

What managers can learn from knowledge intensive technology startups?

Exploring the skillset for developing adaptive organizational learning capabilities of a successful startup enterprise in the Hungarian management education

Danube Cup Conference – 28th April, 2022 – Startup Education

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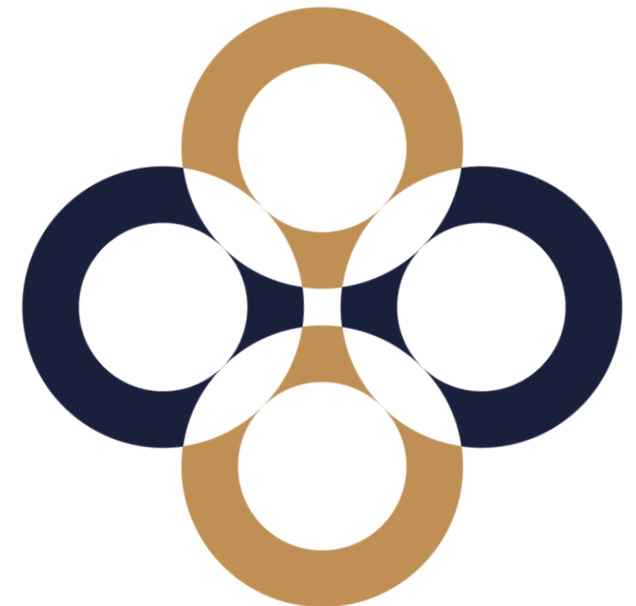
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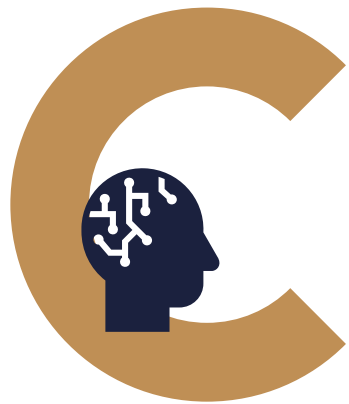
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The Startup
Learning Model



Research
Methodology



Startup in
Management
Education



Further
Recommendations



The Startup Learning Model

Research Questions

- Our study investigates what the organizational learning patterns and adaptive entrepreneurial skillset of knowledge-intensive technology startups are,
- and whether or on what level, improvement of these skills for developing an adaptive and successful startup, as ‘learning organizations’ are integrated in top Hungarian higher management education curriculum.

Research Questions

- Our study investigates **what the organizational learning patterns and adaptive entrepreneurial skillset of knowledge-intensive technology startups are,**
- and whether or on what level, improvement of these skills for developing an adaptive and successful startup, as ‘learning organizations’ are integrated in top Hungarian higher management education curriculum.

Argyris

Schön

Senge

Kofman



system dynamics

single-loop learning

creative capabilities

double-loop learning

The Learning Organization
LO

art

The main principles of organisational learning (OL)

Senge (1990), with his research group of great leaders defined the **5 disciplines or 'component technologies' that differentiates the LO from other organizations:**

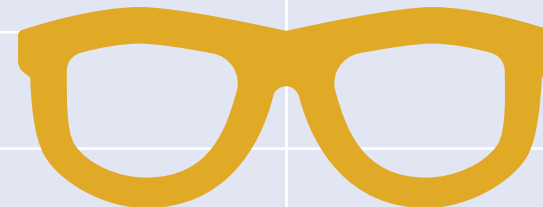
1. personal mastery
2. mental models
3. building shared vision
4. team learning (dialogue)
5. systems thinking (the 'fifth discipline')

Garvin's (1993) practical model, adds value to knowledge management theory, stating that structures and systems of **learning can be built (and measured) on behavioural, values, skills and systems level**

1. systematic problem solving
2. experimentation
3. learning from past experience
4. learning from others (SIS, benchmarking)
5. transferring knowledge (Garvin, 1993, 2008).

Startups as ‘learning organizations’ – investigation of *the startup learning* – *our model*

the 5 pillars	behaviour	values	skills	systems
ambidextrous entrepreneurial learning				
business model development				
failure culture & experiential learning				
benchmarking and learning from others				
agile product development				



[See detailed model in the backup.](#)

Pillar 3: Learning from experiences – the role of failure culture in startup learning

2/b Theory background of	experiential learning - failure	behaviour	values	skills	systems
Secundo et al. 2017	experiential and contextual learning style	x			
Krishna 2018	earlier entrepreneurial experience			x	
Zahra et al. 2018	international experiences of entrepreneurs			x	
Bruneel et al. 2010	leadership team's former international experience			x	
	organisational level experiential learning	x			x
Midler & Silberzahn, 2008	multi-project management (linear / parallel)	x	x		
Amankwah-Amoah et al., 2018	After failure: drawing lessons and consequences, learning from downfall	x	x		
	Funding a new business - heritage	x	x		
	institutionalization of experiences in the new venture				
Rauter et al., 2018	interpreting downfall and negative feedback as a success, a positive, learning opportunity - embracing mistakes	x	x		
	high reflexivity: reflective ability, continuous rethinking of goals and strategies, questioning, critical attitude	x	x	x	



**Research
Methodology**

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Research process

theoretical framework for startup learning

systematic literature review of empirical studies discussing technology startups' successful organisational learning practices, published between 2010 and 2019



sampling

Corvinus University of Budapest
MSc. Management programs

data gathering methods

semi-structured in-depth expert interviews with professors (6) responsible for each MSc. programs, + supplementary document analysis of major development report (1) & courses' syllabus (5)

qualitative data analysis methods

interviews recorded and transcribed (Alrite)
coding based on the theoretical framework

further research?

