National Research University Higher School of Economics

Syllabus

"Digital Product: From Idea to Launch"

(3 ECTS)

Program authors:

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1. Course Description

The course consists of one module and is designed for master students of the National Research University Higher School of Economics (HSE University). The course length is **114** academic hours in total of which **32** hours are class room hours (**20** hours for lectures and **12** hours for seminars) and **82** hours are devoted to self study.

a) Pre-requisites

Interest in innovative idea generation, digital product design, design thinking, business analytics, knowledge economy.

b) Course Type (compulsory, elective, optional)

Elective

c) Abstract

In the modern knowledge economies, some service industries are very innovative and highly dependent on information and knowledge. These industries significantly contribute to the economic growth. They are usually classified as knowledge intensive business services (KIBS). The course introduces the concept of KIBS with a particular attention to innovation activities and digitalization of these industries. The course focuses on the basic approaches for assessing viable business models for digital products. During the course, the students will discuss how to organize and manage the digital product team and which skills and competences are crucial to make this team high-performing. The course also includes the review of approaches for analyzing the level of technology adoption as well as to the identification of technological and consumer trends. During the seminars, the student will apply the concept of design thinking to initiate digital products. build their own minimum viable projects and test relevant product hypothesis in diversified teams.

2. Learning objectives

1. Students will have insights on trends in knowledge-intensive business services, consumer and technological trends related to digitalization.
2. Students will be competent in analyzing business models for digital companies.
3. Students will know how to assess the level of technology diffusion and design a digital product.
4. Students will be experienced in creating multicultural, multidisciplinary, cross-functional teams for providing project deliverables.
5. Students will know how to create and defend a minimum viable project in the digital era.

3. Learning outcomes

Students should be able to:
1. Classify industries into knowledge-intensive business services and recognize drivers for innovation and digitalization in industries;
2. Explain the relationship among business model elements;
3. Compare technology adoption theories and apply a relevant one to assess the level of technology acceptance by digital product consumers;
4. Describe the tools and techniques used in team composition and management;
5. Analyze consumer and technological trends for designing a digital product;
6. Apply the concept of design thinking to building a minimum viable project in the digital era.

4. Course Plan

Module	Topic	Total academic hours	Class hours	Self-study
Lectures	1. Knowledge Intensive Business Services	12	4	8
	2. Business Models	12	4	8
	3. Digital Product Team	12	4	8
	4. Technology Adoption	12	4	8
	5. Product Design – Design Thinking	12	4	8
Seminars	1. Project Ideas / Business Model Assessment	18	4	14
	2. Minimal Viable Product (MVP)	18	4	14
	3. Final Presentation of Project Business Model	18	4	14
	Total	114	32	82

5. Course Content & Reading List

Lecture 1: Knowledge Intensive Business Services (KIBS)

Topic outline:

- Knowledge intensive business services (KIBS): definition and typology;
- KIBS roles in the economy and innovation systems;
- Drivers for innovation in KIBS;
- Value co-creation in KIBS;
- Digitalization in KIBS.

a) Required reading

1) Miles I. D., Belousova V., Chichkanov N. (2018). Knowledge intensive business services: ambiguities and continuities. Foresight. Vol. 20. No. 1. P. 1-26.

2) Shearmur, R., Doloreux, D. (2019). KIBS as both innovators and knowledge intermediaries in the innovation process: Intermediation as a contingent role. Papers in Regional Science. Vol. 98. Iss. 1. P. 191–209.

3) Aarikka-Stenroos, L., Jaakkola, E. (2012). Value co-creation in knowledge intensive business services: A dyadic perspective on the joint problem solving process. Industrial Marketing Management. Vol. 41. Iss. 1. P. 15–26.

b) Optional reading

1) Cabigiosu, A., Campagnolo, D. (2018). Innovation and growth in KIBS: the role of clients' collaboration and service customisation'. *Industry and Innovation*. https://doi.org/10.1080/13662716.2018.1483823

2) Chichkanov N., Miles I. D., Belousova V. (2019). Drivers for innovation in KIBS: evidence from Russia. *Service Industries Journal* http://doi.org/10.1080/02642069.2019.1570151

Lecture 2: Business Models

Topic outline:

- Business model: definition & main elements;
- Historical evolution of business model concept;
- Checklist for constructing viable business model;
- Business models in the digital era.

a) Required reading

1) Osterwalder A., Pigneur Y., Clark T. (2010). Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers. Wiley: Hoboken, NJ.

2) Teece D. J. (2010). Business models, business strategy and innovation. Long Range Planning. Vol. 43. Iss. 2. P. 172–194.

