AFCP results

Question	Dimension 1	Dimension 2	Dimension 3
1. I intend to maintain a positive attitude toward my professors.	0.322	0.178	0.601
2. If teachers make mistakes during lessons, I am willing to accept them.	-0.039	0.090	0.600
3. I have positive expectations about the relationships I build with my teachers.	0.265	0.362	0.574
4. I show an intention to accept the vulnerability of all participants in the class by generating positive expectations about the behaviour of others.	0.187	0.144	0.782
5. I comply with the general guidelines of the teachers.	0.381	0.241	0.538
6. I try not to generate conflicts that may cause other students to stop enjoying the classes.	0.266	0.095	0.638
7. I usually look for information on the topics covered in the classes.	0.682	0.065	0.203
8. I usually take notes during the lessons to get a better result in my learning.	0.690	0.127	0.235
9. It is important for me to combine complementary learning activities during the course.	0.701	0.223	0.273
10. I can adapt to the constraints of the classes.	0.562	0.303	0.285
11. I am willing to manage my time and modulate the influence of academic life on my personal life by participating in extracurricular activities.	0.658	0.256	0.157
12. I have a participatory role during the lessons.	0.628	0.546	-0,006
13. I usually contribute to solving possible problems that arise during the lessons.	0.576	0.626	0.005
14. It is very important for me to share information about the classes with other colleagues.	0.368	0.639	0.281
15. If I have a useful idea on how to improve the classes, I let my teachers know.	0.363	0.646	0.102
16. It is important for me to establish academic relationships with the teachers during the course.	0.112	0.812	0.297
17. For me, it is essential to maintain academic relationships with professors after the course is over.	0.069	0.763	0.278

Sources: developed by the authors.

The first dimension included items belonging to the original scale dimensions measuring "Information research and collation", "The combination of complementary activities", and "Changes in habits", as well as item 12 belonging to the coproduction dimension (specifically, the item measuring codesign). Considering this grouping of things, this dimension can be called "proactive learning" since it represents actions in which learners seek to enhance or make the most of their learning process (Köpeczi-Bócz, 2020). The second dimension includes the items belonging to the original scale dimensions measuring co-learning and connection and the second item belonging to the coproduction dimension (namely, the item measuring codelivery). By grouping these items, this second dimension can be referred to as "relationships with peers and teachers", as they involve positive interactions with these other people, both in the present and in the future. The third dimension includes the six items belonging to the "cerebral activities" and "cooperation" dimensions of the Tommasetti et al. (2017) scale. This dimension can be called "attitude and responsible behaviour", as it refers to the student's actions that lead them to perform the scheduled activities and for an excellent teaching-learning process. It can be said that it includes more passive measures than the other two dimensions.

4.2. Student segments according to their participation

Once the necessary factor analyses had been carried out, the next step in the research was to perform a cluster analysis using the three dimensions. Specifically, a non-hierarchical classification method (k-means clustering) was used, using the Euclidean distance squared as a distance measure. The final value used was k=3. The three segments identified are shown in Table 2, and the ANOVA mean difference test showed that the differences between the three segments were statistically significant at 99% for all variables. The first segment is categorized as "students involved in active learning" because they are characterized mainly by giving high value to the dimension "proactive learning" but low value to "relationships with peers and

teachers". These individuals represented 29.8% of the respondents. This segment has a medium value for co-creation. A second segment, representing 18% of the sample, is characterized by low values for the items of all three dimensions. They are categorized as the "students with low co-creation value students" segment, and the third segment includes "students with high co-creation value", representing 52.2% of the sample.

Table 2. Student segmentation

Dimension	Students involved in active learning	Students with low co-creation value students	Students with high co-creation value
Dimension 1: "Pro-active learning".	0.25589	-0.32141	-0.03541
Dimension 2: "Relationships with peers and teachers".	-1.19795	0.15623	0.63147
Dimension 3: "Attitude and responsible behaviour".	0.21560	-1.56546	0.41729

Sources: developed by the authors.

The variables that most strongly share the customer scale and the student model are the weakest in students, i.e., they perform as customers but not as students. Students act as generic customers, but their contribution to the items of production and value in use is the weakest. This leads students to hold other actors, such as faculty, responsible for their knowledge without considering their participation as co-creators.

