VALUE CO-CREATION IN EDUCATION: SCOPE, METHODS AND INSIGHTS

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ABSTRACT

Education is a major domain in the service sector. The service literature, especially the recent trend for the examination of value co-creation in service systems, has only marginally and partially affected the management of Higher Education Institutions (HEIs) and the education (i.e. service) models they apply. This paper investigates the application of the concept of value co-creation in education, with an emphasis on higher education, where the student is more knowledgeable, more mature and conscientious for the learning process and the education process tends to be highly interactive, related to scientific requirements and objectives and less affected by social and psychological factors. The purpose of this paper is to provide the context of HEIs, that have instate value co-creation methods into their programs, and create a number of reference groups, that will be distinguish by the from and infusion methods of co-creating value with students. A review of the existing literature on value co-creation in education was implemented and it was found that students have a unique perspective on teaching and learning and that they should be invited to share their insights during the educational process. Also, the possible uses of value co-creation methods are evident in the managerial and operational function of educational institutions. Four groups were created, namely Value co-creation in a classroom setting - in a educational organization; Investigation of factors affecting value co-creation; Investigating value co-creation from a managerial point of view; technology and content creation for value co-creation, in order to classify existing research projects. These groups point the direction to future researchers on possible areas of interest of value co-creation on education. Some possible areas are learning, management, use of technology for a better educational process etc. Generally, this paper contributes to the research of value co-creation, with informative observations and interesting examples of value co-creation in education.

Keyword: - *value co-creation, S-D logic, educational models, and pedagogy 2.0*

1. INTRODUCTION

The role of the customer has always attracted the interest by researchers and practitioners. Traditionally, the role of the customer was considered passive, restricted to the consumption of products and services and submissive to the marketing activities of the provider. However, the general mindset on the role of the customer has changed recently. The customer has entered in a new world of energetic behaviour and now co-creates value [21],[39],[51], by participating in the production process or by determining the consumption process and its results.

The concept of value co-creation exercises great influence in the research and the practices in a variety of fields. Value co-creation received particular interest in the field of service marketing and management. Distinguishing role has the Service Dominant (S-D) Logic [51],[52], according to which service is the application of specialized competencies (knowledge and skills) through deeds, processes, and performances for the benefit of another entity or

the entity itself [51]; service value is always co-created by the integration of operant and operand resources of the customer and the provider and it is phenomonologically determined by the customer [52].

In a similar vein, the role of the student, especially in higher education (HE), has shifted from passive conceptualizations of the student as receiver of knowledge transmitted through teaching (i.e. lecturing) to active and collaborative approaches that regard the student as a contributor in the education process and co-creators of the education outcomes [10], such as knowledge, skills, personal traits, etc. Bovill (2014) [4], confirms the idea of students as active partners in learning has gained increasing favour in higher education recently.

Education is a major domain in the service sector. Weisbrod, Ballou and Asch (2008) [54], mention that higher education in the U.S. enrols some 19 million students and employs 3.4 million people, 3 percent of the entire U.S. service-sector labour force. In European Union higher education counts about 17 million students.

The service literature, especially the recent trend for the examination of value co-creation in service systems, has only marginally and partially affected the management of Higher Education Institutions (HEIs) and the education (i.e. service) models they apply. Ng and Forbes (2009) [38], suggest that the service literature tends to view services generally, while education literature tends to focus on the learning aspect of higher education; hence, there has been no attempt to capture the education as a service in a clear and integrated way, taken into account the its particular requirements. The major contribution from the service research to the management of HEIs is related to the quality of education service and the application of service marketing concepts in education. For instance, Ng and Forbes (2009) [38], provide a framework from services marketing aiming to assist universities in understanding what market orientation means and how students would value their offerings. Taylor and Judson (2011) [48], suggest that HE in the United States is rapidly moving toward a market-oriented model of service provision that employs marketing practices based upon the requirements of 'relevance' (i.e. to the market needs and demand) and 'student satisfaction'. Judson and Taylor (2014) [25], name these shifts "marketization practices", rather than marketing practices, because they do not appreciate evolving marketing theory and practices.

