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Business Plan – Launch of an e-learning platform

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Master's in Applied Management

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BUSINESS
SCHOOL

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GLOSSARY

AI – Artificial Intelligence

CAL – Computer Assisted Learning

d-learning - digital learning

DGE – Direcção-Geral da Educação

e-learning – electronic learning

ESD – Education for Sustainable Development

ERT – Emergency remote teaching

ICTs – Information and communication technologies

m-learning – mobile learning

OECD – Organisation for Economic Co-operation and Development

OERs – Open Educational Resources

PRR – Programa de Recuperação e Resiliência

SDGs – Sustainable Development Goals

SMEs – Small and Medium-Sized Enterprises

WEF – World Economic Forum

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SUMMARY

This project aims to develop a business plan to launch a digital learning platform.

This platform targets students between the 5th and 12th grades, and aims to fill a gap in the market, by offering a differentiated approach than the ones that already exist in Portugal. This is accomplished by allowing students to buy only the necessary contents, and not being obligated to buy the entire curriculum. Moreover, it focuses on teaching Mathematics, the subject with which students struggle the most. This content is going to be fully developed by teachers, private tutors, tutoring centers or schools, that will, in their turn, earn a percentage of the revenue generated by their contents.

A questionnaire was administered to understand customers' expectations regarding digital learning platforms, and help define our strategy.

The online platform market is in high demand and growth, together with private tutoring, mainly due to the impact of the Covid-19 pandemic that has accelerated the digital transformation in the education area. Although the market is growing, the significant initial investment required to develop the platform, as well as the limitations imposed by only focusing on mathematics. However, after a financial analysis, we came to the conclusion that this project is financially viable.

Keywords:

- 1) Business Plan
- 2) Online learning platform
- 3) Digital transformation
- 4) Mathematics

JEL Codes:

M10 General, M13 New firms/Startups

SUMÁRIO

Este trabalho de final de projeto tem como objetivo a realização de um plano de negócios que visa o lançamento de uma plataforma digital de ensino.

A plataforma em questão terá como *target* alunos que estudem entre os 5º e o 12º ano, e tem como objetivo preencher uma lacuna no mercado, ao oferecer uma abordagem diferenciada à de outras plataformas que existem atualmente em Portugal. Tal será atingido ao possibilitar a compra de apenas parte do currículo de cada ano. Em simultâneo, Matemática será a única disciplina disponível, sendo que esta é aquela em que os alunos têm maiores dificuldades. O conteúdo será inteiramente desenvolvido por professores, explicadores, centros de explicação ou escolas, que, por sua vez, receberão uma percentagem das receitas geradas pelo conteúdo que produzam.

Foi realizado um questionário para que pudéssemos compreender as expectativas de potenciais clientes no que diz respeito a plataformas digitais de ensino, o que nos ajudou a definir a nossa estratégia.

O mercado para plataformas digitais de Ensino, bem como de explicações tem tido um crescimento e procura significativos, maioritariamente devido à pandemia Covid-19, que acelerou a transformação digital na área da educação. Apesar deste crescimento acentuado, o investimento inicial para o desenvolvimento da plataforma é significativo, e, em simultâneo, o crescimento da mesma fica limitado pelo seu foco em matemática. No entanto, após análise financeira, chegamos à conclusão que o mesmo é viável.

Palavras-chave:

- 1) Plano de negócios
- 2) Plataformas digitais de ensino
- 3) Transformação digital
- 4) Matemática

JEL Codes:

M10 General, M13 New firms/Startups

1 LITERATURE REVIEW

1.1 Digital transformation in Education

Digital transformation is a transversal process to many industries and sectors worldwide and, from a simple perspective, can be translated to leveraging technology and data to transform an organisation's core business (Clark, 2018).

According to UNESCO et al. (2020), Information and Communication Technologies (ICTs) can complement, enrich, and transform education for the better. At the same time, the incorporation of technology into educational programs is driven by *“resources, tools, and applications, learning material, solutions, platforms and OERs that meet the needs of the learner alongside with those of teachers and instructors”*.

By combining technology and education and ensuring that user expectations are met, there can be a meaningful impact in performance, and competence achievement, as it can give a new angle to the same content, and provide a personalised experience (Ricard et al., 2020). The introduction of technology and digital transformation to education can lead to a transition between a traditional and an online learning system, but, at the same time, it does not replace the traditional learning methods.(Lozovoy & Zashchitina, 2019).

Education is also crucial for a global sustainable development and is the fourth goal of the United Nations Sustainable Development Goals (SDGs) for 2030 and aims to ensure an inclusive and quality education for all (United Nations, n.d.). Sustainable development needs to involve multiple themes and disciplinary fields. On that note, the challenge of achieving the Education for Sustainable Development Goal (ESD), can be accomplished by transforming the usual pedagogical approaches and methods through ICTs. This provides an effective, global, and transversal approach to education that allows easier access to educational resources, particularly to struggling students (Ricard et al., 2020).

Technology can thus be used to provide better access as well as improved learning and, therefore, has now a significant role in the worldwide digital transformation strategies for education but also for sustainability (Barkalov et al., 2021). For UNESCO et al. (2020), education must be a priority, and technology can close the gap for an inclusive and quality education.

The Covid-19 pandemic had a profound global impact on the SGDs goal by slowing down school progress, and exacerbating inequalities while lockdowns imposed a shift to remote learning (United Nations, 2021). The extended interruption of one's studies leads to a loss of knowledge and skills gained, greater in mathematics and reading. At the same time, losses are also greater for lower income students as well as for those whose parents cannot provide educational opportunities (at home or privately). The outbreak of Covid-19 increased the global

demand for online teaching (Onyema, 2020), and, as a consequence of schools' insufficient capacity to support remote learning as well as differences among students in terms of skills, resilience and motivation to learn independently and online can further increase losses (F. M. Reimers & Schleicher, 2020).

Taglietti et al. (2021) studied the impact and subsequent changes caused by the pandemic to the Italian education system, since this was one of the first European countries to close schools when hit by the pandemic. Here, like in many other European countries, education was based on the traditional classroom system and Italy was falling behind when compared to the digitalisation progress already achieved by other OECD countries. Italy's rigorous lockdown pushed a reconfiguration of school and education, with a digital acceleration fuelled by the increasing the demand from schools for digital devices, apps, platforms and infrastructures (Taglietti et al., 2021).

This sudden digital acceleration can be looked upon as an emergency solution or a chance for a transformation of the school form. It is important to establish that there are significant differences between effective online learning and the emergency remote teaching (ERT), that took place from March 2020 onwards in response to the Covid-19 pandemic. Firstly, effective online learning solutions aim to provide learning opportunities by creating environments for self-learning (Kumar Basak et al., 2018) through a careful design process that is not possible in the ERT (Hodges et al., 2020). Secondly, effective online education takes time to design and build and, on the contrary, the speed of events that led to this alternative did not allow time for such preparation. Lastly, ERT constitutes an alternative delivery mode due to crisis, contrasting with online learning platforms that are designed to be online (Hodges et al., 2020).

This crisis led to a truly remarkable acceleration in the digitalisation of processes all around the world, with digital platforms and technology playing a central role to an emergency solution for remote education. Considering the changing learning environment, demands for flexibility in methodology, and the need for creativity and innovation, integrating technology to education is mandatory (Onyema, 2020).

A global survey conducted by OECD in 2020 revealed that the silver lining to this pandemic were the unexpected positive educational results. A significant part of respondents considered the introduction of technologies and other innovative solutions as well as the autonomy of students that had to manage their own learning (F. M. Reimers & Schleicher, 2020).

1.2 Digital learning and its effects on education

Digital learning can be divided into four parts: 1) digital learning materials, namely e-books, digitalised data or other digital contents that learners can use to learn; 2) digital tools such as computers, tablets, and others; 3) digital delivery, that consists on the type of delivery of

content (internet, intranet, among others); and 4) autonomous learning as a requirement for online learning (Lin et al., 2017).

Traditional learning stands for the well-known and traditional approach to teaching, with classes being held exclusively face-to-face. On the other hand, online education stands for teaching and learning online with the aid of technology tools and platforms (Onyema, 2020). Kumar Basak et al. (2018) distinguish different types of online learning: Digital learning (d-learning), mobile learning (m-learning), and electronic learning (e-learning) are the most relevant. D-learning refers to any practice that strengthens the student experience through interactive learning resources, digital learning contents, amongst others. On the other hand, e-learning can be complementary to traditional learning or even an alternative to it. Finally, m-learning comprises tools that allow learners to interact with their learning resources and is complementary to both traditional and e-learning education. Moreover, it can be considered that e-learning and m-learning are subsets of d-learning (Kumar Basak et al., 2018). E-learning has become unavoidable due to the Covid-19 pandemic (Sathishkumar et al., 2020) as alternative methods to the traditional education approach had to be found.

One can consider that there are three types of digital learning (Mladenova et al., 2020):

- Synchronous – this method resembles the traditional real-time method and is enabled by video conferencing tools such as Zoom, and Microsoft Teams, among others;
- Asynchronous – contents are available at online platforms and learning is done anytime, anywhere, and with no real-time communication with teachers provided;
- Hybrid – a mixture between synchronous and asynchronous.

Graham & Allen (2011) define blended learning as “*a learning environment that combines face-to-face instruction with technology-mediated instruction*”, enhancing a positive learning environment (Capone et al., 2017). Capone et al. (2017) suggest that the flipped classroom is one of the best ways to deliver a blended learning experience through e-learning. In a flipped classroom, students firstly resort to digital contents provided by teachers before classes. Afterwards, and already in class, these materials are discussed, encouraging students to have an active role by applying new information to different context in a creative way. Students are responsible for their own learning, their interest increases, and they are more autonomous, while teachers become facilitators (Capone et al., 2017).

It is commonly accepted that digital learning could not replace the traditional version of learning but it aims to reinforce it, putting knowledge in a different perspective, and thus complementing it (Lin et al., 2017; Lozovoy & Zashchitina, 2019). Therefore, it should be treated as a different and complementary approach to education and is expected to continue to grow after the coronavirus pandemic (Mladenova et al., 2020).

Lin et al. (2017) conducted a global survey which concluded that students not only agree with the assistance of digital learning, but they perceive it to enhance their learning performance.

The following positive aspects can be perceived when comparing digital with traditional learning (Lin et al., 2017; Lozovoy & Zashchitina, 2019; Onyema, 2020; Schack & Foundation, 2015):

- Students have the freedom to choose time and space for learning online as technology enables education from any location at each student's pace;
- The online learning effect can be maximised by taking advantage of relevant online resources;
- Digital learning allows for a tailored learning course;
- Ability to quickly access content;
- Collection and study of relevant data related to students' progress and difficulties can lead to better content that meets their actual needs;
- Digital content can be more appealing to students thus enhancing learning interest that is translated into effectiveness of learning;
- Reduction of teaching costs since the digital teaching content can be utilised many times and for many different students without any further costs;
- While using digital learning, students acquire new technological skills;
- Online education supports an inclusive education;
- Development of students' autonomy.

Moreover, blended learning has some advantages over online learning: increased face-to-face communication and engagement, sense of community, improved performance, active participation, and others (Tayebnik & Puteh, 2013).

Despite the rapid digitalisation of education there are still obstacles that demand our attention when considering online learning (Borba et al., 2016; Lozovoy & Zashchitina, 2019; Mladenova et al., 2020; UNESCO et al., 2020) :

- Children's online protection and data privacy;
- There are questions about the accurateness and pedagogical design of digital materials and whether they foster conceptual understanding;
- Amount of screen time required;
- Lack of in-person social contact may lead to a sense of isolation;
- Reliance on internet connection and electricity.

Regarding blended learning, there are disadvantages to this method since it requires that teachers are comfortable with a different approach, as well as taking extra time to prepare classes but also accompanying them outside them (Halili & Zainuddin, 2015).

It is also important to acknowledge the growth of virtual private tutoring as an extension of formal education that aims to support learning by addressing learning needs of students. Virtual tutoring allows students to increase their digital skills and to gain experience in real-time collaborative environments. The focus that is placed on each student allows for the improvement of their level of knowledge, skills, and attitude towards different subjects (Doukakis et al., 2020; Ventura & Jang, 2010).

1.3 Trends for education and technology

Considering the effects that the pandemic brought to education as well as the rapid growth of digital acceleration at a global level, trends for this area are deeply aligned with lessons learned through this period.

Even before the Covid-19 pandemic, the use of technology for education was growing and the overall market for online education is expected to reach \$350 Billion by 2025 (Li & Lalani, 2020).

Ricard et al. (2020), advocate that ESD goals can only be achieved by acquiring, in addition to basic knowledge, different skills such as critical thinking, normative and strategic competencies, collaboration, self-awareness and problem solving. Bearing this in mind, a set of innovative pedagogies can be expected such as:

- Development of digital resources and tools that encourage design, creation and sharing;
- Generalisation of online and blended learning, through a combination of traditional education and e-learning;
- Applying learning analytics and other AI techniques to the ESD as well as designing analytics dashboards in order to collect, analyse, process and report data, thus optimising learning;
- Using predictive techniques to make personalised recommendations.

