Electronic, didactic and innovative platform for learning based on multimedia assets

e-DIPLOMA

Funded by the European Union

D8.4: Business strategy baseline
Version No. 2.0
31 August 2023

HISTORY OF CHANGES			
Version*	**Publication date**	**Beneficiaries**	**Changes**
V1.0	24.02.2023	BRA	■ Initial version of Deliverable Owner
V1.2	24.02.2023	All partners	■ Version including suggestions of WP Contributors
V1.3	27.02.2023	BRA	■ Final version including contributors' suggestions
V1.4	28.02.2023	UJI	■ Final version approved by Project Coordinator
V2.0	31.08.2023	BRA	■ 1st updated version of the document - Intellectual Property Rights Management

(*) According to the section "Review and Submission of Deliverables" of the Project Handbook

1. Technical References

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Project Acronym	e-DIPLOMA
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Project Coordinator	Inmaculada Remolar Quintana

Deliverable No.	D8.4: Business strategy baseline
Work Package	WP8: Dissemination, Communication and Exploitation plan
Task	T8.5: Business Strategy baseline
Dissemination level*	PU- Public
Type of license:	CC-BY
Lead beneficiary	Brainstorm Multimedia (BRA)
PIC of the Lead beneficiary	BRAINSTORM: 999441732
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2. Table of Contents

3. Introduction

3.1 Executive Summary

e-DIPLOMA was conceived to generate outputs that could be exploited by the partners beyond the project. In this document, the Exploitation Plan for said outputs is outlined.

The first section includes the proposals made by the partners on possible exploitation results they envisaged from the project. They described the result itself, the category or result (process or methodology), the developers / owners of the result, the unique selling point, targeted market segments, state of development, activities required for exploitation, expected TRL and preliminary exploitation vision. According to the previous information, three results were selected for exploitation in the first place: a Block Programming through VR and AR course by UJI, a marketplace with 3D assets and educational content for Edison Virtual Studio Solution by BRA, and educational materials on Social Entrepreneurship by BME.

The following section provides an overview of the methodology used to help partners achieve their goals as companies or universities. The Business model canvas is a proven methodology that is used in this deliverable to create results that generate value for customers from the information related to four large areas (customers, supply, infrastructure, and economic viability) that are developed in nine divisions, sections, or boxes.

Following, the University of Castellón (UJI), the audio-visual sector firm Brainstorm and the Budapest University of Technology and Economics (BME), exposes which specific results will be exploited, by defining the unique selling points, potential markets, status of said results regarding commercialization and how to manage intellectual property rights (IPR) in each case.

According to those goals, a business model canvas is developed that defines the commercial exploitation strategy with the aim of guiding the business planning process for each of the three partners. To achieve it, the business model and the commercial strategy presented pursuit to answer the key question of how to progress from an idea to a business model. In the document, the nine different blocks of the canvas are described for each partner according to their infrastructure, business lines and clients.

3.2 Relation to Other Project Documents

In the event of discrepancy between documents, the present document is overruled by Grant Agreement including its Annexes and the Consortium Agreement with its possible addendums.

3.3 Abbreviation List

The acronyms included in the present document are listed by order of appearance:

- TRL: Technology Readiness Levels
- VR: Virtual Reality
- AR: Augmented Reality
- IPR: Intellectual Property Rights
- IP: Intellectual Property
- VET: Vocational Education and Training
- HEI: Higher Education institution
- NEWTON: Networked Labs for Training in Sciences and Technologies for Information and Communication
- WEARTUAL: Wearables for Virtual Reality Environments with a Research Through Design Process

3.4 Reference Documents

The present document is close related with the following e-DIPLOMA deliverables:

- D8.1: Dissemination, Exploitation, and communication strategy
- D8.5: Exploitation and after project communication plan

4. Proposed exploitation results

In this preliminary report, all the partners have detailed the exploitation results they expect to obtain from the project. Along with a definition of each expected result, they specify, on one hand, whether the result is a product, a service, a process or methodology, a know-how or an intellectual property (IP) result. On the other hand, they identify the owner of such exploitation result. Also, the Unique selling point, the targeted market segment and the state of development are outlined. Then, the activities to be performed to obtain each exploitation result and the expected TRL at the end of the project. Finally, for each result, a preliminary exploitation vision is given, the options being Direct Sales, Open distribution, Licenses, IP Sales, Training or Enabling Technology for subsequent product or service.

1. Partner: UJI

Exploitation result: Block Programming through VR and AR
Type of result: Process / Methodology
Developers / owners: Universitat Jaume I (UJI)
Definition: The result consists of a course that uses VR/AR to instruct students in block programming and the use of sensors and actuators. Specifically, in this case the course joins the block programming with the use of sensors and the microcontroller Arduino, getting a more intense experience because pupils check the real utility of what they are doing.
Unique Selling Point - Why this ER is innovative?: The combination of two booming concepts such as virtual reality and block programming have not yet been explored in sufficient context. This methodology will serve as a valid guide capable of defining which is the most efficient way to present content of this type of programming through VR and AR.
Targeted Market Segment: Educational Institutions
State of development at present date: Study of the ethical, technological needs and European political context of the particularities of the integration of block programming content through tools such as VR or RA
Activities required for exploitation: After the definition of the process and its validation, the intellectual property of the generated content must be registered and proceed with the offer of training courses for education professionals who can take advantage of the knowledge acquired.
Expected TRL of exploitable result: TRL 5 – technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)
Preliminary exploitation vision: Training

2. Partner: Tallin University

Exploitation result 1: Scientific papers
Type of result: Know-how / IP
Developer / owner: Tallinn University, UJI/ e-DIPLOMA project partners
Definition: Scientific papers on the elearning ecosystem analysis of elearning with ruptured technologies will be published
Unique Selling Point - Why is this ER innovative?
We plan 3 papers that target (1) state of art of ruptured technology usage in education (literature survey based), (2) the ethical dimension analysis based on workshop results and (3) the educational system capacity analysis (based on survey). These open up and triangulate the perceived gaps empirically.
Targeted Market Segment: Learning sciences, education, educators in VETs and HEIs, educational technology providers and developers, the sector of workplace learning.
State of development at present date: Currently there is consolidated knowledge of multimedia learning principles and effects on learning (e.g. Multimedia Learning handbook by Richard Mayer), but this does not cover well the ruptured technologies' learning effects. The recent European

Commission funded projects Networked Labs for Training in Sciences and Technologies for Information and Communication (NEWTON) has provided overview technical research around multimedia learning (multisensorial learning), but these research reports do not cover learning experiments that validate learning principles and effects with multimedia systemically. EC funded project Designing and Developing Wearables for Virtual Reality Environments with a Research Through Design Process (WEARTUAL) has explored immersive VR learning scenario design principles. EC funded project an end-to-end system for the production and delivery of photorealistic social immersive virtual reality experiences (VRTogether) has explored immersive media production and delivery through innovative capture, encoding, delivery and rendering technologies. There is a gap in understanding the learning effects of ruptured technologies in specific learning settings.
Activities required for exploitation: The T.2.1, 2.2 and 2.3 and 3.1, 3.2 in e-DIPLOMA, as well as the compilation of the T.5.3, T.5.4. T.5.5 and T.5.6 will enable us to gather and compose the empirical evidence of the learning effects with ruptured technologies in different pedagogical learning activity modes.
Expected TRL of exploitable result: The knowledge from D. 2.1 and 2.2 will be disseminated in the research paper format, we could also plan the joint open research book as the end product about best practices. companies interested in advancing workplace learning.
Preliminary exploitation vision: Training.

Exploitation result 2: Best practices hand-book
Type of result: Know-how / IP
Developers / owners: Tallinn University, UJI and e-DIPLOMA project consortium
Description: A manual with the empirical findings of the best practices of digital learning designs and the discovered pedagogical effects will be published with the aim of disseminating the project results and helping educational institutions to improve their e-learning experiences
Unique Selling Point: There is lack of clarity about the pedagogical effects of the ruptured technologies (VR, AR, games, chatbots, AI) in education - the results ofD.2.1. and D.2.2. will complement the understandings about multimedia learning, mulsemedia learning effects and designs offering validated results about using ruptured technology solutions (VR, AR, games, chatbots, AI) within experiential learning scenarios.
Targeted Market Segment: Learning sciences, education, educators in VETs and HEIs, educational technology providers and developers, the sector of workplace learning.
State of development at present date: Currently there is consolidated knowledge of multimedia learning principles and effects on learning (e.g., Multimedia Learning handbook by Richard Mayer), but this does not cover well the ruptured technologies' learning effects. The recent European Commission funded projects Networked Labs for Training in Sciences and Technologies for Information and Communication (NEWTON) has provided overview technical research around multimedia learning (multisensorial learning), but these research reports do not cover learning experiments that validate learning principles and effects with multimedia systemically. EC funded project Designing and Developing Wearables for Virtual Reality Environments with a Research Through Design Process (WEARTUAL) has explored immersive VR learning scenario design principles. EC funded project an end-to-end system for the production and delivery of photorealistic social immersive virtual reality experiences (VRTogether) has explored immersive media production and delivery through innovative capture, encoding, delivery and rendering technologies. There is a gap in understanding the learning effects of ruptured technologies in specific learning settings.
Activities required for exploitation: The project website should have a specified exploitation section that will demonstrate the best practices from D.2.2 and keep it up beyond the project. The training approach around the contents of D.2.2 and T.5.6 and 5.7 and T.6.3 results would allow opening up micrograde courses or establishing design workshops with the interested companies and policymakers. T. 5.7 will allow to train and scale up the discovered knowledge among wide range of educators. To exploit the results to the wider workplace learning scene, the specific policy workshops and engagement and policy recommendations as in T.6.3 are adequate.