Some voices recently [10],[48],[25] advocate that universities just, like other service organizations, must consider the new developments in service theory and adopt the premises of modern service research. The concept of value co-creation can take a first role here and it can be seen as a genuine concept in education, with the role of the student being extremely important, as the learning outcome is broadly based on the learning capacity and the effort the student. Students are not submissive, silent individuals in learning environments, but rather they are viewed as motivated partners in collaborative enquiry based on dialogue, experimentation and mutual learning with the teacher and the classmates [4].

This paper investigates the application of the concept of value co-creation in education, with an emphasis on higher education, where the student is more knowledgeable, more mature and conscientious for the learning process and the education process tends to be highly interactive, related to scientific requirements and objectives and less affected by social and psychological factors. The purpose of this paper is to provide the context of HEIs, that have instate value co-creation methods into their programs, and create a number of reference groups, that will be distinguish by the from and infusion methods of co-creating value with students.

The paper approaches education as a service, in particular as a service thought the lens of the recent service-based research and the literature value co-creation. As education is a major service domain, the paper contributes in the better understanding of the education as a value co-creation process, which may lead potentially to the development of new and alternative educational models. In addition, the paper will contribute in the research of value co-creation, with informative observations and interesting examples of value co-creation in education.

The rest of the paper is organized in five sections. In the next section we review briefly the application of concepts related to value co-creation in higher education. We continue with the analysis of education under the Service Dominant Prism (SD logic), as one of the most influential efforts for the development of the service-based research mindset. Next we provide examples of value co-creation in higher education with the purpose to illustrate indicative cases and characteristics, after dividing them into four groups, depending on the use of pattern of research contributions. The paper finishes with insights for the use of educational practices that are based on value co-creation and the conclusions.

2. AN OVERVIEW OF VALUE CO-CREATION CONCEPTS IN EDUCATION

Traditional approaches in higher education supports a separation between faculty members' and students' perspectives on education [9] and tend to regard students as consumers [33]. The teacher holds the scientific knowledge, which is transmitted to the student though teaching activities, such as lecturing; the student is ignorant and passive recipient of the knowledge content, with the only responsibility to receive and absorb it in the first stage. Universities become producers of what students demand and students become consumers of what is provided by the

university. One can notice here the similarity of education with the traditional approaches in service marketing, where the producer knows customer needs and can provide solutions for these needs, while the only responsibility of the customer is to use the service in a proper way.

McMillan and Cheney [33], suggest the student-as-consumer metaphor is disposed to 'pragmatism' and implies the education is a product, rather than a process (e.g. knowledge is transferable, rather than developed). McCulloch (2009) [31], argues the student-as-consumer metaphor is not appropriate to the realities of contemporary higher education and suggests that co-production in education offers instead a more appropriate metaphor. In co-production in education, the student, lecturers and others who support the learning process are viewed as being engaged in a cooperative enterprise focused on the production, dissemination and application of knowledge.

For Judson and Taylor (2014) [25], the traditional classroom lecture model is based on the Goods Dominant Logic [51], that is the exchange of knowledge as "good", most often in the form of "manufactured output", the emphasis on tangible resources, embedded and delivered value and transactions.

Cook-Sather (2013) [9], discusses the roles and the relationship between students and faculty and suggest that incorporating students as partners in pedagogical practices constitutes a 'threshold concept' in education, because of the ways these roles and the relationship has been shaped traditionally and the disruptive changes may evoke an alternative view on these roles and the relationship.

Recent 'inductive learning' approaches hold for the student an active and collaborative role in the learning process [41]. For instance, in constructivist learning students take primary responsibility for determining their goals and objectives as well as the learning methods [24]. The role of the teacher is to facilitate this process and help students in their achieving their learning objectives. The value of education is determined by the student as well, as students construct their own knowledge, rather than simply absorb knowledge presented by the teacher.

The Socratic teaching approach considers also that the learning process is most of all responsibility of the student, as knowledge cannot simply be transmitted to a passive recipient. Students are not objects to which something is done, even if what is done is envisioned as beneficial [2]. Learning is a social event, based on the collaboration and the reciprocal exchange of arguments, in a dialogical style, between the teacher and the learner, who are in search of mutual agreement and the truth.

