

Module Specification:

Developing Digital Business Ecosystems (M09)

Within the Erasmus+ KA2 Capacity Building Project (CBHE)

WORK4CE – Cross-domain competences for healthy and safe work in the 21st century

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1 Summary

Remark:

This module specification serves as the **foundation for the development of eLearning modules** by the **Open Communities of Practice (OpenCoP)**. The module is composed of a **selection of educational resources and didactic formats** (see **Specification: Didactic Concepts**).

This summary provides a **high-level overview** (1-2 pages) of the **Developing Digital Business Ecosystems** module.

1. Overall Learning Outcome

At the end of this module, students will:

- **Understand the concept of Digital Business Ecosystems (DBE)** and their role in the **platform economy**.
- **Analyze** DBE structures, governance models, and **economic, social, and technological impacts**.
- **Develop** digital business strategies and **apply ICT tools** for DBE development.
- **Evaluate** the dynamics of **networked business environments and collaborative value creation**.
- **Apply system thinking, cybernetics, and digital business models** to case studies and projects.

2. Target Group Analysis

Target Audience:

Students & Researchers

- MSc & PhD students in **Computer Science, Business Administration, Project Management, Software Development, and Digital Transformation**.

Industry Professionals & Entrepreneurs

- Individuals in **IT, Project Management, Business Development, and Digital Strategy**.
- **Startup founders and executives** involved in platform business models.

Corporate & Policy Stakeholders

- **Industrial employers, social partners, and policymakers** in business digitalization.
- **SMEs and international business executives** focused on DBE implementation.

Prerequisites:

- Basic **knowledge of IT, business models, communication, and social science.**
- Familiarity with **digital transformation concepts and platform economy fundamentals.**

Competence Goals:

- ✓ **Analyze, develop, and organize a DBE.**
- ✓ **Apply system theory, cybernetics, and digital value chain strategies.**
- ✓ **Manage platform-based business models and collaborative digital networks.**

Prospective Job Fields:

 **IT Industry, Business Administration, Project Management, Market Research, Finance, Outsourcing, and Digital Entrepreneurship.**

3. Competences & Learning Outcomes (EQF Level 7 - Master’s Level)

This module delivers **specialized knowledge, cognitive & practical skills, and professional competence.**

Competence Type	Learning Outcomes
Knowledge (Theoretical & Factual)	<ul style="list-style-type: none"> ✓ Understands core concepts of Digital Business Ecosystems (DBE). ✓ Explains platform economy, business models, and governance structures. ✓ Understands cybernetics, system theory, and digital business networks. ✓ Knows the impact of DBEs on innovation, competition, and global economy.
Skills (Cognitive & Practical)	<ul style="list-style-type: none"> ✓ Develops platform-based business strategies. ✓ Applies ICT tools for DBE design and governance. ✓ Conducts DBE risk assessments and cost-benefit analyses. ✓ Designs information supply chains and digital platform topologies.
Competence (Responsibility & Autonomy)	<ul style="list-style-type: none"> ✓ Leads digital transformation initiatives for businesses and startups. ✓ Manages networked collaborations in digital ecosystems. ✓ Integrates social, economic, and technological factors in DBE models.

✓ Works in **interdisciplinary teams to implement DBEs.**

4. Selection of Content (Core Topics)

- 📌 Introduction to Digital Business Ecosystems (DBE)
- 📌 System Theory & Cybernetics in DBE
- 📌 DBE Governance, Platform Economy, and Business Models
- 📌 ICT Integration & Digital Infrastructure for DBE
- 📌 Case Studies: DBE in eCommerce, Supply Chain, and FinTech
- 📌 Social & Economic Impact of DBEs
- 📌 DBE Data Analytics & Business Intelligence
- 📌 DBE Strategy & Project Implementation

5. Activities and Teaching/Learning Methods

📖 Theory-Based Learning:

- ✓ Virtual lectures, online courses, eBooks, and scientific papers.

🔧 Project & Problem-Based Learning:

- ✓ DBE case studies, real-world business ecosystem modeling, and startup projects.

🎮 Technology-Driven Learning:

- ✓ ICT tools for DBE design, VR & simulation-based exercises, and AI-driven business modeling.

👥 Collaborative Learning & Peer Assessments:

- ✓ Group discussions, peer evaluations, workshops, and mentoring sessions.

6. Teaching Materials, Media & Technical Requirements

📌 Core Resources:

- DBE-related books, scientific papers, industry reports, and case studies.
- Access to digital platform economy and cybersecurity research.

📌 Technical Tools & Software:

- LMS (Moodle) for course delivery and assessments.
- Collaboration tools (Zoom, Microsoft Teams, JIRA, Miro) for teamwork.
- ICT tools for DBE simulations, business modeling, and data analytics.

📌 Hardware Requirements:

- High-speed internet, microphone, webcam, and virtual lab setup.

7. Tailoring & Educational Tracks

This module offers **customized learning paths**:

Track	Focus	ECTS Range
Practical Track	Hands-on DBE project implementation	4-6 ECTS
Entrepreneurial Track	Startup development using DBE strategies	6-8 ECTS
Scientific Track	Research on DBE models, governance, and policy	6-8 ECTS

8. Competence Assessment


Assessment Breakdown & Weighting:

Assessment Type	% Weight	Evaluation Method
Written Exam	30%	OSH regulations, DBE governance, and economic principles.
Project Work	25%	Group DBE project review by industry experts.
Team Presentation	10%	DBE strategy pitch to stakeholders.
Case Study Report	25%	Individual or team-written DBE analysis.
Final Oral Presentation	10%	Pecha Kucha-style case study defense.

9. Curricula Integration

This module is an **elective** course integrated into:

MSc & PhD Programs:

 Business Administration, Digital Transformation, Project Management, Software Development, and IT.

Corporate Training & Professional Certification:

 Offered as **executive training or corporate DBE specialization**.

Standalone Micro-Credentials:

 Can be structured as a **short course or certificate program (3-6 ECTS)**.

10. Quality Evaluation

Continuous Quality Improvement Process:

- ✓ **Pilot Teaching Evaluations** – Annual student & instructor feedback.
- ✓ **Mid-Term & Final Course Reviews** – Performance analytics & learning outcome assessments.
- ✓ **Industry Advisory Feedback** – Validation from digital business ecosystem professionals.
- ✓ **Curriculum Benchmarking** – Alignment with EQF, EU-OSHA, and ISO standards.

11. Change History & Ownership

Version	Owner	Date	Remarks
v0.1	Ilham Yusify	Initial draft	First revision for project quality board.
v0.2	Kanan Hasanov, Khanlar Ganiyev	10.10.2021	Reviewed and updated.
v0.3	Carsten Wolff, Kanan Hasanov	16.01.2024	Final version incorporating peer review feedback.

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2 Introduction to the module

In the age of **Industry 4.0**, digitalization is reshaping **business environments**, enabling **new value creation models** through **Digital Business Ecosystems (DBE)**. A **DBE** consists of interconnected organizations, individuals, and technologies collaborating in a **platform-driven economy**. Digital business ecosystems **differ from traditional business models** by leveraging **data, connectivity, and automation** to facilitate **cooperation, competition, and innovation**.

