Alumni Segmenting for Fostering Innovation and Entrepreneurship in Universities

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ABSTRACT

This research describes principles of alumni segmenting that foster innovation and entrepreneurship in universities (further HERI (Higher Education and Research Institutions)). It is based on previous research, which describes that among many other ways of mutual interaction, all alumni are university lifetime customers [41]. Customers have very important role in fostering organization's innovation capacity – for a sustainable advancement organizations must manage knowledge to, from and about customers [15]. Customer engagement requires deep knowledge and vision on advancement of customers from initial involvement to a deeper and more meaningful cooperation which involves co-creation and innovation that set the base for entrepreneurship in HERI. Article describes the case of Riga Technical University how alumni engagement has resulted in various organizational developments that support innovations and entrepreneurship.

Keywords: alumni relations, alumni segmenting, customer segmenting, kay account management.

1. INTRODUCTION

Customer segmentation divides customers in groups that have similar needs, resources and interests in relation to a particular product or service. Segmentation is central concept within marketing and organizations use segmentation to better respond to customer needs increase their satisfaction [7, 13, 19, 22, 23]. "Customer needs are desires, wants, or cravings that can be satisfied by means of the attributes or characteristics of a product – a good or service" [18]. Customer segmentation is typically described by marketing-driven demographic groups that are derived by making surveys on a significant part of customer base to learn about their lifestyle, needs, preferences, behavior, values, living standards etc.. Based on this research, number of segments are identified and organization customers are assigned to respective segments [5, 19]. There are some general concepts of customer segmentation but in particular industries, the segmentation can become very specific. Alumni segmentation in HERI is an important tool to reach the goals of alumni relations and there are different approaches according to the goals, richness of available data and resources. Most of the research is connected to fundraising activities. Another type of engagement where alumni segmenting is often studied is mentoring. Grouping alumni into particular categories that share similar characteristics helps to gain greater mutual understanding and improve organization's needs to serve the alumni better and to foster their positive and accumulative engagement with the university.

Key account management (KAM) is a field of research, investigating and designing techniques for better relationships with most valuable customers of the organizations. Those customers that are vital for the existence of this organization – losing them would mean getting into serious difficulties. This research paper regards HERI alumni as lifetime customers [41] and applies key account management principles in alumni segmenting to provide long-term alumni engagement in HERI for fostering the innovation.

2. CUSTOMER SEGMENTATION IN KEY ACCOUNT MANAGEMENT

The foundation and core for KAM activities is selecting the right customers [25, 27, 29, 33, 34].

Table 1 Categorizing key customers. Adopted from [27]

	Star	**Strategic**	**Status**	**Streamline**
Description	Strategic customers of the future	The most innovative and important prospects	Strategic customers of the past	Customers who constantly query the price, negotiate on everything
Attractiveness	High	High	Low	Low
Relative business strength now	Low	High	High	Low
Life cycle stage	Start-up/development	Deep, close relat.	Maturing	Mature
Strategic approach	Invest for growth	Strategic investment	Proactive support	Manage for cash

At first, the task seems to be trivial and straight connected to the financial gains. However, the KAM is about strategic decisions – aligning choice of strategic customers to the strategy of the

organization. And that is not always reflected directly in short term financial results [27] . KAM requires clear customer segmenting rules that support the long-term strategic goals. It must be taken into account that the term relationship is by a definition a two-way road thus the selection of key customers also involves their perception of the organization. This approach divides the key customers into four segments: Star, strategic, status and streamline key customers (see Table 1.).

3. ALUMNI SEGMENTATION

Most common and basic segmentation of alumni is according to their age and study field. The deeper analysis helps to discover and exploit coherence between alumni personal attributes and experience [42]. Such as finite-mixture model framework based on monetary value of annual contributions [4;8] or mixture of demographic and involvement attributes [10].

There are several other approaches how universities segment alumni – by level of their engagement, by gender, ethnicity, year of graduation etc. – the method is chosen in relation to the planned activities and services (alumni relations, career, mentoring, fundraising) [2;6;36;37].