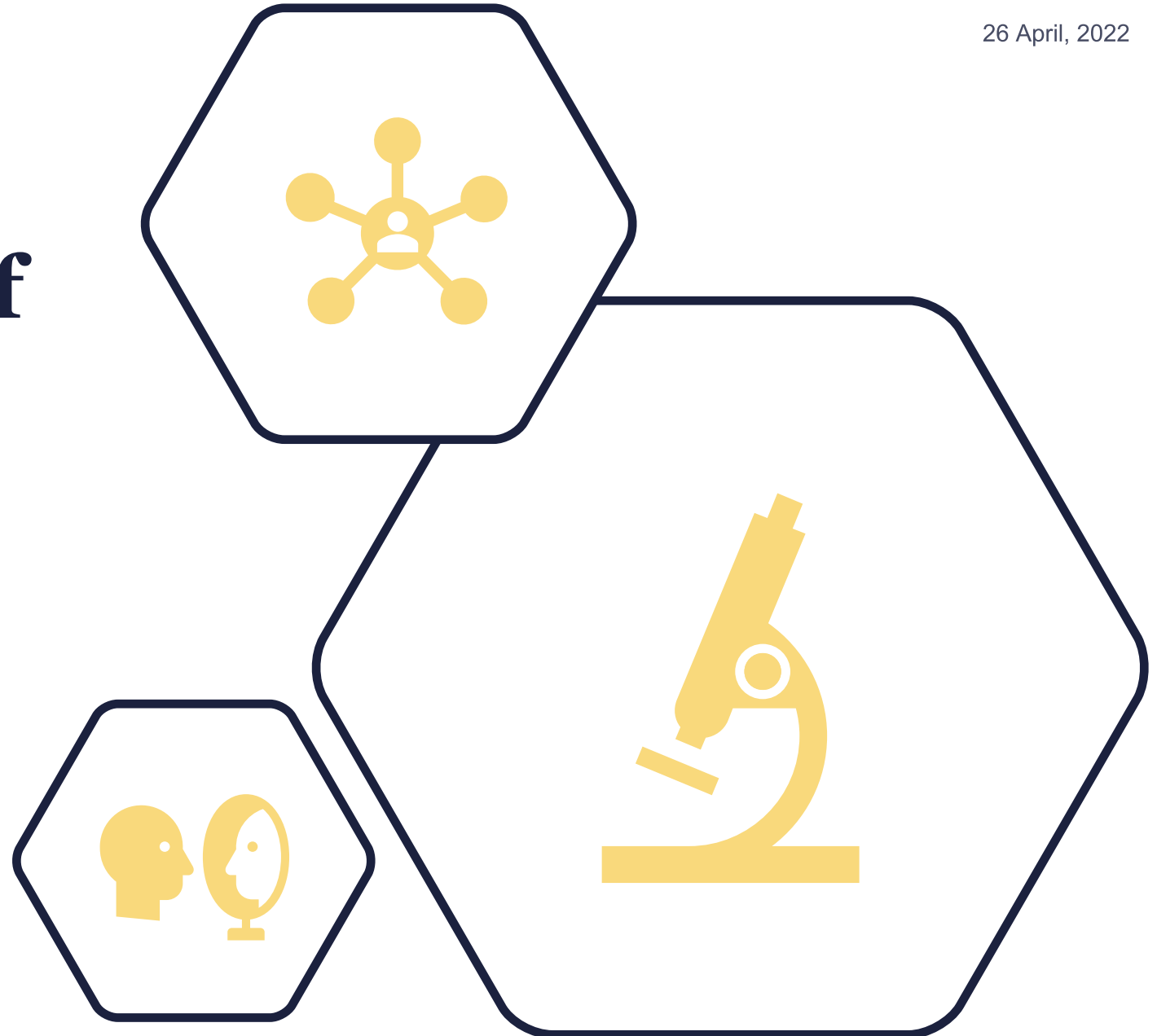
expanding the framework
include other universities

Expert interview - questions

1. Based on your experience, in what situations startup and entrepreneurship culture can be captured in our institution?
2. Questions structured based on the SHEETS with the model:
 - a) If we accept that this model summarizes the principles of successful startup learning, what behaviours, values, skills and system level factors would you consider to each principles?
 - b) Please, have a look at what the literature tells us about each principles!
 - c) How these factors appear in our management MSc. Programs, on educational material, activity, project task level, so that it supports development of management students as entrepreneurs?
3. If you could change 1 or 2 things in the current educational programs, what specific developments would you suggest, in order to support students in acquiring high level knowledge, needed in an entrepreneurial situation?

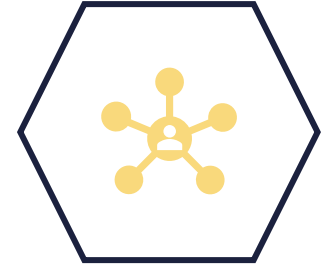
Main outputs of the research

- Insights of **Corvinus startup eco-system**
- **Our practical understanding of the different pillars** - areas less covered by the formerly analyzed articles – niche areas?
- And whether or **on what level, improvement of these skills for developing an adaptive and successful startup**, as ‘learning organizations’ are integrated in top Hungarian higher management education curriculum





**Startup in
Management
Education**



Corvinus startup eco-system

Q1: Based on your experience, in what situations startup and entrepreneurship culture can be captured in our institution?

fragmented & island-like

incubators, centres within CUB, student organisations, contests, scholarships, EU projects, investors, startupper students, innovation, ‚gossip’ – unlinked

mostly a „trendy” topic

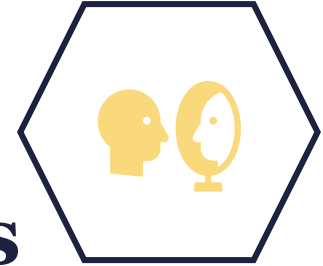
startup topic arrived to CUB in the last few years, courses and education programs, mostly hard skills are supported, soft skills are still ‚banned’

values & mindset

startup culture and values crawling into the everyday education, startupper guest lecturers, customer oriented major development

incubation & support

many startup initiatives from students, incubator organisations, investment support, scholarships available – communication needed



Our practical understanding of the principles

Q2-a: If we accept that this model summarizes the principles of successful startup learning, what behaviours, values, skills and system level factors would you consider to each principles?

top of mind interpretations - another layer for theory:

ambidextrous entrepreneurial learning

general entrepreneurial skills emphasized

business model development

ability to change business models – critical thinking

failure culture & experiential learning

benchmarking and learning from others

openness is emphasized more than sources

agile product development

different understandings of agility



The 5 pillars in CUB's MSc. level management education

	Corvinus startup eco-system	Leadership and Management MSc.	Marketing MSc.	Entrepreneurship Development MSc.
ambidextrous entrepreneurial learning	● ● ●	● ● ●	● ● ●	● ● ●
business model development	● ● ●	● ● ●	● ● ●	● ● ●
failure culture & experiential learning	● ● ●	● ● ●	● ● ●	● ● ●
benchmarking and learning from others	● ● ●	● ● ●	● ● ●	● ● ●
agile product development	● ● ●	● ● ●	● ● ●	● ● ●

[See detailed findings in the backup.](#)

*For **Leadership and Management and Marketing MSc.** Startup learning is a value that corporates can learn and adapt from startup culture.*

	Leadership and Management MSc.	Marketing MSc.
ambidextrous entrepreneurial learning	<p><i>„Critical thinking, self-confidence, self-reflective attitude, teamwork are great strengths of the program and learning outcome for students on all modules (specializations).” „Strong market orientation on marketing MSc.”</i></p>	
	<p><i>But exclusively corporate approach – no entrepreneurial focused education.</i></p>	

			Marketing MSc.	
business model development	<p>Interpretation, meaning of 'business model' in Marketing MSc. major: corporate mindset – „for a large org's marketing leader, the business model is a values system, a given context, that one has to function in, one has to bring the marketing mindset in, but one doesn't formulate it, doesn't change it”</p>			

Entrepreneurship Development program has the space for strengthening startup-learning based education!