This module provides students with a **foundational and practical understanding** of DBE, covering **economic, technological, and organizational perspectives**. It is designed for individuals who seek to **analyze, develop, and manage digital ecosystems**, whether in **corporate settings, entrepreneurship, or research**.

1. What is Industry 4.0? How Did This Trend Develop?

 **Industry 4.0** represents the **Fourth Industrial Revolution**, characterized by **intelligent automation, cyber-physical systems, IoT, AI, and digital platforms**.


Historical Evolution:


- **Industry 1.0:** Mechanization using steam & water power.
- **Industry 2.0:** Mass production via electricity & assembly lines.
- **Industry 3.0:** Automation & IT integration in manufacturing.
- **Industry 4.0:** Data-driven business models, platform economies, AI, and cloud computing.

As businesses **transition from linear value chains to interconnected ecosystems**, DBE emerges as a **key enabler of digital transformation** across industries.

2. Key Topics Behind Industry 4.0 & DBE


A) Economic Perspective

 **Platform Economy:** Shift from traditional business models to **value networks** where companies, suppliers, and customers interact via **digital platforms**.


 **New Value Creation Models:** **Subscription-based services, data-driven decision-making, network effects, and gig economies**.

 **Global Digital Business Integration:** SMEs and multinational companies leveraging **digital infrastructure for cross-border commerce**.


B) Technological Perspective


 **Cyber-Physical Systems & IoT:** Enabling real-time monitoring and data exchange between digital and physical environments.


 **AI & Machine Learning:** Automating decision-making and business process optimization.

 **Blockchain & Smart Contracts:** Enhancing **trust, security, and transparency** in DBE governance.

C) Organizational & Social Perspective

 **Decentralized Business Models:** Moving away from **centralized corporate hierarchies** toward **distributed digital business ecosystems**.

 **Collaboration & Co-creation:** Digital platforms facilitating partnerships, open innovation, and new forms of customer engagement.

 **Trust, Ethics & Governance:** Managing risks associated with **data privacy, platform monopolization, and regulatory compliance**.

3. Relevant Sources of Information & Recent Developments

Key Literature & Research Publications

- **"Platform Revolution" by Parker, Van Alstyne, and Choudary** – Understanding how platforms transform industries.
- **"The Business of Platforms" by Cusumano, Gawer & Yoffie** – Examining competition, strategy, and regulation in DBE.
- **Academic papers on DBE & Platform Economy** – Available through Scopus, Web of Science, IEEE Xplore.

Recent Developments

- **The Rise of AI-Driven DBEs:** AI is enhancing business model adaptability & predictive analytics.
- **Growth of Decentralized Finance (DeFi):** Blockchain-based platforms disrupting traditional banking.
- **Regulation of Digital Ecosystems:** Governments implementing **platform governance frameworks** (e.g., EU's **Digital Markets Act**).

Industry Reports & Market Insights

- **World Economic Forum reports on Digital Transformation.**
- **McKinsey & Harvard Business Review publications on platform business models.**

4. How Can Students Prepare for DBE? What Competencies Are Needed?

To **succeed in the digital economy**, students must develop:

Technical Skills:

- Proficiency in **data analytics, digital platform architecture, and automation tools**.
- Knowledge of **AI-driven decision-making, blockchain, and cybersecurity**.

Business & Management Skills:


- Understanding of **digital transformation strategy & DBE governance**.
- Ability to **design and scale digital business models**.


 **Soft & Strategic Thinking Skills:**

- **Collaboration & networking** in distributed business environments.
- **Critical thinking & problem-solving** for value creation in ecosystems.

Who Should Learn About This?

 **Master's & PhD students** in **Business, IT, Digital Strategy, and Entrepreneurship**.

 **Industry professionals & executives** seeking to **understand and manage DBE**.

 **Entrepreneurs & startup founders** aiming to **develop platform-based business models**.

Labor Market & Industry Demand

 **The demand for digital business professionals is growing exponentially**, with opportunities in:

- **Corporate Digital Strategy & Innovation**
- **DBE Consulting & Business Analytics**
- **Platform-based Startups & Entrepreneurship**
- **Policy & Regulation for Digital Economy Governance**

5. Open Communities of Practice & DBE Research

Consortium Contributions

The **Open Communities of Practice (OpenCoP)** provides:

- **Research contributions on DBE, Industry 4.0, and digital transformation**.
- **Collaborations with industry partners, academia, and policy institutions**.
- **Case studies & simulations for real-world DBE implementation**.

Institutions Involved in DBE Research

 **Universities & Research Centers**

- Contributions from **AzUAC, KNUCA, NU-ZP, and industry advisors**.

 **Industry Collaborations**

- Partnerships with **technology firms, consulting agencies, and digital platforms**.

3 Module Description

This module aims to equip students with **technical, professional, and global competencies** to understand, develop, and manage **Digital Business Ecosystems (DBE)**. Learning outcomes are structured according to the **European Qualifications Framework (EQF) Level 7**, ensuring that students acquire a mix of **theoretical knowledge, cognitive and practical skills, and the ability to take responsibility in professional and research contexts**.

A) Learning Outcomes Framework (EQF Level 7)

Competence Type	Learning Outcomes
Knowledge (Theoretical & Factual)	<ul style="list-style-type: none"> ✓ Understands the core concepts and principles of Digital Business Ecosystems (DBE). ✓ Explains platform business models, value chains, and governance frameworks. ✓ Describes system theory, cybernetics, and ICT applications in DBE. ✓ Evaluates the social, economic, and technological impacts of DBEs.
Skills (Cognitive & Practical)	<ul style="list-style-type: none"> ✓ Develops platform-based business models and digital ecosystems. ✓ Applies ICT tools, data analytics, and AI-driven strategies for DBE management. ✓ Conducts risk assessment, cost-benefit analysis, and regulatory compliance reviews. ✓ Designs and implements digital value chains and business strategies.
Competence (Responsibility & Autonomy)	<ul style="list-style-type: none"> ✓ Leads DBE transformation initiatives in corporate and entrepreneurial settings. ✓ Manages cross-disciplinary and cross-cultural digital business collaborations. ✓ Develops sustainable and scalable business ecosystems using emerging technologies. ✓ Takes responsibility for strategic decision-making and innovation in DBEs.

B) Competence Domains in DBE

1) Technical Competence

- ✦ Master the **theoretical foundations of DBEs, system theory, and platform economy.**
- ✦ Develop and apply **digital business models and ICT-driven transformation strategies.**
- ✦ Use **data analytics, AI, and digital governance tools to enhance DBE functionality.**

2) Professional Competence

- ✦ Manage the **process of developing and scaling digital business ecosystems.**
- ✦ Apply **negotiation, business planning, and leadership skills in DBE management.**
- ✦ Evaluate the **legal, ethical, and economic implications of DBE governance.**

3) Global Competence

- ✦ Address **cultural diversity and regulatory challenges in global DBE applications.**
- ✦ Develop **entrepreneurial and innovation strategies to foster digital business ecosystems.**
- ✦ Lead interdisciplinary teams in **designing and implementing DBE strategies.**

C) Overarching Learning Outcomes (EIT OLO) in DBE Context

EIT Overarching Learning Outcomes (OLOs)	DBE-Specific Competencies
OLO 1: Value Judgments & Sustainability	Analyze long-term impacts of DBEs on industries, society, and sustainability.
OLO 2: Entrepreneurship Skills	Develop scalable business ecosystems and digital platform-based ventures.
OLO 3: Creativity & Innovation	Apply creative problem-solving in designing digital business frameworks.
OLO 4: Innovation & Technology Application	Utilize AI, data-driven decision-making, and blockchain for DBE security and trust.
OLO 5: Research & Analytical Skills	Conduct scientific research on DBE governance, platform economy, and policy impact.
OLO 6: Intellectual Transformation	Convert DBE-related challenges into research projects and actionable business strategies.