5. Discussion. In this study, we were interested in exploring how students cocreate value in the Mexican higher education context, contributing to identifying current student participation as an ecosystem actor. The main result is that 52.2% of a sample of students show optimal co-creative behaviour during academic activities, while 29.8% show medium co-creative behaviour through their willingness to be proactive but do not show readiness for collaborative and participatory work with their classmates and faculty. Finally, 18% of the students showed a low disposition to be co-creative actors during academic activities.

These results occur in the context of public higher education in Mexico, a sector that requires the deep involvement of its actors to integrate their resources and jointly generate value; moreover, consistent with the findings of Botti et al. (2017), the results highlight that learners are not exclusively involved in the delivery phase due to the inclusive nature of the value co-creation process, specifically in the educational sector, emphasizing the existence of a predelivery phase (brain activities, cooperation, search, and information gathering) and a postdelivery phase (co-learning). Additionally, this research showed that the segment of students categorized as "medium level of co-creation" offers a great willingness to perform proactive activities during the teaching-learning process; they do not show the same desire to relate in collaborative work with other students or teachers. This is relevant because, as Tarı Kasnakoglu & Mercan (2022) note in their research, as one partner feels more attached and loyal to the other, they activate their resources more effectively, resulting in a higher level of co-creation. Therefore, even when they are proactive in different facets, they do not achieve optimal co-creation due to their lack of interest in generating academic activities or pedagogical interventions in which they establish links with faculty and colleagues.

One of the main unexpected results of the research is that 20% of the students who were surveyed had a low level of co-creation, which implies that they are not willing to perform the activities related to the three dimensions of pro-active learning, relationships with peers and faculty, or attitudes and responsible behaviour. However, 100% of the surveyed students agreed that even without co-creation, they would approve of their academic classes, with grade point averages ranging from 8.5 to 9.5 on a scale of 10.

In agreement with Tarı Kasnakoglu & Mercan (2022), this research shows that not all students are ready to cooperate during the teaching and learning process, even when they achieve passing grades. In addition, Judson and Taylor (2014) critically noted the existence of inflated notes that objectively represent students' performance but that take place in HEIs because of marketization and governmental demands to maintain or increase the allocated public budget. The results of this research are consistent with previous findings.

An essential caveat for interpreting this study is that it is limited by its specific professional profile and level of education. The results may differ if applied in other professional areas and with students of different levels. On the other hand, all the students surveyed belonged to a public university in a specific city in Mexico, so the sociocultural, economic, and political characteristics of other regions and countries may have affected the results. Therefore, the authors recommend performing different measurements of students' co-creation behavior in different environments and scenarios, for example, in private higher education institutions and other LATAM countries, to identify convergences and divergences.

The present study identified 3 segments of students with clearly different levels of engagement in value co-creation with the teacher, but it is interesting to also know the profile of the individuals who form each segment. Future research should include the objective of identifying the sociodemographic, psychographic, and attitudinal profiles of students with different commitments to co-creation. This research indicates that even when university students have satisfactory and outstanding average grades, their real participation as cocreators of value during academic activities is not guaranteed. Therefore, it is possible to confirm the existence of educational marketization and the bias between the results that condition the budgets of higher education institutions and the educational realities of the geographical area of Mexico in which the study was developed. Specifically, given the current co-creation behaviour of university students, it is possible to identify the areas of opportunity for an improvement in student participation, which allows managers and faculty to develop teaching and management strategies to improve institutional arrangements that help to enhance student behaviour as a cocreator of value during the educational experience.

6. Conclusions. The LATAM Higher Education ecosystem is immersed in a marketization tendency that threatens its sustainability due to the disassociation of current university management from advances in the service discipline. University students in the LATAM region, specifically in the public sector, exhibit co-creation behaviour with some areas of opportunity; even when higher education institutions demonstrate educational quality indicators based on the retention and graduation of "satisfied" students to achieve the government budget, these students do not necessarily exhibit optimal co-creation behaviour proportional to the numerical results of their evaluations and their approval levels.

