

Stratagematic Approach to Service Design in Higher Education: Building an Ecosystem Frame to Deliver on Excellence in the Service Experience

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Abstract. The paper reviews some considerations of applying business ecosystem concept into the higher education's service delivery. It gives insights about how policymakers can transform the higher educational institutions (HEIs) in Bulgaria from service- to student-oriented one, and how they can improve their performance in terms of Customer/Student Perceived Value assessments. Thus, a business model canvas of an HEI is developed to reveal both "whole the picture" of the service experience and interdependence between the ecosystem design and the service value proposition to prospected student targets. Additional conceptual model is represented to track that interdependence from the perspective of perceived service quality.

Keywords: Ecosystem strategy, Service design, Business model canvas, CPV, HEI.

1. Introduction

Higher educational institutions (HEIs) in Bulgaria live in a dynamic and an uncertain context. The educational market is in a saturated phase, when generating new demand causes frustration to HEIs because of the external factors they face: competition of an intensive market structure, decline in population growth rate, preferences for education abroad, and emigration of young people. But still the market *itself* encounters demand for higher education. And it is more likely that the market strategies that HEIs are to undertake should be towards market development or diversification, rather than market penetration. It becomes critical for them to innovate, and to do it by creating value basically though their business model alternations. Prescriptively, they should match their innovation strategies with adjustments in their ecosystem architectures as an important element of the cost structure in their business models. Moreover, it will stratagematically resound in novelties in educational service experience.

The purpose of this report is to review the interrelation between setting-up and improving a HEI's ecosystem, and designing its value proposition as an adjusted educational service delivery to prospected and served targets of students. From HEI's perspective it is about revising interdependence between the input and output of the educational service production, or between the HEI's internal and external efficiency. Qualitatively, from student perspective, that interrelation is regarded as student satisfaction measurement of how they perceive the service quality and evaluate the service process.

2. Business ecosystem pattern

The definition of an ecosystem extends the well-known biology concept to define the system of mutually supportive parts – in our case: organizations, teams and individuals – including customers, suppliers, investors, regulators, and other stakeholders—that interact in

an adaptive and self-sustaining manner to accomplish shared goals [1]. Ecosystem is a collaborative arrangement through which organizations combine their individual offerings into a coherent, customer-facing solution under competitive ecosystem strategy.

Business ecosystem then is defined as the network of partners, supporters, customers, and other stakeholders that work together either to launch a venture, or to grow an established business organization. And ecosystem strategy could be deployed into variety of industries and branches, such as in the higher education. Designing an ecosystem requires founders and founding teams to build long-term partnerships. Many need such relationships to enter a market or industry; others seek access to short-term resources and connections that will help them grow their businesses; still others are launching innovations that require complementary innovations from players in multiple industries. While a business organization can take a structured approach to establishing an ecosystem, it is important to note that the network of connections often emerges organically, as new relationships develop through chance events and encounters as well as through introductions by new ecosystem participants [2, 3].

Important part of an ecosystem is the customers, because their feedback and support are critical in developing and refining the organization's offering and value proposition. Crafting the value proposition for key stakeholders of a business organization involves identifying the benefits that will be created and how those benefits will enable the organization to attract and retain the stakeholders. It is helpful to begin by returning to the choices the founders make as they 1) define a unique strategy and 2) identify the resources and capabilities required to execute the ecosystem strategy. These choices help them identify key internal stakeholders – founding team members, key employees and advisers, and key external stakeholders (customers, suppliers, partners, and investors /shareholders). After identifying these stakeholder groups, business organizations assess their interests and expectations, also the value that each group will provide, and the value each will require in return for helping to achieve mapped key milestones. In defining stakeholder value organization's management is to think about tangible and intangible benefits.

As they assemble the capabilities and the resource requirements, business organizations have been building the ecosystem. Ecosystems have always existed, but they were traditionally called *value chains* to reflect the linear sequence of value-creating activities involved in designing and producing a product or service, and then marketing, selling, and delivering it to revenue-generating customers. By expanding and adapting ecosystems, general management can experiment with and refine organization's business models.