Similarly, Burbules et al. (2020) also focuses on a sustainable future for education so that the technological transformation potential can be achieved. To do so, five changes are proposed that think of technology as a set of resources that allow rethinking educational aims, methods, and institutions. Firstly, there should be changes in educational aims and objectives, focusing education on transversal competencies such as creativity, strategy, and analytical thinking. Secondly, educational ecologies are changing, since many now look for educational alternatives outside the formal institutions as well as fostering the potential of technology learning. Thirdly, learning processes are also likely to change with the help of new technologies that allow customisation, the possibility of learning whenever and wherever students desire, and the collection and treatment of data to better suit the needs of students. In other words, *“new technologies are not just tools or delivery systems for content – they are occasions for*

fundamentally changing the places and times of learning, the methods through which learning happens, the content of learning, and the motivational structures of learning" (Burbules et al., 2020). Fourthly, changes in teaching processes that can be complemented and enriched by technology or AI. Lastly, educational governance and policy, by testing what works or not, and using the information to guide decision-making and planning.

F. Reimers & Schleicher (2020) define "*ways forward*" to seize the dividends in innovation in education caused by the Covid-19 pandemic in the 2020 OECD report. The current crisis has revealed a potential for innovation in education that was somewhat dormant in its more traditional approach. There should be an effort to continue developing online and remote learning infrastructures as well as teachers and students' capacity to adapt to this reality thus increasing students' ability to learn independently. It is argued that online learning and independent learning facilitates acquiring relevant and essential 21st century competences such as collaboration, communication, independent research, and higher order cognitive skills. Moreover, innovation should be appropriately funded and should have a more intentional and strategic approach based on sound research.

UNESCO's approach to transforming education is reflected in their working papers on education policies where the value of Artificial Intelligence (AI) is approached as a mean of achieving a personalised learning experience to learn better, learn more, and learn different things (Pedro et al., 2019). AI and digital technology, through Computer Assisted Learning (CAL), can help students to design their own learning trajectory and can also be used to free up teacher's time by learning how they grade, among other applications. Some technology assisted learning and teaching platforms are already up and running with positive feedback and results from their users, such as Plain Ceibal (Uruguay) and Geekie (Brazil) and 17zuoye (China) (Pedro et al., 2019; World Economic Forum, 2020). These platforms all have in common the ability to provide a constant personalisation of content dependent on the students' progress.

World Economic Forum (2020) outlines the importance of quality education in the fourth industrial revolution, the Forum's Education 4.0 initiative, aiming to mobilise relevant stakeholders to transform the future of education. The following characteristics have been recommended when defining content in the context of a high-quality education for Education 4.0:

- Global citizenship skills – to build awareness about the wider world, sustainability and playing an active role in society;
- Innovation and creativity skills – to encourage innovation through the use of digital skills such as online education and coding games;
- Technology skills – such as programming, digital responsibility and use of technology;

- Interpersonal skills – such as empathy, cooperation, negotiation, leadership and social awareness;
- Personalised and self-paced learning – the use of digital courseware and digital learning outside the school enables each student to learn at their own pace through a personalised and flexible model;
- Accessible and inclusive learning – equal access to learning;
- Problem-based and collaborative learning – to more closely mimic the future of work;
- Lifelong and student-driven learning – by improving existing skills and acquiring new ones over one’s lifespan.

Moreover, there should be a commitment to take on the best of digital and physical learning, creating a “*learner-centric, personalised, equitable and inclusive*” education system (Chowdhury, 2021). For this approach to the 21st century education, students are expected to learn in a blended environment that takes advantage of the positive sides of traditional and digital learning experiences. The proposed framework for this solution is presented in Figure 1.

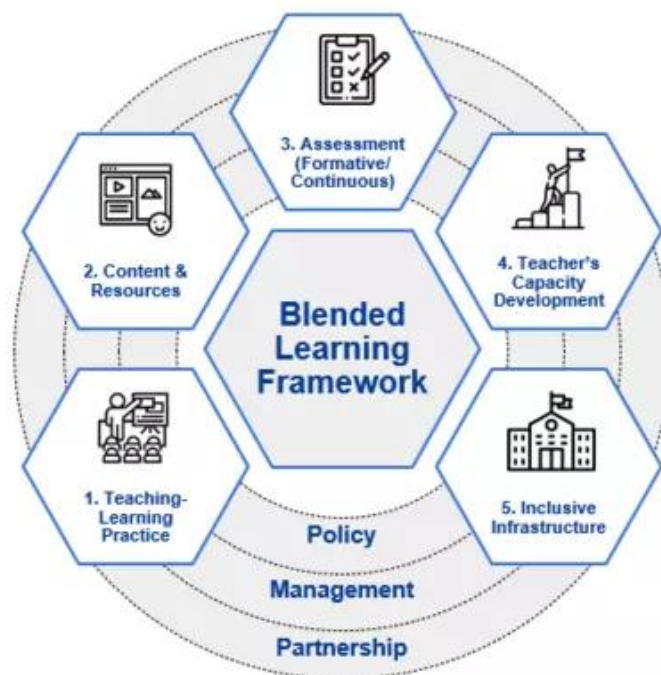


Figure 1 – Blended Learning Framework (Chowdhury, 2021)

Chowdhury (2021) proposes that comprehensive and practitioner-driver policies, alongside with a data driven management, and public-private partnerships enable the following five key elements that constitute a solid blended-learning platform:

1. Teaching-learning practice – provide learners with a mixture of synchronous and asynchronous methods, learning problem-solving skills that allow students to take advantage of the Fourth Industrial Revolution;
2. Content & resources – “digital education should be affordable, reusable, interactive and personalised”.
3. Assessment (formative & continuous) – traditional assessment methods should be rethought and must include real-time assessment with the use of AI tools; moreover, it must take into account the development of other necessary skills for the 21st century such as communication and problem solving, among others;
4. Teacher’s capacity development – teachers should have continuous development opportunities to follow a blended pedagogy that allow them to expand their collaboration, peer-learning, and critical thinking skills;
5. Inclusive infrastructure – develop digital friendly physical environments as well as open, inclusive, and accessible learning spaces for all.

2 BUSINESS PLAN OBJECTIVES

The current Business Plan aims to study the viability of a digital learning platform dedicated to Mathematics, focusing on the Portuguese national curriculum, from the 5th to the 12th grade.

Despite the current offer, none of the existing platforms give students the possibility to buy only part of the curriculum. At the same time, mathematics has been proven to be the subject in which students struggle the most. Although a significant part of students resorts to private tutoring to overcome those hardships, many don't have the financial means to take advantage of these kind of services.

Having this in mind, it is proposed that the digital learning platform that is the object of this work aggregates the following;

- Act as a complement of school and focused on developing knowledge in a personalised manner;
- Private online tutoring lessons, individual or in small groups that complement the offer but are not the core business;
- Content designed and offered by independent people or organisations that are, preferably, subject matter experts in the area, and submitted through a rigorous quality control process;
- Function as an online learning platform and marketplace by establishing partnerships with schools, tutoring centres, and private teachers that provide content; in return, the platform will charge a fee for every course sale made;
- Possibility to separately buy different topics of each subject; students will not have to buy the whole course for each grade, therefore only investing in topics that are relevant for them;
- Specific modules for exam preparation;
- Summer modules, designed for concept recovery from previous grades;
- Evaluation of knowledge level, needs, and objectives of each student, followed by personalised recommendations of topics relevant for their knowledge development;
- Online lectures that allow students to learn at their own pace and build on autonomy.

3 METHODOLOGY

To better understand the current offer, a market analysis of the digital learning and e-tutoring areas in Portugal was undertaken. This allowed to gather data in terms of offer, services provided, and pricing and contributed to develop a benchmark, and value proposition.

An environment analysis was conducted, considering a PESTEL analysis to understand the general environment, and a Porter's five forces analysis to understand the transactional environment. A SWOT analysis was made to assess strengths weaknesses, opportunities, and threats of this business. The aim was to evaluate the viability of the proposed plan, by analysing the competition and external environment to the business.

Primary information was collected through a consumer survey to provide market validation and deepen the business model to better understand the needs and expectations of customers, thus adjusting the products offered. Also based on the questionnaire, the marketing strategy was defined, and the marketing mix was designed.

Finally, a financial evaluation was made to understand the necessary investment, projected revenues, and expenses. This analysis is particularly important to address potential investors and understand the viability of the business.

4 MARKET AND INDUSTRY ANALYSIS

According to Statista (2015), the global e-learning market is expected to reach \$243.800 million dollars by 2022. However, this number does not reflect the profound impact and acceleration caused by the Covid-19 pandemic. Carvalho (2021) estimates that by 2025 online education reaches a global value of \$320.000 million dollars since the pandemic has exponentially increased the number of students willing to learn remotely.

On the topic of market analysis, we will firstly study the Portuguese education market, followed by an external PESTEL analysis.

4.1 Analysis of the Portuguese education market

Considering 1st to 12th grade, the total number of Portuguese students in 2020, in both private and public schools, was 1.344.625, distributed as (Pordata, 2021a):

- 1st to 4th grade – 386.622 students;
- 5th to 6th grade – 215.473 students;
- 7th to 9th grade – 349.190 students;
- 10th to 12th grade – 393.340 students.

About half of the 10th to 12th grade students are enrolled in the Sciences and Technology area (DGEEC, 2020a), and all students until the 9th grade have Mathematics.

At the same time, according to DGEEC (2020b), Mathematics is one of the areas in which students struggled the most between 10th and 12th grade. Moreover, 53% of students resorted to private tutoring, through tutoring centres or privately, to improve low and high grades, and exam preparation. Mathematics was the subject, Portuguese and Physics and Chemistry were the most sought out subjects.

According to Chagas (2021) It is estimated that Portuguese families spend about 118€ per month in private tutoring. Considering that not all families have budgets that allow them to accommodate such values, this implies that not all students have access to equal opportunities. A recent study showed that, in Portugal, approximately 244.000 students from the 1st to the 12th grade, resort to private tutoring and this market is estimated to be worth over €200 million per year (Chagas, 2021). Learnify is a Portuguese startup exclusively dedicated to online tutoring services that registered a 1100% growth in 2020 (Neto, 2020).

Additionally, online learning platforms had a tremendous growth in users since 2020 and the main ones now have more than 1.000.000 registered users, and ever since the abrupt transition to online school during lockdowns (Agência Lusa, 2020).

There is a small number of players focused on the 1st to 12th grade for online platforms. From the four competitors identified, three are significantly bigger and concentrate the majority of the market. Nonetheless, they are significantly different between each other.

Error! Reference source not found. compiles relevant information regarding the identified online platforms available in Portugal that serve the targeted objective of this business plan.

Table 1 – Main online learning services and content available in Portugal (Escola Mágica, n.d.; Escola Virtual, n.d.; Kahn Academy, n.d.; Matematik, n.d.; Parreira, 2020; Reis, 2020). Source: The Author, 2021

	Kahn Academy	Escola Virtual	Aula digital	Escola mágica	Matematik
Value proposition	Non-profit organisation that aims to provide free quality online education for everyone	First e-learning platform that provides attractive and effective contents, and contributes to better performance of students	Focused on blended learning by presenting digital resources to teachers to apply in the classroom	Platform that aims to enhance learning	Platform that specialises in Mathematics, with content curated by experienced teachers
Subjects	Mathematics – grouped by grade or theme Physics, Chemistry and Biology – grouped by theme	Relevant subjects from the national curriculum, from the 1 st to the 12 th grade	Relevant subjects from the national curriculum, from the 1 st to the 12 th grade	Relevant subjects from the national curriculum, from the 1 st to the 9 th grade	Mathematics
Price	Free	Free – digital license Premium – 79,99€/year	Free – digital license Premium – from 8,77€ to 69,26€/year, ranging by year and type of content	45€/year	Free Premium – monthly subscription, from 8 to 10€/month, depending on grade
Type of content	Digital blackboard videos; exercises; progress tracking;	Free digital licence (for students that have Porto Editora's textbooks) – digital resources that complement books as well as digital manual; Premium license – free digital license + interactive classes, exercises, progress report, exam preparation, and dictionaries	Free digital licence (for students that have Leya's textbooks) – digital resources that complement books; Premium license – free digital license + digital version of books, exercises, and digital resources	Video content and exercises	Free – theoretical summaries and solved exercises; Premium – free content + video exercises, and progress reports
Other relevant data	Over 70 million users in more than 190 countries and 40 different languages	Over 1200000 users (students and teachers) and more than 1000000 visits/month	About 1000000 active users	N/A	N/A

Regarding private tutoring, the existing market acts both on a physical, and online front. Tutoring centres now offer online classes besides the presential and traditional ones, due to the pandemic. There is also a significant amount of offer from private teachers that, together with the lack of regulation makes it difficult to understand the actual number of competitors. Both serve students from the 1st to the 12th grade and cover all subjects of the national curriculum. Prices vary when considering the subject at hands as well as the grade and can vary from 10€ to 35€ an hour.

A newspaper article published in September 2021 (Peralta, 2021) indicates that about 244.000 students in Portugal take advantage of private tutoring classes that make up for a €200 million market. During lockdowns and even after that, private tutoring became an online activity that allowed students to continue to have the support.