Expected TRL of exploitable result: Another set of knowledge from T. 5.6, 5.7. could be packed into the demos for training, that the companies could be using for marketing the approach in HEIs, VETs and and among companies interested in advancing workplace learning.
Preliminary exploitation vision: Training.

4. Partner: Budapesti Muszaki Es Gazdasagtudomanyi Egyetem (BME)

Exploitation Result 1: e-DIPLOMA learning platform [e-Platform in the Proposal]
Type: Product
Developers /owners: Researchers (faculty and students) at BME
Description: The "e-DIPLOMA learning platform" is going to integrate existing products to create a software environment where the teaching and evaluation activities of the e-DIPLOMA project can be developed, performed, recorded, monitored, and analysed. It is going to support a classic learning platform (e.g., Moodle), one or more game engines (Unity and/or Unreal Engine), matchmaking services for grouping students and educators into instances of virtual scenes, and online authentication and data storage facilities. All these components will be operated by their end users under their respective licenses for educational activities. The "e-DIPLOMA learning platform" will consist of plugins and applications developed to interoperate with the existing systems.
Unique Selling Point - Why this ER is innovative? It allows the integration of novel VR or AR based content and gamified learning items into a well-established learning platform, while enabling scientific analysis of outcomes.
Targeted Market Segment: Any level or topic of education, with a focus on interactive content involving small student groups at a time.
State of development at present date: Preparatory exploration. (The development WP only launches in May.
Activities required for exploitation: Making the platform available for download, advertisement through Associated Partners and other institutional links, preparing training materials and training educators (as part of the Project's envisioned training on e-diploma practices), tech support.
Expected TRL of exploitable result: 2 Technology Concept Formulated. We have a good idea of what this must look like and stated an outline in the proposal. We had some students explore some potential building blocks (matchmaking, voice chat), but those fall short of being actual proofs of concept of the entire thing.
Preliminary exploitation vision: Open distribution

Exploitation result 2: Educational materials on Social Entrepreneurship (Prototype 2)
Type of result: Product
Developers /owners: Development by researchers at BME, directed by ARIS, and other contributors to WP4.
Description: A collection of learning resources and interactive content for teaching Social Entrepreneurship, including several mini games
Unique Selling Point - Why this ER is innovative? This is course material teaching the subject with innovative means. The goal is to immerse students into situations they may encounter without actual (costly, risky) field assignments. Further, example applications will teach an understanding of VR/AR methodologies.
Targeted Market Segment: Social services training institutions, entrepreneurship training institutions
State of development at present date: None
Activities required for exploitation: Making it available for download. Training of educators in technical know-how and course material. Modularization, making parts accessible as learning items that can be integrated into courses with a different overall focus. Localization. Content adjustment or adaptive generation (e.g., generating the virtual city from a different real-world street plan and model set). Exploration of best practices.

Expected TRL of exploitable result: 2 Technology Concept Formulated ARIS has classic educational materials. It is known what technologies will be used to develop experimental versions. The project will define whether this can work from a commercial point of view.
Preliminary exploitation vision: Training.

Exploitation result 3: Executable lectures framework
Type of result: Service
Developers /owners: researchers (faculty and students) at BME
Description: This is an online service, where users can register to create, share, collaborate on, and execute scripted learning items. Educators can create versioned instances of their materials, branch off existing courses to adapt them for their needs, and generate content (starting points for tasks or example solutions) at any point of a certain course, where lessons evolve the somebody of text or code incrementally. Executable code with graphical results can be developed.
Unique Selling Point - Why this ER is innovative?: We take technology already in use in web development sandbox services, and adapt them to the needs of education, in particular educational content development and versioning.
Targeted Market Segment: Teachers and students developing or using executable learning assets.
State of development at present date: Planning
Activities required for exploitation: Operating a website to offer the service. Marketing. Development of support for various types of executables (e.g., programming languages and web technologies).
Expected TRL of exploitable result: 4 Technology validated in a lab. Some elements of this (executable lectures based on a versioning system) have been tested. Educational materials adaptable to the technology have been developed. No web-based user interface, user authentication, user data storage, etc. has been integrated.
Preliminary exploitation vision: Enabling Technology (for subsequent product, service, etc...)

5. Partner: Universitat Politecnica De Valencia (UPV)

Exploitation result: Scientific papers
Type: Know-how / IP
Developers /owners: UPV
Description of the Exploitable result: Papers related with the scope of the project.
Unique Selling Point - Why this ER is innovative?: N/A
Targeted Market Segment: N/A
State of development at present date: Not started.
Activities required for exploitation: Paper writing.
Expected TRL of exploitable result: N/A
Preliminary exploitation vision: Training

6. Partner: Innogrowth European Association for Innovation and Growth (INN)

Exploitation result: Online publication: "Normative background and debate on eLearning platforms in Europe. A guide for lawmakers"
Type: Know-how / IP
Developers /owners: InnoGrowth/ all the partners are involved
Description: A guide will be published that reports the level of use and knowledge of e-learning platforms and especially on their presence as an element of debate in public bodies and in the institutional context. This publication will generate the recommendations that will propose several options to solve the issue by lobbying the authorities to change its normative background. It will be available online
Unique Selling Point: The guide will provide concrete recommendations on how to improve policies which impact on innovation performance in the field of education. No previous guide exists at an European level directed to public authorities.

Targeted Market Segment: The document will be directed to several legislative and governmental entities at European, National (the main target audience will be the Ministries of Education, the most influential actors in education) and Local level.
State of development at present date: Work in progress
Activities required for exploitation: Publication, promotion and dissemination Use of all possible tools and channels to reach a high number of policy makers
Expected TRL of exploitable result: N/A
Preliminary exploitation vision: Open distribution

7. Partner: Center for Social Innovation Ltd (CSI)

No exploitable result identified on their side.

8. Partner: ARIS

Exploitable result: Pilot test
Type of result: Process / Methodology
Developers / owners: ARIS Formazione e Ricerca
Description: It's a test of the prototype of e-DIPLOMA
Unique selling point: applying and testing e-DIPLOMA approaches and innovation to social enterprises.
Targeted Market Segment: Social entrepreneurs and enterprises
State of development: Not started.
Activities required: To be planned - to develop the prototype.
Expected TRL: 5
Preliminary exploitation vision: Training.

9. Partner: Brainstorm

Exploitable result: Assets and content platform for Edison Virtual Studio Solution
Type of result: Product
Owner: Brainstorm / users of Edison Virtual Studio Solution
Description: Brainstorm will create a web platform on which educational content will be stored that can be used in the Edison Virtual Studio solution. The content can be PowerPoint presentations, photos, videos or movies created by the consortium members, pdfs and 3D models used in the lessons. Although ownership of the content will be acknowledged, there will be no commercialization of the content.
Unique Selling Point: This web platform will be the first repository to be developed to share educational content to be used in the Edison Virtual Studio solution for the configuration and delivery of lessons in virtual classrooms.
Targeted Market Segment: Educational Market
State of development at present date: Not developed yet.
Activities required for exploitation: Publication, promotion and management of the web platform.
Expected TRL of exploitable result: 8
Preliminary exploitation vision: Open distribution

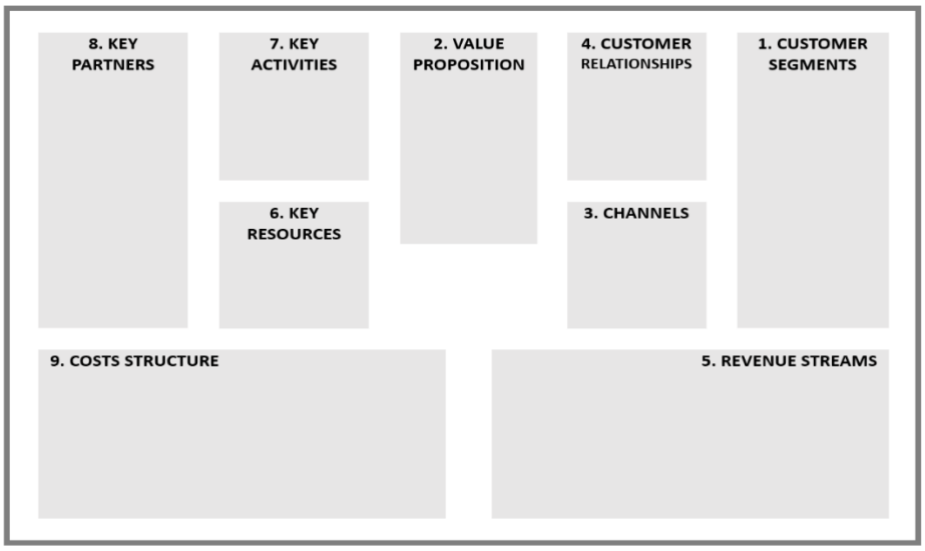
5. Section B. Business strategy baseline

5.1 Business Model for the exploitation of the project's results

The business model for the first three exploitable results of the e-DIPLOMA project, selected from the above according to relevance and feasibility, has been designed following the template proposed by the Business Model Canvas, a visual graph in which the different blocks are built together by the partners involved, following a certain order.