3. Unfolding Business Ecosystem Pattern within Higher educational organizations

The linear sequence of value-creating activities typically involved in designing and producing a physical product, and then marketing, selling, and delivering it to revenue-generating customers or end users will be considered here by means of value-creating activities particularly in service organizations. That requires specifying services nature as a ground for building ecosystems.

Services are defined as processes and series of intangible activities that take place in interactions between the customers and service employees and/or physical goods and systems of the service organization, which are provided as solutions to the customer problems [5]. That rationale identifies three basic characteristics of services: 1) services are processes consisting of activities or a series of activities rather than of things; 2) services are simultaneously produced and consumed, and 3) the customer participates in the service production process. Moreover, it is critical to realize that the service consumption is a process consumption rather

an outcome one. It means that the customer perceives the service production process as part of the service consumption, but not the outcome of that process, as it is well-known by the traditional marketing paradigm of physical goods. Because of that inseparability of the process and the consumption of the service, the service production process is delineated as an *open process* and the consumption – as *process consumption*. Then service encounter or customers’ interactions with the service production process (“servuction”) [5, 6] become part of their consumption process.

Here, taking into consideration the service provision and production patterns, the interpretations above are reposed into the service production-consumption process at a higher educational institution (HEI).

Coined by Pierre Eiglier and Eric Langeard, the term “servuction”, combining the terms service and production, describes the service operations system as that part of the service provider’s physical environment and goods, which is visible and *open* for processing to customers, contact personnel, and the customer in person. Christopher Levelock expanded that conceptual framework and embraced three overlapping elements [6]: *service operations* where inputs are processed and the elements of the service product are created (in our case they include enrollment, service purchasing, courses’ selection in student-administration interaction); *service delivery*, which embraced process consumption and where final “assembly” of those elements take place and the product is delivered to the customer (by means of teaching, examining, grading processes in student-lecturer encounter); and *other contact points*, i.e. all points of contact with customers, including advertising, billing, and market research.

Hence, the linear sequence of the value-creating activities at the HEI would be non-typically involved in a) designing, marketing and selling *in advance* the educational service to revenue-generating customers – both to existing and prospected students, and b) *then* producing and delivering it to them.

Table 1 envisions the identification of the core activities needed to design, produce and deliver the higher educational service to students as end users.

Table 1. Value chain determination of a typical HEI.

HEI INFRASTRUCTURE (FROM MASS-MARKET TO SEGMENTED-MARKET STRATEGY)					
HUMAN RESOURCE MANAGEMENT					
TECHNOLOGY DEVELOPMENT					
PROCUREMENT					
MARKETING AND SELLING	INBOUND LOGISTICS	HIGHER EDUCATIONAL SERVICE PRODUCTION AND DELIVERY	OUTBOUND LOGISTICS	ONGOING MARKETING	SERVICE <i>administrati ng and additional educational services</i>
	<i>Student enrollment and hunting Building service expectations</i>		<i>Teaching and Examination Administration process</i>		

These core activities are focused in the prevailing part of *operations* activities as HEI’s service production and delivery. *Inbound* and *outbound logistics* transform the student (the customer) respectively from hunting prospects to managing alumni. Apart from marrying service open production process with its consumption process, marketing activities of the HEI are *contextually* stepping before the core operation activities have being executed. Or,

“marketing and selling” higher educational service is about managing prospects so that they should pre-pay the service production and delivery processes, rather than selling a service production outcome to them.

Once the core activities are identified, using the Value-Chain Analysis, the HEI ecosystem’s design continues with defining activities that HEI performs and those to be performed by partners. In other words, drawing HEI ecosystem means to identify key partners (e.g., suppliers, channel parties, logistics players, partners, and other stakeholders) and to design the relationships among them, including the flow of product and services, information, and money.