The complexity and challenges faced by the higher education ecosystem demand the integration of service science advances into the management of higher education institutions, linking the discipline of marketing to higher education and generating a new way of seeing and managing teaching-learning since higher education institutions are immersed in the forces and threats of the market. Nevertheless, at the same time, they must maintain their essence and the reason for their existence as pillars of human development. Seeking to face this challenge, higher education institutions continue to opt for indiscriminate application of the student-customer and professor-provider knowledge approach without considering that this approach may be helpful in the short term since it achieves immediate satisfaction and retention but is severely harmful in the long term by worsening the social value of higher education per se. Therefore, it is necessary to unlearn outdated marketing theories and approaches applied in higher education and to understand that student participation is needed for all aspects of their education, which implies a much broader perspective than traditional forms of interaction.

Therefore, the value co-creation as a premise of the SDL applies to the ecosystem since it provides a renewed framework aiming for an extended and more helpful relationship between students and their classmates and with the faculty, allowing identifying the existing and missing needed cognitive and behavioural activities of the student that generate value within the university classrooms, as they contribute to their previous learning experiences, their knowledge, and their general culture. In addition, higher education institutions are responsible for the institutional arrangements that enable the organization, course design, and competencies that improve students' human and professional capacities. Therefore, higher education institutions are responsible for establishing a functioning co-creation ecosystem, considering their objectives in all its dimensions (economic, political, and market) but socially functional in LATAM.

Finally, to better understand the functioning of the educational ecosystem, it is essential to start by identifying how students participate in joint achievement during academic activities, interact with each other and with teachers, and participate in co-creation behaviour in general. This approach can help higher education to define better actions that promote value co-creation, from the predelivery phase to the postdelivery stage. Therefore, knowing and measuring the level of student involvement through co-creation behaviour is the first step in improving the current functioning of the educational sector. An intrinsic limitation of this study is linked to the use of a conveniently selected sample, conditioned by the availability and accessibility of the participants. Nevertheless, this approach made it possible to contemplate the educational environment's economic, cultural, and social characteristics in a specific region, which exhibits a remarkable similarity with the educational dynamics in LATAM.

Future research could explore the impact of marketization on student behaviour and engagement in different cultural and socioeconomic contexts. One potential avenue for investigation lies in understanding the variations in students' co-creation behaviour across diverse professional profiles and levels of education. Additionally, researchers could explore the sociodemographic, psychographic, and attitudinal profiles of students exhibiting different levels of commitment to co-creation. This exploration provides valuable insights into designing targeted strategies for improving student participation as cocreators of value within higher education ecosystems. On the other hand, the study also highlights the discrepancy between students' co-

creation behaviour and their academic performance. Future research could explore the long-term implications of this misalignment by considering factors such as the quality of education, students' genuine learning experiences, and the social value of higher education.

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References

Barile, S., Pels, J., Polese, F., & Saviano, M. (2012). An introduction to the viable systems approach and its contribution to marketing. *Journal of Business Market Management*, 5(2), 54–78. [Google Scholar]

Barile, S., Saviano, M., Iandolo, F., & Calabrese, M. (2014). The viable systems approach and its contribution to the analysis of sustainable business behaviors. *Systems Research and Behavioral Science*, 31(6), 683–695. [Google Scholar] [CrossRef]

Botti, A., Grimaldi, M., Tommasetti, A., Troisi, O., & Vesci, M. (2017). Modelling and measuring the consumer activities associated with value cocreation: An exploratory test in the context of education. *Service Science*, 9(1), 63–73. [Google Scholar] [CrossRef]

Bovill, C. (2020). Cocreation in learning and teaching: The case for a whole-class approach in higher education. *Higher education*, 79(6), 1023-1037. [Google Scholar]

Bovill, C., & Felten, P. (2016). Cultivating student–staff partnerships through research and practice. *International Journal for Academic Development*, 21(1), 1–3. [Google Scholar] [CrossRef]

Cavallone, M., Ciasullo, M. V., Douglas, J., & Palumbo, R. (2021). Framing higher education quality from a business perspective: setting the conditions for value cocreation. *Studies in Higher Education*, *46*(6), 1099-1111. [Google Scholar] [CrossRef]

Connelly, L. M. (2016). Cross-sectional survey research. *Medsurg nursing*, *25*(5), 369. [Google Scholar]

Contu, A. (2020). Answering the crisis with intellectual activism: Making a difference as business schools scholars. *Human Relations*, 73(5), 737–757. [Google Scholar]

Crawford, J., Butler-Henderson, K., Rudolph, J., Malkawi, B., Glowatz, M., Burton, R., ... & Lam, S. (2020). COVID-19: 20 countries' higher education intraperiod digital pedagogy responses. *Journal of Applied Learning & Teaching*, *3*(1), 1-20. [Google Scholar] [CrossRef]