				Entrepreneurship Development MSc.
ambidextrous entrepreneurial learning				

"Entrepreneurship Development Institute pinned startups to its flagship in the last half year. So we needed a new institute director who supports that."

We don't teach students to fail...

	Corvinus startup eco-system	Leadership and Management MSc.	Marketing MSc.	Entrepreneurship Development MSc.
	<i>„Success-orientation strongly - We always talk about successful startups, which is not lifelike - no examples, stories of failure and downfalls (no one would tell)”</i>			
failure culture & experiential learning	<i>„There are a few case studies discussing failures, some emphasizing the role of downfalls behind success stories, but only a few.”</i>			
	<i>„Self-reflection tasks in project works support reflexivity.”</i>			
	<i>"Many times, we try to say: do not feel it as a failure, ..."</i>			
	<i>"Never discussing a company's failure. But it would be great!"</i>			

Management is all about benchmarking!

			Marketing MSc.	
benchmarking and learning from others				

„It's actually always about benchmarking! We should instead look in ourselves and into our systems sometimes, to see what strengths are there! Which ability startups do have.”

Co-creation and participation topics are strongly and explicitly present in educational curriculum and materials (e.g. co-creation is also an important marketing communications tool) - this is a hole on the organization's walls which encourages learning from outer sources.



**Further
Recommendations**



What should be done, then?

Embracing mistakes

We should improve learning from failure in our education programs by e.g. writing case studies and inviting guests discussing downfalls!

More focus on Entrepreneurship Development MSc. program

This program has the space and capability for further development to align to the international standards and quality of startup education!

Entrepreneurship activity in the curriculum

Extra-curricular activities get no recognition. Portfolio-based credit-system / thesis procedure could be implemented so that it counts.

International, -disciplinary, -major, -module cooperations

The most tangible „to be developed” factor of our programs is that they are mostly closed. Open up on a systems level for better learning outcomes.

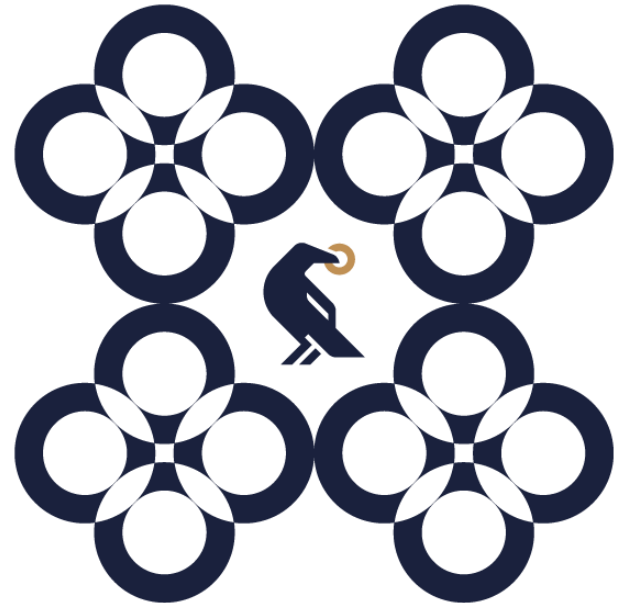
Eco-system & S.P.O.C.

Strengthening Corvinus startup eco-system and info flow by linking all startup related organizations, groups and actors around the institution.



**Thank you
for your attention!**

Resources



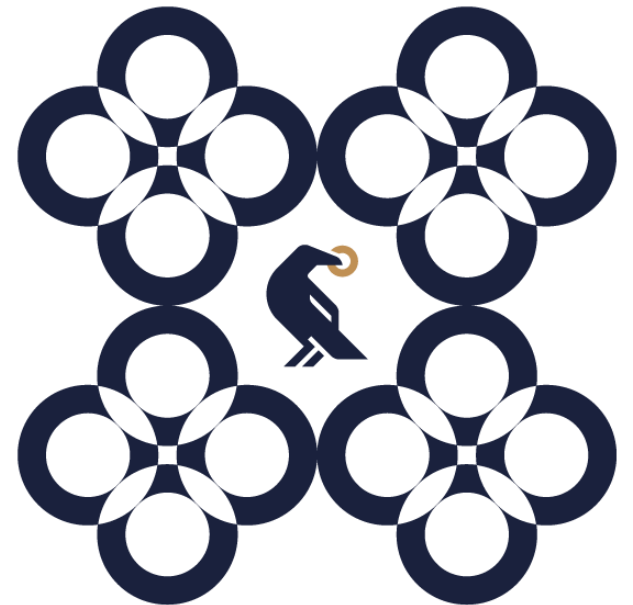
Resources

- Argyris, C. (1976). Single-Loop and Double-Loop Models in Research on Decision Making. *Administrative Science Quarterly*, 21(3), p. 363. <https://doi.org/10.2307/2391848>
- Argyris, C. (1977). Double-loop learning in organizations. *Harvard Business Review*, September-October.
- Argyris, C. (1993). Education for Leading-Learning. *Organizational Dynamics*, 21(3), pp. 4–17. [https://doi.org/10.1016/0090-2616\(93\)90067-B](https://doi.org/10.1016/0090-2616(93)90067-B)
- Argyris, C. (1994a). Good communication that blocks learning. *Harvard Business Review*, 72(4), pp. 77-85.
- Argyris, C. (2002a). Double-Loop Learning, Teaching, and Research. *Academy of Management Learning & Education*, 1(2), p. 206.
- Argyris, C. (2002b). Teaching Smart People How to Learn. *Reflections*, 4(2), 4–15. <https://doi.org/10.1162/152417302762251291>
- Argyris, C. and Schön, D. A. (1978). *Organizational learning: a theory of action perspective*. Reading: Addison-Wesley.
- Argyris, C. and Schön, D. A. (1991). Participatory action research and action science compared: a commentary. In: Whyte, W.F. (ed.) (1991). *Participatory action research*. Sage, USA.
- Argyris, C. and Schön, D. A. (1996). *Organizational learning II.: theory, method, practice*. Addison-Wesley.
- Garvin, D.A. (1993). Building a learning organization. *Harvard Business Review*, July-August. [online] Available at: https://hbr.org/1993/07/building-a-learning-organization?referral=03758&cm_vc=rr_item_page.top_right [Accessed 27 Oct. 2019].
- Garvin, D. A., Edmondson, A. C. and Gino, F. (2008). Is Yours a Learning Organization? *Harvard Business Review*, March. [online] Available at: <https://hbr.org/2008/03/is-yours-a-learning-organization> [Accessed 27 Oct. 2019].
- Kofman, F. and Senge, P. M. (1993). Communities of Commitment: The Heart of Learning Organizations. *Organizational Dynamics*, 22(2), 4–23. [https://doi.org/10.1016/0090-2616\(93\)90050-B](https://doi.org/10.1016/0090-2616(93)90050-B)
- Senge, P. M. (1990a). *The fifth discipline. The art and practice of the learning organization*. New York: Doubleday/Currency.
- Senge, P.M. (1998). *Az ötödik alapelv. A tanuló szervezet kialakításának elmélete és gyakorlata*. HVG Kiadó, Budapest.