In typical university structure, alumni relations go hand in hand with fundraising activities although it varies – some institutions merge the functions but some keep them separate advocating "first friendrising, then fundraising" principle. Mentoring function also varies in university structures – sometimes it is a task of career center, often it is one of alumni relations functions. However, these three activities that are connected to alumni are being studied separately or interdependently. Table 1 summarizes how different fields of research that are connected to alumni relations segment alumni – e.g. research articles on fundraising describe alumni segmentation according to gender, religious beliefs, age, etc. At the same time research articles by different authors on mentoring do not describe gender or religious beliefs segmenting but rather age, study field, career stage, etc..

Table 1 Alumni segmentation attributes, research and fields of application (F- Fundrising, AR - Alumni Relations, M - Mentoring) (developed by authors)

Segmentation attribute	Research	F	AR	M
Gender	[3, 39]	X	X	
Religious beliefs	[44]	X		
Age	[3, 16, 31, 39]	X	X	X
Study field	(Durango-Cohen, Torres and Durango-cohen, 2013)	X	X	X
Graduation year (era)	[9]	X	X	
Career stage	[38]	X	X	X
Satisfaction with study experience	[1, 35, 42]	X	X	
Motivation	[40]	X	X	X
Level of involvement/ engagement (champions, friends, acquaintances)	[9, 43, 44]	X	X	X

Financial contribution	[4, 9, 16]	X		
Alumni (family) ꞏnue data	[1]	X		
Needs and ꞏrests	[28]	X	X	X
Overall civic engagement	[17, 30, 39, 42]	X	X	X
ꞏmenting looking at dynamics:				
Annual contributions patterns over the ꞏe	[8, 9]	X		
Mixture of demographic and involvement attributes	[10, 14]	X	X	X

Few authors review segmentation according to the level of activity. The basic division [32] describes four obvious levels: active contributors, non-contributors, potential contributor journeys, everyone else. A deeper analysis distributes types of activities and proves that groups of alumni have same engagement patterns as when they were students [42]. There is rare theoretic research on segmenting alumni according to their knowledge, talent or co-creation capacity. Some alumni mentoring program companies [20] advice to segment alumni in talent communities:

- New graduates & interns
- Future talent pools
- Critical & high potential talent
- Future women leaders
- High potential alumni
- Consulting alumni

Research of business organizations reviews customers' co-creation capacity [45]. Successful alumni segmenting sets a basis for further strategic engagement of alumni in HERI development. Necessity of alumni knowledge management (KM) is one of main alumni relations drivers besides the financial interests of HERI.

4. TRIPLE HELIX MODEL OF ALUMNI SEGMENTATION

The proposed method for alumni segmenting involves three components just like in geometric concept and triple helix model of innovation. The proposed components are:

1. Finances
2. Knowledge
3. Cocreation capacity

Just like in the long race for right DNA structures scientists have been discussing whether DNA is double or triple stranded and what impact is from triplex structures [21], universities continue to search for golden combination of alumni segmentation to make the relationship work with full potential. The typical segmentation of finances (fundraising) and knowledge (partly mentoring) needs the binding element – co-creation capacity.

In each segmentation component four subgroups emerge – streamline, status, star and strategic (Table 2). The concept is adapted from key account management. There the customers are segmented according to their attractiveness (Low/high) and organization's relative business strength as seen by the customer (low/high).