4.2 PESTEL Analysis

A PESTEL analysis is relevant to translate the contextual environment in Portugal.

Political Context

Portugal is a democratic state, with a semi-presidential republic and a parliamentary democracy with a Head of Government (the Prime Minister), and a Head of State (the President) (European Union, n.d.). The organs of sovereignty are the Portuguese Parliament (*Assembleia da República*), the President of the Republic, the Government and Courts (*Assembleia da República*, n.d.-a). These organs are constitutionally bound by the principle of separation of powers, with cooperation and reciprocal oversight procedures among them (*Assembleia da República*, n.d.-c).

The Portuguese Parliament is elected by universal, direct and secret suffrage, and is mainly occupied by the Socialist Party, as they occupy 108 of 230 seats, followed by the Social Democratic party, with 79 seats (*Assembleia da República*, n.d.-b).

Marcelo Rebelo de Sousa is Portugal's president and was re-elected for a five-year second term in January 2021. The current government is Socialist, and headed by the Prime Minister António Costa until the end of its second term in 2023.

Corporate income is taxed at a flat rate of 21% in mainland Portugal and 14,7% in The Autonomous Region of Madeira and Azores. SMEs located at the mainland benefit from a reduced rate of 17% on the first €25.000, and a 11,9% rate applies to SMEs located at Madeira and Azores (PWC, 2021).

Economic Context

Between 2016 and 2019 Portugal's GDP ranged from 2.02% to a maximum of 3.51% in 2017. However, it is projected to grow over the next two years (Figure 2).

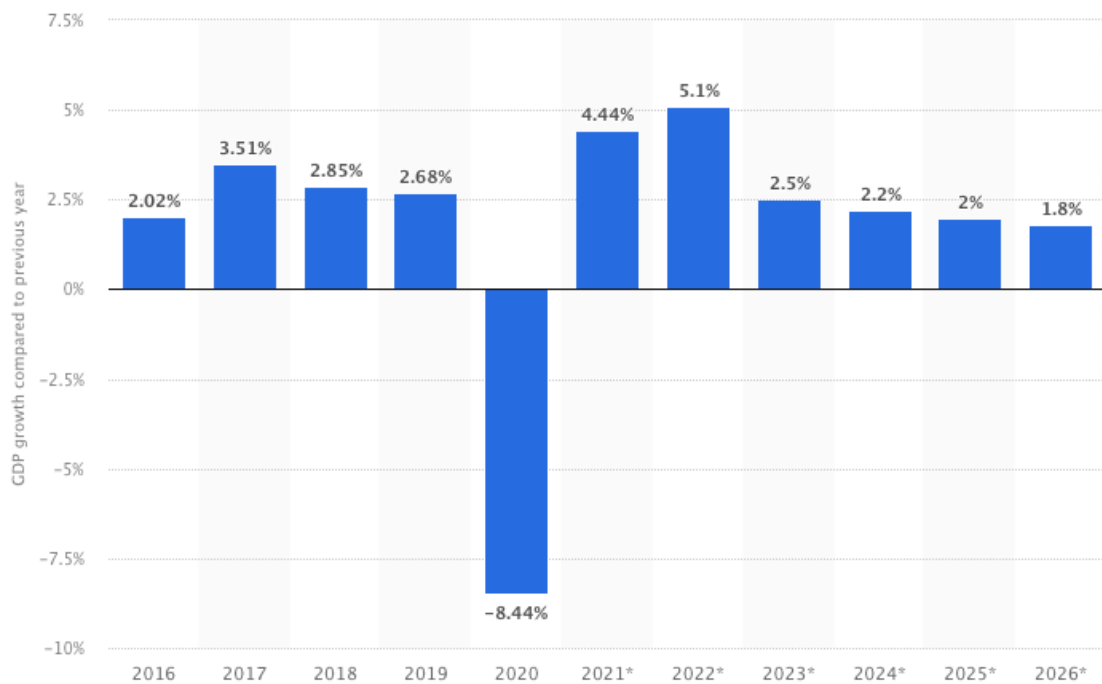


Figure 2 – Portugal's GDP growth from 2016 to 2026 (Statista, 2021)

In 2020, due to the global pandemic, GDP varied negatively to -8,4%. In line with Statista (2021) forecasts, the European Union (2021) estimates that Portugal's GDP should reach 4.5% in 2021, and 5,3% in 2022, as can be seen in Figure 3. Regarding the inflation rate, until 2020 there had been a steady decrease up to 0%. It is now projected that for the upcoming years inflation will rise to 1,1% by 2022.

Indicators	2020	2021	2022	2023
GDP growth (% , yoy)	-8,4	4,5	5,3	2,4
Inflation (% , yoy)	-0,1	0,8	1,7	1,2
Unemployment (%)	6,9	6,7	6,5	6,4
Public budget balance (% of GDP)	-5,8	-4,5	-3,4	-2,8
Gross public debt (% of GDP)	135,2	128,1	123,9	122,7
Current account balance (% of GDP)	-1,2	-0,9	-0,4	-0,4

Figure 3 – Economic forecast (European Union, 2021)

Banco de Portugal's forecasts, as shown in **Error! Reference source not found.**, are more optimistic than those of the European union and foresee a higher GDP growth for Portugal than that of the Euro Area. Moreover, inflation is predicted to be lower in Portugal, when compared to the Euro Area.

		2020	2021 (p)	2022 (p)	2023 (p)
Gross domestic product	 Portugal	-8.4	4.8	5.6	2.4
	 Euro Area	-6.5	5.0	4.6	2.1
Harmonized index of consumer prices	 Portugal	-0.1	0.9	0.9	1.0
	 Euro Area	0.3	2.2	1.7	1.5

Figure 4 – GDP and inflation – Portugal vs Euro Area (Banco de Portugal, 2021)

The unemployment rate in 2020 was 6,8%, still below the euro zone (Pordata, 2021c; Publico & Lusa, 2021). It is expected to decrease for the upcoming years to a minimum of 5% in 2025 (Mateus, 2021)

Pordata (2021b) information about interest rates for loans up to €1.000.000 in Portugal shows a steady decrease from 2012 up to 2020, where it reached 2%.

Social and cultural context

Portugal has 10.347.892 inhabitants in 2021, with an ageing ratio of 167 in 2020, which means that elderly population is much higher than the younger population (INE, 2021). In 2015, Portugal had the 5th highest ageing index of all the member states (INE, 2015).

In 2019, the total fertility rate in the EU was 1,53 live births per woman according to Eurostat (2021) and in Portugal it was 1,4 (The World Bank, n.d.).

About half of the population lives in the Lisbon and Oporto areas (Bastos & Ascenção, 2021)

The illiteracy rate was 5,2% in 2011, and 19,6% of the population has a higher education degree, 1.344.625 students were enrolled in both public and private schools in 2021 (Pordata, 2021a).

Technological context

According to Jornal de Negócios (2019), in the past years Portugal has improved in technology innovation and sits at the 34th place among 141 counties of the World's Economic Forum competitiveness ranking.

The country's competitive advantages are the possibility of personalised services with a wide portfolio of skills, innovation based on system design, and highly qualifies skilled labour, among others. In fact, Portugal has over 160 startup incubators and accelerators such as Startup Lisboa, Second Home, Canopy, UPTEC, and Startup Braga. Portugal IN (n.d.)

In Portugal, startups benefit from simplified licensing and special legislation. These range from Startup vouchers, tax release for individual investors who purchase new shares, and the Startup Portugal program (Portugal IN, n.d.-b).

Following the Covid-19 impact on European countries, the government, with the support of the European Union, has launched a program aiming promote digital economy, sustainability, and resilience of the Portuguese companies. The *PRR (Programa de Recuperação e Resiliência)* has over €16.000 Million to invest until 2026 (PRR2030, 2021a).

Environmental context

The European Union aims to achieve net-zero carbon footprint by 2050. Portugal, as one of its member-states and under the Paris agreement, is committed to prevent the expected increase in global warming (RNC 2050, n.d.).

Deeply aligned with the Paris agreement, and as mentioned before, the PRR supports different initiatives in the sustainability area, such as: industrial decarbonisation towards net-zero emissions, energy efficiency of buildings, as well as hydrogen and renewable sources of energy (PRR2030, 2021b),

Legal context

Portuguese labour laws have undergone numerous reforms in the past 30 years, resulting in a more flexible labour system (AICEP, n.d.).

Consumer protection laws aim to ensure that products and services must comply with legally established standards and meet consumer expectations. Moreover, consumers have a right to make a complaint if not satisfied with those products and services (ePortugal, n.d.).

Portugal promotes an effective and competitive market by enforcing laws focused on anti-competitive and antitrust practices. AdC is the Competition Authority of the country and ensures compliance with such laws (Autoridade da Concorrência, n.d.).

CNDP (Comissão Nacional de Proteção de Dados) is the entity that ensures the compliance with data protection laws at place in the country (CNDP, n.d.),

4.3 Porter's Five Forces Analysis

Through this analysis we will study the immediate sectorial environment and external stakeholders.

Threat of new entrants

The threat of new entrants to the digital learning platforms sector can be considered low since the set-up cost is significant in terms of platform development, and content creation. Existing players in this sector have built up experience over the years and are well established. A new entrant to this market is bound to have a competitive disadvantage from the start. However,

customers are now accepting and using digital learning more than ever, thus opening doors for new entrants to the sector.

Regarding online private tutoring, the lack of regulation and ease to set up makes it easy to enter the market, therefore increasing the threat.

Bargaining power of buyers

Digital learning platforms had an exponential growth of users in the past year, mostly due to the Covid-19 pandemic. Customers can easily access different types of content and compare them, content, and price wise.

Considering the differences between products, the bargaining power would be reduced, since the content approach is different from its competitors.

At the same time, customers can easily compare products and are price sensitive. Therefore, the differentiation of content is key to gain competitive advantage towards competition.

Threat of substitute products

The platform's online content can be substituted by similar products or private tutoring. Regarding the first, it is essential to differentiate the available content by considering what competitors offer. As for the later, it is more expensive than an online course, therefore giving an advantage to online learning. Moreover, private tutoring serves a different purpose than that of online learning platforms.

Bargaining power of suppliers

There are several suppliers available, from digital learning platforms creators, to teachers, and video editors. This places the company in a comfortable position to negotiate. However, each supplier has a unique take on the contents therefore giving them negotiation power.

Rivalry among existing competitors

The number of competitors in terms of online platforms is low as the offer in Portuguese is concentrated in five players. From these, three gather a significantly higher number of users than the remaining. On the other hand, private online tutoring has a high number of competitors nowadays.

Even though this sector does not have a significant number of players aiming to fulfil the needs of students aged 10 to 18, it is growing fast, and, therefore, there is space for new competitors to make a stand.

5 SWOT ANALYSIS

5.1 Opportunities

The market size for both digital platforms and private tutoring is considerable, as seen in the analysis of the online learning Portuguese market. Moreover, both online tutoring and learning platforms had an exponential growth since March 2020, due to the Covid-19 pandemic. On the one hand, there are around 1 million users of digital platforms. On the other, approximately 240.000 students recur to private tutoring services. Despite this, the potential market is smaller on both cases, since we cannot know for certain how many of the digital platforms users actually pay for the premium services and with the end of lockdowns imposed by the Covid-19 pandemic students might prefer the tradition in-person version of private tutoring.

At the same time, the existing online learning platforms specialise in a particular area and do not have an integrated offer of digital resources and private online tutoring. This entails that the proposed platform can be a one-stop-shop for digital learning.

The proposed offer of contents allows students to only purchase content that is relevant for them, making it a more affordable option for those who do not have the ability to pay for private tutoring as well as the entire curriculum in a single payment.

5.2 Threats

There are a number of large players already well established that can be a threat for a number of reasons. Firstly, the largest market share is attributed to publishers that complement traditional classes at schools with online activities, therefore having the ability to reach more students. Secondly, competitors have many years of experience and development of their platforms. Thirdly, there are a number of substitute services in this area. Fourthly and lastly, there is also free content available for every student.

At the same time, the lack of regulation for this market poses a threat since new players can easily enter the market without legal restrictions and imitate the proposed model. Moreover, the largest players can easily add services to their offer, giving them the upper hand. During the summer months when schools is interrupted, the demand is lower.

The challenge of taking complementary learning to a digital form is also relevant since many can be attracted to the in-person models of private tutoring once the social distancing policies are no longer in place.

Moreover, Portugal's low total fertility rate is a threat since it indicates that there are fewer consumers as the population ages.

The economic recovery from the Covid-19 impact on GDP and wealth creation is still a concern. Moreover, it can have a negative impact on employment, inflation, purchasing power, thus making the purchase of this type of services less relevant.

5.3 Strengths

The platform will be accessible everywhere. Moreover, the purchased content will be available for as long as the users account is active, thus making it accessible at all times. Students can learn at their own pace, thus having the possibility to revisit contents, and take as long as needed to understand the subject.

The setup cost does not entail investing in content since it is the responsibility of those who sell their courses in the platform.