This idea of students as active partners in learning has gained increasing favor in recent discussions about higher education models. Taylor and Judson (2011) [48], discuss the concept of personalization in education and they suggest it would mean putting the students at the heart of the education process, as it would be normally expected, and enabling them shape the education process to their individual need, interest an aptitude. Bovill, Cook-Sather and Felten (2011) [5], discuss the concept of student engagement, active learning and 'student voice'. Ng and Forbes (2009) [38] combined the literature from education and services marketing to produce a framework for the analysis of university education as a service. They suggest the core service in a university experience is a learning experience as a result of the co-creation of the people within the university, that is between students, students and teachers, students and administrators, etc.; the core service in a university experience is a learning experience that is co-created, with education (i.e. service) value being emergent, unstructured, interactive, uncertain and also with a hedonic dimension.

The participation of students in the educational process can also be related to pedagogical planning processes. Bovill, Cook-Sather and Felten (2011) [5], analyze students as partners in pedagogical processes and they recognize three forms of such student participation: students as co-creators of teaching approaches, students as co-creators of course design and students as co-creators of curricula.

Dunne and Zandstra (2011) [12], criticize that students having a 'voice' is important, but may remain a passive experience, in comparison to being given the opportunities to drive and lead change initiatives. They developed a model for student engagement that is based on two key dimensions: the extent to which any activity is led by students, or led by the institution, and the extent to which any activity is premised on active engagement by students in or is based on more passive forms of representation. They describe four basic types of students' role as a) evaluators, b) participants, c) partners, d) agents for change [12].

Collaboration in pedagogical planning processes and in redesigning the curricula is an important area of academic collaboration. But Neary and Winn (2009) [37], believe that academics and students need go further to redesigning the processes through which academic knowledge is produced. They suggest student participation and co-production of knowledge can be achieved through research-based learning, introduces student not only in teaching processes, but in research processes as well, that are the primary ways for the creation of knowledge.

3. EDUCATION UNDER THE PRISM OF SERVICE-BASED RESEARCH

In this section we analyze education under the prism of a conceptual perspective that has been developed recently in the service research, namely Service Dominant (SD) logic, proposed by Vargo and Lusch (2004, 2008) [51],[52]. S-D logic has been developed as a general conceptual framework that is based on an 'alternative' perspective of service as "the application of specialized competences (knowledge and skills) through deeds, processes and performances for the benefit of another entity or the entity itself" [52]. As key characteristics, S-D logic makes the distinction between direct and indirect (i.e. through goods) service provision, focuses on knowledge and skills as resources of value and emphasizes on the customer and the co-creation of value as an outcome of the collaboration between the customer and the provider. The spirit of S-D logic is reflected on ten foundational premises (FPs) [51],[52].

3.1 The application of S-D logic in higher education

The definition of service in S-D logic meets perfectly the meaning service in higher education: it is about the application of scientific knowledge through a variety of processes for the education of the students, with the objective to render students scientifically knowledgeable and competent. Knowledge production is inseparable from consumption, as research and teaching are intertwined [37]. Knowledge is exposed as 'value in use', as it acquires value when it is used or applied, either for the development of new knowledge, in the context of scientific research, or for the solution of a problem, in the context of professional activities. Knowledge that is not used in order make or to improve something does not have value for the holder – and for the society, too. The application of the foundational premises (FPs) of S-D logic in higher education and their interpretation is discussed next.

FP1: Service is the fundamental basis of exchange. In higher education knowledge is exchanged between the education participants and the fundamental basis of exchange is knowledge. Students (should) attend an educational programme for the knowledge they will develop, rather than the certification (tangible product) they will receive.

FP2: Indirect exchange masks the fundamental basis of exchange. Even though it is the essence of the education process, knowledge is experiential and intangible and it is difficult to be appreciated, exposed, measured and proved. For this, certifications and awards are used as a proof for the acquisitions (development) of knowledge by the student.

FP3: Goods are distribution mechanisms for service provision. The provision of knowledge is supported by tangible and intangible goods, however the existence of goods in education should not distract away from the education process and the development of knowledge.