By representing a business model canvas of a higher educational service delivery [Table 2], the HEI ecosystem is unfolded as the “left” part of the canvas when the cost side of the model is determined as an interplay of organization’s activities-resources-partners. To pursue revenue-generating streams, HEI’s *value proposition* to student segments is to be assured by conducting *key activities*, such as: teaching (advising, examining, grading students; course designing, content development), exchange and mobility, R&D, publishing, cooperation with business, staff training (facilitating, career enhancement, administrating, student and staff affairs, IT, additional services), maintenance and repair. These HEI’s activities are to be provided by acquiring *key resources*, such as: human (teaching staff), tangible (brick & mortar building or campus), intellectual (high brand awareness and image), and financial (state, project or corporative financing)

Table 2. Business model canvas of a higher education’s service delivery

KEY PARTNERS	KEY ACTIVITIES	VALUE PROPOSITION	CUSTOMER RELATIONSHIPS	STUDENT SEGMENTS
<ul style="list-style-type: none"> • Providing capacity-building solutions and extending image and global reach – universities, institutes, educational centers, • Acquisition of academic activities, training and consulting organizations, NGOs • Reduction of uncertainty – High schools, First-cycle degree institutions 	<ul style="list-style-type: none"> • Teaching (advising, examining, grading students; course designing content development • Exchange and mobility • R&D • Publishing • Cooperation with business • Staff training (Facilitating, Career enhancement, Administrating, Student and staff affairs, IT, Additional services) • Maintenance and repair 	<ol style="list-style-type: none"> 1. Progressive and proactive higher educational service co-created with the student 2. Highly performed bundle of educational programmes within a modern physical environment 3. Practitioner-centered educational service with up-to-date course design 4. Better-structured and better-attributed educational 	<ul style="list-style-type: none"> • Personal academic or mentor assistance • Automated administrative services • Extra-educational self-service (library, Café, IT services, bank services, gym) • Communities and alumni • Co-creation initiatives (logo idea generation) 	<ol style="list-style-type: none"> 1. ALERT HIGH-SCHOOL GRADUATE 2. SCHOOL-LEAVER & COLLEGE SEEKER 3. “GO-TO-WORK” STUDENT 4. SWITCHER FROM OTHER HEI
	<p>KEY RESOURCES</p> <ul style="list-style-type: none"> • Teaching staff (academics, 		<p>CHANNELS</p> <ul style="list-style-type: none"> • “Brick & Mortar” education: HEI 	

	practitioners, Non-teaching staff, <ul style="list-style-type: none"> • B&M store (learning areas and facilities, classrooms, equipment, IT system and infrastructure, • Brand (copyrights) • Financing (state, project or corporate) 	service and awareness	building, University campus, Subsidiaries <ul style="list-style-type: none"> • “Click & Mortar” education: Distant or e-learning Platforms 	
COST STRUCTURE Value Driven (focused on value creation) High fixed costs structure (salaries, rents, utilities) Variable costs – part-time lecturer wages Economies of scale – reducing the average cost per programme Economies of scope - reducing the average cost per course Per Student Economics		REVENUE STREAMS fixed pricing <ul style="list-style-type: none"> • Student Fees (Term fee, Usage fees, Subscription fees, Administrative services fees, Licensing) • Part-time teaching staff fees • Publishing • Social-life activities fees dynamic pricing (Negotiation)		

Consequently, the *key partners*’ ecosystem is to be built on pursuing the common aim at: 1) providing capacity-building solutions and extending image and global reach of partner universities, institutes, educational centers, 2) acquisition of academic activities, training and consulting organizations, NGOs, and 3) reduction of uncertainty by horizontal integration with High schools, First-cycle degree institutions, Student-hunting mediators.

4. Designing Business Ecosystem by means of Student Perceived Value

Becoming keenly aware within the higher educational context, Marketing has been envisioned by the policymakers as both an *open* activity to target and enroll students segments at the entrance of the HEI, simultaneously to build their service expectations, as well as an *ongoing* activity to monitor student satisfaction for better understanding their needs and to make respective changes in the service proposition. In Bulgaria where most university education is based on state universities, policymakers have started to consider higher education as a *service* delivered to students. As a result, most Bulgarian HEIs have begun to gather satisfaction data from students in order to update and adapt their own educational offerings and to become more attractive to them.

The consideration of *student satisfaction* is derived from the customer satisfaction concept. Customer satisfaction of a service is basically the customer evaluation of its features and attributes and is an assessment of the perception whether it has met their needs and expectations. What can affect customer perceptions of satisfaction are the customer emotions induced by the consumption experience with the service delivery and the attributions for a service success or failure [8].