Finally, students buy only the contents that are actually needed, making it potentially more affordable than the existing offer.

5.4 Weaknesses

The setup cost of the platform represents a significant investment that cannot be overlooked.

By not being responsible for the content creation, it is difficult to ensure adequate quality standards since virtually anyone can create and sell a course in the platform. To guarantee quality, all content must be submitted through a rigorous control process.

The major online learning platforms that compete for the same market have at least a decade of experience and constant improvement. Bearing this in mind, it is difficult to be at their level from the start.

Having in mind the market analysis performed in the past chapter, it is now possible to condense the most relevant information through a SWOT analysis, as seen in Figure 5.



Figure 5 – SWOT Analysis. Source: The Author, 2021

6 QUESTIONNAIRE ANALYSIS

6.1 Approach

A questionnaire was designed to understand consumer behaviour and purchase motivations for this type of products. With this, we intended to understand the tutoring market, the online learning platform usage, as well as motivations for changing platforms. Moreover, the survey aimed to define valued features in online platforms to better understand the wants of customers regarding digital learning platforms.

The survey was designed having in mind the above and that not all students make use of private tutoring or digital learning platforms, as can be seen in Figure 6.

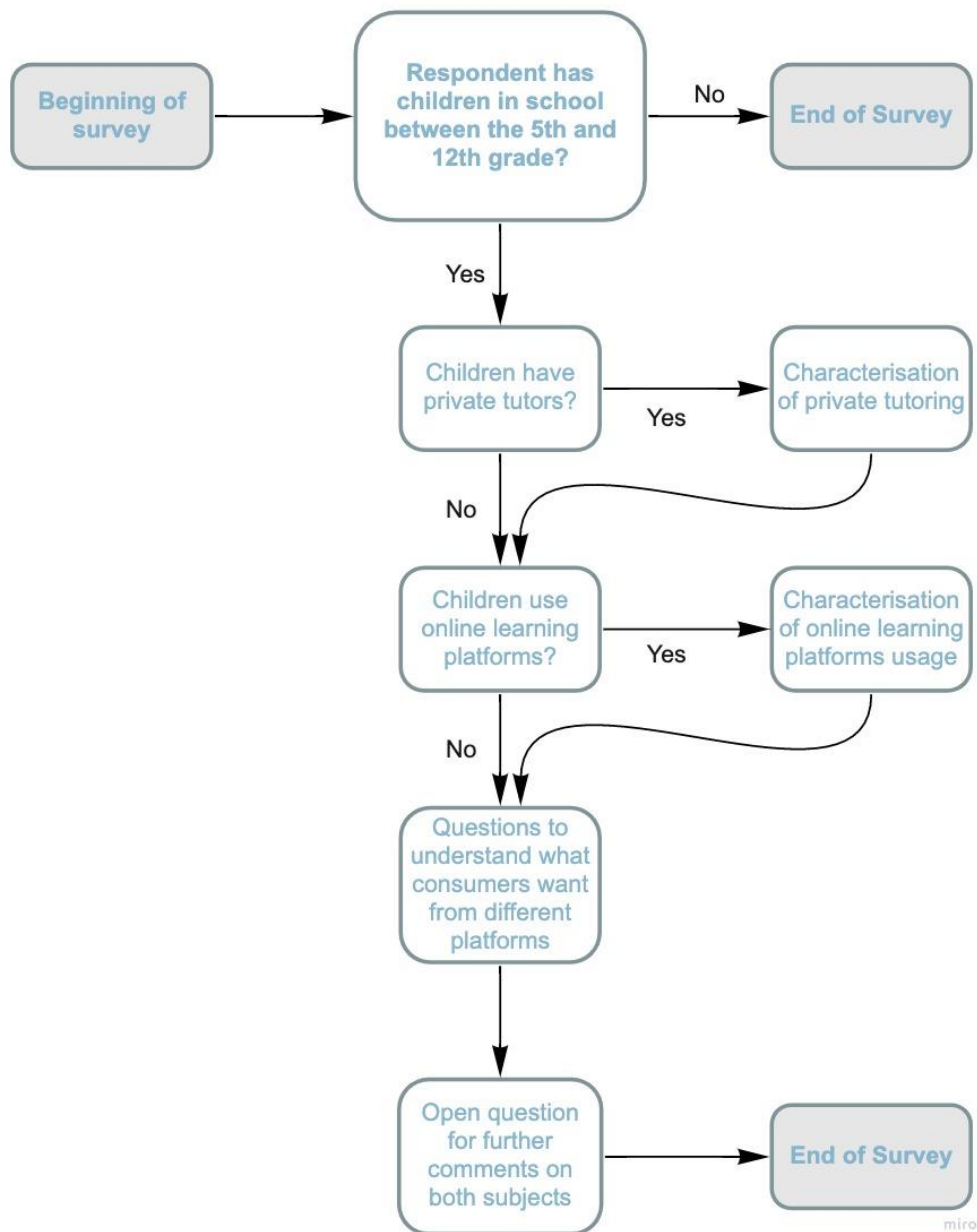


Figure 6 – Questionnaire design. Source: The Author, 2021

The questionnaire targeted adults with children that attend private or public schools between the 5th and 12th grade and the main research questions were as follow:

1. Do children have private tutoring classes? If so, what are the main subjects taught?
2. Do students use digital learning platforms? Which are the most popular platforms and why do they stand out (both positive and negative aspects).
3. How much money is invested by each family when it comes to the most used digital learning platform?
4. Are families willing to change platforms? If so, what would it take?
5. What are the most valued features of any online platform? Is it positive to only buy parts of the curriculum? How much are families willing to pay for this type of offer?
6. What is the profile of digital learning platform users (students) and subscribers (parents)?

6.2 Data collection and analysis

The data collection was made through an anonymous online questionnaire where the main research questions were addressed.

It was administered to 584 respondents between the 7th and 17th of November 2021. From the initial respondents, 536 answers were within the targeted group and 48 were not. The 536 answers allowed for a better understanding of consumer habits of 662 children and their parents opinions regarding digital learning platforms and private tutoring, between the 5th and 12th grade.

Results were analysed with Excel and can be found in Appendix A – Questionnaire results (The Author, 2021).

6.3 Conclusions

A data summary and analysis can be found in Appendix A – Questionnaire results (The Author, 2021).

The targeted respondents have a total number of children of 661 between the 5th and 12th grade. 178 children are on the 5th or 6th grade, 240 on the 7th, 8th or 9th grade and 244 on the 10th, 11th or 12th grade.

At the same time, 45% of this sample have private tutoring lessons. From this, more than half (51,17%) have private tutoring mathematics lessons.

Considering the collected data, it is now possible to answer the proposed research questions.

- 1. Do children have private tutoring classes? If so, what are the main subjects taught, frequency of classes, and how much is spent on average by each family?**
45% of the respondents have private tutoring lessons. From this, more than half (51%) have private tutoring mathematics lessons.

37% spend between 50 and 100€ per month, followed by 30% that spend between 100 and 150€ per month and 22% that spend more than 150€ per month.

2. Do students use digital learning platforms? Which are the most popular platforms and why do they stand out (both positive and negative aspects)?

54% of respondents' children use digital learning platforms. The most popular is "Escola Virtual", mentioned by the vast majority of respondents (67%), followed by Aula Digital, with significantly less answers (13%). The main positive aspects when it comes to the used platform are: the platform is used by school (22%), students autonomy (19%), the type of content (16%) and content quality (14%). Regarding the negative aspects, in terms of possible improvements, 24% of respondents considered that the used platform could be used by school, 22% considered price to be relevant, and 18% considered that it could be certified by Direccção-Geral da Educação.

3. How much money is invested by each family when it comes to the most used digital learning platform?

The majority of families have free access to the used platform (65%). Considering only the most used platform (Escola Virtual), 60% of families take advantage of the free access, while 23% pay less than 50€ per year.

4. Are families willing to change platforms? If so, what would it take?

53% of respondents do not consider changing platform, but, at the same time, 41% consider it to be a possibility and 6% responded affirmatively. When it comes to reasons for switching platforms, the first is school recommendation (32%), followed by price (26%), as well as DGE certification, and content being present in a different manner, both with 15% of responses.

5. What are the most valued features of any online platform? Is it positive to only buy parts of the curriculum? How much are families willing to pay for this type of offer?

Virtually all features are considered important or very important except for online private tutoring classes. Regarding the most valued features, mock-tests and exam resolutions are the most popular (84%), followed by exam preparation packs (57%), exam preparation guides (54%), and proposed exercises (51%). When it comes to the relevancy of buying only parts of the curriculum, most respondents (57%) considered it to be relevant, followed by 31% that considered it to possibly be valuable, and 12% that do not consider it relevant. The considered fair value for this content is less than 10€ by 38%, and between 10 and 15€ by 24%. Moreover, 20% did not know how to answer.

6. What is the profile of digital learning platform users (students) and subscribers (parents)?

Regarding the student's profile, between the 5th and 9th grade, more than half of students use digital learning platforms. When it comes to the 10th to 12th grade group, 49% use digital learning platforms and 52% do not use.

In terms of subscribers' profile, the use of digital learning platforms is higher for parents aged 34 to 54, with a degree or bachelor, and secondary education.

7 DEVELOPMENT STRATEGIES

7.1 STP development

This platform will target several different markets: from the teacher, school or tutoring centre that create the courses, to the student that will benefit from them and their parents that ultimately make the purchasing decision.

Although the learning platform is intended for students between the ages of 10 and 18 (5th to 12th graders), the ultimate decision of purchase is taken by the parents. Having this in mind, we focused on the parents of the potential users of the platform for the definition of an STP strategy.

“A market segment consists of a group of customers who share a similar set of needs and wants” (Kotler & Keller, 2018). For the purpose of this work, we will use descriptive characteristics such as demography, and geography as well as usage-related and level of education characteristics in order to segment the market. Furthermore, the targeted market, defined to collect answers of the questionnaire, was refined considering the answers given. Respondents of the questionnaire were aged “Less than 24” to “55 to 64”. Despite this, we considered the “Less than 24” answers not valid and were possible errors of interpretation. At the same time, the number of respondents aged 55-64 is significantly less representative than the remaining ages, with only 10 answers. Consequently, the proposed segmentation regarding demography is 25 to 54 years old.

One of the premises of an online learning platform is to enable learning from anywhere. Moreover, the contents offered by this particular platform are based on the Portuguese national curriculum. Thus, for the geographical variable, the Portuguese market is targeted as a whole.

When it comes to usage-related characteristics, we are looking for potential customers that are users of digital learning platforms and both consider it to be a possibility or a certainty when it comes to switching platforms.

One can refine the segmentation by adding a level of education characteristic. Considering the questionnaire’s answers, the percentage of respondents that use digital learning platforms and have a degree/bachelor is higher than 47%. This number decreases to 27% for respondents with secondary education and 16% for the ones that have a master’s degree. On the opposite end, respondents with only compulsory education or a PhD are the ones who less used digital learning platforms. Considering only the last group, PhD’s are in fewer numbers in society in general, so it is not possible to generalise that this particular group’s children make less use of digital learning platforms.

The potential market size can be estimated through official data related to the total number of students, as well as the official number of students that have mathematics until the 12th grade. Figure 7 illustrates the potential market.

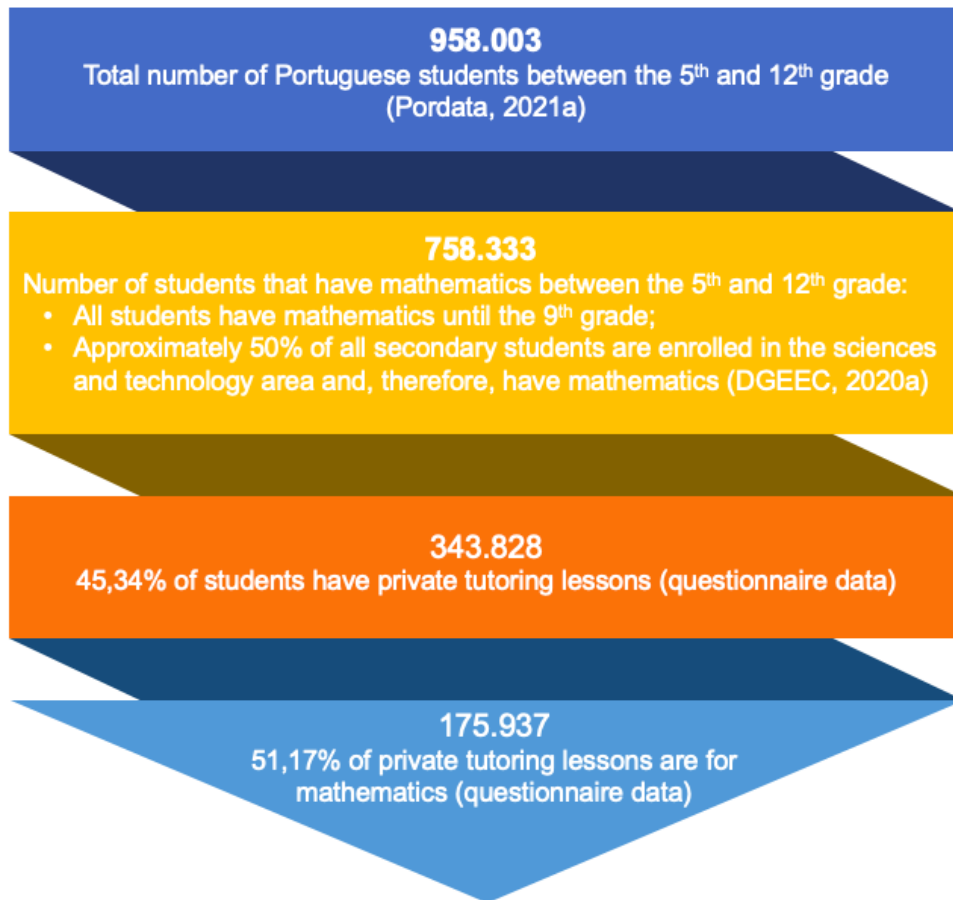


Figure 7 – Potential target size (DGEEC, 2020b; Pordata, 2021a). Source: The Author, 2021

The potential market size is then given by the number of students that have private tutoring lessons for Mathematics, 175.937 as seen in Figure 7, as well as the average expenditure of 118€ per month estimated by Chagas (2021). Bearing this in mind, the potential market size is 20.760.566€.