Díaz-Mendez, M., Saren, M., & Gummesson, E. (2017). Considering pollution in the higher education (HE) service ecosystem: The role of students' evaluation surveys. *The TQM Journal*, *29*(6), 767-782. [Google Scholar] [CrossRef]

Dollinger, M., Lodge, J., & Coates, H. (2018). Cocreation in higher education: Towards a conceptual model. *Journal of marketing for higher education*, *28*(2), 210-231. [Google Scholar] [CrossRef]

Elsharnouby, T. H. (2015). Student cocreation behavior in higher education: the role of satisfaction with the university experience. *Journal of Marketing for Higher Education*, 25(2), 238–262. [Google Scholar] [CrossRef]

Funaki, B. (2007). The customer is always right. *Seminars in Interventional Radiology*, 24(4), 361–362. [Google Scholar] [CrossRef]

Grönroos, C. (2006). Adopting a service logic for marketing. *Marketing Theory*, 6(3), 317–333. [Google Scholar] [CrossRef]

Grönroos, C. (2011). Value cocreation in service logic: A critical analysis. Marketing Theory, 11(3), 279–301. [Google Scholar]

Gummesson, E. (2006). Service Development: A Many-to-Many Approach. Involving Customers in New Service Development, 11, 77. [Google Scholar]
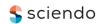
Gummesson, E. (2014). Many-to-many marketing as grand theory: A Nordic school contribution. In *The service-dominant logic of marketing (pp. 357-371)*. Routledge. [Google Scholar]

Harris, L. C., & Reynolds, K. L. (2004). Jaycustomer behavior: An exploration of types and motives in the hospitality industry. *Journal of Services Marketing*, 18(5), 339–357. [Google Scholar] [CrossRef]

Hemsley-Brown, J. (2011). Market heal thyself: The challenges of a free market in higher education. *Journal of Marketing for Higher Education*, 21(2), 115–132. [Google Scholar] [CrossRef]

Johnson, B. (2001). Toward a new classification of nonexperimental quantitative research. *Educational researcher*, 30(2), 3-13. [Google Scholar]

Judson, K. M., & Taylor, S. A. (2014). Moving from Marketization to Marketing of Higher Education: The Co-Creation of Value in Higher Education. *Higher Education Studies*, 4(1), 51–67. [Google Scholar] [CrossRef]

Kim, K., & Baker, M. A. (2020). The Customer Is not Always Right: The Implications of Illegitimate Complaints. *Cornell Hospitality Quarterly*, 61(2), 113–127. [Google Scholar] [CrossRef]

Knobel, M., & Leal, F. (2019). Higher Education and Science in Brazil: A Walk toward the Cliff? *International Higher Education*, 99, 2–4. [Google Scholar] [CrossRef]

Köpeczi-Bócz, T. (2020). Learning portfolios and proactive learning in higher education pedagogy. *International Journal of Engineering Pedagogy*, 10(5), 34–48. [Google Scholar] [CrossRef]

Koris, R., & Nokelainen, P. (2015). The student-customer orientation questionnaire (SCOQ): Application of customer metaphor to higher education. *International Journal of Educational Management*, 29(1), 115–138. [Google Scholar] [CrossRef]

Leonard, K., Yates, J., Nanhoo, F., Mcleish, S., Little, J., St Louis, R., & Stewart, W. (2015). Speed Mentoring in Teaching and Learning: Young people with experience of the care system mentor social work students. Social Work Education, 34(6), 666–681. [Google Scholar] [CrossRef]

Lowrie, A., & Hemsley-Brown, J. (2011). This thing is called marketisation. *Journal of Marketing Management*, 27(11–12), 1081–1086. [Google Scholar] [CrossRef]

Maglio, P. P., & Spohrer, J. (2008). Fundamentals of service science. Journal of the Academy of Marketing Science, 36(1), 18–20. [Google Scholar] [CrossRef]

Magni, D., Pezzi, A., & Vrontis, D. (2020). Towards a framework of students' cocreation behaviour in higher education institutions. *International Journal of Managerial and Financial Accounting*, 12(2), 119–148. [Google Scholar] [CrossRef]