**OLO 7: Leadership &
Decision-Making**

Lead **multidisciplinary teams in DBE innovation, policy-making, and strategic management.**


D) Connection to Module Philosophy & Learning Experience


This module is designed as a **research-driven, practically oriented course** that emphasizes **learning through real-world case studies, project-based assignments, and industry collaboration.**

Key Focus Areas:

 **Scientific & Theoretical Foundations** – Understanding DBE structure, governance, and systemic functions.

 **Practical Applications** – Implementing DBE models in **real-world business scenarios.**

 **Innovation & Entrepreneurship** – Applying **creative business modeling and technological advancements.**

 **Global & Interdisciplinary Perspective** – Developing **cross-border DBE solutions.**

The course is **highly interactive**, incorporating:

- **Case studies and hands-on DBE development projects.**
- **Collaborative industry partnerships and startup challenges.**
- **Data-driven decision-making, AI-enabled risk assessment, and governance modeling.**

3.1 Target Group Analysis

The **Developing Digital Business Ecosystems (DBE)** module is designed for a **broad audience**, including students, professionals, and executives engaged in **business transformation, technology management, and platform economy development.** The module is structured to accommodate **different learning needs** based on the **target audience's background, experience, and career aspirations.**



A) Target Groups & Learning Profiles

Target Group	Characteristics	Previous Competence & Prerequisites	Needs & Learning Preferences	Competence Goals	Prospective Job Fields
Master's Students & Early-Career Professionals	MSc students in Computer Science, IT, Business, Digital Transformation, and Project Management	Basic knowledge of IT, business models, communication, and digital transformation concepts	<ul style="list-style-type: none"> - 1 semester (6 ECTS) - Online & in-person lectures - Case studies & hands-on projects 	<ul style="list-style-type: none"> - Develop platform-based business models - Apply DBE tools & governance frameworks - Analyze social & economic aspects of DBEs 	<ul style="list-style-type: none"> - Digital Strategy & Innovation - Project Management in DBEs - Tech & Business Consulting
Industry Professionals & Entrepreneurs	Working professionals in business development, digital strategy, innovation management, and IT consulting	Work experience in business strategy, digital transformation, or IT solutions	<ul style="list-style-type: none"> - Flexible, executive-style learning - Work-integrated learning (WIL) - Real-world DBE projects 	<ul style="list-style-type: none"> - Implement DBE strategies for startups & enterprises - Manage digital transformation initiatives - Lead innovation in business ecosystems 	<ul style="list-style-type: none"> - Startup Founder / Digital Entrepreneur - Business Ecosystem Consultant - Corporate Innovation Leader
Executives &	Decision-makers responsible	Strong managerial experience	- Strategic executive learning	- Design sustainable digital	- Public Policy Analyst



Policymakers	for policy, governance, and regulatory frameworks in digital ecosystems	but limited knowledge of platform economy & digital business ecosystems	- Short-term intensive modules - DBE policy case studies & regulatory discussions	business policies - Address regulatory challenges of DBEs - Evaluate data privacy & cybersecurity risks	- Corporate Digital Transformation Executive - Regulatory Compliance Officer
Researchers & Academics	PhD students, academic researchers, and university faculty in business, technology, and innovation research	Strong academic background in business strategy, systems theory, or digital innovation	- Scientific research & DBE data analysis - Cross-disciplinary collaboration - Publication-focused learning	- Conduct research on DBE evolution & governance - Develop new theoretical models for DBEs - Publish scientific findings on DBEs & platform economy	- University Lecturer / Researcher - Think Tank Expert in Digital Economy - DBE Policy & Innovation Advisor

B) Learning Preferences & Course Adaptations



Students & Early-Career Professionals:

-  **Structured learning path** with theory, case studies, and project-based work.
-  **Online and hybrid learning** to balance academic commitments.



Industry Professionals & Entrepreneurs:

-  **Hands-on, work-integrated learning (WIL)** through real-world DBE projects.
-  **Flexible modules** with a focus on **business innovation & strategy**.

 **Executives & Policymakers:**

-  **Short, intensive training with high-level policy discussions.**
-  **Case-based executive decision-making workshops.**

 **Researchers & Academics:**

-  **Data-driven research & theoretical analysis.**
-  **Opportunities for publication & academic networking.**

C) Tailoring Learning Tracks to Target Groups

To **optimize learning efficiency**, the module is tailored into **three distinct educational tracks**:

Educational Track	Target Audience	Learning Approach	ECTS Credits
1) Practical Track	Students & industry professionals	Focus on hands-on DBE project implementation, case studies & simulations	4-6 ECTS
2) Entrepreneurial Track	Entrepreneurs & executives	Focus on building DBE-driven startups, digital business models, and innovation ecosystems	6-8 ECTS
3) Scientific Track	Researchers & PhD students	Emphasizes academic research, policy analysis, and publication	6-8 ECTS

3.2 Competences & Learning Outcomes

This module provides a **structured competence framework** based on the **European Qualifications Framework (EQF) Level 7**, ensuring students gain a mix of **technical, professional, and global competencies** in **Developing Digital Business Ecosystems (DBE)**.

Competences are categorized into **Knowledge (theoretical & factual)**, **Skills (cognitive & practical)**, and **Competence (responsibility & autonomy)**, following EQF Level 7 descriptors.

A) Competence Breakdown Structure

Unit	Title	Knowledge	Skills	Competence
Unit 1	Fundamentals of Digital Business Ecosystems (DBE)	The student knows the core concepts of DBE , including platform economy , network effects , and system theory .	The student can analyze DBE structures and governance models .	The student is responsible for identifying key drivers and challenges in DBE evolution .
Unit 2	DBE Governance & Platform Models	The student understands business models , regulatory frameworks , and governance structures .	The student can apply platform business strategies and regulatory compliance tools .	The student assumes responsibility for evaluating DBE risks and legal considerations .
Unit 3	ICT & Digital Infrastructure in DBE	The student knows how AI , blockchain , and IoT impact DBE development .	The student can develop digital infrastructure strategies for DBEs .	The student monitors technological advancements in DBE and their business implications .
Unit 4	DBE Strategy & Implementation	The student understands scalability and innovation strategies for DBEs .	The student can design and implement sustainable digital business ecosystems .	The student leads business ecosystem transformation projects .