Having in mind the previous characteristics, the targeted customers will be parents of children between the 5th and 12th grade with a Portuguese curriculum, aged 25 to 54, and that are already users of digital learning platforms but are willing to change. Table 2 summarizes the proposed segmentation and targeted market.

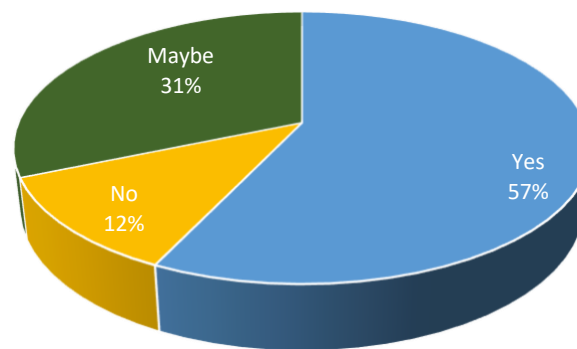
Table 2 – Summary of segmentation and targeting – STP analysis

Characteristic	Segmentation	Target
Demography	Age	25 to 54 years old
Family life cycle	With children	Children between the 5 th and 12 th grade
Geography	Country	Portugal
Level of education	Highest completed level of education	Degree/bachelor, secondary education, and master's degree
Usage-related	Regular user	Considers changing platform

The digital learning platform can serve this market by acting as a complement for school, and as a substitute for private tutoring lessons.

Through the dedicated questionnaire we were able to understand what were the expectations regarding different features of an online learning platform. One of the differentiating features of this platform is the fact that it is possible to buy only what the student needs. **Error! Reference source not found.** allows us to understand that this is definitely valued by respondents and, therefore, by potential customers.

Graphic 1 – Respondents perception about the relevancy of buying only part of the curriculum for each grade. Source: The Author, 2021



Moreover, regarding the most referred aspects to be improved in the used platforms, approximately 28% of respondents consider the platform's use by the school as relevant, followed by its price (22%).

Our value proposition is achieved by aligning the available content to what consumers value on a digital learning platform, and, at the same time, giving them the possibility to buy only contents needed by each student. Considering the questionnaire's answers, we will focus on the following features to meet customer expectations:

- Initial diagnosis with suggestion of useful content to improve knowledge, and progress follow-up through quizzes available at the end of each;
- Customisable content, that allows building on student's needs, and buying only the necessary contents for each student;
- Content grouped by grade, comprising lectures on relevant themes of mathematics, quizzes, and exam preparation lectures (when applicable);

When thinking about relevant competitors in this area, their expertise is relevant. Escola Virtual and Aula Digital, are platforms directly connected to the textbooks used in schools and, at the same time, are also used by schools, in many cases. This gives them a greater exposure to potential customers, as seen by the number of subscribers of these platforms. The Kahn

Academy platform has the advantage of being entirely free, thus having this advantage over the remaining competitors.

One must also consider the private tutoring classes as a force to be reckoned, It is definitely the most used mean of learning outside school as it provides a one-on-one learning experience, totally aligned with student’s needs, and where parents make the most significant financial investment.

Despite this, our platform provides students the possibility to have multiple contents, provided by multiple experts in the area of mathematics, thus giving them the possibility to choose the content that is most suitable for their learning needs, and, most of all, only buying what is truly needed. Our platform not only specializes in a particular subject (mathematics), but it also gives a unique take on access to a customisable content, thus making it affordable and convenient.

All things considered, our platform’s value proposition is a combination of providing access to a diversity of contents developed by experts in the mathematics field, from teachers to schools, and private tutoring centres, with a cost benefit for the customer that only buys what is needed.

For the sake of the development of our perceptual map, we consider access and cost as the decisive factors in the client’s decision making process.

Looking back on Graphic 1, we understood that the possibility to buy only part of the curriculum is relevant for the majority of respondents. This will allow for a more customisable and personalised learning experience, when compared with the existing platforms. That being said, the access vertical considers the offer of standard content, provided by a single source, and, on the other end, personalised content from diverse expert sources.

When it comes to cost, this is the main reason appointed by questionnaire respondents as a reason to change platforms. Therefore, it is relevant to understand our platform’s positioning when compared with competitors. The most expensive solution is a totally individual teaching approach for each student. As for the most affordable, it is considered the one that allows for students to buy only what is needed or have no cost associated at all. Table 3 assesses our platform and its main competitors (both online and offline) regarding these vectors, considering scores from 1 to 10.

Table 3 – Scores for perceptual map. Source: The Author, 2021

Elements of value	Escola Virtual & Aula Digital	Kahn Academy	Private tutoring classes	Our platform
Access	3	4	9	8
Cost	4	10	9	9

Considering these scores, we can now draw our perceptual map, as seen in Figure 8.

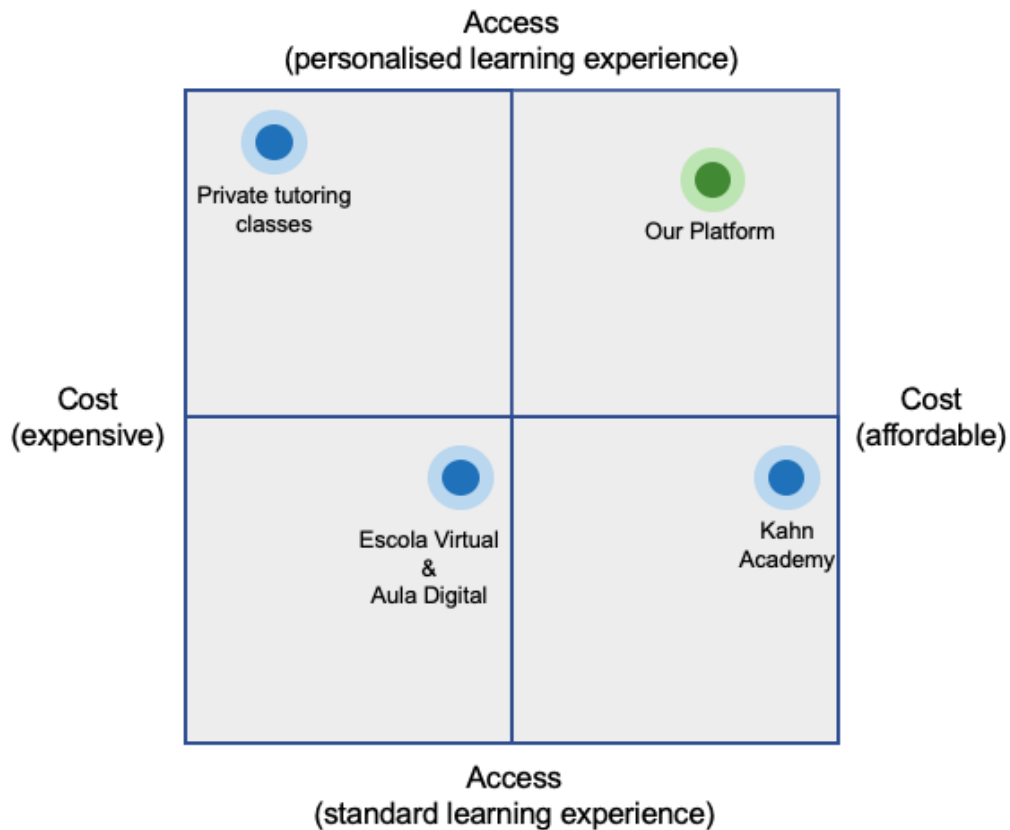


Figure 8 – Perceptual map. Source: The Author, 2021

Regarding access, our platform will provide content from different sources, considered to be experts in the mathematics area. At the same time, it will allow a personalised experience for each user, that has total control over the content that is considered relevant for them. Considering the personalised experience, students will have the opportunity pursue a more affordable learning experience than that provided by other paid platforms.

The unique selling proposition of our platform is the convenience of customising the learning experience, attending to each student’s needs, by only having to buy the necessary contents. Furthermore, the opportunity to choose the lecturer contributes to the personalisation, and adaptation to the students learning style and needs.

8 DEFINITION OF IMPLEMENTATION POLICIES

Taking into consideration the development strategies proposed in chapter 7, it is now possible to define the Marketing mix policies.

8.1 Product

The platform's contents aim to fulfil the needs of different students. Therefore, it is important to offer several products for each cycle of studies, aligned with those needs.

Considering the questionnaire's results regarding the validated key features valued by the parents of potential users of the platform, there will be different options available, that can be purchased together or separately. These products will be grouped according to the correspondent cycle of studies, as can be seen in Table 4.

Table 4 – Marketing Mix – Core products. Source: The Author, 2021

Product	Feature	Description	Details
e-tutor	Contents related to the student's grade	Lectures on a particular subject	- For 5 th to 12 th grade students; - In each grade, division of the curriculum in several parts; - Each part can be purchased separately; Includes videos, solved exercises, final quiz and written summary
Practise	Proposed exercises	Additional exercises of the hole grade's curriculum	For 5 th to 12 th grade students
Test your knowledge	Mock tests packs	Mock tests of the hole grade's curriculum	For 5 th to 12 th grade students
Exam pack	Exam preparation packs	Summary of contents, solved exams, and exam guide	For students in grades that have "Prova de Aferição", "Prova Final Nacional" and "Exame Nacional"

There will be an additional service, "Get Started", that is meant to be a supporting service by facilitating the platforms navigation and pinpointing the difficulties of students.

The platform itself will act as a facilitating service by giving the means for delivery and consumption of the different products.

8.2 Price

Even though different contents can be bought separately, the content itself is not innovative since there are already a number of platforms specialised in the 5th to 12th grade online teaching, including one with no cost associated whatsoever. At the same time, more than half

of the questionnaire’s respondents do not consider changing platforms. Having this in mind, penetration pricing is key to penetrate the market quickly and ensure customers will be available to make the switch, given the lower prices.

We believe it is important to have an available option to purchase the entire curriculum at a discount. This way it will be possible to get a differentiated approach, and, at the same, time, a more traditional one, as offered by competitors. At the same time, it is also necessary to adjust pricing according to the growing difficulty between study cycles.

Graphic 2 shows the questionnaire’s results about what parents consider to be the fair price for each content, by grade.



Graphic 2 – Fair value for buying only part of the content. Source: The Author, 2021

Considering that the majority of respondents placed the value under 15€ per content, the proposed price per product can be seen in Table 5.

Table 5 – Marketing mix – Price. Source: The Author, 2021

Product	Price
Get started	Free for every student
e-tutor	5 th and 6 th grade: <ul style="list-style-type: none"> - 10€ per content, if purchased individually; - 20% discount if purchased together and offering mock tests and proposed exercises 7 th , 8 th , and 9 th grade: <ul style="list-style-type: none"> - 12,5€ per content, if purchased individually; - 20% discount if purchased together and offering mock tests and proposed exercises 10 th , 11 th , and 12 th grade: <ul style="list-style-type: none"> - 15€ per content, if purchased individually; - 20% discount if purchased together and offering mock tests and proposed exercises
Practise	5 th and 6 th grade – 7,5€; 7 th , 8 th , and 9 th grade – 10€ 10 th , 11 th , and 12 th grade – 12,5€
Test your knowledge	5 th and 6 th grade – 5€ 7 th , 8 th , and 9 th grade – 7,5€ 10 th , 11 th , and 12 th grade – 10€
Exam pack	5 th grade – 10€ 9 th grade – 15€ 12 th grade – 20€

Regarding repeated purchases, students that purchase contents for two consecutive years will have a 20% discount over all products on the second year.

8.3 Place

Students will have access to all products via a dedicated online platform, thus enabling a simple and convenient purchase experience. The platform will be accessed via browser or mobile devices, and available to every internet user.

8.4 Promotion

Regarding promotion, it is important to have in mind that the platform's products can be promoted to different audiences: the parents (who purchase and have the final decision), the students, who are the end users of the products and the potential content creators of the platform (teachers/tutors, schools, and private tutoring centres).