Developed by Alexander Osterwalder, the canvas helps to determine and create innovative models that seek to generate value for customers, based on the information related to four large areas (customers, supply, infrastructure, and economic viability) that are developed in nine divisions, sections or boxes.

Figure 1. Business model canvas



The nine building blocks in Figure 1 can be defined as:

- ✓ **Customer segments:** Definition of the different groups or organisations a company/enterprise aims to reach and serve. For defining these groups or organisations, the organisation needs to ask itself questions such as: For whom are we creating value? Who are our most important customers? Are they financially powerful? How will they interact with the products? An organisation serves one or several customer segments.

- ✓ **Value propositions:** Related to how the product will solve customer problems or satisfying needs. The value propositions may be quantitative, that is, focused on price and efficiency, and qualitative, related to the overall customer experience and outcome. For defining the value propositions, we would need to answer the following questions: What value do we deliver to customers? Which of our customer's problems are we solving? What need are we satisfying?

6 **Channels:** It involves identifying how we are going to deliver the value to customers through communication, distribution, and sales. For defining the channels, we need to figure out which channels do our customers want to be reached, how are we approaching them currently, which works better, or which are the most cost-efficient. In this sense, online PR is the most cost-effective approach, but direct sales routes and follow-ups are always required and most of the times become crucial to determine the success of a sale, so when possible direct contact is best.

7 **Customer relationships:** Defines how organisation maintains relationships with customers. To do so, we need to identify what type of relationship does each of our customers expect us to establish and maintain with them. Also, the cost of each type must be calculated. It could be variable, from self-PR to organising PR agencies and hiring dedicated sale staff.

8 **Revenue streams:** for defining the revenue streams, we need to know what customers are really willing to pay. It will depend on their own strategy and perception on the value of our product. Also, it is relevant to know whether they are already paying for a product / service that at least partially solves

their problems or needs. All in all, revenue streams are the result of the value proposition having been successfully delivered to customers.

9 **Key resources:** Assets required to offer all the above-mentioned elements, that is, what will the organization need to approach the customers, identify the best channel, provide the value and build successful relationships to obtain profitable revenue streams.

10 **Key activities:** Connected to the former, again, it is necessary to perform a number of activities in each and every of the first five areas: customers, value, channels, relationships, revenue. The former was the identification of the assets, and this one is the identification of the activities to perform in order to get those assets.

11 **Key partnerships:** a business strategy must count on those third parties whose support will guarantee it success. In our case, the external/outsourced resources that the activities identified in the previous point will involve all the partners in the project's consortium, as well as the different public and private organization in the educational sector that can be defined as stakeholders for any of the three products proposed for exploitation in this stage of the project.

12 **Cost structure:** finally, we need to identify how much all the above costs. In doing so, the most important costs inherent to each business model will be considered. Then, the most expensive key resources and activities need to be identified and analysed.

In the following section, the nine different blocks are going to be described in order to establish the first input for obtaining the Business model baselines that will be developed throughout this project. Each of the exploitation results will develop its own business model Canvas according to the infrastructures, business lines and current clients identified by the relevant partner.

5.2 Product 1. Block programming course in VR

5.2.1 Definition and main features

Developed by UJI and targeted to Education institutions, the first project's exploitation result consists of a **course that uses VR/AR to instruct students in block programming and the use of sensors and actuators**. Specifically, the course joins the block programming with the use of sensors and the microcontroller Arduino, getting a more intense experience because pupils check the real utility of what they are doing.

Its' **unique selling point** relies on the combination of two booming concepts; virtual reality and block programming that have not yet been explored in combination. This methodology will serve as a valid guide capable of defining which is the most efficient way to present content of this type of programming through VR and AR.

Currently, UJI is studying the ethical, technological needs and European political context of the particularities of the integration of block programming content through tools such as VR or RA.

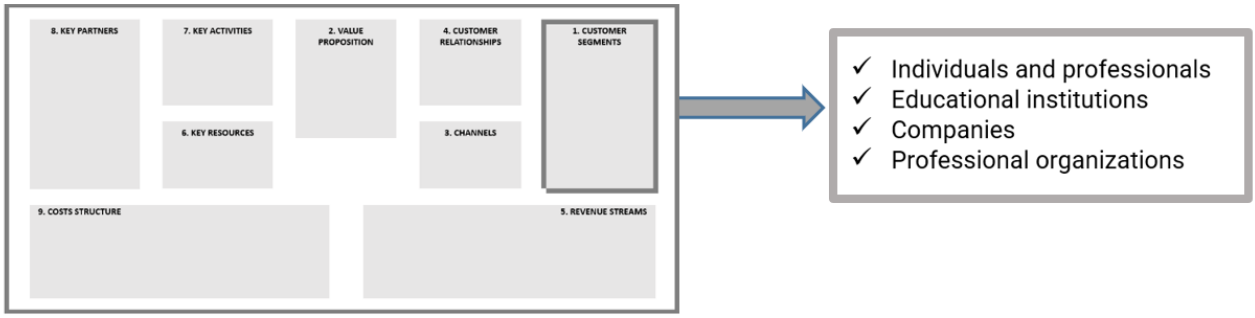
To be ready for **exploitation**, and after the definition of the process and its validation, the intellectual property of the generated content must be registered and proceed with the offer of training courses for education professionals who can take advantage of the knowledge acquired.

Based on this information, a first version of the Business model canvas for the Block programming course is described below.

5.2.2 Customer Segments

- Individuals interested in learning block programming, either at the education sector or in private / public companies
- Educational professionals as teachers or instructors
- Educational institutions interested in offering block programming courses to their students (schools, colleges, universities)
- Professional development organizations and companies seeking to upskill their employees

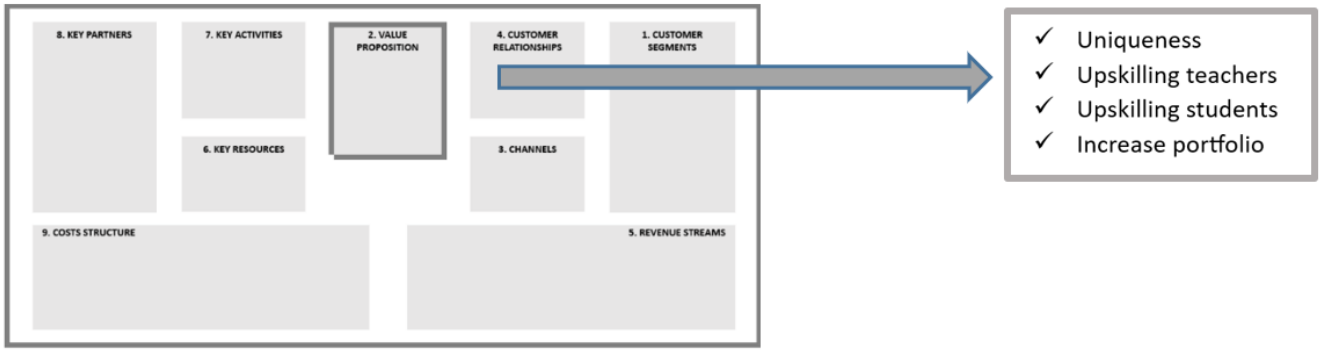
Figure 2. Customer segments for product 1



5.2.3 Value Proposition

- Unique combination of VR and block programming
- Enhanced learning experience for students, to whom the skills and knowledge needed to create software programs using block programming, sensors and virtual reality will be provided.
- Offer a hands-on, project-based learning experience that teaches students how to apply their knowledge to real-world scenarios
- Provide educational partners with a turnkey solution for offering a block programming and VR courses to their students

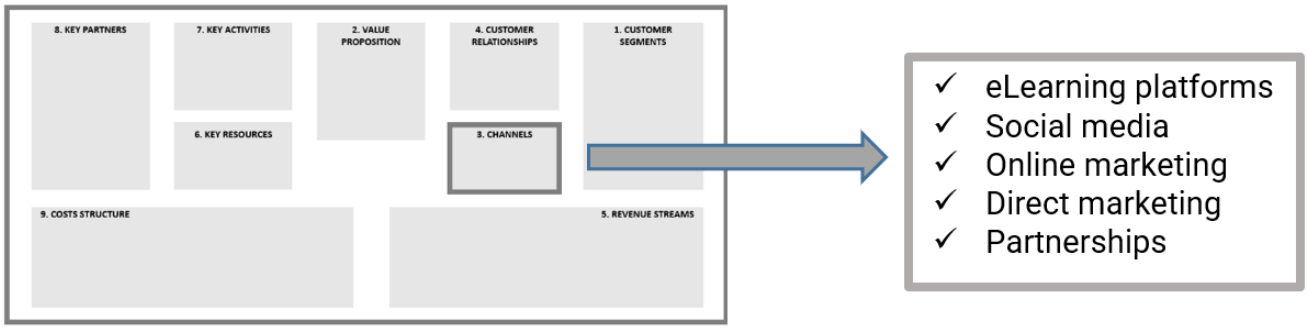
Figure 3. Value proposition for product 1



5.2.4 Channels

- Online learning platforms (e.g. Udemy, Coursera)
- Social media platforms (e.g. Facebook, LinkedIn)
- Email marketing campaigns
- Direct marketing to educational institutions and professional development organizations
- Partnerships with educational technology distributors