FP4: Operant resources are the fundamental source of competitive advantage. S-D logic distinguishes between operant and operand resources and, similarly, this distinction is fundamental in education. The creation of value is based on operant resources, which act upon operand resources to create value. Operant resources in education are the knowledge, skills or competencies, as well as the teachers and students themselves, who are conveyors of intentions, feelings, knowledge and skills. Operand resources, on the other hand, are the building and technological infrastructure, the equipment, the educational material, etc.

FP5: All economies are service economies. In education, the relationships (exchanges) between the various actors are based on the development and exchange of knowledge and skills. Knowledge is exchanged for knowledge, as education is an interactive process, in which the teachers provide their knowledge to their students and they receive back inquiries, comments and feedback, which give them the opportunity to enhance and improve their knowledge.

FP6: The customer is always a co-creator of value. In education, the role of the student in the creation of value is fundamental and is performed by providing his/ her resources (e.g. knowledge and skills), integrating resources or simply providing the context for the creation of value (e.g. intentions, needs). Value in education is always co-created and knowledge cannot be simply transmitted or exchanged, because effective learning requires the attention and the personal effort of the student, who receives, comprehends, questions and integrates the new knowledge to his/ her existing conceptual and mental background.

FP7: The enterprise cannot deliver value, but only offer value propositions. It is important for the Universities and the teachers to understand that they cannot create value for their students, but they can only create and offer the necessary conditions for this. Value is created by the students, when they use the knowledge they have acquired and developed for a variety of purposes and in variety of settings.

FP8: A service-centered view is inherently customer-oriented and relational. Education is student-oriented, because it is (should be) based on the needs of the student, rather that the needs or the available resources of the provider.

Education is relational, as well as experiential, because it is based on the relationship between the students with the teachers and the classmates.
FP9: All economic and social actors are resource integrators. Knowledge is created both by teachers and students. The distinction between teachers and students is not valid when we are talking about the creation of knowledge, because they both contribute, in different ways, in the creation of knowledge.
FP10: Value is always uniquely and phenomenologically determined by the beneficiary. The value of education and knowledge is determined by the student with respect to his/her individual needs, capacities, intentions and situation. An educational programme does not have the same value for all the students that participate in it.

4. APPLYING CONCEPTS OF VALUE CO-CREATION IN EDUCATION

The education service could be considered as one of the most representative industries of the value co-creation approach. A shift has been made, the so called co-creation approach, in the value delivery process from creating something for students into creating something with students. Teaching and learning process should be at the core of the higher education agenda. Active student involvement in this well-bound process is essential in governance, curricular design, development and review, quality assurance and review procedures of knowledge provision. Higher Education Institutes are responsible for remaining up-to-date and proficient in their pedagogical practices and excellence that teaching requires. By perceiving teaching as a high-priority contractual obligation to the students, who are partners in the co-creation of knowledge, underpins the reason of studying applied concepts of value co-creation in education. While several methods of value co-creation in the educational context exist, in this section an effort to describe multiple examples that process is being made. They come from existing literature as well as projects implemented from Higher Educational Institutes.

4.1 Fields of Research of value co-creation in education

Value co-creation can be demonstrated by a number of exemplary practices by teachers and researchers in various Higher educational Institutes and Organization. Co-creation ideation tools facilitate the most direct interaction between instructors and learners on the goals or desired outcomes. Working in groups directly editing or building the classes' artifact, using tools that support functionality, such as concept mapping, Wikis, virtual whiteboards, real-time collaborative editing and other technology accessories and tools is quite often.
Quality learning environments, for value co-creation, allow students to engage in interactive and collaborative activities with their peers giving them a stepping stone for better learning outcomes, including development of higher order thinking skills. Engaging students in the teaching process could be considered the mean to promote the development of critical thinking skills, co-create knowledge and meaning and introduce transformative learning.
Studying value-co-creation is a complicated operation considering the wide variety of channels through which it can be actually substantiated. Co-creating value may be linked to employing teaching quality as instrument to value co-creation, to co-teaching, to employ student as producer, to co-designing and co-producing etc. So, it would be very useful to be able to instate every research into a group, depending on the field of study through the use of a benchmark.
For this study purposes, various research papers drawn upon literature, were divided into four groups, depending on pattern of research conduction. The first group includes the papers that tried to actually co-create value in a classroom setting, or more generally speaking, in a educational organization, by using either a documented or proposed method or technique. The second group includes papers that tried to investigate the major factors that have an effect on value co-creation and their inter se relationships. The third group includes papers that try to investigate ways of value co-creation in the educational context from a managerial point of view. The fourth group includes papers dealing with how technology can engage students in content creation and thereinafter in value co-creation.