B) Learning Outcomes According to EQF Level 7

1) Knowledge (Theoretical & Factual)

- ✦ **Describe** the fundamental concepts, governance models, and business structures in DBEs.
- ✦ **Analyze** the economic, technological, and legal aspects of DBE implementation.
- ✦ **Explain** the role of AI, IoT, and blockchain in DBE evolution.
- ✦ **Compare** different digital business models and their impact on global markets.

2) Skills (Cognitive & Practical)

- ✦ **Develop** platform-based business strategies using real-world DBE case studies.
- ✦ **Apply** data analytics, AI-driven decision-making, and cybersecurity in DBE management.
- ✦ **Evaluate** risks and ethical concerns related to digital platform governance.
- ✦ **Conduct** market research to identify growth opportunities for DBEs.

3) Competence (Responsibility & Autonomy)

- ✔ **Lead** strategic decision-making processes in digital business transformation.
- ✔ **Manage** cross-functional teams working on DBE innovation and governance.
- ✔ **Take responsibility** for sustainable and ethical digital business development.
- ✔ **Develop** policies for regulatory compliance and digital business security.

C) Key Competence Domains in DBE

1) Technical Competence

- ✓ Master the **core principles of DBE, platform economy, and digital governance.**
- ✓ Apply **technology-driven strategies** to enhance business ecosystem efficiency.
- ✓ Utilize **data-driven business intelligence and AI-based decision-making.**

2) Professional Competence





- ✓ Manage **DBE lifecycle, from ideation to scaling in digital markets.**
- ✓ Apply **business strategy frameworks to ecosystem-driven enterprises.**
- ✓ Lead **platform business model development and market positioning.**

3) Global Competence

- ✓ Understand **cultural and regulatory diversity in international digital markets.**
- ✓ Design **ethical and inclusive DBE governance models.**
- ✓ Lead **multidisciplinary teams in a global digital business environment.**

D) Competence-Based Learning Approach

This module follows a **competency-based learning framework**, where students engage in:

-  **Theoretical Learning** – Core lectures & academic readings.
-  **Practical Applications** – Hands-on case studies & industry collaboration.
-  **Strategic Decision-Making** – Group projects & policy development exercises.
-  **Scientific Research & Innovation** – AI, blockchain, and DBE policy analysis.

By the end of the module, students will be able to **develop, manage, and optimize Digital Business Ecosystems**, making strategic business decisions with a **deep understanding of digital transformation and platform economy.**

3.3 Content

The **Developing Digital Business Ecosystems (DBE)** module covers a **comprehensive range of topics** related to **platform economy, digital governance, ICT integration, and business strategy.** The module is structured into **four thematic units**, ensuring students develop a **strong theoretical foundation, practical skills, and strategic decision-making capabilities.**

A) Thematic Content Overview

Unit	Title	Key Topics Covered
Unit 1	Fundamentals of Digital Business Ecosystems (DBE)	<ul style="list-style-type: none"> - Introduction to DBE & Platform Economy - System Theory & Cybernetics in digital ecosystems - Business Network & Value Chain Analysis - Evolutionary Models & Self-Organizing DBEs
Unit 2	Governance, Business Models & Strategy	<ul style="list-style-type: none"> - DBE Governance & Legal Frameworks - Types of Digital Platforms & Business Models - Data Privacy, Security & Ethics in DBE

		- Trust & Risk Management in Digital Ecosystems
Unit 3	ICT & Technological Foundations of DBE	- AI, Blockchain, and IoT in Digital Business Ecosystems - Digital Infrastructure & Cloud Computing for DBEs - Data-Driven Decision Making & Predictive Analytics - Information Supply Chain & Digital Transactions
Unit 4	Strategic DBE Implementation & Innovation	- Scaling Digital Ecosystems & Growth Strategies - Market Disruption & Competitive Positioning - DBE Strategy Development & Case Study Applications - Sustainability, ESG & Future of Digital Business Ecosystems

B) Detailed Unit Descriptions

Unit 1: Fundamentals of Digital Business Ecosystems (DBE)

Key Concepts:

- Definition and evolution of **Digital Business Ecosystems (DBE)**.
- **How DBEs differ from traditional business models.**
- **Economic principles of platform businesses and network effects.**
- **Systems theory and cybernetics in digital platforms.**

Practical Applications:

-  Business case studies on **successful DBEs (Amazon, Alibaba, Google, Airbnb, etc.)**.
-  **Simulation of digital ecosystem structures.**

Unit 2: Governance, Business Models & Strategy

Key Concepts:

- **DBE governance models** (centralized vs. decentralized ecosystems).

- **Regulatory frameworks** (GDPR, Digital Markets Act, Data Privacy Laws).
- **Platform-based business models** (B2B, B2C, P2P, Subscription-based models).
- **Cybersecurity, ethical concerns, and risk management in DBE.**

 **Practical Applications:**

- ✓ **Legal risk analysis of DBEs** (compliance & data security).
- ✓ **Developing trust models in digital ecosystems.**

Unit 3: ICT & Technological Foundations of DBE

 **Key Concepts:**

- **AI in Digital Business Ecosystems** (automation, personalization, and predictive analytics).
- **Blockchain for trust and transparency in DBEs.**
- **IoT and Cloud Computing in digital supply chains.**
- **Big Data analytics and machine learning for DBE decision-making.**

 **Practical Applications:**

- ✓ **Hands-on exercises using AI-driven business intelligence tools.**
- ✓ **Blockchain simulation for DBE smart contracts.**

Unit 4: Strategic DBE Implementation & Innovation

 **Key Concepts:**

- **How to scale a Digital Business Ecosystem.**
- **Growth strategies and competitive positioning in DBE.**
- **Sustainability in DBE** (Environmental, Social, Governance - ESG).
- **Future trends and innovations in DBE.**

 **Practical Applications:**

- ✓ **DBE Strategy Development Challenge** – students develop **real-world DBE** implementation plans.
- ✓ **Pitching DBE business models to industry experts.**

C) Integration of Real-World Case Studies & Industry Applications

 **Industry Case Studies**

- **Amazon & Alibaba:** Ecosystem scaling and competitive advantage.
- **Tesla & Smart Grids:** Integration of IoT & AI in digital energy ecosystems.
- **DeFi & FinTech:** Blockchain-enabled DBEs in digital finance.

 **Research & Policy Frameworks**

- **EU’s Digital Markets Act** & impact on DBE governance.
- **Cybersecurity & Ethical Issues in DBE.**




 **Hands-on Digital Simulations & Workshops**

- **DBE Ecosystem Mapping Exercise.**
- **AI-Driven Decision-Making in Digital Business Models.**
- **Blockchain-based DBE Smart Contracts & Decentralized Governance Simulation.**

3.4 Teaching & Learning Activity Plan

The **Developing Digital Business Ecosystems (DBE)** module follows a **competency-based, blended learning approach**, integrating **theoretical knowledge, hands-on practical work, and scientific research**. This approach ensures **students acquire relevant industry skills while engaging in real-world applications**.