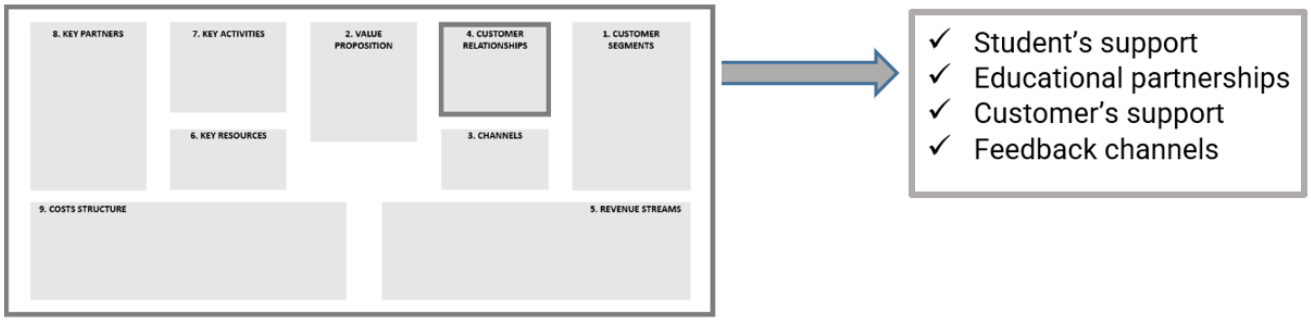
Figure 4. Channels for product 1



5.2.5 Customer Relationships

- Provide students with high-quality instruction and support throughout the course
- Build strong relationships with educational partners to encourage repeat business and referrals
- Offer customer service and support to resolve any issues or concerns that arise during the course
- Collaboration and feedback channels for educators

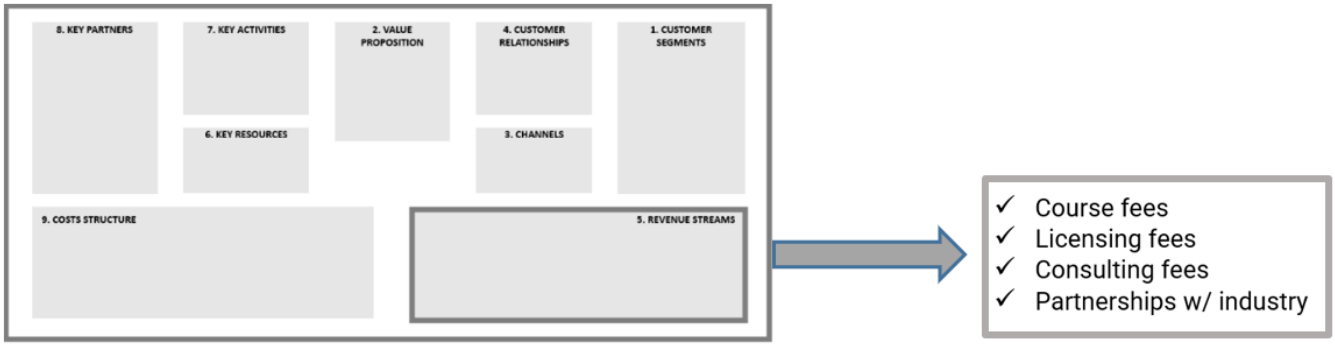
Figure 5. Customer relationships for product 1



5.2.6 Revenue Streams

- Course fees charged to individual students (including education professionals).
- Licensing fees charged to educational partners who offer the course to their students.
- Consulting fees charged to professional development organizations seeking to upskill their employees.
- Potential partnerships or collaborations with VR/AR hardware manufacturers

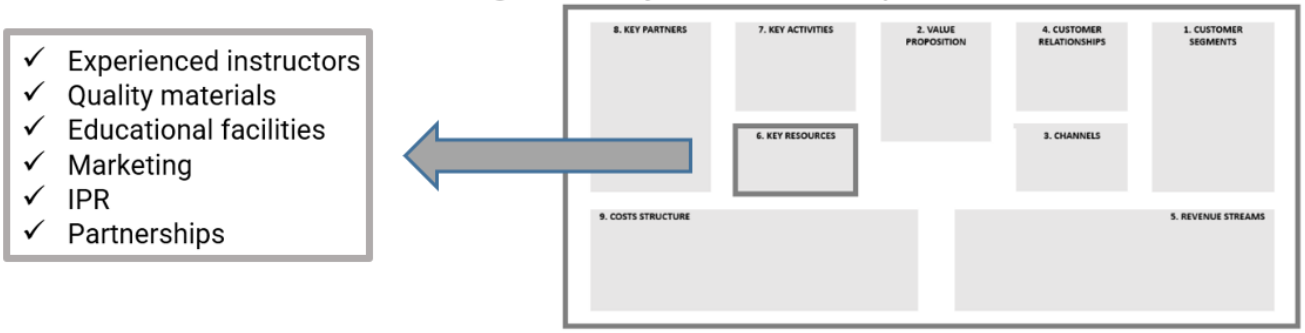
Figure 6. Revenue streams for product 1



5.2.7 Key Resources

- Experienced instructors with expertise in block programming
- High-quality curriculum expertise and course materials
- Classroom or online teaching facilities
- Marketing and advertising channels (e.g., social media, email marketing)
- Intellectual property rights for the generated content
- Educational partnerships and networks

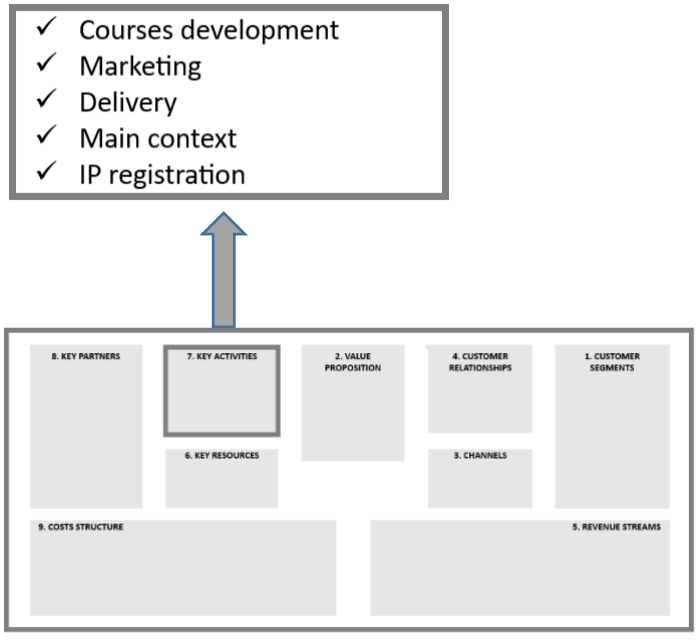
Figure 7. Key resources for product 1



5.2.8 Key Activities

- Development of courses (creating and updating course materials)
- Marketing and promotion (to attract students and educational partners)
- Instruction and delivery (teaching the course to students)
- Integration of the ethical, technological needs and European political context
- Intellectual property registration

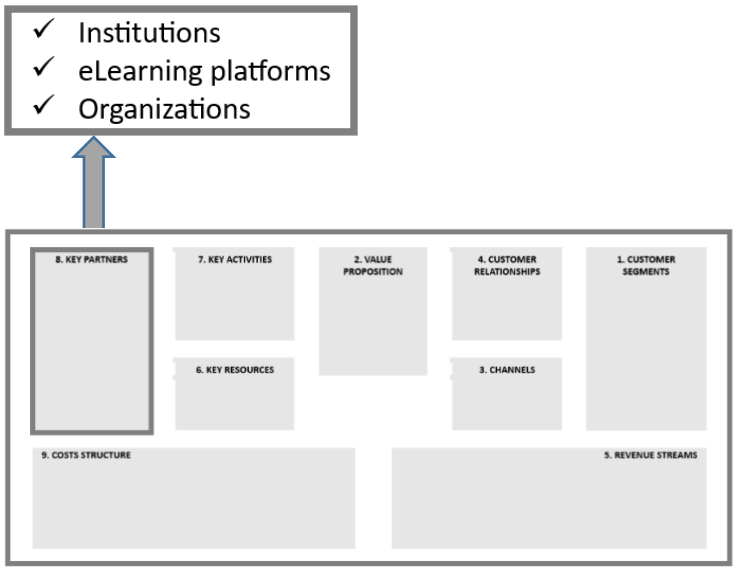
Figure 8. Key activities for product 1



5.2.9 Key Partners

- Educational institutions (schools, colleges, universities)
- Online learning platforms (e.g., Udemy, Coursera)
- Professional development organizations

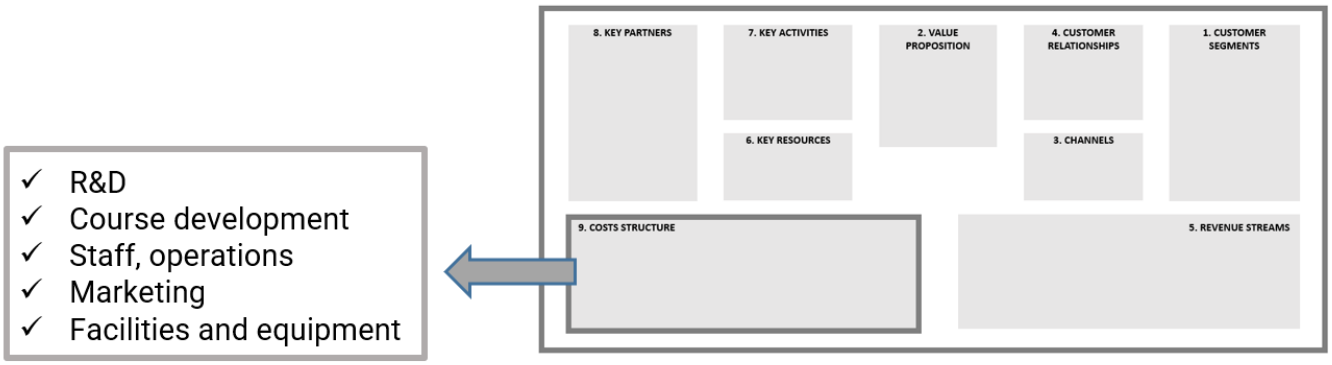
Figure 9. Key partners for product 1



5.2.10 Cost Structure

- Research and development costs
- Course development and curriculum design costs
- Instructor and teaching staff salaries (training for trainers)
- Marketing and advertising expenses
- Facility and technology costs (e.g., classroom rental, online learning platform fees)
- Operational costs (platform hosting, customer support)

Figure 10. Cost structure for product 1



For this first product, the proposed key metrics are: (1) Number of education institutions adopting the course, (2) Course revenue and profitability, (3) Customer satisfaction and feedback, (4) Expansion of partnerships and collaboration.