4.2 Co-Creation in the educational concept

In the following section, a description of the context, purposes, methods, results and implications of several papers describing practices and methods of value co-creation in the educational context, as well as the group in which they are included, takes place.

Group 1. Value co-creation in a classroom setting - in a educational organization
In this group, how may principles of value co-creation apply to higher education will be examined by using existing researches from the literature. According to S-D logic terminology, lecturers provide students not with value but

with a value proposition [51]. The learner -instructor relationship requires being approached from a value co-creation perspective.

An ever-growing number of Higher Education Institutes employ a value co-creation focus in several subjects and disciplines. Some more examples are: the Loughborough University, in maths designed worksheets for second year students focused on 'troublesome concepts'; the Elon University, North Carolina, USA, in education, introduced student-staff curriculum design teams, e.g. choosing text book; the University College Dublin, Ireland, in geography, used student work in curriculum; the University of Glasgow, Scotland, UK, in biology, designed microbiology laboratory classes; the University of Reading, UK, in classics, began to initiate students to write their own essay title etc. Below the methods and results of some research projects of that field are presented.

Tuzovic & Finsterwalder (2009) [50], implemented a research study to gain an understanding how the principles of co-creation apply to higher education, in particular in the context of study-abroad learning experiences. They tried to make an investigation on student experiences of "faculty-led short-term study-abroad" (hereinafter study-abroad) programs from a co-creation perspective. It is assumed that when students are in the host country, they may immerse themselves physically, emotionally and mentally in their host culture, the authors propose that students "co-create their learning experience" which has a direct influence on learning outcomes, program satisfaction and positive word-of-mouth [50].

A focus group study was conducted in April and May 2009 among students who participated in a study-abroad program in January. Although the study structures they participated and courses that attended may have been different, it was taken as a fact that the individual faculty played a significant role contributing to the overall positive perception of students' study-abroad experience.

The results of the study showed that value was created on a joint level. Faculty act primarily as value facilitator; however they also contribute in a joined co-creation process through their interaction as guide or mentor. Students further co-create value through their own cultural emergence.

In the next research paper of Díaz-Méndez & Gummesson (2012) [10], the aim was to study teaching quality assessment and value creation in higher education and further assess the suitability of students as teaching quality evaluators. It is not reasonable for instructors to take all the credit for both good or bad performance and progress of students. Value that students expect and actually obtain from higher education is a result of the conjunction between lecturers teaching quality and their learning capabilities and implication [10]. They suggest that student-lecturer relationship requires being approached from a value co-creation perspective. In their perspective of value co-creation approach, teaching quality is a core factor.

A Spanish university that uses student satisfaction surveys for evaluation was chosen for the purposes of their research. Teaching quality evaluation is used as an instrument to co-create value when properly approached [10]. The study showed that providing students the means to provoke the promotion, dismissal and so on of instructors is a mistake.

Students pay special attention to factors that may be supportive to teaching quality but are not in its core. These factors were twofold [10]: (1) the lecturers' personal features such as age, dressing style, personality and temper; and (2) external circumstances like type of exam, personal interest in the lecturer's subject and the marks obtained. They found that satisfaction surveys among students are affected by factors that instructors do not have the ability to either supervise or inspect. Also, students' agreement of not being able to evaluate instructors' knowledge was recorded.