- Amankwah-Amoah, J., Boso, N., és Antwi-Agyei, I. (2018). The Effects of Business Failure Experience on Successive Entrepreneurial Engagements: An Evolutionary Phase Model. *Group & Organization Management*, 43(4), p. 648.
- Anderson, E., Lim, S.Y., és Joglekar, N. (2017). Are More Frequent Releases Always Better? Dynamics of Pivoting, Scaling, and the Minimum Viable Product. 50th Hawaii International Conference on System Sciences, 2017.
- Bosch, J., (2012). Building products as innovation experiment systems. In: *Proceedings of the International Conference of Software Business*. Springer, Berlin Heidelberg, pp. 27–39.
- Brockman, B.K. (2013). The Evolution of Organizational Learning in New Venture Development. *Journal of Small Business and Entrepreneurship*, 26(1–3), pp. 261–275.
- Bruneel, J., Yli-Renko, H., és Clarysse, B. (2010). Learning from Experience and Learning from Others: How Congenital and Interorganizational Learning Substitute for Experiential Learning in Young Firm Internationalization. *Strategic Entrepreneurship Journal*, 4(2), pp. 164–182. DOI: <https://doi.org/10.1002/sej.89>
- Fagerholm, F., Guinea, A.S., Mäenpää, H. és Münch, J., (2017). The RIGHT model for continuous experimentation. *The Journal of Systems and Software*, 123, pp. 292–305.
- Fannoun, S. és Kerins, J. (2019). Towards organisational learning enhancement: assessing software engineering practice. *The Learning Organization*, (1), pp. 44-61. DOI: <https://doi.org/10.1108/TLO-09-2018-0149>
- Gemmell, R.M. (2017). Learning styles of entrepreneurs in knowledge-intensive industries. *International Journal of Entrepreneurial Behavior & Research*, 23(3), pp. 446-464. DOI: <https://doi.org/10.1108/IJEBR-12-2015-0307>
- Havemo, E. (2019). Communicating The Business Model at a Swedish Start-Up: An Interpretive Study. *Journal of Business Models*, 7(2), p. 14.
- Jeske, D. és Axtell, C. M. (2016). How to run successful e-internships: a case for organizational learning. *Development and Learning in Organizations: An International Journal*, (2), p. 18. DOI: <https://doi.org/10.1108/DLO-09-2015-0073>
- Krishna, H. S. (2018). Entrepreneurial Learning and Indian Tech Startup Survival: An Empirical Investigation. *Asian Journal of Innovation & Policy*, 7(1), pp. 55–78. DOI: <https://doi.org/10.7545/ajip.2018.7.1.055>
- König, M., Ungerer, C., Baltés, G., & Terzidis, O. (2019). Different patterns in the evolution of digital and non-digital ventures' business models. *Technological Forecasting & Social Change*, 146, pp. 844–852. DOI: <https://doi.org/10.1016/j.techfore.2018.05.006>

- Marmer, M., Herrmann, B. L., Dogrultan, E. és Berman, R. (2012). Startup Genome Report. [online] Available at: https://s3.amazonaws.com/startupcompass-public/StartupGenomeReport1_Why_Startups_Succeed_v2.pdf [Accessed 27 Oct. 2019].
- Midler, C., és Silberzahn, P. (2008). Managing robust development process for high-tech startups through multi-project learning: The case of two European start-ups. *International Journal of Project Management*, 26(5), pp. 479–486. DOI: <https://doi.org/10.1016/j.ijproman.2008.05.003>
- Olsson, H.H., Alahyari, H., Bosch, J. (2012). Climbing the “Stairway to heaven” – a multiple-case study exploring barriers in the transition from agile development towards continuous deployment of software. In: *Proceedings of the 2012 38th EUROMICRO Conference on Software Engineering and Advanced Applications (SEAA)*. IEEE, pp. 392–399.
- Olsson, H.H. és Bosch, J. (2014). The HYPEX model: from opinions to data-driven software development. In: *Continuous Software Engineering*. Springer International Publishing, pp. 155–164.
- Olsson, H.H. és Bosch, J. (2015). Towards continuous validation of customer value. In: *Proceedings of the scientific workshop XP 2015*. ACM, p. 3.
- Perez L., Whitelock J. és Florin, J. (2013). Learning about customers: Managing B2B alliances between small technology startups and industry leaders. *European Journal of Marketing*, 3(4), p. 431. DOI: <https://doi.org/10.1108/03090561311297409>
- Rauter, S., Weiss, M. és Hoegl, M. (2018). Team learning from setbacks: A study in the context of start-up teams. *Journal of Organizational Behavior*, 39(6), pp. 783–795. DOI: <https://doi.org/10.1002/job.2278>
- Ries, E. (2012): What is startup? *Startup Lessons Learned*. [online] Available at: <http://www.startuplessonslearned.com/2010/06/what-is-startup.html> [Accessed 27 Oct. 2019].
- Ries, E. (2013). *Lean startup*. HVG Kiadó, Budapest.
- Secundo, G., Schiuma, G. és Passiante, G. (2017). Entrepreneurial learning dynamics in knowledge-intensive enterprises. *International Journal of Entrepreneurial Behavior & Research*, (3), p. 366. DOI: <https://doi.org/10.1108/IJEER-01-2017-0020>
- Takeuchi, H. és Nonaka, I. (1986). "The New New Product Development Game." *Harvard Business Review*, 1986 január. [online] Available at: <https://hbr.org/1986/01/the-new-new-product-development-game> [Accessed 16 Nov. 2019].
- Yaman, S.G. et al. (2017). Introducing continuous experimentation in large software-intensive product and service organisations. *Journal of Systems & Software*, 133, pp. 195–211. <https://doi.org/10.1016/j.jss.2017.07.009>

Backup documentation



Organizational learning theory is looking for the answers to questions such as what learning, organizational learning (OL) is, how it is defined, what the main barriers of learning are, what a learning organization (LO) is, and what knowledge is.