5.3 Product 2. Repository of 3D assets and models

5.3.1 Definition and main features

The exploitable result identified in the second place is **a marketplace with a repository of assets and 3D content based on Edison Virtual Studio Solution.** Brainstorm will create a web platform on which educational content will be stored that can be used in the Edison Virtual Studio solution. The content can be PowerPoint presentations, photos, videos or movies created by the consortium members, pdfs and 3D models used in the lessons. Although ownership of the content will be acknowledged, there will be no commercialization of the content, which will be offered **open access.**

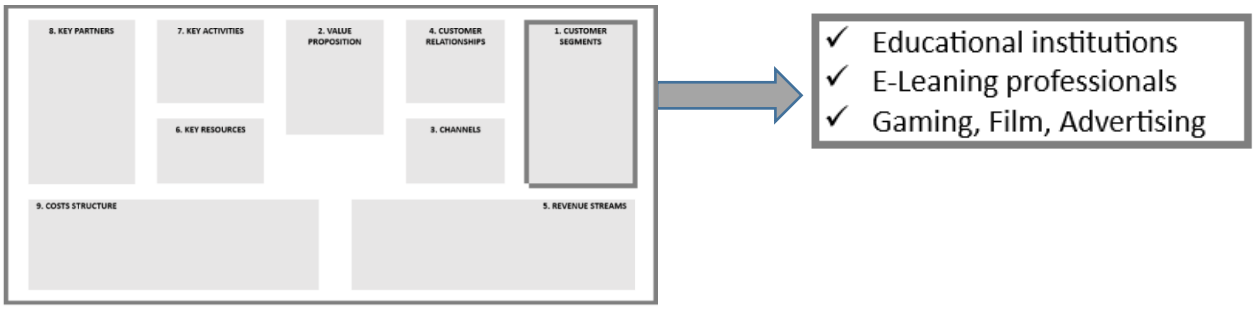
This web platform will be the first repository to be developed to share educational content to be used in the Edison Virtual Studio solution for the configuration and delivery of lessons in virtual classrooms, which is considered to be its **unique selling point.**

The targeted market segment for this product is the **educational market** in the first place. The repository has not been developed yet, being the publication, promotion and management of the web platform, the **main activities** required for the product's exploitation. Secondly, audio-visual industries or professionals could be interested in the marketplace.

5.3.1 Customer Segments

- Educational institutions such as High Schools and Universities
- Professional training institutions
- Content creators in the educational sector
- Secondly, buyers in industries such as gaming, film, advertising, and education who require 3D assets and models for their projects. Also, 3D modelers and artists who are looking to sell their 3D assets and models to a wider audience.

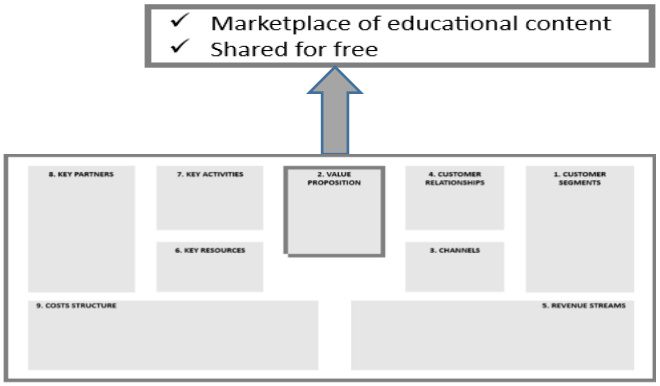
Figure 11. Customer segments for product 2



5.3.2 Value Proposition

- Offer a wide selection of 3D assets and models for educational uses in a platform, as well as other materials like presentations, photos, videos, pdfs, etc)
- Promote the creation and sharing of educational material for teachers using Edison
- Open access to content for educational purposes

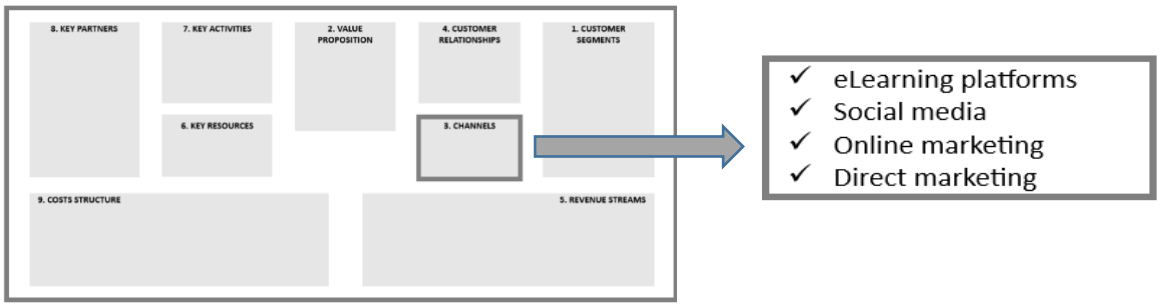
Figure 12. Value proposition for product 2



5.3.3 Channels

- Online marketplace and eLearning platforms
- Social media platforms for marketing and advertising
- Email marketing campaigns
- Direct marketing to universities and other learning organizations

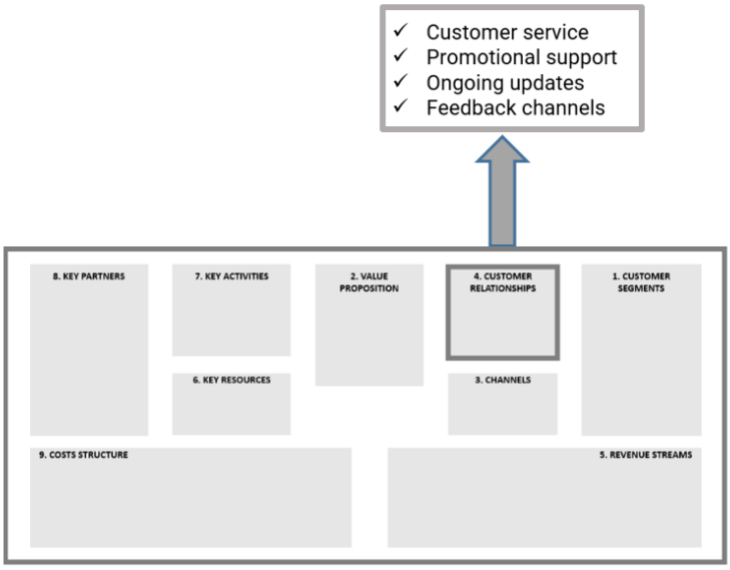
Figure 13. Channels for product 3



5.3.4 Customer Relationships

- Provide excellent customer service and support to both institutions and professionals of the e-Learning sector
- Continuous content updates and additions
- Build strong relationships with 3D modelers and content creators to encourage repeat business and the creation of new 3D assets and models
- Provide marketing and promotional support to help content creators share their assets and find third party's objects
- Collaboration and feedback channels for content contributors

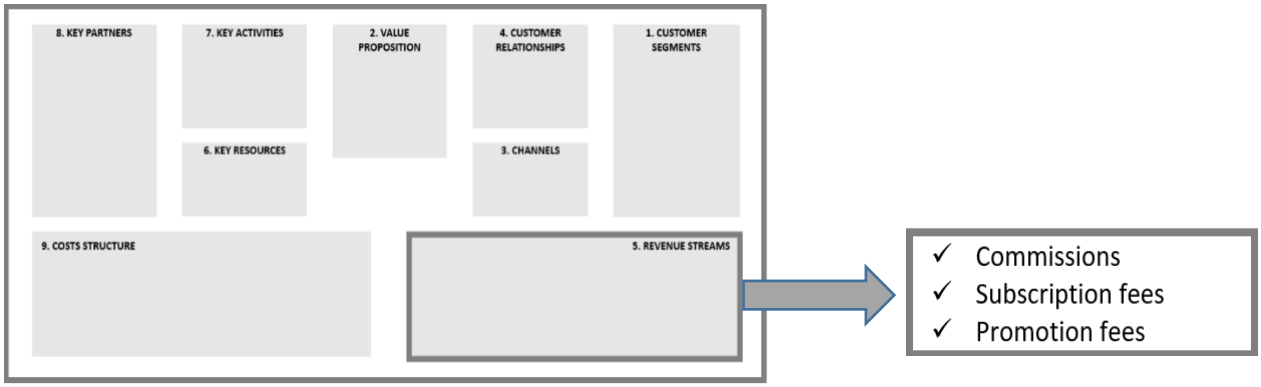
Figure 14. Customer relationship for product 2