The study of McWilliam et al. (2007) [34], documents a study conducted by one Conservatorium music teacher into his experimental model with students as 'co-teachers' in a popular music program currently being offered at the Queensland Conservatorium of Music (QCM). It is program that in many ways exemplifies the shift from students as musical apprentices receiving wisdom from expert teachers to students as co-producers, assessors and users of the cultural products that are learning outcomes of the pedagogical work [34].

Trying to identify how students became active co-teachers from passive consumers, McWilliam et al. (2007) [34], adopted the methodology of John Biggs (1999) [3]. This methodology incorporates the three stages that are very important for the learning process: the Presage (or antecedents), the Process (or Pedagogical work) and the Product (both creative works and identity formation

In the presage stage, sixty-five students were asked about how they had learned music before their arrival to the university. It resulted that the skills that these students already had had their origins their own personal training and talent. In this program students would be respected for what they knew and at the same time challenged to grow in terms of their musical understanding and productivity. The challenges would come in large measure from the students' individual and collective ability to critique their music making and to engage closely and constructively with the work of their peers [34].

In the next stage, the process stage, trying to convince everyone to make self, as well as peer evaluation of their activities was not an easy task. Although, investigating this new way of the learning process by committing to student-led processes of evaluation revealed the following results: 1. It provided useful feedback to a majority of the students who presented work; 2. It increased awareness of the range of music that is currently being developed by students, and who does what; 3. It provided experience of the electronic communication through the course web site that is so necessary at the end of semester for major study submissions; 4. Most importantly, it provided the experience of giving feedback and exemplars of such feedback with the discussion board being used is a resource that students could access to see what kind of feedback others regarded as acceptable.

Finally, in the product stage, it was obvious that taking into consideration the current knowledge of students the only thing that the instructor had to do was to provide feedback and expertise. He became a co-producer of learning by providing training functions and not instructing the learning product. "Students experience an authentication of their prior learning as well as a shift from 'couch potato' consumption of the expertise of knowledgeable others to an active engagement in the pleasures and challenges of 'prod-using' music" [34].

Group 2. Investigation of factors affecting value co-creation

The second Group includes papers that tried to investigate major factors that have an effect on value co-creation and their inter se relationships. Besides actually practicing value co-creation methods and techniques, it is of great interest to examine the probable elements on various aspects of education that may finally make value-co-creating process easy, difficult or even impossible. Educators are in a constant research of finding innovative teaching methods to tailor various learning types. Value co-creation is a method of providing additional value by offering the opportunity for students to act as collaborators in creating the product or service [19].

The article of Young & Collins (2014) [57], describes value co-creation through a fully integrated approach, which combines traditional in-class content delivery, on-line web-based assignments, and student selected customized experiential learning activities that accommodate different learning and teaching styles.

Three instructors co-designed and team-taught a single section of Principles of Marketing that was a mix of multiple other sections. The results revealed a positive reaction to the course design components when they were tested for assisting students in achieving the learning outcomes. The value co-created, fully integrated course was compared to traditionally taught courses which were previously offered as four separate sections using three different instructors who specified the activities without student choice (bake sale team project, simulation, personal marketing plan) [57]. Students who attended a team-taught course had higher levels of perceived learning (a five item scale was used, [57]) and reported more favorable attitudes a four item scale was used - Mitchell and Olsen, 1981).

Perceived Learning, Attitude, Deep Motivation and Deep Strategies were all significantly correlated with the major course design components, indicating that enhancing learning through the use of this method of value co-creation enriched both students and educators educational experiences.

Next "Co-creating Value in Higher Education: The Role of Interactive Classroom Response Technologies" of Bowden & D'Alessandro (2011) [6], investigates an enhanced classroom delivery using Clicker interactive technology, and more traditional class-based interaction in order to validate if and how technology is related to students' service evaluations. In a university in Australia undergraduate students who had taken the marketing course were included in the research. Two lecture paths were created, one was assigned to the technology condition and the other to the tradition means of education. Thirty multiple choice questions were utilized before class. Answers to the questions were given either though using a wireless electronic response system through their mobile phones or in the traditional way.

The purpose of the study was to investigate whether technology and the use of it upgraded and adds value for educational purposes. This would be documented if perceived value, satisfaction and loyalty were higher to the students that used technology tan to those of the traditional means.