Based on **Argyris and Schön** (1978), **learning is a reactive process**, an adaption, based on an attitude shift. For learning, besides cognitive understanding, **questioning our prevailing norms of operation is needed**. That is called **double-loop learning**, **that people, by nature, are not capable of, neither individually, nor on an organizational level**, as our visceral defense mechanisms do not let them step out from our frames of thinking (Argyris and Schön, 1978; 1991; 1996; Argyris, 1994a; 1994b; 2002a; 2002b). **Argyris's solution for enhancement of learning is exploring, exposing, and bringing these defense mechanisms to the surface, in order to balance our principles professed and followed.**

Based on **Senge's holistic approach**, OL is a **never-ending process, a capability of continuous renewal** (Senge, 1990a; 1994; Senge and Ameln, 2019), **whose barriers are in bad system dynamics** (Senge, 1990a, 1994). Kofman and Senge (1994) state that there is no such 'learning organization', as an objective phenomenon or an ideal state that we ever arrive, but there is a **continuous and devoted endeavour towards a common and definite future vision, a never-ending practicing** (Kofman és Senge, 1994; Senge, 1990a; Senge, 1998; Bakacsi et al., 1992, Gelei, 2002).

According to Peter Senge's (1990) holistic definition or vision, LOs are...

*“organizations where people **continually expand their capacity to create the results, they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together**”*

Pillar 1 – Ambidextrous entrepreneurial learning – the role of founders’ personal learning style in startup learning; exploitation-exploration balance

2/b Theory background of	ambidexterity and entrepreneurial learning	behaviour	values	skills	systems
Brockman, 2013	START-UP STAGE: KWs: vigilant entrepreneurial attention individual, intuitive, double-loop action learning	x	x	x	
	EARLY STAGE: KWs: absorption and transformative capacity, strategic learning, exploration and exploitation balance behavioural learning, routine, grounding practice at a strategic level	x	x	x	
	GROWTH STAGE: KW: careful interactions conscious institutionalization of learning processes	x	x		x
Secundo et al., 2017	explorative learning style	x	x	x	
	exploitative learning style	x	x	x	
	intuitive and sensing learning style	x	x	x	
Gemmel, 2017 (Kolb 1984)	active experimental learning style	x	x	x	
Krishna 2018	explorative knowledge transformation style	x	x	x	
	decision-making based on causal relationships	x	x	x	
Zahra et al. 2018	intermediate level of political conflicts and decentralization	x	x		x

Pillar 2 – Business model development as a communication and vision-setting tool – the role of a common vision in startup learning

2/b Theory background of	business model development	behaviour	values	skills	systems
Havemo 2019	tool communicating business strategy	x	x		
	tool communicating shared identity	x	x		
König et al. 2019	tool framing an iterative learning mindset - LSM (Lean Startup Manifesto)	x	x		



Pillar 3: Learning from experiences – the role of failure culture in startup learning

2/b Theory background of	experiential learning - failure	behaviour	values	skills	systems
Secundo et al. 2017	experiential and contextual learning style	x			
Krishna 2018	earlier entrepreneurial experience			x	
Zahra et al. 2018	international experiences of entrepreneurs			x	
Bruneel et al. 2010	leadership team's former international experience			x	
	organisational level experiential learning	x			x
Midler & Silberzahn, 2008	multi-project management (linear / parallel)	x	x		
Amankwah-Amoah et al., 2018	After failure: drawing lessons and consequences, learning from downfall	x	x		
	Funding a new business - heritage	x	x		
	institutionalization of experiences in the new venture				
Rauter et al., 2018	interpreting downfall and negative feedback as a success, a positive, learning opportunity - embracing mistakes	x	x		
	high reflexivity: reflective ability, continuous rethinking of goals and strategies, questioning, critical attitude	x	x	x	

Pillar 4 – Benchmarking & learning from others – outer sources of learning

2/b Theory background of	benchmarking - learning from others, outer sources of learning	behaviour	values	skills	systems
Havemo, 2019	business model as iterative benchmarking (market analysis) tool	x			
König et al. 2019	(based on scientific methods)				
Zahra et al. 2018	commitment to strategic relationships and networking	x	x		
Bruneel et al. 2010	learning from key partners (customers, suppliers, investors)	x			
Marmer et al. 2013	learning from the best practices	x	x		
	learning from customer and user feedback and data	x	x		
	attention to feedback and acting accordingly	x			
Perez et al. 2015	value co-creation with customers	x			
	B2B partnerships: shared decision making, team work, openness, institutionalized dedication, professionals	x	x		
Secundo et al. 2017	(PSNW – Professional Social Networking Websites)	x			x
	knowledge sharing and learning				
	startup contests have a role in strengthening entrepreneurial processes	x	x		
	entrepreneurial practice in education	x			
	startup eco-systems (e.g. Silicon Valley)	x	x		x
Jeske & Axtell, 2016	international e-internships	x			

Pillar 5 – Customer-oriented agile product development frameworks – BLM logic

2/b Theory background of agile product development	behaviour	values	skills	systems
Anderson et al., 2017 agile product development methods	x			x
Olsson et al., 2012 agile measurement processes	x	x		
Yaman et al., 2017 experimentation	x			x
Ries, 2011 real-time feedback	x			
Bosch, 2012 mistakes, downfalls and failure are a must, learning from mistakes	x	x		
Fannoun & Kerins, 2019 retrospective	x			x
Fagerholm et al., 2017 systematic problem-solving	x	x		x
Olsson & Bosch, 2015 systems supporting double-loop learning				x
Takeuchi & Nonaka, 1986 MVP / MVF - Minimum Viable Product / Feature approach		x		x
MVP testing and data gathering	x	x		
data-driven decision support	x	x		
an organisational structure that is supporting explorative culture:	x			x
Lean Startup approach - BML (build-measure-learn) logic	x			x
Innovation Experimentat Systems (IES) - hypothesis building through business goals, user "pains", quantitative hypothesis testing	x			x
SCRUM - transparency, investigation and adaptation	x			x
Early Stage Software Startup Development (ESSSD)	x			x
RIGHT modell	x			x
Hypothesis Experiment Data-Driven Development (HYPEX) modell	x			x
Qualitative/Quantitative Customer-Driven Development (QCD)	x			x