5.3.5 Revenue Streams

- Commission on sales of 3D assets and models
- Subscription fees for premium services for 3D modellers and artists
- Indirect revenue per subscription fees to Edison (marketplace shall increase the interest in Edison)
- Advertising and promotional revenue

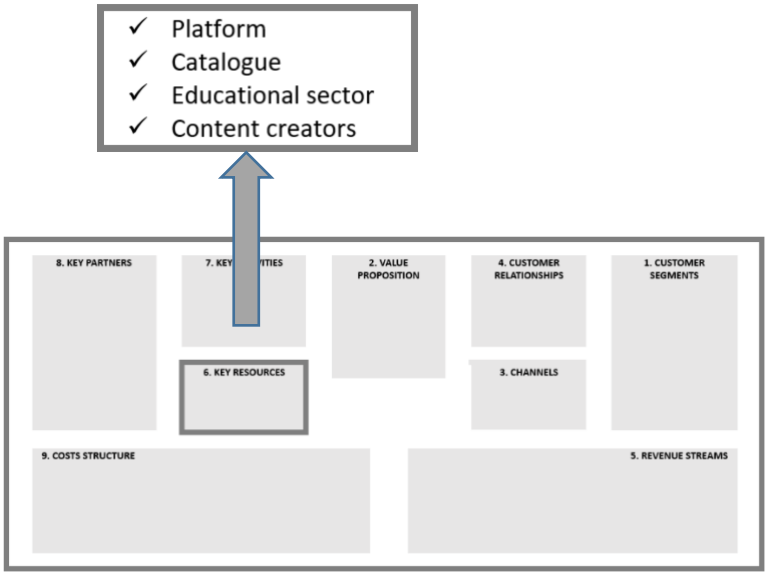
Figure 15. Revenue streams for product 2



5.3.6 Key Resources

- The 3D assets and models marketplace platform, as the place to share creations
- A diverse catalogue of high-quality 3D assets and models that encourage teachers to use it
- Strong relationship with educational institutions and professionals
- Strong relationships with 3D content creators

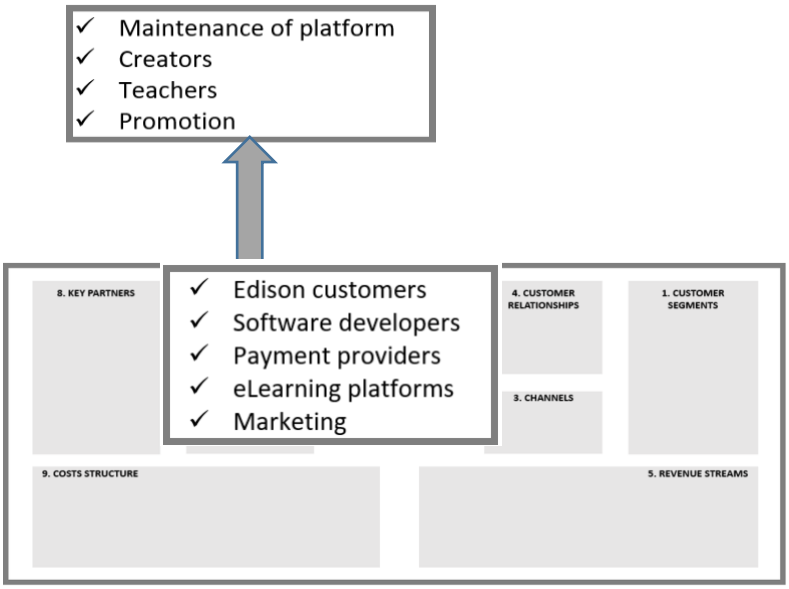
Figure 16. Key resources for product 2



5.3.7 Key Activities

- Building and maintaining the marketplace platform
- Attracting and recruiting 3D mode lers and artists to create content for the marketplace
- Encouraging institutions and educators to use the platform, create, buy and /or share assets
- Marketing and promoting the marketplace to potential users
- Ensuring high quality of the 3D assets and models being sold and shared

Figure 17. Key activities for product 2

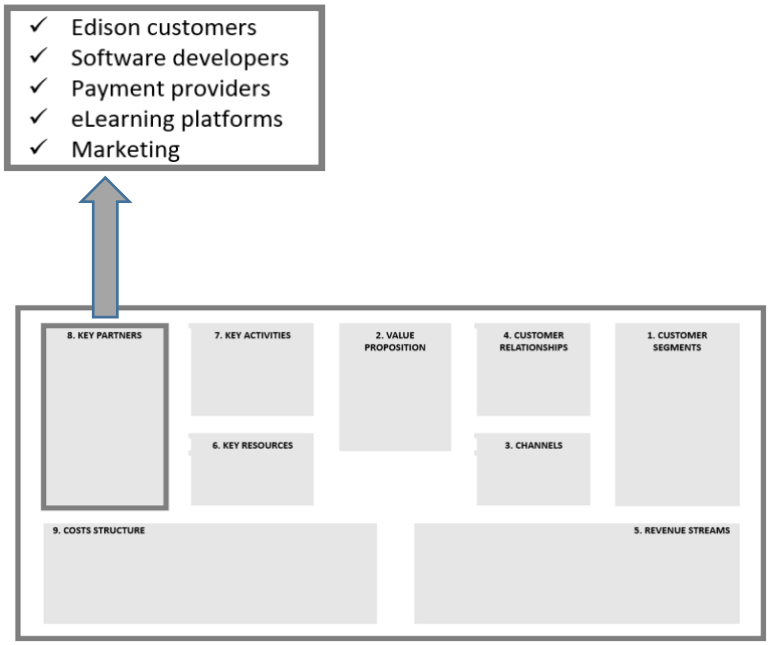


5.3.8 Key Partners

- Educational institutions and professionals already using Edison.
- Software developers for building and maintaining the platform.
- Payment processing providers
- E-Learning resources platforms

- Marketing and advertising agencies

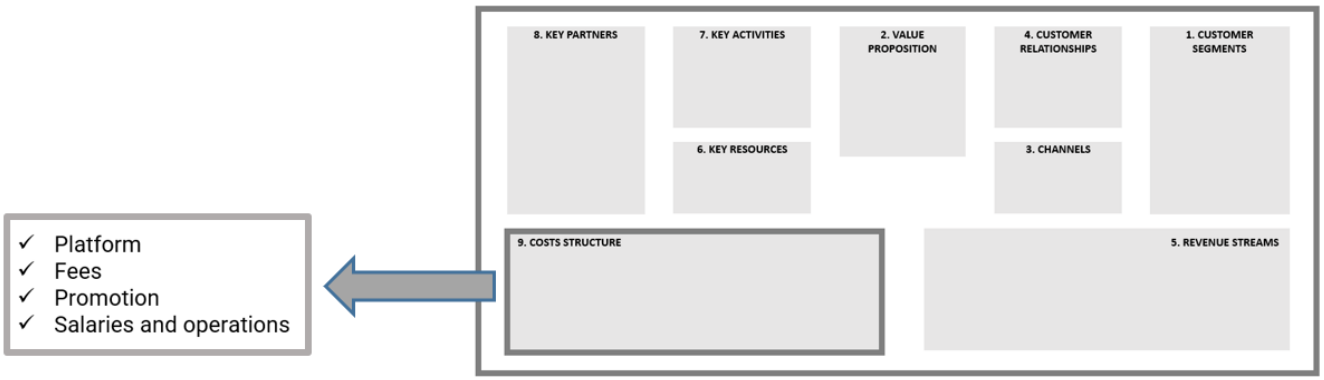
Figure 18. Key partners for product 2



5.3.9 Cost Structure

- Development and maintenance costs for the platform
- Content acquisition and licensing costs
- Payment processing fees
- Operational costs (platform hosting, customer support...)
- Marketing and advertising expenses
- Employee salaries and benefits

Figure 19. Cost structure for product 2



The proposed key metrics for this repository are: (1) Number of registered users and active users on the platform, (2) Subscription revenue and profitability (directly or indirectly), (3) Content usage and engagement metrics and (4) Customer satisfaction and feedback.

5.4 Product 3. Educational materials on Social Entrepreneurship

5.4.1 Definition and main features

The exploitable result of the project is now a **collection of learning resources and interactive conten**t for teaching Social Entrepreneurship, including a number of minigames. It is mainly directed to **social services training institutions** and **entrepreneurship training institutions**.