3) Zott C., Amit R. (2008). Exploring the fit between business strategy and business model: Implications for firm performance. Strategic Management Journal. Vol. 29. Iss. 1. P. 1-26.

b) Optional reading

1) Coombes P., Nicholson J. (2013). Business models and their relationship with marketing: A systematic literature review. Industrial Marketing Management. Vol. 42, Iss. 5. P. 656– 664.

2) Kotarba, M. (2018). Digital Transformation of Business Models. Foundations of Management, 10(1), 123-142.

Lecture 3: Digital Product Team

Topic outline:

- Team composition and critical roles;
- Digital skills and competencies;
- Team management;

a) Required reading

1) How To Build a High-Performing Digital Team (2013). Harvard Business review. URL: https://hbr.org/2013/08/how-to-build-a-high-performing.html

2) Gustavson P., Liff S. (2014). A Team of Leaders: Empowering Every Member to Take Ownership, Demonstrate Initiative, and Deliver Results.

3) Product managers for the digital world (2017). McKinsey. URL: https://www.mckinsey.com/industries/high-tech/our-insights/product-managers-for-the-digital-world

b) Optional reading

1) Organizational Design for Teams (2017). 1st Edition, O'Reilly Media. URL: https://learning.oreilly.com/library/view/organizational-design-for/9781491990346/

2) Brown T. (2009). Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation, HarperBusiness.

Lecture 4: Technology adoption

Topic outline:

- Technology adoption vs. user experience vs. usability;
- Technology Acceptance Model (TAM) and its extensions;
- Innovation diffusion theory;
- Unified Theory of Acceptance and Use of Technology (UTAUT);

a) Required reading

1) Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quaterly. Vol. 13, Iss. 3. P. 319–340.

2) Rogers, E.M. (2003). Diffusion of innovations. Cambridge: The Free Press.

3) Venkatesh, V., Morris, M.G., Davis, G.B. & Davis, F.D. (2003). User acceptance of Information Technology: Toward a Unified View. MIS Quaterly. Vol. 27, Iss. 3. P. 425–478.

b) Optional reading

1) Albert, W. Tullis, T. (2013). Measuring the user experience: collecting, analyzing, and presenting usability metrics. Newnes.

2) Baptista, G. & Oliveira, T. A. (2016). Weight and a meta-analysis on mobile banking acceptance research. Computers in Human Behavior, 63, 480-489.

Lecture 5: Product Design – Design Thinking

Topic outline:

- Identifying consumer and technological trends and opportunities;
- Different approaches to innovative product design and data driven product design;
- Testing and prototyping digital products: story mapping, MVP;
- Product lifecycle;

a) Required reading

1) Liedtka J., Ogilvie T. (2011) A Design Thinking Toolkit for Managers. Columbia University Press.

2) Kelley T., Kelley D. (2013) Creative Confidence: Unleashing the Creative Potential Within Us All.

3) Kelley D. Why Design Thinking is Relevant, https://www.ideou.com/blogs/inspiration/david-kelley-on-design-thinking?utm_medium=email&utm_source=mailchimp&utm_campaign=3.5-dk-webinar-thanks-2017-aug&mc_cid=d93828cdff&mc_eid=ba0a7efb29

b) Optional reading

1) Martin R. (2009). The design of business. Harvard Business School Press

2) Liedtka J. (2018) Why Design Thinking Works. Harvard Business Review. URL: https://hbr.org/2018/09/why-design-thinking-works

6. Grading System

The overall course grade (G) is calculated as: G = 0.3*S1 + 0.3*S2 + 0.4*S3, where

S1 is the grade for team presentation on generating a project idea;

S2 is the grade for team presentation on defending a MVP;

S3 is the grade for team presentation on defending a project business model.

Summary Table: grading scale

Ten-point scale [10]
1 – unsatisfactory 2 – very bad 3 – bad
4 – satisfactory 5 – quite satisfactory
6 – good 7 – very good
8 – nearly excellent 9 – excellent 10 – brilliant

7. Methods of Instruction

Lectures are used to provide mind mapping in basic concepts and principles used within the course and to demonstrate these materials by recent facts and examples from digital companies and ecosystems. In addition, lecturers expect students to share their experiences and thoughts in the classrooms to make the traditional classroom mode of instruction more interactive and valuable for participants to stimulate them for joining the initiative "lifelong learning" by self-studying. Seminars provide students a platform to present their team digital project and collect the valuable suggestion to make this project marketable, viable and profitable.

8. Special Equipment and Software Support

- Microsoft Windows 7 Professional RUS: internal university network (agreement)
- Microsoft Windows 10: internal university network (agreement)
- Microsoft Windows 8.1 Professional RUS: internal university network (agreement)
- Microsoft Office Professional Plus 2010: internal university network (agreement)

Classrooms for lectures provide proper use and presentations of particular topics, specifically:

- PC with internet access and office software or laptop
- multimedia projector
- screen
- flipchart