Q2-a: If we accept that this model summarizes the principles of successful startup learning, what behaviours, values, skills and system level factors would you consider to each principles?

	behaviour	values	skills	systems
ambidextrous entrepreneurial learning	entrepreneurship approach	success and quick wins	language skills	eco-system building
	modivation	marketing values	communication skills	providing documentation and regulatory frameworks
	openness	steadiness	presentation skills	supportive programs
	future and aim-orientation	market fit	cooperative skills	make actors get to know each other
	cooperation	digitaization	digital attitude	networking
	continuous learning	21'st century thinging	management skills	international and local netowrks
	networking	intellectual values	self-knowledge	international college-networks (e.g. WU Vienna)
	teamwork	internationalization	stress tolerance	socialization
	vigilant attention	English language	self-confidence	
	firmness	business approach	hard skills: finance	
	delegation	material success- and/or value-oriented strategy	soft skills (learning by doing)	
	active change management	keywords, skills and task (instead of diploma)	change management skills	
		change	delegating and cooperation skills	
			leadership skills	
		entrepreneurship skills		
		self-management		
		adaptive skills		

Q2-a: If we accept that this model summarizes the principles of successful startup learning, what behaviours, values, skills and system level factors would you consider to each principles?

	behaviour	values	skills	systems
business model development	change management	change	knowing modern business models	same logic models
	continuous feedback	continuous work	capability to change models	european model development would be needed
	thinking with the customer's mind	agility (tend to and want to change)		
	day-to-day, continuous work	customer		
		sustainable balance		
		exponential growth		
experiential learning - learning from failure	knowing the main value-producing element of the process			
	drawing lessons from downfalls regularly	acceptance of mistakes and downfalls	ability to accept mistakes	system that shows its errors
	active experiencing, experimentation	learning from failure instead of giving up	self-knowledge	
	seeking for errors in the system	not believing that your idea is the best	ability not to give up	
learning from others, benchmarking, outer sources of		attitude to the fact that anything can happen	self-reflection	
	willingness to accept suggestions	eco-system that allows networking	openness	integrating new knowledge into the working system
	building in others' experience through mentors	appreciation of best practices	ability of acceptance	eco-system that allows networking
agile approach	susceptibility to new ideas	willingness to listen to others	eager to knowing	
		flexibility	attention to others' opinion	
	quick reaction to quick changes	customer-orientation (value is what is value for customer)	willingness to act, ability to react quickly	adaptation of results into the system

Q2-c – How the 5 principles appear from our MSc. Educational programs' point of view? - **summary**

	Corvinus startup eco-system	Leadership and Management MSc.	Marketing MSc.	Entrepreneurship Development MSc.
ambidextrous entrepreneurial learning	Students have startup knowledge (where does it come from?). They are strong in self-confidence, presentation and language skills. Hungarian examples are missing though. Scattered, island-like knowledge in the curriculum.	Critical thinking, self-confidence, self-reflective attitude, teamwork are great strengths of the program on all modules (specializations). But exclusively corporate approach - no entrepreneurial focused education.	Strong business approach and strong market orientation. Project courses encouraging creative thinking and identity encouraging thinking out of the boxes (only a few of them).	"Entrepreneurship Development Institute pinned startups to its flagship in the last half year. So we needed a new institute director who supports that."
business model development	Students are good with business models and one-pagers. But the outdated models and frameworks appear in these.	Interpretation of the term 'business model' in Leadership and Management MSc. major: what the business is for, how it produces value, what is the point, the meaning of what we do? Capability of adaptation of business models with criticism - Business modelling is a strong learning outcome of students	Interpretation, meaning of 'business model' in Marketing MSc. major: corporate mindset - for a large org's marketing leader, the business model is a values system, a given context, that one has to function in, one has to bring the marketing mindset in, but one doesn't formulate it, doesn't change it.	Business modelling frameworks in materials. Examples: company visits. Still outdated models in the materials.
failure culture & experiential learning	Time and persistence is missing. Success-orientation strongly - We always talk about successful startups, which is not lifelike - no examples, stories of failure and downfalls (noone would tell)	There are a few case studies discussing failures, some emphasizing the role of downfalls behind success stories, but only a few. Not many examples of downfalls. Self-reflection tasks in project works support reflexivity.	Experiential learning through project courses. Mini-failures from projects - self reflection. "Many times, we try to say: do not feel it as a failure, but a downfall that you can learn from!" Non-defined, non-framed project works support out of the box thinking - but are strange for students. "Never discussing a company's failure." but it would be great" "We can pass on the mindset, I think, but formal practice teaches totally the opposite: make objective decisions, solve problems from the resources given, take yourself and your emotions out of the process, individual is not important, don't be creative etc... "	Case studies and project works encourage experiential learning, but no project course explicitly in the curriculum.

Q2-c – How the 5 principles appear from our MSc. Educational programs' point of view? - **summary**

	Corvinus startup eco-system	Leadership and Management MSc.	Marketing MSc.	Entrepreneurship Development MSc.
benchmarking and learning from others	<p>"Formalization of benchmarking practices is hard in education. The latest trends cannot be taught in education cause they change quicker than education can adapt them (e.g. crypto) - education does not follow the trends."</p>	<p>"Management is all about benchmarking! Benchmarking is crucial and evident in problem-solving (no need to name it), benchmarking tasks on courses, benchmarking logic etc..." Evidence of seeking for patterns - in management it is a very important practice, mindset in formulating processes. Major development process itself: benchmarking internationally, research among alumni and recruiting companies.</p>	<p>"It's actually always about benchmarking! We should instead look in ourselves and into our systems sometimes, to see what strengths are there! Which ability start-ups do have." Co-creation and participation topics are strongly and explicitly present in educational curriculum and materials (e.g. co-creation is also an important marketing communications tool) - this is a hole on the organization's walls which encourages learning from outer sources.</p>	<p>Openness to sectoral, regional, international, and European values, attention to market and environmental changes - learning outcome.</p>
agile product development		<p>"Agility as a topic is reaching students from many aspects. We are trying to find out what it means and how it changes organizations' lives." Critical mindset is very important in all courses and students take up this approach quite quickly. Organizational Theory course plays a key role in this but also, we can see examples in Organizational Behaviour course - questioning the given, different opinions, opposing solutions can be good from different perspectives. Failure is not so much supported. Agile working methods should be stronger.</p>	<p>"In our university, agility, agile operation can appear in small groups' project level works, but it is hard to broaden it up to the whole system's level. We believe that we are agile but in marketing this expression is not strongly present." "I believe that this approach is integrating the other 4 principles" Failure is not so much supported. Build-measure-learn logic doesn't get enough space and time.</p>	<p>Innovation processes, R&D and frameworks emphasized but failure is not supported at all. Build-measure-learn logic doesn't get enough space and time. Validation is not taught comprehensively.</p>