Study results did not support the hypothesis. Technology did not prove to provide higher perception of value, satisfaction and loyalty. In particular, the findings suggests that an uncoupling between technology and the more traditional social interaction based approaches to service provision in the sector is required if we are to understand how these two types of interaction enhance, or detract from the student experience [6].

Group 3. Investigating value co-creation from a managerial point of view

"No matter what it is called, who does it, or where in the institution it is being done, universities are engaged in marketing activity" [28]. Co-creating value means facilitating an organization-centric view to a more balanced view of an organization and clients interacting and co-creating experience with each other [20], [40], [51], [53]. Co-creation of value is short for collaborative creation [39]. Consumers and thus perspective students employ an active role in creating value. Social networks such as Facebook, YouTube, LinkedIn, and Twitter tend to complement, if not replace in some cases, traditional ways of how communication is processes and create new paths for growth. They provide the space where organizations and customers interact and co-create value with each other [23].

Members of social network communities have 'a direct benefit from bringing in more friends because each new member creates new content, which is likely to be of value to the inviting party' [49].

The paper of Fagerstrøm & Ghinea (2013) [16], tries to apply co-creation of value to marketing of higher education marketing and investigate how social networks affect value co-creation and extraction. In their paper, they attempt to explore how Norwegian School of Information Technology - NITH attempts to co-create value as a result of interacting with applicants on Facebook.

To decide what and where to study involves extensive problem solving [45]. NITH pursued a personal relation with all applicants through social media networks. Social media were used in order to provide university representatives and students a mean to interact and co-create experience.

The authors used the four building blocks of Prahalad & Ramaswamy (2004) [40] were used, namely dialogue, transparency, access, and risk-benefits. A Facebook group was created for every bachelor program that the university provided, appointing contact person for each one. Results indicated an increase in the conversion rate and substantial financial contribution. It was shown how the university co-created value by using a social network recruitment campaign. Thus, it is shown that value co-creation in education can occur in other fields apart from teaching and learning, in this case in the recruitment of students.

It is generally accepted that value co-creation includes collaborations between buyers, sellers and a network of other stakeholders. Still, there is a lack of understanding about the nature of these collaborations. Identifying the spectrum of co-operative activities is very important for managers of Higher Education al institutes. In a research paper presented in the New Zealand Applied Business Education Conference in 2010, how every co-operative activity provides opportunities for value co-creation was investigated. Raffles College of Design & Commerce, Auckland was investigated. This research provided some useful insights such as 1) some practical meaning of the 12 collaborative activities for organization (the findings may enhance academia to conduct further research in the future and highlight the contribution from practitioner, 2) value co-creation not only happens between university and students as educators and recipients of knowledge but it includes stakeholders as well.

Group 4. technology and content creation for value co-creation.

In a world where students are active participants and not passive recipients, there is a need to promote learning into a higher stage. "Emergent new Web 2.0 … concepts and technologies are opening doors for more effective learning and have the potential to support lifelong competence development" [27]. In their paper McLoughlin & Lee (2007) [32] identify the affordances of Web 2.0-based social software tools, and provide examples of current innovative pedagogies that leverage these affordances to support learner choice and autonomy.

The "architecture of participation" [1], the generation and sharing of digital artifacts by groups, teams and individuals, ensures that Web 2.0 is responsive to users. It thrives on the concept of collective intelligence, or "wisdom of the crowds" [47], which acknowledges that when working cooperatively and sharing ideas, communities can be significantly more productive than individuals working in isolation.

Pedagogy 2.0 makes use of the affordances of social software tools to enable connectivity, communication, participation and the development of dynamic communities of learning. In attempting to define Pedagogy 2.0, a number of the dimensions of content, curriculum, communication, process, resources, scaffolds and learning tasks can be identified [32].