Bearing all this in mind, the promotion strategies dimensions proposed for each audience can be seen in Table 6.

Table 6 – Marketing Mix – Promotion Strategies. Source: The Author, 2021

Target	Type of communication
Students	<ul style="list-style-type: none"> - Search engine marketing – advertising in different search engines; - Partnerships with schools to increase exposure and usage of the platform; - Search engine optimisation (SEO) – keyword search, analytics; - Influencer marketing – to showcase the platform’s advantages, and ease of use, as well as providing discounts for followers; - Social media account setup, management, and ad campaigns; - Social media advertising – YouTube, Instagram; - Loyalty programs – to encourage repeated purchases;
Parents	<ul style="list-style-type: none"> - Search engine marketing – advertising in different search engines; - Partnerships with schools to increase exposure and usage of the platform; - Search engine optimisation (SEO) – keyword search, analytics; - Influencer marketing – both for students and parents, showcasing the benefits of the platform’s advantages, and ease of use, as well as providing discounts for followers; - Social media advertising – Twitter, Facebook; - social media account setup and management, and ad campaigns; - Loyalty programs – to encourage repeated purchases.
Teachers, schools and tutoring centres	<ul style="list-style-type: none"> - Establish partnerships with schools and tutoring centres that can potentially provide content for the platform; - Course landing page; - Cross-selling; - Social media advertising – LinkedIn; - Discount/referral codes for students of tutors/teachers, schools, and tutoring centres.

As seen before, our survey indicated that price is identified as the main factor when considering changing platforms. For this reason, and as far as communication strategies go, a push strategy is adequate since it relies on price as a differentiating factor.

8.5 People

For the first years, the focus will be on outsourcing services such as marketing, and development, as well as keeping remote work, to ensure that higher reduction of fixed costs. Until the company is well established, our plan is to keep the fixed costs at a minimum, and reinvesting profits into the company. To achieve this, the fixed workforce of the company will be the founder, with no income, and one person to assist in administrative duties and customer support. The first will have no income until the company achieves a break-even point, and will be responsible for the coordination of outsourced services, and payments, as well as customer support assistance, when necessary. The later will be responsible for invoices (both payables and receivables) and customer support services. For this work, the estimated liquid income

will be 1.062,6€ (PME Salários, n.d.). This will give the opportunity to have a better grasp on the flaws and needs of the business, adjusting our strategy whenever needed. According to the volume of purchases or customer support services, we will grow the team, as needed.

Online chat, email and telephone will be handled by a BPO service. Despite this, the customer service team should have a “customer-centric” approach, achieved through training to ensure a high quality level service.

Our marketing efforts should also take into account communication on social media to answer comments and private messages, provided by BPO services.

Developers, despite not being a part of the company, should be committed to delivering quality, with a focus on the usability and performance of the platform.

8.6 Process

The platform will be available 24/7. Clients can get to know and visit our digital learning platform in numerous ways: by direct recommendation of the content creator (schools, tutoring centres, or private teachers), by web search, or through adds on search engines and social media.

At arrival, potential customers that come from direct recommendations have access to a landing page that has a call to action button that allows them to register and buy the course. For customers that arrive from other sources, a simple homepage is the entry. Here they will find a menu, organised by grade and type of content, that will direct them into the desired contents, alongside with sponsored or promotional contents available and a “call to action” button, “Get Started”, for a free assessment and personalised recommendations.

If the customer chooses to navigate the platform freely and selects grade and type of content from the menu, a new page will showcase all available courses. For each, there will be indication of author, a brief description of the course and ratings from other students. It will be possible to sort the available courses by average customer reviews, publication date and price.

After choosing the desired content, it will be possible to watch a preview of the course and read comments from reviews of previous students, to better understand if it fits the client’s needs. If, at any time, the potential customer needs assistance, there will be a chat bot available to redirect them to the appropriate means of contact. These can be the “frequent questions” section of the platform, contact form, or phone assistance, provided by a telephone number and having the option to be contacted by an assistant, by providing their number.

There will be different payment options, such as PayPal, Visa and MB Way, allowing for a quick and seamless process.

When the purchase is completed, the course will be available at the client’s private area for as long as the account remains active. Different courses will be suggested based on the

previews purchases. In this personal area, students will also have access to a dashboard that showcases all courses in which the student is enrolled, together with status and progress overview.

After completing the course, students will be asked to do a review and rate it in a 1 to 5 scale. If the review is under 3.5, the customer support service will reach out to the student to understand the reason for this review. If the reason is directly linked with the course quality, we will perform an extensive review of the course and provide feedback to its creator to improve relevant aspects.

8.7 Physical evidence

In a purely online setting such as the one of our platform, we will not have physical evidences but rather online evidences. This can be achieved through a coherent image, both on the platform and social media pages and all communication items – same design, colours, letter type, logo and so on. This image will have to speak to the students that will be the consumers of the platform's contents. Considering this, the platform should have a clean but fun aesthetic, but not to “childish-like” to attract older students.

Regarding the brand itself, we opted to keep it neutral and non-associated with mathematics. This way, we have the option to later on include further subjects on the platform and expand our business. “@Home Tutors” intends to convey an innovative approach to tutoring, while at the comfort of their home. Through Tailor Brands Studio website, we were able to develop a logo, as well as website and social media mock ups that can serve as a starting point for the brand's visual identity. These visual elements can be seen in Figure 9, Figure 10, and Figure 11.



Figure 9 – Brand logo mock up. Source and credits: Tailor Brands Studio, 2021



Figure 10 – Website’s mock up. Source and credits: Tailor Brands Studio, 2021

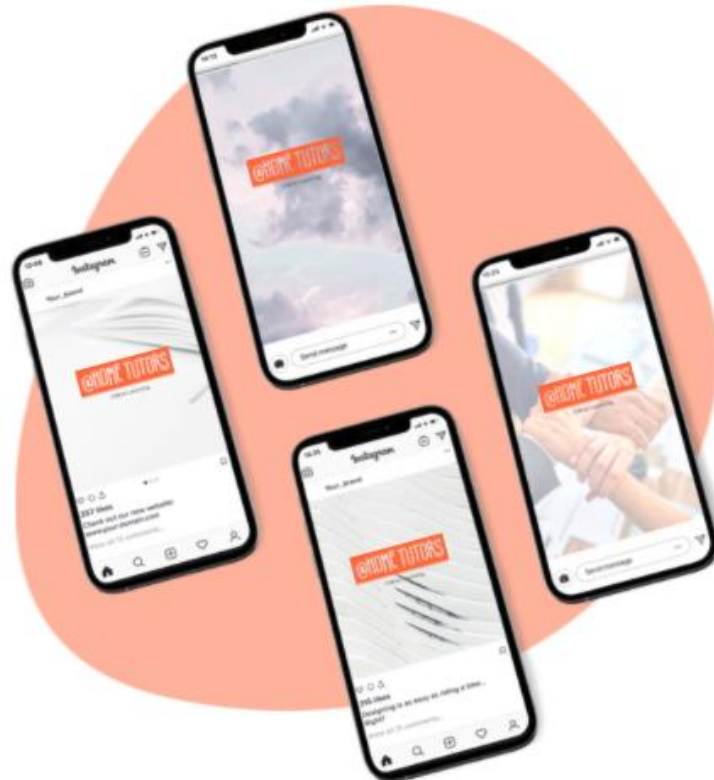
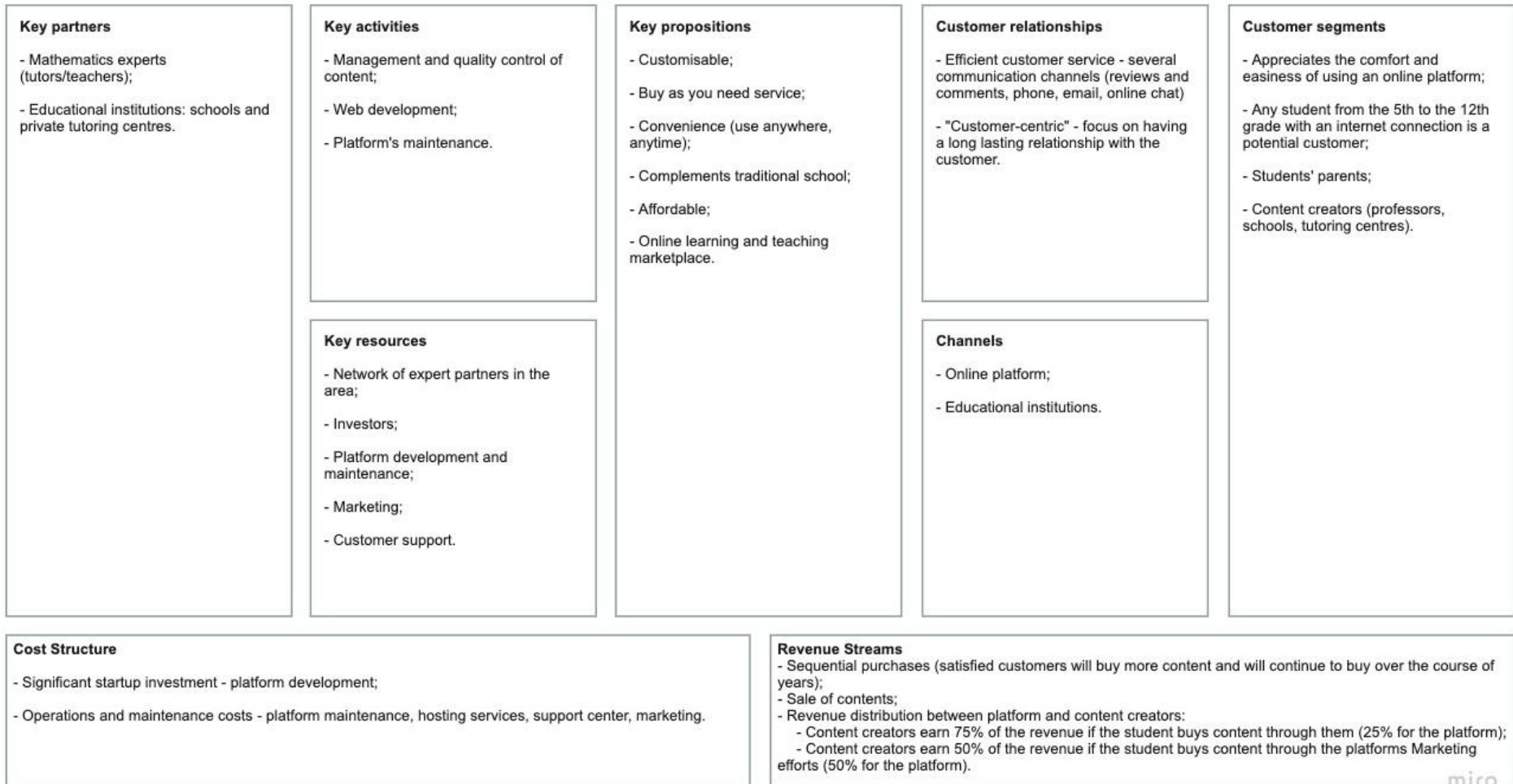


Figure 11 – Social media image mock up. Source and credits: Tailor Brands Studio, 2021

Moreover, the reviews given by previous students will act as evidence of the quality and relevancy of any given course. Social media influencers that promote and review products will also help the customer to make a decision during the buying process.

Given these points, it is now possible to develop the Business Model Canvas of the platform, as seen in Figure 12.

Business Model Canvas



miro

Figure 12 – Business Model Canvas. Source: The Author, 2021

9 FINANCIAL ANALYSIS

Trough the financial analysis we will be able to estimate the outcome of this business in terms of financial viability.

The company will have a significant start up investment with the development of the platform. At the same time, sunk costs have to be accounted for during the first year of operation. The platform's maintenance and operation costs are variable and dependent of traffic, number of people that utilise the platform at the same time, and the amount of resources that will be hosted in the cloud. Given this, with the expected growth of market penetration, these values will increase over time.

We estimate that there will be a need of 450.000€ necessary for startup costs, sunk costs and operational costs for the first year. This will be obtained through both own capital and corporate loan, at a D/E ratio of 66,67% (40%/60%).

9.1 Development phase

First and foremost, we need to establish the company. This can be done online, via e.portugal.gov.pt, and is associated with a single payment of approximately 360€.

A cloud computing service is quintessential do have access to storage and servers. We opted for a Platform as a Service (PaaS) type of cloud. This solution is scalable, with a reasonable price, and for the first year we considered the D4 solution of Azure, with a yearly cost of 6.240,09 € (Azure, 2021).

The development and UX design of the platform are most the relevant requirements for the implementation of this business plan. UX design will improve the platforms usability, providing users with an easy and intuitive navigation thought the platform. We assume that it would be necessary for a team of three developers to work full time on this project for about a year. Considering an average cost per day of 200€ for such specialists in Portugal, the total estimated cost for the development phase of the platform is estimated to be close to 300.000€.

We also need consider the domain registration at this point. A five year registration of the www.AtHomeTutors.pt domain will cost 147€, and each renewal from this point onwards will be 28,40€ per year according to Nominat (2021).