Q2-c – How the 5 principles appear from our MSc. Educational programs' point of view? – **pillar 1 – ambidextrous entrepreneurial learning**



Corvinus startup eco-system	Leadership and Management MSc.	Marketing MSc.	Entrepreneurship Development MSc.
<p>in such educational materials like projects and case studies only basic learning outcomes are specified development of presentation skills (stronger than other unis) best practices business ethics self-confidence of students startup-knowledge (we don't know where from) good language skills among students</p>	<p>strong presentation skills leadership models and examples critical thinking process management and controlling organisational behaviour ambidexterity - explicitly taught in Strategic Management course major development process is skill- and learning outcome-based and customer-oriented practice-orientation systems level, complex thinking problem-solving skills project approach taking initiation self-confidence, autonomy teamwork self-reflective attitude</p>	<p>business approach strong market orientation market fit customer demand able to implement pragmatism and attention to market corporate mindset can be translated by students into a working system in enterprises causal relationships in decision making some projects encouraging creative thinking and identity encouraging thinking out of the box</p>	<p>hard skills - finance and investment are strongly supported by curriculum, educational materials and tasks software usage supported good language skills commitment to entrepreneurial thinking and practice complex and detailed thinking strong market orientation innovation management strategic approach, strategy building international focus entrepreneurial decision making attention to business opportunities different mindset for entrepreneurship and startups (than corporate mindset) coping with stress market research methods project management soft entrepreneurship skills in education are "banned" by the university</p>
<p>absence of Hungarian examples difficulties in formulating the educational fields no process- and systems thinking knowledge is scattered island-like in curriculum - absence of linking points and logic validation process practice is not taught frameworks should be passed on absence of legal knowledge</p>	<p>exclusively corporate approach - no startup and SME examples and entrepreneurship skills negotiation techniques are missing from curriculum more English language courses and presentations needed IT skills should be emphasized</p>	<p>intuitive situational awareness is missing (rather causal relationships is what the full corporate minded business education is concerned with) encouragement of identity, creativity and intuition, expression of emotions etc. are missing</p>	

Q2-c – How the 5 principles appear from our MSc. Educational programs' point of view? – **pillar 2 - business model development**



Corvinus startup eco-system	Leadership and Management MSc.	Marketing MSc.	Entrepreneurship Development MSc.
<p>students have met business model frameworks and one-pagers students are good in selling themselves</p>	<p>Process-management module (specialization) does deal with business model frameworks Literature - more robust than really practical models Business project course in all modules - practical experience Project work with innovation HUBs (experience is that business models are interpreted more loosely Capability of adaptation of business models with criticism Business modelling is a strong learning outcome of students</p>	<p>marketing mindset to add to the business model project works with social enterprises - no brief, no formal business model - formulating the mindset, good learning experience case studies of creating a 'startup' inside a large corporate with a different business model sustainability projects - what is the aim, function of an organization sustainable equilibrium is a value example for project courses where students have to create an entrepreneurship idea, something new, good for the society, from nothing</p>	<p>knowledge acquired can be used both for leaders and employees of enterprises enterprise visits in courses business modelling frameworks in educational materials business planning in practice</p>
<p>taught models are out-dated (SWOT, 7S etc. still do appear in theses) educational materials outdated</p>	<p>Practicalities are merely different Less practical examples from SMEs</p>	<p>as part of a corporate function, you are not changing the business model, but how you act in a situation, how you solve it with marketing tools</p>	<p>outdated models and theory (SWOT, 7S etc.)</p>

Q2-c – How the 5 principles appear from our MSc. Educational programs' point of view? – **pillar 3 - experiential learning - learning from failure**



Corvinus startup eco-system	Leadership and Management MSc.	Marketing MSc.	Entrepreneurship Development MSc.
<p>success-orientation examples of successful startups - guest lecturers fintech cooperations (such as MNB Sandbox program)</p>	<p>some case studies discussing failure stories some case studies emphasizing the role of downfalls behind success stories (e.g. Shopline - Bookline case) Change Management course – social impact project, caritative goal, implementation</p>	<p>experiential learning through project courses - working together with corporate leaders, or social enterprises (IT companies are not common) projects when students have to 'wear entrepreneur's shoes' teachers' processed intention to encourage students doing something and not being afraid of mistakes "Many times we try to say: do not feel it as a failure, but a downfall that you can learn from!" special situations forming values and attitude out of the comfort-zone situations (e.g. movie making task) Reaction: "What? I don't need to analyse SWIT factors, but I have to start from myself?" working with artists sometimes non-defined projects and outputs (instead of exact, well framed tasks) - improving creativity and exp. l. mini-failures in project process, leading to success in the end self-reflection tasks in project work, discussion in the end</p>	<p>case studies</p>
<p>time and persistence is missing we always talk about successful startups, which is not lifelike no examples, stories of failure and downfalls (noone would tell)</p> <p>Outer factor: regulations do not support good startup education</p>	<p>not enough examples of downfalls</p>	<p>never discussing a company's failure - but it would be great 'We can't say that their work is a zero, cause students would interpret it as a failure, a defeat, and the whole course would turn into a failure.' fear of failure mainstream business education is against reflexion "We can pass on the mindset, I think, but formal practice teaches totally the opposite: make objective decisions, solve problems from the resources given, take yourself and your emotions out of the process, individuum is not important, don't be creative etc... "</p>	<p>no explicit project course in curriculum</p>

Q2-c – How the 5 principles appear from our MSc. Educational programs' point of view? – **pillar 4 - learning from others, benchmarking, outer sources**