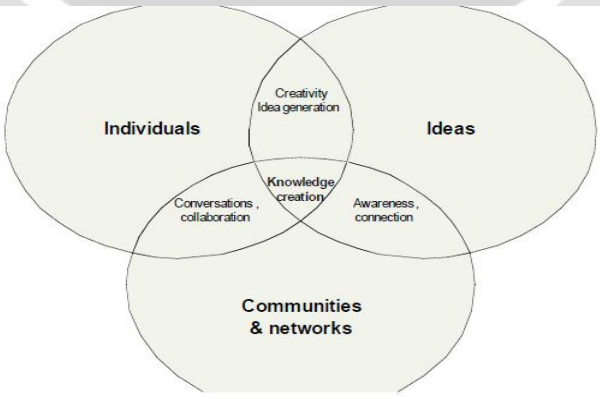

Fig. 1: Framework for knowledge creation in Web 2.0 [14]

Table 1: Examples of pedagogy 2.0 in tertiary teaching and learning [32]

Reference / author	Institution / country	Description of teaching use	Pedagogy employed
Read (2005) [42]	Drexel University, USA	Drexel distributed iPod Photo players to their education freshman. Read reported there were plans for a variety of learner-centered applications.	Peer-to-peer learning, distributed intelligence approach
Lee, Chan & McLonghlin (2006) [30]	Charles Sturt University, Australia	Second year undergraduate students take charge of producing talkback radio-style podcasts to assist first year students undertaking a unit f study that the former group previously completed.	Learner-centered instruction, student generated content
Evans (2006) [15]	Swathmore College, USA	Students studying a literature course read short passages aloud and record them as podcasts	Development of digital and social competencies
Miller (2006,2007) [35],[36]	University of Connecticut, USA	Three types of podcasts are used to support a General Psychology course: iCube podcasts, Precasts, Postcasts	Blending of formal and informal learning: mobile, ubiquitous learning
Frydenberg (2006) [18]	Bentley College, USA	Students in an introductory information technology class work in pairs or groups to produce vodcasts to teach topics from the course schedule to their peers.	Peer teaching, reciprocal learning
Edirisingha, Salmou & Fothergill (2006) [13]	University of Leicester, UK	Students make use of podcasts	Extended learning, enrichment and extension activities, personalization of learning content
Sener (2007) [46]	University of North Carolina, USA	A wiki-based encyclopedia is created by students, the goal being to create entries on a variety subjects	Student generated content, collaborative writing, organizing and editing cover
Wenzloff (2005) [55]; Richardson (2006) [43]	Macomb Independent School Distinct, Michigan, USA	Social bookmarking is used to compile and share resources with teacher training participants/student teachers.	Resource-based and collaborative learning

5. CONCLUSIONS AND RECOMMENDATIONS

Until recently the hallmark of an educational program was the degree, which promised to open career prospects by itself, no matter the personal traits and capabilities and of the individual. Notwithstanding, service literature, especially the recent trend for the examination of value co-creation in service systems, and in particular the part focused on HEIs, whereas being in an initial stage, showed that the ways both for how educators understand teaching and learning process and their role in it and how students take up their education and their relationships with teachers within in must change. Student must be transformed into an active collaborative participant of the learning process.

This paper was a review of the existing literature on value co-creation in education. It can be concluded that students have a unique perspective on teaching and learning and that they should be invited to share their insights during the educational process. Also, the possible uses of value co-creation methods are evident in the managerial and operational function of educational institutions. HEIs have the ability to make use these new ways and routes that value co-creation has to offer to are more in number, as well as more in applicability students.

Four groups were created in order to classify existing research projects. These groups point the direction to future researchers on possible areas of interest of value co-creation on education. Some possible areas are learning, management, use of technology for a better educational process etc.

Higher education adaptation process of new educational methods and practices is in its initial stage while there is still many things to be done in order universities and higher institutions to redesign their offered services and

redirect them towards a value co-created approach. Increasing student participation in the maximum possible volume during all stages of the educational process seems imperative for educational authorities to:

- redesign and methods and curricula before introducing a program
- make wide use of social software tools that enable connectivity, communication, participation and development of communities of learning
- change in deep and productive ways both how educators understand the teaching and learning process and their role in it and how students take up their education and their relationships with teachers within it.
- ensure that students attend their educational programs for the knowledge they will develop, rather for the certification they will receive
- create their competitive advantage through the people and the knowledge and skills they have and they develop.

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