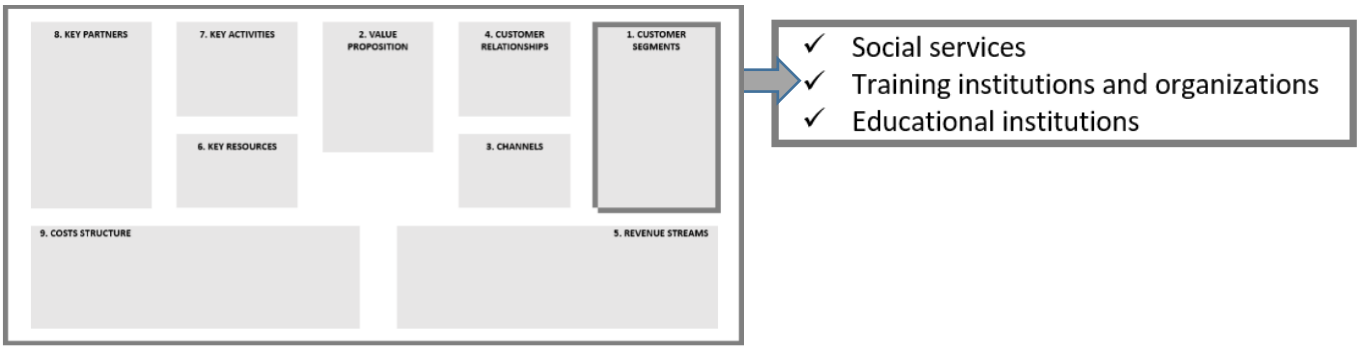
It's **Unique selling point** is the use of the latest innovative means to transport and immerse students into situations they may encounter without actual (costly, risky) field assignments.

To be exploitable, it needs to be available for download. Also, to **train educators** in technical know-how and course material. Modularization, making parts accessible as learning items that can be **integrated into courses** with a different overall focus is also necessary, as well as **localization**. Finally, content adjustment or **adaptive generation** (e.g., generating the virtual city from a different real-world street plan and model set) is a requirement for the final version of the product.

5.4.2 Customer Segments

- Social services training institutions offering self-employment related courses
- Entrepreneurship training institutions
- Educational institutions looking to offer a mini-games-based educational course to their students
- Professional development organizations seeking to upskill their employees.

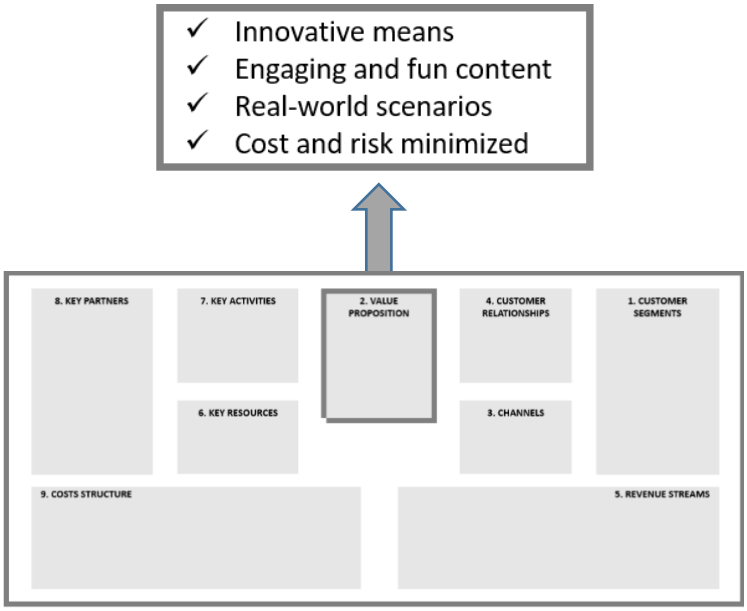
Figure 20. Customer segments for product 3



5.4.3 Value Proposition

- Provide educational institutions and professionals with the latest innovative means to crate immersive situations for their students without actual (costly, risky) field assignments
- Provide students with an engaging and fun way to learn and retain educational content
- Offer a hands-on, interactive learning experience that teaches students how to apply their knowledge to real-world scenarios
- Provide educational partners with a turnkey solution for offering a mini-games-based educational course to their students

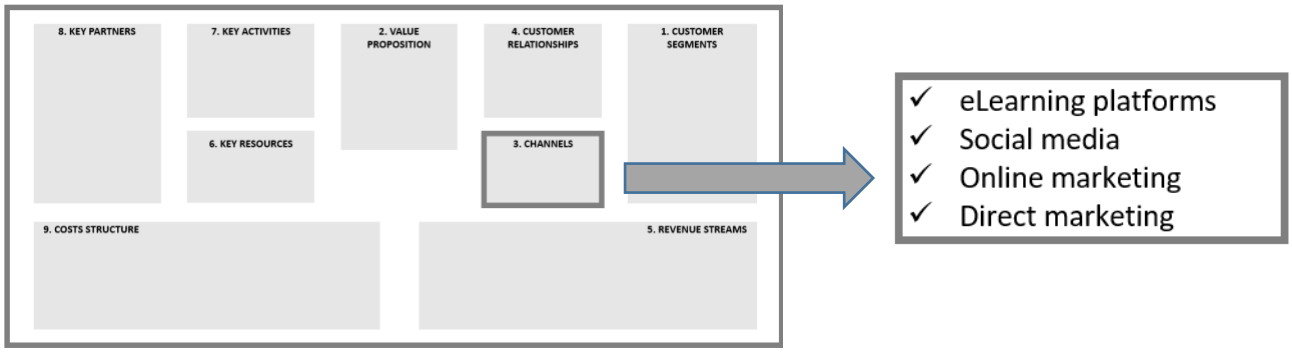
Figure 21. Value proposition for product 3



5.4.4 Channels

- Online learning platforms (e.g. Udemy, Coursera)
- Social media platforms (e.g. Facebook, LinkedIn)
- Email marketing campaigns
- Direct marketing to educational institutions and professional development organizations

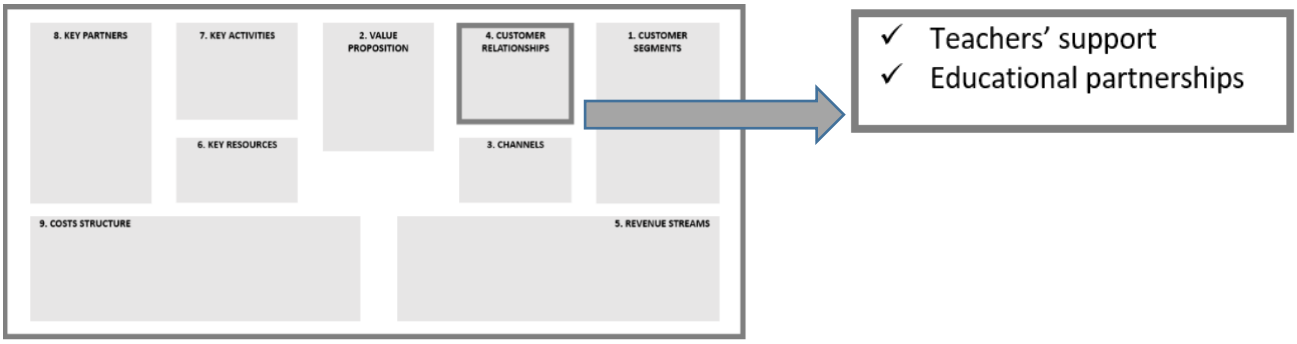
Figure 22. Channels for product 3



5.4.5 Customer Relationships

- Provide institutions and teachers with high-quality instruction and support throughout the building of their courses, to face any issue or concern that may arise
- Build strong relationships with educational partners to encourage repeat business and referrals

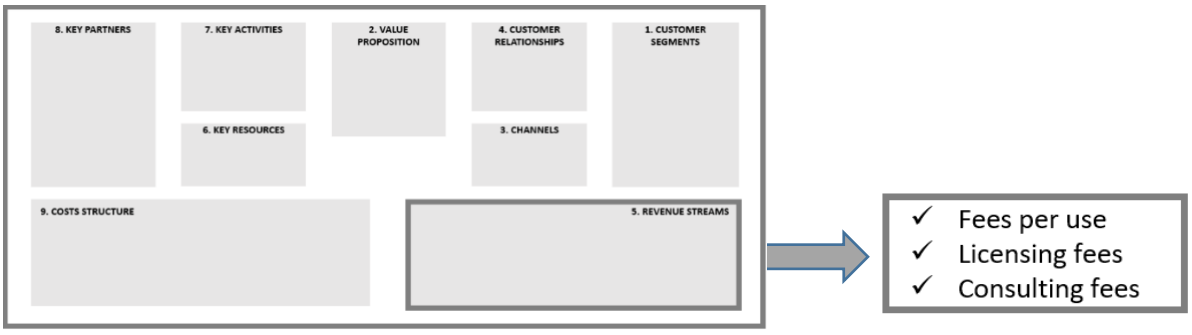
Figure 23. Customer relationships for product 3



5.4.6 Revenue Streams

- Fees charged to individual teachers per asset or material downloaded
- Licensing fees charged to educational partners who offer the materials to their teachers
- Consulting fees charged to professional development organizations seeking to upskill their employees in the use of interactive content and minigames in education

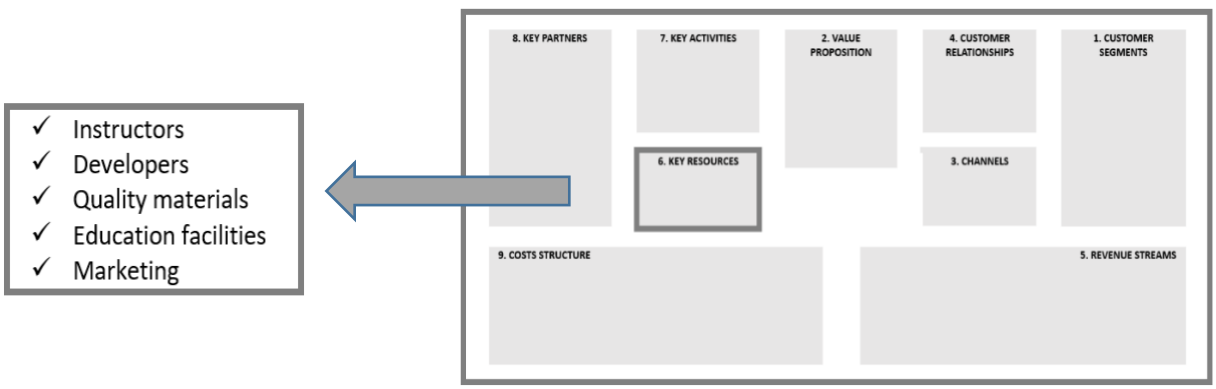
Figure 24. Revenue streams for product 3