Later on the development stage, it is relevant to initiate marketing efforts directed to schools, private tutoring centres and teachers that will develop and provide content to sell on the platform.

Brand identity design, including branding, platform, and social media image we be made by a graphic designer, and average market prices can go from 3.000€ to 5.000€. For this work, we will consider this cost to be 4.000€ Trademark and logo, once ready, are registered online,

also at eportugal.gov.pt, and are valid for 10 years. After this period, the registration has to be renewed.

We estimate there will be no costs associated with hiring, since recruitment and training will be done by the founder of the company.

Table 7 summarises the estimated startup costs for the development stage, that will be depreciated over the years, and Table 8 summarizes all the sunk costs associated with the development phase, that will latter on be reflected on the first year of operation.

Table 7 – Development costs – Startup costs. Source: The Author, 2021

Requirement	Cost
Trademark and logo registration (10 years)	254,74 €
Platform development and design services	300 000,00 €
Total	300 254,74 €

Table 8 – Development costs – Sunk costs. Source: The Author, 2021

Requeriment	Cost
Domain registration (5 years)	147,00 €
Cloud computing services (1 year)	6 240,09 €
Establish company	360,00 €
Association of brand to a class of services or products	100,00 €
Brand identity designer	4 000,00 €
Total	10 847,09 €

9.2 Operational costs

Regarding the operational costs, we considered fixed costs associated with the platform's functioning, such as web hosting, and technical support services from developers. Along with these, we also considered the employee's cost, as well as social media managing services, and marketing.

One should also consider other expenses related to running a company: accounting, taxes, bank account maintenance charges, and invoicing related costs such as fees due to online payments and invoicing software licences.

The technical support services will be provided by an outsourced team of two developers, 7 days per month. Considering the average hourly cost of 200€/resource/day, as referred before, this will represent a fixed cost of 2.800€ per month, for the first year.

The sole employee, as per the "PME Salários" simulator, assuming a fiscal framework of "married, two bearers, no dependents", will have a total annual cost of 22.995€, as can be seen in Appendix B – Wage Simulator (PME Salários, n.d.). This cost is compliant with the Portuguese legal framework.

The average annual amount charged by banks for account maintenance is 73€ , according to Jornal de Negócios (2018). Accounting services have an assumed cost of 3.000€ per year.

Cloud computing services required to run the platform are the same as considered in the development phase, but with a 15% increase in price per year, justifiable by higher storage requirements that accompany the platform's growth.

The integration of an invoicing software within the platform will have an estimated cost of 253,44€ per year (Sage, 2021).

Online payments associated fees vary according to the mean of payment (easypay, 2021). For the sake of this work, we will consider a fixed cost of 0,25€ per transaction.

Marketing related costs are assumed to be 12.000€ per month. Social media managing services are assumed to cost 18.000€ per year.

Table 9 comprises all operational costs during the investment period.

Table 9 – Estimated operational costs. Source: The Author, 2021

Service	Cost (1st year)	Cost (2nd year)	Cost (3rd year)	Cost (4th year)
Platform maintenance - technical support	33 600,00 €	38 640,00 €	44 436,00 €	51 101,40 €
Cloud computing services	6 240,09 €	7 176,10 €	8 252,52 €	9 490,39 €
Accounting	3 000,00 €	3 000,00 €	3 000,00 €	3 000,00 €
Bank account maintenance charges	73,00 €	73,00 €	73,00 €	73,00 €
Invoicing software licence	253,44 €	253,44 €	253,44 €	253,44 €
Marketing	12 000,00 €	13 800,00 €	15 870,00 €	18 250,50 €
Social media managing services	18 000,00 €	20 700,00 €	23 805,00 €	27 375,75 €
Fees derived from online payments	2 639,06 €	5 885,09 €	13 670,58 €	18 291,24 €
Financing costs (amortisation and interests)	4 717,44 €	3 808,55 €	2 876,98 €	1 922,15 €
Employee (administrative and customer support)	22 995,00 €	26 444,25 €	30 410,89 €	34 972,52 €
Total	103 518,02 €	119 780,43 €	142 648,40 €	164 730,39 €

For years 2, 3 and 4, we considered a 15% increase for the costs related to maintenance, cloud computing services, accounting, social media managing and marketing services, and employee costs, maintaining the remaining costs.

9.3 Projected sales

The revenue from contents will have the following distribution:

- 50% for the platform and 50% for content creator, if the student arrives at the platform through the platform's own marketing efforts;
- 25% for the platform and 75% for content creator, if the student arrives at the platform through the content creator itself.

According to the "Private Tutoring – Global Market Trajectory & Analytics" report, online learning solutions are expected to increase at an average rate of 11,5% over the next seven years (Peralta, 2021). Given this, for this study, we will assume a penetration rate for year 1 of 6%, considering the targeted market of 175.937 students, which represents 10.556 users of

the platform. This is supported by the growth on demand for online services of this kind. For year 2, 3 and 4, and with the support of our marketing strategy, we are considering to double the penetration rate to 12%, 25%, and 30% respectively, as can be seen Table 10.

Table 10 – Market penetration and total number of sales per year. Source, The Author, 2021

	Year 1	Year 2	Year 3	Year 4
Targeted market	175937	196170	218729	243883
Targeted market penetration	6%	12%	25%	30%
Total number of sales	10556	23540	54682	73165

Repeated purchases are not considered for any year, and through the investment horizon we considered a 2% inflation rate on prices.

Year 1

Considering the conclusions of the 5th research question, sales would be distributed according to the most valued types of content. Moreover, when considering the distribution by grade, we followed the number of sales associated with each grade to the number of students that have private tutoring classes. This distribution can be seen in Table 11.

Table 11 – Projected sales and revenue by type of product for Year 1. Source: The Author, 2021

Product	Grade	% of sales, by grade	% of total sales	Number of sales	Price per product	Revenue
e-tutor	10 th , 11 th or 12 th grade	35%	10%	369	15,00 €	13 327,23 €
	7 th , 8 th or 9 th grade	35%		369	12,50 €	
	5 th or 6 th grade	30%		317	10,00 €	
Practise	10 th , 11 th or 12 th grade	35%	20%	739	12,50 €	21 376,35 €
	7 th , 8 th or 9 th grade	35%		739	10,00 €	
	5 th or 6 th grade	30%		633	7,50 €	
Test your knowledge	10 th , 11 th or 12 th grade	35%	35%	1293	10,00 €	28 171,91 €
	7 th , 8 th or 9 th grade	35%		1293	7,50 €	
	5 th or 6 th grade	30%		1108	5,00 €	
Exam pack	12 th grade	35%	35%	1293	20,00 €	56 343,82 €
	9 th grade	35%		1293	15,00 €	
	5 th grade	30%		1108	10,00 €	
Total revenue – Year 1						119 219,31 €

For the sake of evaluating the revenue distribution between the platform and those who produce contents we considered an unfavourable scenario were, for the first 6 months of Year 1 the majority of sales derive from the content creators own efforts, As for the last 6 months, this shifts to an equal split between content creators and platforms own marketing efforts.

Repeated purchases were not considered on Year 1. This means that each student only buys one content/course.

Year 2

From this year onwards, we will work under the premiss that marketing efforts are having a positive effect over number and type of products sold. Bearing this in mind, we will now see a

greater number of e-tutor contents sold, as well as exam packs. **Error! Reference source not found.** summarises the overall revenue expected for Year 2.

Table 12 – Projected sales and revenue by type of product for Year 2. Source: The Author, 2021

Product	Grade	% of sales, by grade	% of total sales	Number of sales	Price per product	Revenue
e-tutor	10 th , 11 th or 12 th grade	35%	15%	1236	15,30 €	45 471,17 €
	7 th , 8 th or 9 th grade	35%		1236	12,75 €	
	5 th or 6 th grade	30%		1059	10,20 €	
Practise	10 th , 11 th or 12 th grade	35%	15%	1236	12,75 €	36 466,98 €
	7 th , 8 th or 9 th grade	35%		1236	10,20 €	
	5 th or 6 th grade	30%		1059	7,65 €	
Test your knowledge	10 th , 11 th or 12 th grade	35%	35%	2884	10,20 €	64 079,83 €
	7 th , 8 th or 9 th grade	35%		2884	7,65 €	
	5 th or 6 th grade	30%		2472	5,10 €	
Exam pack	12 th grade	35%	35%	2884	20,40 €	128 159,66 €
	9 th grade	35%		2884	15,30 €	
	5 th grade	30%		2472	10,20 €	
Total revenue – Year 2						274 177,64 €

As assumed for the final semester of Year 1, Year 2 projections consider an equal split between evaluating the revenue distribution.

Year 3

By Year 3 (Table 13), we expect to see a higher equilibrium between purchases of different products, but with “Practise” and “Test your knowledge” maintaining their preference.

Table 13 – Projected sales and revenue by type of product for Year 3. Source: The Author, 2021

Product	Grade	% of sales, by grade	% of total sales	Number of sales	Price per product	Revenue
e-tutor	10 th , 11 th or 12 th grade	35%	20%	3828	15,61 €	143 651,00 €
	7 th , 8 th or 9 th grade	35%		3828	13,01 €	
	5 th or 6 th grade	30%		3281	10,40 €	
Practise	10 th , 11 th or 12 th grade	35%	20%	3828	13,01 €	115 205,26 €
	7 th , 8 th or 9 th grade	35%		3828	10,40 €	
	5 th or 6 th grade	30%		3281	7,80 €	
Test your knowledge	10 th , 11 th or 12 th grade	35%	30%	5742	10,40 €	130 139,27 €
	7 th , 8 th or 9 th grade	35%		5742	7,80 €	
	5 th or 6 th grade	30%		4921	5,20 €	
Exam pack	12 th grade	35%	30%	5742	20,81 €	260 278,54 €
	9 th grade	35%		5742	15,61 €	
	5 th grade	30%		4921	10,40 €	
Total revenue – Year 3						649 274,07 €

Year 4

By Year 4 (Table 14), we expect that “Practise” and “Test your knowledge” products will have a higher share on sales.

Table 14 - Projected sales and revenue by type of product for Year 4. Source: The Author, 2021

Product	Grade	% of sales, by grade	% of total sales	Number of sales	Price per product	Revenue
e-tutor	10th, 11th or 12th grade	35%	15%	3841	16,39 €	151 404,00 €
	7th, 8th or 9th grade	35%		3841	13,66 €	
	5th or 6th grade	30%		3292	10,93 €	
Practise	10th, 11th or 12th grade	35%	15%	3841	13,66 €	121 423,01 €
	7th, 8th or 9th grade	35%		3841	10,93 €	
	5th or 6th grade	30%		3292	8,20 €	
Test your knowledge	10th, 11th or 12th grade	35%	35%	8963	10,93 €	213 364,72 €
	7th, 8th or 9th grade	35%		8963	8,20 €	
	5th or 6th grade	30%		7682	5,46 €	
Exam pack	12th grade	35%	35%	8963	21,85 €	426 729,44 €
	9th grade	35%		8963	16,39 €	
	5th grade	30%		7682	10,93 €	
Total revenue - Year 4						912 921,17 €

9.4 Financial evaluation

All values were calculated taking into account the predicted taxes for 2022. All the values necessary to perform the financial evaluation of this project, as well as the calculations that derive from that, can be seen in Table 15.

Table 15 – Data necessary to perform the financial evaluation. Source: The Author, 2021

Euribor 12M (December 2021)	0,498%
Risk-free rate (Damodaran, 2021b)	1,452%
Market risk premium (Damodaran, 2021a)	6,85%
D/E (Industry D/L Sector – Education) (Damodaran, 2021a)	24,33%
BL (Industry Beta Sector – Education) (Damodaran, 2021a)	1,150
BU	0,965
Corporate Tax rate (Portugal) (2021)	21,00%
D/E – Platform	66,67%
BL – Platform	1,47
Average time to collect accounts receivable	1,00 day
Average time to pay creditors	1,00 month
RU	11,54%

The amortisation rates regarding the intangible assets of the company can be seen in Table 16, considering a 4 year investment horizon.

Table 16 – Amortization of intangible assets. Source: The Author, 2021

	Price	Depreciation rate	Depreciation period (years)	Annual depreciation	Accumulated depreciation	Net book value
Platform	300 000	20,00%	5	60 000	240 000	60 000
Trademark	255	10,00%	10	25	102	153
CAPEX Terminal value						60 153

The income statement, working capital, and cash flows can be seen in Table 17, Table 18, and Table 19, respectively.