Molesworth, M., Nixon, E., & Scullion, R. (2010). The marketisation of higher education: the student as consumer. *Taylor & Francis eBooks DRM Free Collection*. [Google Scholar]

Moreno, B. A., & Calderón, H. (2017). Comportamiento del consumidor en la cocreación de valor y su relación con la satisfacción en el entorno universitario: una aplicación a la Universidad de Ibague (Colombia). *Revista Facultad de Ciencias Económicas: Investigación y Reflexión*, 25(1), 203. [Google Scholar]

Muukkonen, H., Lakkala, M., Lahti-Nuuttila, P., Ilomäki, L., Karlgren, K., & Toom, A. (2020). Assessing the Development of Collaborative Knowledge Work Competence: Scales for Higher Education Course Contexts. *Scandinavian Journal of Educational Research*, 64(7), 1071–1089. [Google Scholar] [CrossRef]

Nie, Z., Zurlo, F., Camussi, E., & Annovazzi, C. (2019). Service Ecosystem Design for improving the service sustainability: A case of Career Counselling Services in the Italian higher education institution. *Sustainability*, 11(5), 1427. [Google Scholar] [CrossRef]

Pedroza Flores, R., & Reyes Fabela, A. M. (2022). Perspectiva de la educación superior en Mexico 2030. *Inter disciplina*, 10(27), 289-313. [Google Scholar] [CrossRef]

Perks, H., Gruber, T., & Edvardsson, B. (2012). Cocreation in Radical Service Innovation : A Systematic Analysis of Microlevel Processes. 29(6), 935–951. [Google Scholar] [CrossRef]

Porfilio, B. J., & Yu, T. (2006). Student as consumer: A critical narrative of the commercialization of teacher education. *Journal for Critical Education Policy Studies*, 4(1), 1-14. [Google Scholar]

Queirós, A., Faria, D., & Almeida, F. (2017). Strengths and limitations of qualitative and quantitative research methods. *European journal of education studies*, 3(9), 369-387. [Google Scholar]

Rajagopal. (2010). Orchestration of the Marketing Strategy Under Competitive Dynamics. In *The Customer is NOT Always Right? Marketing Orientationsin a Dynamic Business World: Proceedings of the 2011 World Marketing Congress* (pp. 868-873). Cham: Springer International Publishing. [Google Scholar] [CrossRef]

Ranjan, K. R., & Read, S. (2016). Value cocreation: concept and measurement. Journal of the Academy of Marketing Science, 44(3), 290–315. [Google Scholar] [CrossRef]

Rubalcaba, L. (2022). Understanding innovation in education: A service coproduction perspective. *Economies*, 10(5), 96. [Google Scholar] [CrossRef]

Salmi, J. (2020). COVID's Lessons for Global Higher Education: Coping with the Present While Building a More Equitable Future. *Lumina foundation*. [Google Scholar]

Sedgwick, P. (2013). Convenience sampling. *Bmj*, *347*. https://doi.org/10.1136/bmj.f6304 [Google Scholar] [CrossRef]

Seeman, E. D., & O'Hara, M. (2006). Customer relationship management in higher education: Using information systems to improve the student-school relationship. *Campus-Wide Information Systems*, 23(1), 24–34. [Google Scholar] [CrossRef]

Sharrock, G. (2000). Why Students are not (Just) Customers (and other reflections on Life After George). *Journal of Higher Education Policy and Management*, 22(2), 149–164. [Google Scholar] [CrossRef]

Spence, C. (2019). 'Judgement' versus 'metrics' in higher education management. *Higher Education*, 77(5), 761-775. [Google Scholar] [CrossRef]

Sutarso, Y., Halim, R. E., Balqiah, T. E., & Tjiptoherijanto, P. (2019). Understanding customer cocreation activities in higher education: groupings, characteristics and implications. *International Journal of Business & Society*, *20*, 42-56. [Google Scholar]

Tarı Kasnakoglu, B., & Mercan, H. (2022). Cocreating positive outcomes in higher education: are students ready for cocreation?. *Journal of Marketing for Higher Education*, *32*(1), 73-88. [Google Scholar] [CrossRef]

Tommasetti, A., Troisi, O., & Vesci, M. (2017). Measuring customer value cocreation behavior: Developing a conceptual model based on service-dominant logic. *Journal of Service Theory and Practice*, *27*(5), 930-950. [Google Scholar] [CrossRef]