5.4.7 Key Resources

- Experienced instructors with expertise in the subject matter
- Skilled game developers and designers
- High-quality curriculum and mini-game materials
- Interactive material for educational purposes
- Classroom or online teaching facilities
- Marketing and advertising channels (e.g. social media, email marketing)

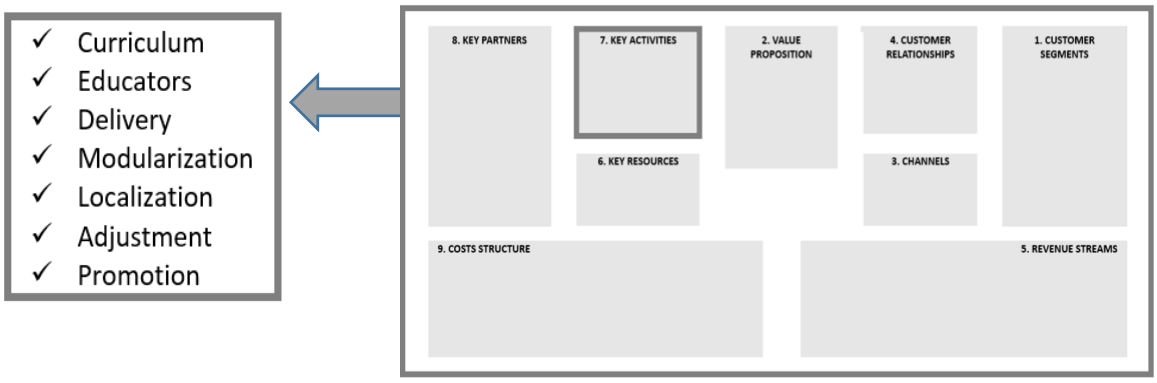
Figure 25. Key resources for product 3



5.4.8 Key Activities

- Curriculum development (creating educational content and designing mini-games)
- Training of educators in technical know-how and course material.
- Delivery, by making it downloadable
- Modularization, by making parts accessible as learning items that can be integrated into courses with a different overall focus
- Localization
- Content adjustment or adaptive generation (e.g. generating the virtual city from a different real-world street plan and model set)
- Marketing and promotion (to attract students and educational partners)

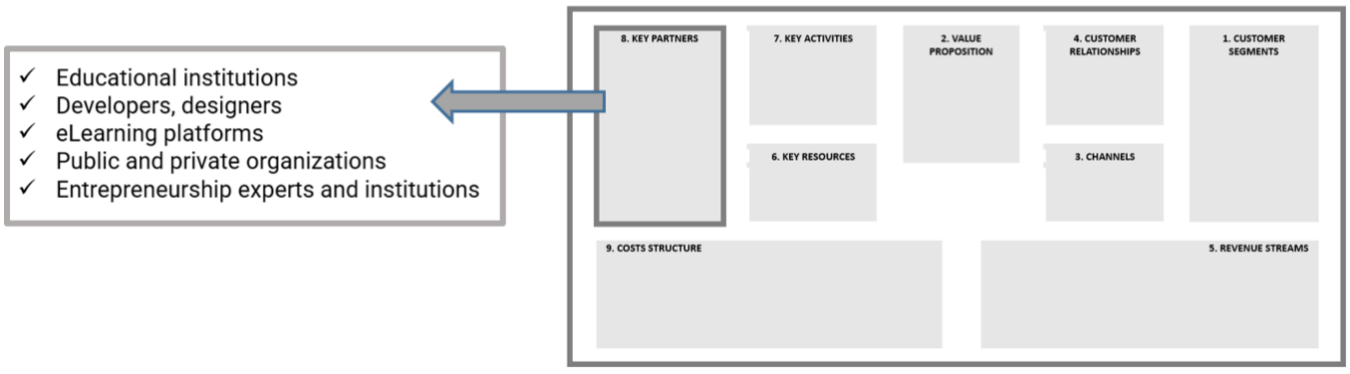
Figure 26. Key activities for product 3



5.4.9 Key Partners

- Educational institutions (schools, colleges, universities)
- Social services training institutions and organizations
- Game and interactive content developers and designers
- Online learning platforms (e.g. Udemy, Coursera)
- Professional development organizations
- Entrepreneurship training institutions and organizations
- Social entrepreneurship experts and practitioners

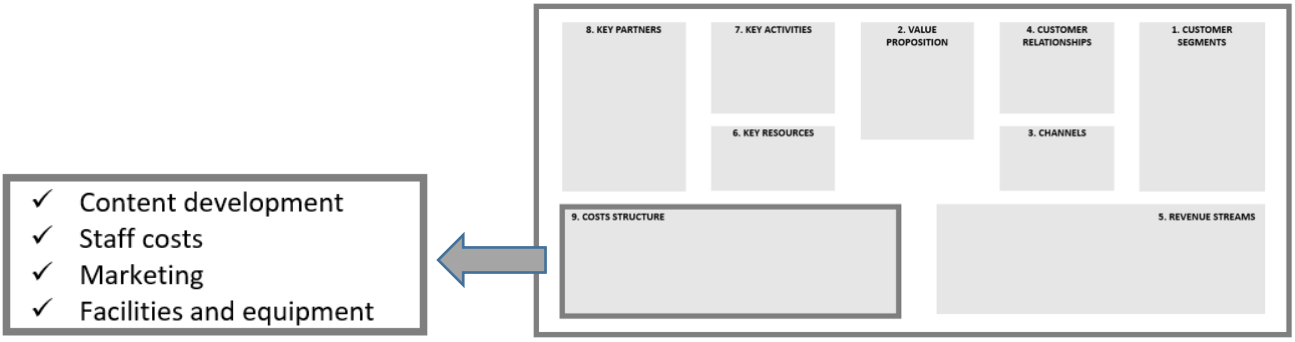
Figure 27. Key partners for product 3



5.4.10 Cost Structure

- Interactive and game-based content design and development costs
- Instructor and teaching staff salaries
- Marketing and advertising expenses
- Facility and technology costs (e.g. classroom, online learning platform fees,…)

Figure 28. Cost structure for product 3



For this course, the key metrics of success will be: (1) Number of training institutions adopting the course / content, (2) Revenue from content licensing and services, (3) Customer satisfaction and feedback and (4) Integration and usage metrics in the courses.

5.5 Intellectual property rights management

Finally, and in order to protect the intellectual property rights (IPR) of the three products described, a number of activities have been proposed that will be refined and adapted to the results of the marketing analysis in the Exploitation Plan (D8.5), if further research recommends doing so. These activities are:

1. Copyright Protection: Obtaining copyright protection for the creative elements of the products, including software code, course materials, learning resources, interactive content, and any other original works of authorship. Registering copyrights where applicable to establish a clear record of ownership.

2. Confidentiality and Non-Disclosure Agreements (NDAs): Implementing NDAs when sharing proprietary information or collaborating with third parties. Requiring employees, contractors, partners, and collaborators to sign NDAs to protect sensitive information and prevent unauthorized disclosure or use of intellectual property.

3. Clear Intellectual Property Policies: Developing and communicating clear intellectual property policies within the organizations and to external stakeholders. Outlining expectations regarding the protection, ownership, and proper use of intellectual property assets.

4. Employee and Contractor Education: Educating employees and contractors about the importance of intellectual property protection and their roles and responsibilities in safeguarding it. Providing training on copyright laws, trade secrets, and best practices for handling intellectual property assets.

5. Regular Intellectual Property Audits: Conducting regular audits to assess and monitor the use and protection of intellectual property assets. Identifying any potential infringements, vulnerabilities, or gaps in protection, and taking necessary steps to address them.

6. Trademark Registration: If needed, trademark for unique names, logos, or branding associated with the products will be registered to help establish and protect brand identity, prevent confusion in the market, and provide legal recourse against unauthorised use.

6. Conclusion

The e-DIPLOMA project represents an interesting opportunity to obtain a series of products that can be exploited for the benefit of the partners involved and can also open the door for the development of other marketable products and services by other partners.

The first three exploitable results have been clearly defined in this first phase of the project, and a Business strategy has been outlined, but further research and market analysis still need to be developed to confirm their economic and social viability within the educational sector, the sector to which both the project and the partners' objective are focused. A sector that is in continuous expansion and is, therefore, a relevant market for the products developed.

The results of said research and the market analysis developed will be integrated in D8.5. Exploitation and after project communication plan, first version in M24. It will be focused on confirming the primary selection of exploitable results, and the definition of the business and use cases of the project, as well as the potential for future exploitation with external stakeholders. This baseline constitutes the basis of an exploitation plan in which the needs of the sector, the maximisation of each product's return on investment will guarantee the success in the commercialization.

e-DIPLOMA

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