A) Teaching/Learning Methods per Competence


Competence	Learning Outcome	Teaching Format
Knowledge	Understanding DBE theories, platform economy, and governance models	 E-learning, lectures, online modules, academic readings
Skills	Applying DBE modeling, ICT tools, and platform strategy development	 Workshops, projects, industry simulations, team-based learning
Competence (Ability & Attitude)	Critical thinking, leadership, and strategic decision-making in DBE	 Case studies, scientific research, student presentations, and peer review


B) Didactic Concept


Blended Learning & Active Learning Strategies

The module integrates **multiple teaching formats** to cater to **different learning styles and competency levels**:


1. Digital & Self-Learning Methods


 **Online Courses & eBooks** – DBE frameworks, regulatory models, and AI-driven decision-making.

 **Distance Learning Materials** – Articles, white papers, and case studies on digital ecosystems.


 **Virtual Lectures & Guest Speakers** – Live sessions from industry experts on platform economy trends.

2. Problem-Based & Case-Based Learning

 **Industry-Partnered DBE Case Studies** – Analysis of **successful and failed DBEs**.

 **Real-World Problem Solving** – Develop strategies for **DBE scalability, governance, and sustainability**.


3. Project-Based Learning & Practical Applications

 **Hands-on Team Projects** – Students work in **teams to design and implement a DBE strategy**.


 **AI & Blockchain Simulations** – Use **digital tools to model business ecosystems**.

 **DBE Entrepreneurship Challenge** – **Pitching DBE models to industry mentors & investors**.


4. Research & Scientific Work







 **Academic Paper & Policy Review** – Students **analyze regulatory frameworks and digital governance models**.

 **Critical Reflection Exercises** – **Debates on ethics, digital transformation risks, and platform power**.

 **Capstone Research Presentation** – Students present **DBE strategies at an academic colloquium or industry forum**.




C) Semester Activity Plan

Week	Activity	Competence Focus	Delivery Format
Week 1-3	Theory Classes on Digital Business Ecosystems	Knowledge	 Virtual lectures, eBooks, online self-learning

Week 4-6	Case Study Analysis on Platform-Based Business Models	Knowledge Skills	& 	Case study reports, team discussions
Week 7-9	Practical DBE Strategy Project (Team-Based)	Skills		Workshops, hands-on team projects
Week 10	Industry Speaker Session: AI & Blockchain in DBE	Knowledge Skills	& 	Guest lecture & Q&A
Week 11-12	Simulation: AI-Driven DBE Decision-Making	Skills Competence	& 	Digital ecosystem modeling & forecasting tools
Week 13-14	DBE Policy & Research Paper Submission	Competence Scientific Research	& 	Paper submission & peer review
Week 15	Final Project Presentations & Scientific Colloquium	Competence (Ability & Attitude)		Student-led presentations, expert panel feedback

D) Student Learning Trajectories & Competence Development Paths

To cater to diverse learning needs, predefined **student journeys** are structured across **three tracks**:

Learning Track	Competence Focus	Learning Experience
Practical Track	Hands-on DBE implementation & industry use cases	 Industry case studies, digital simulations, and DBE project development
Entrepreneurial Track	DBE startup & business strategy	 Business model innovation, pitch sessions, investor interactions
Scientific Track	Research-based analysis	 Academic research, DBE policy impact assessment, and scientific publication

3.5 Teaching & Learning Resources




This module integrates a **wide range of educational resources**, including **academic literature, digital learning platforms, industry reports, and simulation tools**. It also utilizes **Moodle** as the **primary Learning Management System (LMS)** and various **ICT tools** for practical applications.

A) Required Literature & Reading Materials

Core Books & Academic References:

- 1) **Nachira, F., Nicolai, A., Dini, P., Louarn, M.L., Leon, L.R.** (2007): *Digital Business Ecosystems*. European Commission. Available at: <http://www.digital-ecosystems.org>
- 2) **Cusumano, M., Gawer, A., Yoffie, D.** (2019): *The Business of Platforms: Strategy in the Age of Digital Competition, Innovation, and Power*. Harper Business.
- 3) **Parker, G., Van Alstyne, M.W., Choudary, S.P.** (2016): *Platform Revolution: How Networked Markets Are Transforming the Economy*. W.W. Norton & Company.
- 4) **Skilton, M.** (2016): *Building Digital Ecosystem Architectures*. Taylor & Francis.
- 5) **Senyo, P.K., Liu, K., Effah, J.** (2019): *Digital Business Ecosystem: Literature Review and a Framework for Future Research*. *International Journal of Information Management*, Vol. 47, Elsevier.


Industry Reports & White Papers:

-  **World Economic Forum** – Reports on **Digital Business & Platform Economy**.
-  **McKinsey & Company** – Research on **Digital Transformation & Data-Driven Business Models**.
-  **European Commission Reports** – Guidelines on **Data Privacy (GDPR), Digital Markets Act, and AI Regulation**.

B) Media & Online Learning Platforms



Online Course Modules & eLearning Resources:

 **Moodle (Primary LMS)** – Used for **course delivery, assignments, discussions, and assessments**.

 **Harvard Business Review Case Studies** – Analysis of **real-world DBE success & failures**.

 **TED Talks on Digital Business & Platform Economy** – Industry insights on **scalability, governance, and ethics**.

Digital Simulation & Interactive Learning Tools:

-  **MIT Digital Business Ecosystem Simulator** – AI-driven **platform modeling tool**.
-  **Google Analytics & Business Intelligence Dashboards** – Data visualization for **DBE decision-making**.

✔ **IBM Blockchain & AI for Business** – Exploring **DBE security and automation strategies**.

C) Technical & IT Requirements

📄 **Hardware Requirements:**

💻 **Laptop or PC** – Minimum **Intel i5 or equivalent, 8GB RAM, SSD recommended**.

🔊 **Microphone & Webcam** – For **online discussions, peer evaluations, and presentations**.

🌐 **High-Speed Internet** – Required for **Moodle access, online lectures, and cloud-based applications**.

⚙️ **Software & IT Tools:**

✔ **Moodle LMS** – Assignment submission, discussion boards, quizzes, and exams.

✔ **Microsoft Teams / Zoom** – Live lectures, workshops, and expert panel discussions.

✔ **Miro / JIRA** – Collaborative digital whiteboards for team project planning.

✔ **Python / R / Tableau** – Data analytics & visualization for DBE market research.

🏢 **Lab Equipment & Virtual Workspaces:**

🖥️ **AWS Cloud Lab** – Cloud computing and digital infrastructure simulation.

🔍 **AI & Blockchain Sandboxes** – Testing DBE governance models in decentralized networks.

📶 **IoT Sensor Networks** – For hands-on DBE applications in logistics & supply chains.

3.6 Tailoring & Educational Tracks

The **Developing Digital Business Ecosystems (DBE)** module is designed to be **adaptable** to different **learning needs and professional backgrounds**. It offers **three tailored educational tracks**—**Practical, Entrepreneurial, and Scientific**—that cater to **students, professionals, executives, and researchers**.

A) Customizable Learning Paths & ECTS Flexibility

Track	Target Audience	Learning Focus	ECTS Range
1 Practical Track	MSc students, early-career professionals	Hands-on DBE implementation, case studies, industry applications	4-6 ECTS

2 Entrepreneurial Track	Startup founders, business executives, digital transformation leaders	DBE-based business modeling, strategy development, scalability	6 ECTS
3 Scientific Track	PhD students, researchers, policy analysts	Academic research, policy impact studies, theoretical modeling of DBE	6 ECTS

Each track provides **different levels of depth and application**, allowing **participants to customize their learning experience** based on their professional aspirations and prior knowledge.