Torres, C. A., & Puiggros, A. (2019). *Latin American education: comparative perspectives*. (1st Editio). [Google Scholar]

Torres, C. A., & Schugurensky, D. (2002). The political economy of higher education in the era of neoliberal globalization: Latin America in comparative perspective. Higher Education, 43(4), 429–455. [Google Scholar] [CrossRef]

Vargo, S. L., & Lusch, R. F. (2004). The Four Service Marketing Myths: Remnants of a Goods-Based, Manufacturing Model. *Journal of Service Research*, 6(4), 324–335. [Google Scholar] [CrossRef]

Vargo, S. L., & Lusch, R. F. (2008). Service-dominant logic: Continuing the evolution. *Journal of the Academy of Marketing Science*, 36(1), 1–10. [Google Scholar] [CrossRef]

Vargo, S. L., & Lusch, R. F. (2017). Service-dominant logic 2025 evidence-based research. International *Journal of Research in Marketing*, 34(1), 46–67. [Google Scholar] [CrossRef]

Vargo, S. L., Maglio, P. P., & Akaka, M. A. (2008). On value and value cocreation: A service systems and service logic perspective. *European Management Journal*, 26(3), 145–152. [Google Scholar] [CrossRef]

Voropai, O., Pichyk, K., & Chala, N. (2019). Increasing competitiveness of higher education in Ukraine through value cocreation strategy. Economics and Sociology, 12(4), 214–226. [Google Scholar] [CrossRef]

Wueste, D. E., & Fishman, T. (2010). The customer is not always right: Limitations of "customer service" approaches to education or why Higher Ed is not Burger King. *International Journal for Educational Integrity*, 6(1), 3-12. [Google Scholar] [CrossRef]

Xu, J., Lo, A., & Wu, J. (2018). Are students customers? Tourism and hospitality students' evaluation of their higher education experience. *Journal of Teaching in Travel & Tourism*, *18*(3), 236-258. [Google Scholar] [CrossRef]

Yeung, E. Y. H. (2018). Is the customer always right? *BMJ (Online)*, 361(June), 2448. [CrossRef]

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Вплив поведінки студентів на створення вартості в екосистемі вищої освіти: емпіричне дослідження

Ця стаття розглядає вплив поведінки студентів на створенні вартості в екосистемі вищої освіти. Метою є вивчення того, як студенти інтегрують свої пізнавальні та поведінкові активності протягом свого академічного шляху. Вибірку дослідження було сформовано на основі опитування 375 студентів першого курсу Публічного університету в Мексиці, які мають середній бал успішності в навчанні від 8,5 до 9,5 з 10 можливих балів. Авторами наголошено, що регіону, у якому розташований заклад вищої освіти, притаманна пасивна роль стейкхолдерів у моделі студент-клієнт. Також був проведений аналіз головних компонентів для обґрунтування початкових вимірів, включених у шкалу дослідження. Крім того, був використаний ієрархічний кластерний аналіз для категоризації студентів згідно їхньої поведінки при створенні вартості. Отримані емпіричні результати дозволили виокремити та описати три сегменти студентів: перший – з великою готовністю формувати та впливати на вартість закладу вищої освіти; другий – з активною позитивною установкою, але відсутністю інтересу до комунікацій та співпраці з однокурсниками та викладачами; третій – з низьким рівнем впливу на створення вартості в усіх оцінених вимірах. Ці результати підкреслюють, що не всі студенти залучаються до створення вартості закладу вищої освіти протягом своєї академічної діяльності, навіть якщо вони досягають високих оцінок. Результати дозволили сформувати рекомендації для операціоналізації створення вартості закладів вищої освіти, підкреслюючи, що це є динамічний та нелінійний процес, який вимагає постійного контролю та корегування. Також авторами наголошено на необхідності залучення студентів до позанавчальних активностей. У дослідженні підкреслюється потреба в прийнятті довгострокової стратегії формування вартості закладу вищої освіти, що передбачає впровадження студентоорієнтованого підходу під час навчання. Крім того, обґрунтовано доцільність розроблення освітніх політик та стратегій відповідно до принципів сталого розвитку.

Ключові слова: академічний досвід; студент-клієнт; когнітивні та поведінкові активності; ринкова орієнтація; логіка, що ґрунтується на сервісі.