Corvinus startup eco-system	Leadership and Management MSc.	Marketing MSc.	Entrepreneurship Development MSc.
<p>guest lecturers from entrepreneurship culture money, motivation, actors are there startup contests incubation programs many organisations supporting students in entrepreneurship</p>	<p>Interactive form of masters education: learning from each other: students (mostly have work experience) discussing their experiences with each other, practical examples all the time, proactivity, lecturers working in consultancy bringing in practical corporate examples Knowledge sharing between academia, MBA, MSc and practice (many practitioners, professionals among the lecturers and academics) High demand from students for practical examples and case studies (instead of 30 years old books) New case studies (such as IBM case - culture is crucial) Evidency of seeking for patterns - in management it is a very important practice, mindset in formulating processes Seeking best practices, teaching about best practices Benchmarking is crucial and evident in problem-solving (no need to name it) Benchmarking tasks on courses Benchmarking logic Project courses - benchmarking is a tool In management many times good practices expand in industries Major development process itself: benchmarking internationally, research among alumni and recruiting companies</p>	<p>Organisations' borders are not closed but open - it is a processed value Project works encourage team learning and dialogue In project works students learn how to work with people with a different mindset Working with corporates outside the uni - see how others work In project works with social enterprises - bringing in benchmarks from organisations that are working with a real business model Learning from students and professionals of other disciplines (e.g. artists) - learning a different mindset, thinking logic Classic and practical approach in balance Co-creation and participation topics are strongly and explicitly present in educational curriculum and materials (e.g. co-creation is also an important marketing communications tool) - this is a hole on the organisation's walls which encourages learning from outer sources Earlier semesters's works are also used as benchmarks.</p>	<p>openness to sectoral, regional, international, and European values practices to learn from benchmarks guest lecturers talking about internationalization projects attention to context market analysis, attention to market and environmental changes</p>
<p>formalization of benchmarking practices is hard in education latest trends cannot be taught in education cause they change quicker than education can adapt them (e.g. crypto) - education does not follow the trends students are not motivated by outside the curriculum programs no functioning ecosystem inside the university - no connection between these organisations and actors no well-linked ecosystem in Budapest noone links the actors administration barriers we don't know the actors within the university</p>	<p>Students from different specializations (modules) should work together in projects - cooperation between modules</p>	<p>"It's actually always about benchmarking! We should instead look in ourselves and into our systems sometimes, to see what strengths are there! Which ability startups do have."</p>	



Q2-c – How the 5 principles appear from our MSc. Educational programs' point of view? – **pillar 5 - business model development**

Corvinus startup eco-system	Leadership and Management MSc.	Marketing MSc.	Entrepreneurship Development MSc.
	<p>In Process management Module and Controlling Module (specialisazions) there are full course blocks explicitly discussing agile frameworks.</p> <p>In project works, students many times work with businesses using an agile approach in product development or in other fields. Also the implementation of a project work can go in an agile way.</p> <p>We see that in corporates agility is a widely implemented and strong approach, still a "hit" topic - how to be faster.</p> <p>Students meet many examples from IT sector and agile priduct development - guest lecturers bring in case studies.</p> <p>There are less good agile examples from non-IT companies, as also the most successful stories have downsides.</p> <p>Agile Customer-demand based and market-oriented major development process: we set the most important learning outcomes, which contain a general holistic and critical attitude to any working systems and models, and the ability to see the barriers of any models, to adapt consciusly and change these models.</p> <p>Critical mindset is very important in all courses and students take up this approach quite quickly.</p> <p>Organisational Theory course plays a key role in this but also we can see examples in Organisational Behaviour course - questioning the given, different opinions, opposing solutions can be good from differenc perspectives.</p> <p>Case studies are dominant.</p> <p>Leadership models.</p>	<p>Open and closed problem soving situations are both present. Immediate feedbacks, reflection on mistakes are important. Objectivizaion of what is happening - retrospective kind of discussions. 360° feedbacks.</p> <p>Value-based feedbacks.</p> <p>Experimentation in educational activities and on courses too:</p> <p>Micro example to experimentation: Identity Planning course - students have to plan their own subjective identity, find what represents them, from zero, to the end of the course there a is a sentence as a USP.</p> <p>Macro example to experimentation: Design Communication course: wikonomic cooperation of 30 students practicing dialogue and consensus in planning a solution that makes the world better - this without the direct facilitation of teachers (all conflicts are handled by students themselves).</p> <p>This kind of educational activities strengthen team roles and self reflection of students.</p>	<p>analytic entrepreneurial behaviour</p> <p>innovation processes</p> <p>R&D processes</p>
	<p>Failure is not so much supported.</p> <p>Build-measure-learn logic doesn't get enogh space and time.</p> <p>Agile working methods should be stronger.</p>	<p>Failure is not so much supported.</p> <p>Build-measure-learn logic doesn't get enogh space and time.</p>	<p>Failure is not so much supported.</p> <p>Build-measure-learn logic doesn't get enogh space and time.</p> <p>Valudation is not taught comprehensively</p>



	Leadership and Management MSc.		
business model development	<p>Interpretation of the term 'business model' in Leadership and Management MSc. major: what the business is for, how it produces value, what is the point, the meaning of what we do?</p> <p>Capability of adaptation of business models with criticism - Business modelling is a strong learning outcome of students</p>		

	Leadership and Management MSc.		
		<p><i>"Management is all about benchmarking! Benchmarking is crucial and evident in problem-solving (no need to name it), benchmarking tasks on courses, benchmarking logic etc... Evidence of seeking for patterns - in management it is a very important practice, mindset in formulating processes."</i></p>	
benchmarking and learning from others		<p>+ Major development process itself: benchmarking internationally, research among alumni and recruiting companies.</p>	

**Leadership and
Management MSc.**

"Agility as a topic is reaching students from many aspects. We are trying to find out what it means and how it changes organizations' lives. Critical mindset is very important in all courses and students take up this approach quite quickly. Organizational Theory and Organizational Behavior course plays a key role in this - questioning the given, different opinions, opposing solutions can be good from different perspectives."

**agile product
development**

"I believe that this approach is integrating the other 4 principles."

			Marketing MSc.	
agile product development				

„In our university, agility, agile operation can appear in small groups' project level works, but it is hard to broaden it up to the whole system's level. We believe that we are agile but **in marketing this expression is not strongly present.**”

**Entrepreneurship
Development MSc.**

Innovation processes, R&D and frameworks emphasized but failure is not supported at all. Build-measure-learn logic doesn't get enough space and time. Validation is not taught comprehensively. Agility is not strongly present.

**agile product
development**

Q3: If you could change 1 or 2 things in the current educational programs, what specific developments would you suggest, in order to support students in acquiring high level knowledge, needed in an entrepreneurial situation?

- Up-to-date educational material
- "Single Point of Contact" responsible for all startup-related activities within CUB
- Classrooms that support team-work
- Dilemma of portfolio instead of thesis?
- Cooperation between students from different specializations, majors and institutions or disciplines (administrative barriers - who's getting the money for teaching?)
- More living cooperation with technology startups (e.g. students & entrepreneurs do a whole project together)
- Hackathon, elevator pitching practices within the curriculum or educational career portfolio
- Strengthening soft skills in curriculum
- Following international educational examples
- Finding role models and communication of their values added
 - internationally significant examples from CUB