B) Educational Track Descriptions

Practical Track (4-6 ECTS) – Industry-Focused, Hands-On Learning

✔ Target Audience:

- MSc students in **business, digital strategy, and IT**
- Professionals seeking **practical DBE application skills**
- Employees in **corporate digital transformation roles**

✔ Learning Experience:

- **Case-based learning & hands-on workshops**
- **Industry partner collaborations & real-world DBE applications**
- **Simulation of AI-driven decision-making in digital ecosystems**
- **Regulatory compliance & risk management exercises**

✔ Key Outcomes:

- 🎯 Ability to **apply DBE concepts to real-world business environments**
- 🎯 Proficiency in **DBE governance, risk management, and AI-driven insights**
- 🎯 Experience in **collaborative, team-based problem-solving in DBEs**

2) Entrepreneurial Track (6 ECTS) – Startup & Business Development Focus

✔ Target Audience:

- **Entrepreneurs & startup founders**

- Business leaders & digital transformation managers
- Investors & venture capital professionals

Learning Experience:

- **Startup incubation support for DBE-based business models**
- **DBE pitch deck development & investment readiness**
- **Lean startup methodology & ecosystem scalability strategies**
- **Competitive positioning & monetization in platform business models**

Key Outcomes:

 **Develop a DBE-based business strategy & investment plan**

 **Ability to analyze market entry barriers & platform scalability challenges**

 **Build a network of industry mentors & potential investors**

3) Scientific Track (6 ECTS) – Research & Policy-Oriented Learning

Target Audience:

- PhD students & academic researchers
- Public policy analysts & think tanks
- Government & regulatory officials focusing on **digital economy**

Learning Experience:

- **Scientific research on DBE evolution, governance, and economic impact**
- **Comparative analysis of DBE regulatory frameworks across jurisdictions**
- **Peer-reviewed research publication & policy recommendation development**
- **Participation in digital economy research forums & conferences**

Key Outcomes:

Publish **peer-reviewed research in DBE and platform economy**

Develop **policy frameworks for regulating digital business ecosystems**

Apply **data analytics for economic forecasting in digital markets**

3.7 Assessment Methods

The Developing Digital Business Ecosystems (DBE) module integrates multiple assessment approaches, including examinations, project-based evaluation, self-assessment, and peer-assessment. This ensures students are evaluated not only on theoretical knowledge but also on practical application, critical thinking, and collaborative problem-solving skills.

A) Assessment Breakdown & Weighting

Assessment Type	% Weight	Evaluation Criteria & Remarks
Written Exam	30%	<ul style="list-style-type: none"> ✓ Covers DBE theoretical concepts, governance models, and digital transformation strategies. ✓ Assesses students' understanding of platform economy, regulatory compliance, and system theory.
DBE Strategy Development Project (Team-Based)	25%	<ul style="list-style-type: none"> ✓ Students work in teams to develop and implement a DBE strategy. ✓ Assessed on innovation, feasibility, scalability, and strategic decision-making.
Team Presentation 1 (Kick-Off Presentation)	15%	<ul style="list-style-type: none"> ✓ Teams present their initial DBE project idea, structure, and expected impact. ✓ Evaluation based on clarity, research depth, and feasibility.
Team Presentation 2 (Final DBE Pitch & Implementation Report)	20%	<ul style="list-style-type: none"> ✓ Students finalize and pitch their DBE implementation strategy to industry experts. ✓ Evaluation based on data-driven insights, business model innovation, and execution feasibility.
Self-Assessment & Peer Review	10%	<ul style="list-style-type: none"> ✓ Students evaluate their contribution and their peers' performance in team-based projects. ✓ Encourages reflective learning, collaboration, and constructive feedback.

B) Assessment Formats & Evaluation Criteria

1. Written Examination (30%)

Format: Multiple-choice, short-answer questions, and case-based scenario analysis.

Objective: Evaluates knowledge of DBE theories, digital governance, and business models.

Mode: In-person or online (via Moodle LMS).

2. DBE Strategy Development Project (25%)

Format: Group project on real-world DBE development & business modeling.

Objective: Assesses students' ability to apply DBE concepts to real-world challenges.

Deliverable: Business model canvas, governance framework, and scalability plan.

3. Team Presentations (15% + 20%)

Presentation 1 (Kick-Off Presentation - 15%):

Early-stage DBE business concept presentation.

Teams explain market opportunity, governance, and potential risks.

Presentation 2 (Final Pitch - 20%):

Finalized DBE project proposal, strategic roadmap, and impact analysis.

Industry professionals evaluate business feasibility and innovation potential.

4. Self-Assessment & Peer Review (10%)

Format: Students evaluate their team's contributions through structured peer assessment rubrics.

Objective: Enhances critical reflection, teamwork accountability, and constructive feedback.

3.8 Curricula Integration

The **Developing Digital Business Ecosystems (DBE)** module is designed for **flexible integration** into various **Master's, PhD, and professional training programs**. It can be **offered as a standalone elective, a core specialization, or as part of a minor in digital transformation and business innovation**.

A) Integration into Study Programs

Master's Degree Programs

This module is **most relevant for Master's-level students** in:

- Business Administration & Digital Transformation (MSc/MBA)** – Focus on **platform business models and innovation strategies**.
- Computer Science & Information Systems (MSc)** – Application of **AI, blockchain, and IoT in digital business ecosystems**.
- Project & Innovation Management (MSc)** – Implementation of **DBE-driven business solutions**.
- Entrepreneurship & Startups (MSc/MBA)** – Business model design for **digital platforms and ecosystems**.

PhD & Research-Oriented Programs

This module can support **doctoral research and scientific investigation** in:

- Digital Economy & Platform Governance (PhD in Economics, Management, or Policy Studies)**.
- Artificial Intelligence & Digital Business (PhD in Computer Science, Business Analytics)**.

Professional & Executive Education

This module is **highly relevant for industry professionals, executives, and policymakers**, such as:

- Corporate training programs on DBE strategy & innovation**.
- Public sector training for regulatory bodies on digital economy governance**.
- Executive MBA modules on platform business models and digital leadership**.

B) Integration into the Curriculum

Integration Option	ECTS Credits	Program Type	Learning Focus
Elective Course (Master's Level)	6 ECTS	MSc/MBA/Executive Education	Covers DBE theory, business models, and strategic implementation .
Core Module (Master's Specialization)	6 ECTS	Digital Business, Digital Transformation, AI & Business Innovation	Provides advanced DBE governance and industry applications .

PhD Seminar on DBE Research & Policy	6 ECTS	Doctoral Programs	Focuses on academic research, policy frameworks, and DBE modeling.
Industry Certificate (Executive & Professional Education) & Corporate Training & Executive MBA	6 ECTS		Emphasizes DBE business strategy and digital transformation leadership.
Micro-Credential (Standalone, Online Learning Track)	4 ECTS	Short Courses & MOOCs	Offers flexible learning for professionals interested in DBE fundamentals.