Table 17 – Income statement. Source: The Author, 2021

Income Statement				
	Year 1	Year 2	Year 3	Year 4
Sales	119 219	276 866	662 430	912 921
e-tutor	13 327	45 917	109 861	151 404
Practise	21 376	36 824	88 106	121 423
Test your knowledge	28 172	64 708	154 821	213 365
Exam pack	56 344	129 416	309 642	426 729
Cost of goods sold	74 512	138 433	331 215	456 461
Sold through content creators	44 707	69 216	165 607	228 230
Sold through platform	29 805	69 216	165 607	228 230
Other expenses	103 518	119 780	142 648	164 730
EBITDA	-58 811	18 652	188 567	291 730
Annual depreciation	60 025	60 025	60 025	60 025
EBIT	-118 836	-41 373	128 541	231 705
Corporate Tax Rate (T=21%)	-24 956	-8 688	26 994	48 658
EBIT(1-T)	-93 881	-32 685	101 547	183 047
Operating Cash Flow = EBIT (1-T) + Depreciations	-33 855	27 341	161 573	243 072

Table 18 – Working capital. Source: The Author, 2021

Working Capital				
	Year 1	Year 2	Year 3	Year 4
1. Operating financial needs				
Accounts receivable	327	759	1 815	2 501
2. Operating financial resources				
Accounts payable	6 209	11 536	27 601	38 038
Working Capital (1.-2.)	(5 883)	(10 778)	(25 786)	(35 537)
Investment in WC	(5 883)	(4 895)	(15 009)	(9 751)

Table 19 – Cash Flow. Source: The Author, 2021.

Cash Flow					
	0	Year 1	Year 2	Year 3	Year 4
1- Inflows					
Operating Cash Flow		-33 855	27 341	161 573	243 072
WC Terminal value					-35 537,2
CAPEX Terminal value					60 152,8
Total (1)		-33 855	27 341	161 573	267 688
2 - Outflows					
CAPEX	300 255				
Investment in WC		-5 883	-4 895	-15 009	-9 751
Total (2)	300 255	-5 883	-4 895	-15 009	-9 751
Cash Flow (1-2)	-300 255	-27 972	32 236	176 582	277 439
NPV (RU)	-300 255	-25 079	25 911	127 251	179 248

The profitability index calculations are shown in Table 20

Table 20 - Profitability index. Source: The Author, 2021

Profitability index	
Years	0
1. Sum PV Cash Flow (excluding CAPEX)	307 330
2. Sum PV CAPEX	300 254,74
	7 075,69194
Profitability index	1,024

Regarding payback, Table 21 demonstrates it does not occur during the investment horizon.

Table 21 – Payback time. Source: The Author, 2021

Payback					
Years	0	1	2	3	4
Cash Flow	-300 255	-27 972	32 236	176 582	277 439
PV Cash Flow	-300 255	-25 079	25 911	127 251	179 248
PV Accumulated Cash Flow	-300 254,74	-325 333,27	-299 422,62	-172 171,83	7 075,69

The criterions for an investment decision are as follow (Table 22)

Table 22 – Criterion to invest. Source: The Author, 2021

Condition to invest	Decision	
Invest if $NPV \geq 0$	NPV (RU) = 7 075,59€	Invest
Invest if $IRR \geq RU$	IRR = 12,25%	Invest
Invest if $PI \geq 1$	Profitability index = 1,024	Invest
Invest if $Payback \leq$ Investment horizon	Payback < investment horizon	Invest

As can be seen, all of the criterion are satisfied, therefore, making the project financially viable.

10 CONCLUSIONS

With this work, we developed a comprehensive and detailed business plan.

After defining the objectives, and methodology, we studied the Portuguese market and did an internal and external analysis of the company. The questionnaire was a key element in the definition of products, placement, and expectations of potential customers.

The financial evaluation revealed the project is financially viable when it comes to the assumptions made.

The main limitation of this work was the fact that there is not enough official data available regarding the Portuguese market. However, we believe it was possible to make an accurate evaluation mainly based on the questionnaire's data.

We believe that if the platform would focus on more subjects beyond Mathematics its target market would increase significantly, and it would be possible to turn higher revenues without having to increase prices.

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APPENDIX A – QUESTIONNAIRE RESULTS

School grade of students	Use digital platforms		Total
	Yes	No	
5 th or 6 th grade	63,48%	36,52%	100%
7 th , 8 th , or 9 th grade	56,67%	43,33%	100%
10 th , 11 th , or 12 th grade	48,36%	51,64%	100%

Use of digital learning platforms	Age of respondent					
	Less than 24	25-34	35-44	45-54	55-64	
Yes	13,94%	3,48%	41,46%	39,37%	1,74%	100%
No	17,27%	3,21%	37,75%	39,76%	2,01%	100%

Level of education of respondent	Use of digital learning platforms	
	Yes	No
Degree/Bachelor	47,74%	42,97%
Master's Degree	15,68%	11,24%
PhD	2,09%	2,41%
Secondary education	26,48%	38,55%
Compulsory education	8,01%	4,02%
	100%	100%

Grade	Number of children
5 th or 6 th grade	178
7 th , 8 th , or 9 th grade	240
10 th , 11 th , or 12 th grade	244

Private tutoring?		
Yes	243	45,34%
No	293	54,66%
Total	536	100%

Grade	Private tutoring lessons		
	Yes	No	TOTAL
10 th , 11 th or 12 th grade	45%	55%	100%
7 th , 8 th or 9 th grade	54%	46%	100%
5 th or 6 th grade	61%	39%	100%

Subject	Number of students	Percentage
Mathematics	218	51,17%
Portuguese	94	22,07%
Economy	2	0,47%
Geometry	7	1,64%
Physics and chemistry	0	0,00%
Biology and geology	10	2,35%
French	2	0,47%
Philosophy	3	0,70%
History	22	5,16%
History and geography	34	7,98%
Sciences and citizenship	34	7,98%
Total	426	100%

Reasons for not having private tutoring lessons	
By option	1
Didn't adapt	6
Doesn't need	230
Incompatible schedules	5
Parents help out when necessary	7
Price	57
School supports with supplementary study	5
Special needs student	3
Will have	1

Expenditure on private tutoring lessons, on average, by month	
Less than 50€ per month	26
Between 50 and 100€ per month	91
Between 100 and 150€ per month	72
More than 150€ per month	54

Relevancy of including private online tutoring within the platform		
Important	181	33,90%
Less important	160	29,96%
Not important	111	20,79%
Very important	82	15,36%
	534	100%

Use of digital learning platforms		
Yes	287	53,54%
No	249	46,46%
Total	536	100%

Use of digital learning platforms		
Yes	287	53,54%
No	249	46,46%
Total	536	100%

Used platforms		
Aula Digital	48	12,83%
Cpa online	5	1,34%
Das editoras	1	0,27%
Escola Mágica	2	0,53%
Escola Virtual	249	66,58%
Google Classroom	11	2,94%
Kahn Academy	31	8,29%
Matematik	10	2,67%
MILAGE Aprender+	1	0,27%
Moodle	1	0,27%
Don't know the name	1	0,27%
Schools' platform	1	0,27%
Teams	8	2,14%
Leya	1	0,27%
When necessary	1	0,27%
Zoom	1	0,27%
Cambridge	1	0,27%
Meet	1	0,27%
TOTAL	374	100%

Positive aspects of used digital platforms		
Avoids journeys	38	6,15%
Can be used anywhere	78	12,62%
Content quality	86	13,92%
Content relevancy	49	7,93%
It compensates flaws from school (ex. teacher missing classes)	1	0,16%
Schedule flexibility	61	9,87%
Security	26	4,21%
Students' autonomy	116	18,77%
Type of content (videos classes and others)	96	15,53%
Used by the school	65	10,52%
Access to students work	1	0,16%
COVID19	1	0,16%
	618	100%

Price of used platforms		
Free	187	65,16%
Less than 50€ per year	59	20,56%
Between 50€ and 100€ per year	32	11,15%
More than 100€ per year	9	3,14%
	287	100%

Improvements in used platforms		
Better built (more intuitive)	1	0,22%
Connection with families	1	0,22%
Content quality	55	12,14%
Content relevancy	35	7,73%
Direção-Geral da Educação (DGS) certification	82	18,10%
I don't know	1	0,22%
I'm pleased with the platform	2	0,44%
Nada	1	0,22%
Nada a referir	1	0,22%
No mudaria porque é excelente	1	0,22%
None	1	0,22%
Price	98	21,63%
Type of content (videos classes and others)	63	13,91%
Use by the school	108	23,84%
None, for the time being	2	0,44%
More content related to socioeconomic sciences	1	0,22%
	453	100%

Cost per year - Escola Virtual		
Between 50€ and 100€ per year	32	12,85%
Free	150	60,24%
Less than 50€ per year	58	23,29%
More than 100€ per year	9	3,61%
	249	100%

Families consider changing platforms?		
Maybe	118	41,11%
No	152	52,96%
Yes	17	5,92%
	287	100%

What would it take to change platform?		
Content presented in a different manner	56	14,89%
Direção-Geral da Educação (DGS) certification	56	14,89%
I don't intend to change	1	0,27%
I don't see the need	2	0,53%
I would only change for a free and superior platform	1	0,27%
If it was no longer school mandatory	1	0,27%
More extensive and adequate content to the curriculum	2	0,53%
Possibility to buy only part of the content	21	5,59%
Price	99	26,33%
Recommendation by other parents	15	3,99%
School recommendation	121	32,18%
Challenges and activities for higher levels of knowledge	1	0,27%
	376	100%

Features	Importance			
	Not important	Less important	Important	Very important
Appealing videos	3,54%	6,90%	43,28%	46,27%
Videos of solved exercise	3,93%	7,30%	43,26%	45,51%
Written summary of contents	3,75%	10,49%	42,70%	43,07%
Diagnosis test and content suggestion	4,49%	10,86%	44,76%	39,89%
Proposed exercises	2,81%	5,06%	41,39%	50,75%
Exam preparation packs	2,81%	6,74%	33,71%	56,74%
Exam preparation guides	3,18%	6,55%	36,52%	53,75%
Mock-tests and exam resolution	4,24%	7,34%	4,24%	84,18%
Vacation recovery packs	10,86%	26,40%	41,57%	21,16%
Progress overview	5,06%	12,17%	46,63%	36,14%
Extra-curricular content	10,86%	27,90%	43,82%	17,42%
Direção-Geral da Educação certification	8,80%	18,73%	41,57%	30,90%
Online private tutoring classes	20,79%	29,96%	33,90%	15,36%

Is it relevant to have the option to buy only part of the curriculum for each grade?		
Yes	306	57%
No	62	12%
Maybe	168	31%
	536	100%

Fair value for buying only part of the content for each grade		
Less than 10€	204	38%
Between 10 and 15€	131	24%
Between 15 and 20€	58	11%
Between 20 and 25€	25	5%
More than 25€	9	2%
Don't know/don't want to answer	109	20%
	536	100%

School grade of students	Use digital platforms		Total
	Yes	No	
5 th or 6 th grade	63,48%	36,52%	100%
7 th , 8 th , or 9 th grade	56,67%	43,33%	100%
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Use of digital learning platforms	Age of respondent					
	Less than 24	25-34	35-44	45-54	55-64	
Yes	13,94%	3,48%	41,46%	39,37%	1,74%	100%
No	17,27%	3,21%	37,75%	39,76%	2,01%	100%

Level of education of respondent	Use of digital learning platforms	
	Yes	No
Bachelor	1,39%	0,80%
Degree/Bachelor	46,34%	42,97%
Master's Degree	15,68%	11,24%
PhD	2,09%	2,41%
Secondary education	26,48%	38,55%
Compulsory education	8,01%	4,02%
	100%	100%

APPENDIX B – WAGE SIMULATOR

Enquadramento IRS Casado 2 Titulares	Nº de Dependentes 0	RESULTADO <table border="1"> <thead> <tr> <th>Funcionário</th> <th>Empresa</th> </tr> </thead> <tbody> <tr> <td>Total de Abonos 1365,0 €</td> <td>Total Mensal Segurança Social (23,75%) 285 €</td> </tr> <tr> <td>Remuneração Tributável 1200 €</td> <td>Total Mensal Fundo de Compensação 12 €</td> </tr> <tr> <td>Segurança Social (11%) 132 €</td> <td>Total Anual Segurança Social (23,75%) 3990 €</td> </tr> <tr> <td>IRS (14,2%) 170,4 €</td> <td>Total Anual Fundo de Compensação 168 €</td> </tr> <tr> <td>Remuneração Líquida 1062,6 €</td> <td>Total Anual Seguro 90 €</td> </tr> <tr> <td>Faturação grátis? facturadigital.pt</td> <td>Total Anual 22995,0 €</td> </tr> <tr> <td>Contabilista? contabilista.online</td> <td></td> </tr> </tbody> </table>	Funcionário	Empresa	Total de Abonos 1365,0 €	Total Mensal Segurança Social (23,75%) 285 €	Remuneração Tributável 1200 €	Total Mensal Fundo de Compensação 12 €	Segurança Social (11%) 132 €	Total Anual Segurança Social (23,75%) 3990 €	IRS (14,2%) 170,4 €	Total Anual Fundo de Compensação 168 €	Remuneração Líquida 1062,6 €	Total Anual Seguro 90 €	Faturação grátis? facturadigital.pt	Total Anual 22995,0 €	Contabilista? contabilista.online	
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Salário Base 1200	Subsídio Ref. (Diário) 7,5 <input checked="" type="checkbox"/> EuroTicket																	
Nº de dias de trabalho 22	Remunerações adicionais 0																	
% Segurança Social 11																		
<input type="button" value="Calcular"/>																		

Source: (PME Salários, n.d.)