Respectively, the student satisfaction with the higher educational service can be concerned by the possible gaps between the student’s consumption experiences (service

perception) and student’s service expectations. Applying the emotional issues to students’ satisfaction defines their satisfaction as perceptions of or attitudes towards learning activities and teaching staff. Then student satisfaction is seen as a key marketing outcome of their education and as a quality-enhancement tool designed to improve the quality of the students experience and value perception with the service [4].

Monitoring student satisfaction requires that HEIs continuously collect data and information on what students think about the educational service delivery. That marketing activity (and ability) of HEIs is considered as an index of their own attentiveness to student requirements and as a measure of efficacy and success. It is important to note that a limitation of the student-satisfaction-approach to course design is that it does not involve any measure of a program or a course effective quality in terms of students’ learning and teaching quality. Regardless the educational service quality and student satisfaction are distinct concepts, they are related by the concept of Customer Perceived Value.

CPV is the difference between the prospective customer’s evaluation of all the benefits and costs of an offering and the perceived alternatives. Then we could accept that Student Perceived Value is the anticipated benefit from student’s perspective of the higher educational service, and stems from the tangible and intangible advantages for him/her [Fig. 1]. Or, the student approaches the service as a prospected value proposition for his/her higher education from which he/she could benefit better service quality at a given price (costs) for accessing the service. From one side, costs for the student is a financial reflection of the internal HEI efficiency, and from other side, the evaluation of the *Student Perceived Quality* is an index, which HEIs use to measure the service output or their external service efficiency.

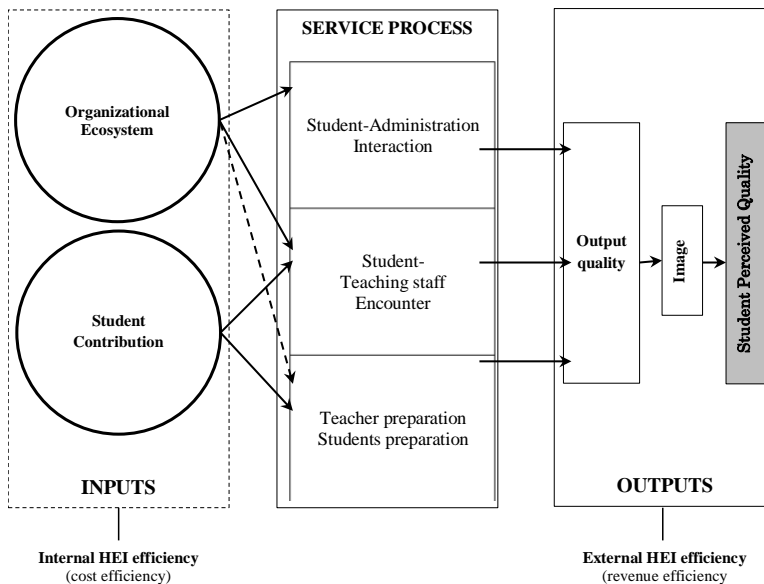


Fig. 1. HEI's internal and external efficiency model. Adapted by: Grönroos, 2000: 214.

As we mentioned above, HEI’s ecosystem design involves identification of the core activities. Allocating the key resources and building up the web of partners, whom to perform some of those activities needs to be measured by the revenue-generation customers, i.e. the students. Then, highlighting the ecosystem’s players that have tremendous power – because of

proprietary assets or scarce resources they control, unique capabilities they have, product or services they provide, or value they have created – is a premise to define and correlate the service quality and the cost of performing HE activities and the cost of providing the service internally and externally. Or such a comparison needs to be conducted in terms of balancing ecosystem development and Student Perceived Quality measurement.

5. Conclusion

The paper reasonably shows that setting-up business ecosystem strategy at HEIs primarily reflects designing the HEI's service value proposition and evolving it by continuously monitoring the service experience using Student Perceived Quality metric. More or less, it requires student-cantered management based on the HEI's relationships with the student as a subject of the service itself. In addition, evaluating the Student Perceived Value helps policymakers to begin critical shift from a service- to a student-centered HE organizations. It can help HEIs to adjust their internal efficiency as they can run their key activities in external partnerships to stratagematically (trimly) manage the costs of service experience, considered as its production, delivery and consumption, where the student is an active participant.

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