C) Educational Packages & Minor Specialization

This module can also be included as part of a **broader specialization track** in:

✔ Digital Business & Platform Economy Minor

📌 Includes **DBE, AI-driven business models, and blockchain for business innovation.**

✔ Entrepreneurship & Innovation Specialization

📌 Covers **DBE startup incubation, digital value chains, and new market opportunities.**

✔ Policy & Regulation for the Digital Economy

📌 Addresses **DBE governance, cybersecurity, data privacy, and regulatory challenges.**

3.9 Quality Assurance - Evaluation

3.9.1 Quality assurance

Ensuring the **quality and effectiveness** of the **Developing Digital Business Ecosystems (DBE)** module is a **continuous process** that integrates **student feedback, peer review, industry validation, and academic benchmarking.** The quality assurance framework aligns with **European Standards and Guidelines (ESG) for Higher Education** and **institutional accreditation requirements.**

A) Quality Assessment Strategy

The quality of the module will be evaluated **at multiple stages** to ensure **academic rigor, industry relevance, and effective learning outcomes**.

Evaluation Stage	Timing	Assessment Method	Purpose
1. Formative Evaluation (Ongoing Assessment)	Throughout the semester	<ul style="list-style-type: none"> ✓ Surveys after each lesson ✓ Student reflections (portfolio/logbook entries) ✓ Peer discussions & feedback 	<ul style="list-style-type: none"> - Measure learning effectiveness & student engagement - Identify teaching method improvements
2. Mid-Semester Review	Week 7-8	<ul style="list-style-type: none"> ✓ Anonymous student feedback survey ✓ Instructor self-assessment & peer review 	<ul style="list-style-type: none"> - Adjust teaching approaches based on mid-term feedback - Identify any content gaps or difficulties
3. End-of-Course Evaluation	Final Week (Week 15)	<ul style="list-style-type: none"> ✓ Comprehensive student feedback survey ✓ Final project & presentation evaluation ✓ Instructor reflections & course report 	<ul style="list-style-type: none"> - Evaluate overall module success - Assess alignment with learning objectives
4. Industry & External Review	Annual review cycle	<ul style="list-style-type: none"> ✓ Industry expert evaluation of DBE projects ✓ Academic peer review & curriculum benchmarking 	<ul style="list-style-type: none"> - Ensure industry relevance & employability focus - Maintain academic excellence

B) Quality Assurance Methods & Tools

1) Student Feedback & Surveys

- **Regular student surveys** conducted **after each lesson, mid-course, and post-course**.
- **Anonymous feedback collection** via **Moodle LMS & Google Forms**.
- **Focus areas:** Course content clarity, teaching effectiveness, workload balance, and practical applications.

2) Instructor Self-Assessment & Peer Review

- **Faculty peer review system** ensures consistency across instructors.
- **Instructor reflections & teaching logbooks** to track course improvements.
- **Cross-institutional benchmarking** with partner universities offering DBE-related courses.

3) Student Portfolio & Logbook System

- **Students maintain a reflective logbook** documenting **learning progress and insights**.
- **Portfolio-based assessment** tracks individual growth **through project milestones, case studies, and self-assessments**.

4) Industry & External Validation

- **Industry expert evaluation of student DBE projects** for **practical relevance**.
- **Employer feedback loops** to assess **job-market alignment and skill applicability**.
- **Integration with accreditation bodies** to ensure compliance with **EQF Level 7 standards**.

C) Continous Improvement Process

📌 If identified gaps exist in learning outcomes or student satisfaction levels, the following corrective actions will be taken:

✅ **Content Adjustments** – Update materials to reflect **emerging trends in DBE & platform economy**.

✅ **Teaching Method Enhancements** – Modify delivery formats, increase **project-based learning elements**.

✔ **Assessment Refinements** – Adjust **grading weightage, peer evaluation criteria, and real-world application exercises.**

3.9.2 Evaluation

The **evaluation process** for the **Developing Digital Business Ecosystems (DBE)** module focuses on **continuous improvement in student learning, teaching effectiveness, and course content quality.** Based on **student feedback, instructor observations, and industry validation,** targeted actions will be taken to enhance **learning outcomes and course delivery.**

A) Improving Student Learning

📌 **Challenges Identified:**

- Some students may **struggle with complex DBE concepts,** requiring **more interactive learning approaches.**
- **Balancing theory and practical application** for different learning styles.

📌 **Planned Improvements:**

✔ **More activating learning methods** such as:

- **Gamification & interactive simulations** for **AI-driven decision-making & DBE modeling.**
- **Hands-on coding labs** for students interested in **blockchain, AI, and DBE technology stacks.**
- **Live case studies with industry partners,** offering real-world problem-solving experiences.

✔ **Personalized learning support:**

- Optional **tutoring sessions for students needing extra support.**
- **Peer mentorship program** where advanced students guide beginners.
- **Flexible self-paced learning modules** for those needing additional reinforcement.

B) Improving the Teaching Process

📌 **Challenges Identified:**

- Need for **a balance between asynchronous and synchronous learning.**
- Students may require **more structured feedback** throughout the course.

📌 **Planned Improvements:**

✔ **Optimizing Blended Learning Approaches:**

- **Increasing the use of asynchronous learning materials** (e.g., short explainer videos, micro-learning clips).
- **Live Q&A and interactive discussions** to complement self-paced content.
- Expanding **student discussion forums and group workspaces** for ongoing peer learning.

✔ **Enhanced Feedback & Support Mechanisms:**

- **More structured personal feedback sessions** after major assignments.
- **Automated quizzes & self-assessment tools** for students to track progress.
- **Mid-semester student-teacher consultations** to adapt teaching strategies.

✔ **Adjusting Assignment Load:**

- Reduce **repetitive or redundant assignments** in favor of **more project-based learning**.
- Encourage **cross-disciplinary collaboration** (e.g., joint projects with IT, business, and policy students).

C) Improving Content & Learning Materials

📌 **Challenges Identified:**

- Need for **more real-world applications and industry-focused materials**.
- Some topics **require deeper specialization**, while others may need **condensing for clarity**.

📌 **Planned Improvements:**

✔ **Refining Course Content:**

- Expand **case study database** to include **recent digital ecosystem success and failure stories**.
- Include **more specialized topics**, such as **cybersecurity risks in DBE, algorithmic governance, and decentralized finance (DeFi)**.
- Offer **optional deep-dive sessions on trending DBE technologies** (e.g., **AI in platform governance, digital twin simulations, smart contracts in DBE**).

✔ **Enhancing Digital Learning Materials:**

- Create **more engaging e-learning resources**, including:
 - 📺 **Short video explainers & animations** for key DBE concepts.
 - 📊 **Interactive eBooks & infographics** for visual learning.
 - 🔧 **Hands-on toolkits for students to experiment with DBE strategy development**.

✔ **Increasing Access to Physical & Online Materials:**

- Expand **digital library access** to **industry reports, market trend analyses, and academic journals**.
- Provide **physical copies of key textbooks** for students who prefer traditional learning materials.