Table 2 Triple helix alumni segmentation in HERI (developed by authors)

Segm. levels	Description	Examples
Finance		
Streamline	Alumni, who constantly query the price, negotiate on everything. Want to see rapid return on investment. Manage for cash.	Alumni association member paying membership fees.
Status	Strategic alumni of the past. Mature relationship.	Alumni who have donated individually for university projects.
Star	Strategic alumni of the future. Relationship is just developing.	Alumni actively promoting university fundraising projects; owners of companies that are potential sponsors.
Strategic	High net worth alumni. The most innovative and important ones. Deep, close relationship.	Owner/CEO of large company regularly sponsoring strategic projects.
Knowledge		
Streamline	Alumni ready to cooperate on business basis, giving discounts or other favorable conditions.	Share experience in seminars, must be paid for that (gives discount); owners of training companies; consultants; experts.
Status	Strategic alumni of the past. Mature relationship.	Mentors; guest lecturers.
Star	Strategic alumni of the future. Relationship is just developing. Has needed expertise for common projects.	Publicly recognized opinion leader from industry
Strategic	The most innovative and important ones. Deep, close relationship. Common projects.	Scientist working in large company.
Cocreation capacity		
Streamline	Beneficiaries of alumni activities, interested to stay close to university	Active participant of alumni events.
Status	Strategic alumni of the past. Mature relationship.	Alumni association board member; lobby.
Star	Strategic alumni of the future. Relationship is just developing.	Publicly recognized opinion leader with a potential to promote higher education.
Strategic	The most innovative and important ones initiating and managing common projects.	Advisory board; involved in valorization.

Such segmentation helps alumni relations practitioners to engage alumni meaningfully according to their interests, resources and level of activity. An illustrative example of benefits for such engagement is as follows. Large university is not homogenous. It has complex structure and alumni have sometimes radically different interests and views. If alumni relations address all alumni without segmenting, those who are not interested in particular activities, evaluate alumni relations operations as unsuccessful and annoying and stop engaging and following alumni relations news. In addition, if there are some active alumni who would like to invest their time and finance and alumni relations do not offer them appropriate opportunities, they will find other organizations where to invest their energy and resources. Such Triple helix segmentation divides alumni in three strategically most important segments and additionally in each of these segments allows engaging alumni according to their level of activity. Alumni upgrade to next level of activity must be one of alumni relations deliberate tasks that must be carried out by recognizing alumni potential and offering alumni development opportunities. The triple helix alumni segmentation will set up basis for alumni knowledge management according to their engagement segment and level of activity.

5. IMPACT OF THE ALAUMNI TRIPLE HELIX MODEL ON FOSTERING INNOVATION AND ENTREPRENEURSHIP IN UNIVERSITIES

Riga Technical University (RTU) has undergone through dynamic changes during last 10 years. Adding valorization to the two existing main strategic pillars – research and education and turning towards the 3-rd generation university [46] to serve industry needs have been among them. Development of an appropriate innovation ecosystem have been acknowledged highly as one of the necessary pillars. In order to utilize alumni incentives in investing, knowledge sharing and co-creation, number of strategic activities have been launched by RTU.

In order to strengthen industry – academia links, and engage graduates into cooperation, Alumni relations have been identified as a vitally important strategic direction. As a result, RTU Alumni Association was established in 2012. In 2019 it was recognized as important player in fostering joint business – academia initiatives.

In 2013 RTU was evaluated by Institutional Evaluation Programme of European University Association. International experts highly recognized valorization initiatives of the university, as well as high recognition of university efforts by employers.

In order to 2016 the RTU Design Factory (DF) was opened as a co-creation space where creative ideas of scientists and students, turn into prototypes, which later become products and enter the market in collaboration with industry. Since that, RTU DF is serving as a hub for linking industry with academia and solving business challenges. University alumnus had supported development of the DF financially.

In 2019 a new for Latvia "Industrial Doctorate" cooperation initiative was launched as a joint incentive between Riga Technical university and LMT - a leading mobile telecommunications operator in Latvia, in order to develop pioneering solutions based on cutting-edge wireless

technologies.

The different initiatives mentioned above served as alumni engagement instruments. They have resulted in strengthening university reputation. Since 2017 RTU have been included in the number of the leading international ratings like The Times Higher Education World University Rankings, QS World ranking and U-Multirank. (Table 3 and Table 4).

Table 3 QS and THE rankings (2019) of the leading Baltic technical universities

Universi-ties	Rankings			Scores of separate indicators (cooperation with industry)	
	QS World Ranking	Times Higher Education (THE) Rankings	QS Employ-ability Rankings	THE World Rankings - Industry Income (score)	QS World Rankings - Employer Reputation (score)
RTU	751-800	801-1000	301-500	50.7	23.9
VGTU*	581-590	-	301-500	-	36
KTU**	751-800	1000+	-	37.5	21.2
Taltech***	601-650	601-800	301-500	45.5	21.3

*VGTU – Vilnius Gegiminas Technical University, Lithuania;
**KTU – Kaunas Technical University, Lithuania;
***Talcech – Tallinn Technical University, Estonia

RTU has the same overall QS World rank as KTU, which is not as high as for VGTU and Taltech, but what regards QS Employability ranking, all Baltic technical universities are ranked identically. If we compare Times Higher Education ranking, RTU is taking a place between Lithuanian and Estonian competitors. However, if we compare separate indicators characterizing cooperation with industry, RTU is taking the leading positions.

Table 4 U-Multirank (2018) of the leading Baltic technical universities

Univer-sities	Knowledge Transfer						Regional Engagement
	Income from private sources	Co-publi-cations with indus-trial part-ners	Patents awar-ded (size-norma-lized)	Indus-try co-patents	Spin-offs	Publi-cations cited in patents	Student intern-ships in the region
RTU	C*	C	C	E	A	D	B
VGTU	A	D	D	E	A	D	B
KTU	C	D	E	N/A**	A	D	B
Taltech	B	B	B	D	D	C	N/A

*U-Multirank compares university performance across a range of different indicators grading them from "A" (very good) to "E" (weak)
** N/A - data not available

Data in the Table 4 show that indicators, which are related to industry – academia cooperation, vary between countries. The weakest indicator for all the countries are issuing the joint

patents. The number of spinoffs, which at certain extent characterize level of entrepreneurship, is showing the best performance in three of the universities compares.

Entrepreneurship refers to an individual's ability to turn ideas into action and is therefore a key competence for all, helping people to be more creative and self-confident in whatever they undertake [11]. Therefore, more and more countries acknowledge that entrepreneurship education should become a basic feature in education systems. The need to facilitate employability and new business creation is outlined in the Rethinking Education communication and the Entrepreneurship 2020 Action Plan by the European Commission [12]. To strengthen study process by creating entrepreneurship competences, RTU in cooperation with Rotterdam university of Applied Sciences in the Netherlands, South-Eastern Finland University of Applied Sciences in Finland and Anglia Ruskin University in UK is working on designing a new Product Development and Entrepreneurship study course for engineering students. The studies were performed as a part of ERASMUS+ KA2 project, to validate the theoretical detections EntreComp [26]: the Entrepreneurship Framework was set as a benchmark for emerging and demanded skills in the labour market (Lapina and Nikitina, 2019). Three focus groups that consisted of 5 start-up entrepreneurs, alumni of the universities were considered as an identification method to recognize the sets of knowledge, skills and competences for further analysis. Based on that the new upgraded entrepreneurship teaching methodology will be developed. Alumni groups of the partner institutions have already committed to contribute their expertise in designing the best possible methodology.

8. CONCLUSIONS

This work indicates value of alumni engagement in HERI activities. As alumni directly and indirectly are involved with HERI after they graduation, among other roles as investors, students and employers they are life-long customers. The research demonstrated that key account management principles can be applied in HERI alumni relations management. Authors applied key account management customer segmenting principles in development of new alumni segmenting model which takes into account not only alumni interests but also their capacity to engage with HERI. Alumni grouping into particular categories that share similar characteristics helps to engage them in sustainable way. It allows to approach them according to their interests and capabilities and upgrade their involvement from small interactions up to strategic involvement in HERI projects and decisions. Riga Technical University case demonstrates scale and diversity of alumni engagement for advanced innovations and entrepreneurship.

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