D) Summary of Key Evaluation Actions & Continuous Improvement Plan

Improvement Area	Planned Actions	Expected Outcome
Enhancing Student Learning	More interactive case studies, real-world projects, and simulations	Higher engagement & practical understanding of DBE
Improving Teaching Process	Balanced asynchronous/synchronous learning & structured feedback	More effective knowledge transfer and student-teacher interaction
Refining Content & Learning Materials	More video content, industry-focused materials, and DBE toolkits	Improved relevance and accessibility of course content

4 Syllabus/Module Handbook

Entry for the Syllabus/Module Handbook (Example for “Managing Digital Change”)

Managing Digital Change (MOD-E0x)					
Module Owner	Workload	Credits	Semester	Frequency	Duration
Kanan Hasanov	180 h	6 ECTS	2	<i>spring semester</i>	1 Semester
1	Course Title	Contact hours	Self-Study	Planned Group Size	
	Developing Digital Business Ecosystems	4 hours per week / 60 h in total	120 h	25 students	
2	Course Description				
	<p>The rise of platform-based economies and digital business ecosystems (DBE) is fundamentally transforming markets, industries, and global trade. This module explores the evolution, governance, and strategic management of DBEs, providing students with both theoretical foundations and practical applications for digital business innovation.</p> <p>Students will learn how to design, manage, and scale digital ecosystems, leveraging AI, blockchain, and IoT technologies while considering economic, regulatory, and ethical challenges. The course includes interactive case studies, real-world industry projects, and strategic simulations, equipping students with the necessary tools to thrive in the digital economy.</p>				
3	Course Structure				
	<ol style="list-style-type: none"> 1. <i>Fundamentals of Digital Business Ecosystems (DBE)</i> <i>Definition & evolution of DBEs in the platform economy</i> <i>System theory & cybernetics in digital ecosystems</i> <i>Network effects & business value chains in DBEs</i> 2. <i>DBE Governance & Platform Business Models</i> <i>Types of platform business models (B2B, B2C, P2P, SaaS, DeFi, etc.)</i> <i>Regulatory challenges, ethics, and cybersecurity</i> <i>Risk management & trust-building in digital platforms</i> 3. <i>ICT & Technological Foundations of DBE</i> <i>AI-driven decision-making, blockchain, and IoT integration</i> <i>Digital infrastructure, cloud computing, and smart contracts</i> <i>Data-driven business intelligence & predictive analytics in DBEs</i> 4. <i>DBE Strategy, Implementation & Innovation</i> <i>Scaling digital ecosystems: monetization and competition</i> <i>Market disruption, digital transformation, and industry impact</i> <i>Sustainability, ESG, and the future of DBEs</i> 				
4	Application Focus				
	Students will apply their knowledge through:				

	<p>Real-world case study analysis of successful and failed DBEs (Amazon, Alibaba, Uber, etc.).</p> <p>Industry-partnered projects where students develop digital business models.</p> <p>Hands-on workshops on AI, blockchain, and data analytics for DBEs.</p> <p>Final project: Digital Business Ecosystem Strategy Plan (team-based).</p>
5	<p>Scientific Focus</p> <p>Literature Review & Research Analysis</p> <p>Exploration of academic theories and empirical studies on DBEs. Cross-disciplinary collaboration between business, technology, and policy research. Critical reflection on DBE governance and ethical challenges.</p> <p>Policy & Regulatory Analysis</p> <p>Comparative study of global DBE regulatory frameworks (EU, US, China, etc.). Evaluation of GDPR, AI regulations, and data governance laws affecting DBEs.</p>
6	<p>Parameters</p> <ul style="list-style-type: none"> • ECTS: 6 • Hours of study in total: 180 • Weekly hours per semester: 4 <ul style="list-style-type: none"> – Contact hours: 60 – Self-Study hours: 120 • Course characteristics: elective • Course frequency: every year - spring semester • Maximal capacity: 25 students • Course admittance prerequisites: none • Assessment <ul style="list-style-type: none"> • Team-based DBE strategy project & final pitch (50%) • Written paper (literature review, business impact analysis) (30%) • Exam covering DBE theories, governance, and business models (20%) • Course Admittance Prerequisites <ul style="list-style-type: none"> • Basic knowledge of business models, digital transformation, and IT systems. • Interest in entrepreneurship, innovation, and digital business strategy. • Skills Developed <ul style="list-style-type: none"> • Technical, practical, and research competencies in DBE development. • Critical thinking, business modeling, and strategic decision-making skills. • Interdisciplinary knowledge bridging business, policy, and technology. • Teaching Staff <ul style="list-style-type: none"> • Instructors from the Open Community of Practice & Industry Experts.
7	<p>Learning outcomes</p> <p>7.1 Knowledge</p> <p>✓ Explain the fundamentals of digital business ecosystems & platform economy.</p> <p>✓ Compare different DBE governance models, risks, and market strategies.</p> <p>✓ Identify the impact of AI, blockchain, and IoT on digital transformation.</p> <p>7.2 Skills</p> <p>✓ Analyze digital ecosystem dynamics and competition in platform markets.</p> <p>✓ Apply data-driven decision-making & business intelligence in DBE projects.</p>

	<p>✓ Design scalable and sustainable digital business ecosystems.</p> <p>7.3 Competence – Ability & Attitude</p> <p>✓ Develop DBE business models, governance frameworks, and scaling strategies.</p> <p>✓ Collaborate in team-based projects with cross-disciplinary problem-solving.</p> <p>✓ Present findings to industry experts & apply knowledge in a professional setting.</p>
<p>8</p>	<p>Teaching and training methods</p> <p>Blended Learning Approach</p> <ul style="list-style-type: none"> • Lectures introducing concepts, methods, and tools. • Online modules & self-paced learning (videos, readings, quizzes). • Group projects & industry case studies for hands-on learning. • Interactive workshops, AI/blockchain simulations & business modeling. <p>Assessment Methods</p> <ul style="list-style-type: none"> • Project-based learning & real-world DBE implementation. • Self-assessment, peer review, and industry evaluations.
<p>9</p>	<p>Curricula Integration</p> <p>Master’s Programs (MSc/MBA) in:</p> <ul style="list-style-type: none"> • Business Administration & Digital Transformation • Information Systems & AI for Business • Entrepreneurship & Innovation • Project Management & Strategy <p>PhD & Research Programs in:</p> <ul style="list-style-type: none"> • Digital Economy, Policy & Governance • Technology & Business Model Innovation <p>Industry Certification for:</p> <ul style="list-style-type: none"> • Executives & professionals in DBE strategy & digital transformation.
<p>10</p>	<p>References</p> <p>Core Texts & Academic Literature</p> <p>[1] Cusumano, M., Gawer, A., Yoffie, D. (2019): The Business of Platforms: Strategy in the Age of Digital Competition, Innovation, and Power. Harper Business.</p> <p>[2] Parker, G., Van Alstyne, M.W., Choudary, S.P. (2016): Platform Revolution: How Networked Markets Are Transforming the Economy. W.W. Norton & Company.</p> <p>[3] European Commission Reports on Digital Markets & Platform Regulation.</p> <p>Regulatory & Industry Reports</p> <p>[4] EU: The European Qualifications Framework (EQF), 2018.</p>

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