

Mobile Applications and their influence on SMEs

**Evaluation of Business and Service Design Opportunities by
The Example of TOMASchool Company**

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Abstract

The purpose of this thesis was to find out, how mobile applications as an example of the digitalization megatrend might help SMEs in further growth, development, recovery from the COVID-19 pandemic, and improvement of customer service along with service providing path, in general. The thesis was commissioned by the company of the author – educational service provider – company TOMASchool which was founded in Russia, but currently is providing services worldwide, including CIS countries, countries of the Baltic region, India, and Latin America.

The major methods for this research were interviews, benchmarking and netnography. Secondary data was collected through desktop research, while primary data was collected from the clients of the company and relevant experts from the field. Also, the project will be supported by the SWOT analysis, the creation of the stakeholder map, and the developing of a customer journey and value proposition canvas for the well-structured and logical prototyping of the mobile app under consideration. Finally, netnography and benchmarking were also going to be performed to collect the necessary data to support the app development.

The results of the research will be helpful to the SMEs, in order to comprehend the opportunities for further development and digitalization of their services, as well as to the commissioner. It will allow getting an understanding of how the service design may be embodied by the mobile applications' usage and in what way it can drive additional attention to the clients, improve the customer journey and drive additional revenues.

Language: English

Key words: mobile apps, service design, SMEs

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1 Introduction

Matt Galligan, Co-founder of Circa: "In my opinion, the future of mobile is the future of everything" (Frommer, 2011).

Digitalization is considered as one of the strongest megatrends that has influenced people all over the world. Mobile devices drive digitalization forward and allow it to integrate deeper in the company's operations and regular life procedures. Furthermore, since the Covid-19 pandemic has influenced the process of active digitalization and usage of mobile technologies, it is becoming more obvious that the number of digital business niches is growing tremendously. The number of business tools and opportunities that allow companies to develop online, promote themselves with the help of smart solutions and AI technologies is also constantly rising. One of the long-term impacts of the pandemic will be the growing role of technologies, and digitalization is the fast-emerging trend that can't be avoided (Davitt, 2020).

It is clear, that due to the pandemic people have started to spend more time online (Fig.1), and this trend is not going to disappear. It will become stronger and more robust, which is why companies and service providers have to take that into consideration to follow several aims:

- Drive additional profits in the long-term
- Improve the level of the client's satisfaction
- Stay competitive
- Become more sustainable

The overall number of individuals using mobile devices has also risen, with global user numbers up by 128 million over the year 2020 (GSMA Association Report, n.d.). GSMA Intelligence reported 5.16 billion unique mobile users at the start of April 2020, meaning that roughly two-thirds of the world's total population uses a mobile phone today (Kemp, 2020). Actually, in 2023, mobile apps are expected to generate more than 770 billion euros in revenues (Statista, 2021). Such figures cannot be neglected, which is the reason why digitalization in general, and mobile applications, in particular, are being paid a lot of attention from different perspectives, including governments and business analytics together with channels for further business development and improvement of service quality offered to a client.

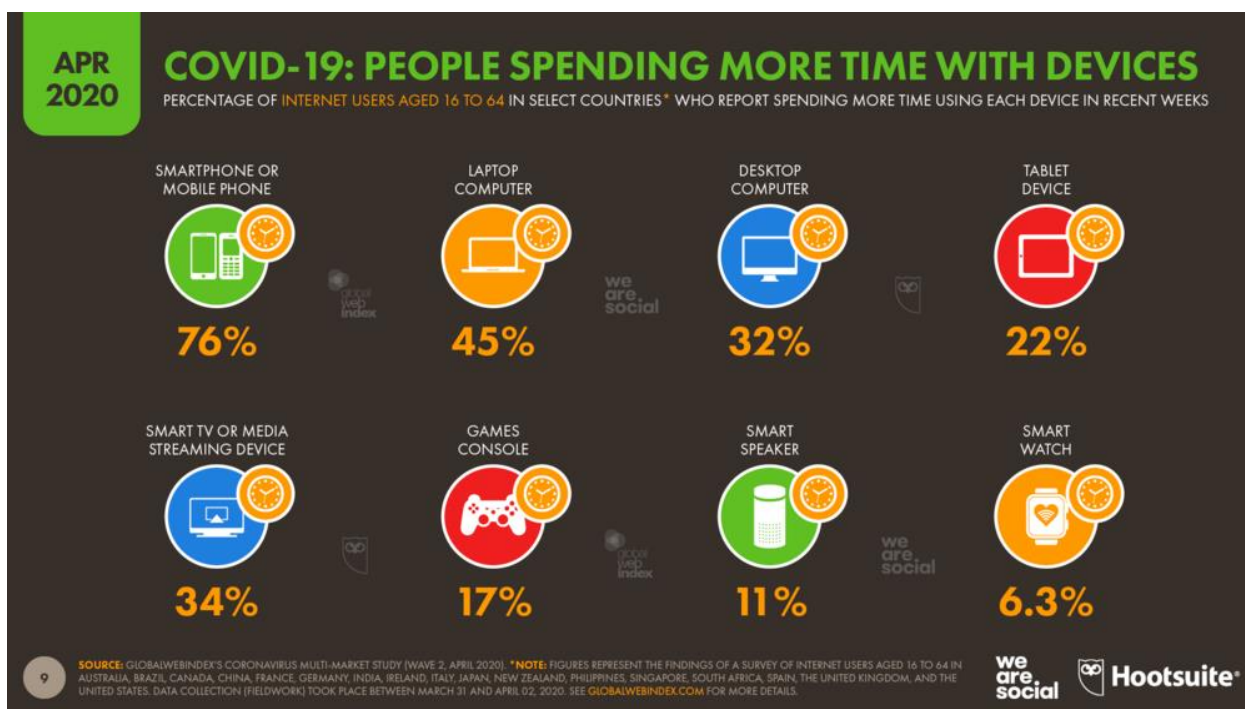


Figure 1. COVID-19: People spending more time with devices. Kemp, S. (2020). Digital 2020: April Global Statshot.

Digitalization is changing all facets of society, not just work environments, and in terms of educational contexts, the transformation is occurring with or without strategic initiatives that ensure ongoing quality of teaching and learning environments (Schmidt, 2020). Moreover, the use of mobile apps is not only limited to the field of communication, entertainment, and gamification but has also extended to various other fields, especially, education. In fact, the ongoing upsurge in the number of education apps has turned out to be the third most well-known mobile app category. (Manchanda, 2022.)

1.1 Problem statement

SMEs (small and medium enterprises) do not always comprehend the benefits of usage of digital tools. Moreover, they often associate mobile apps development with huge financial injunctions that they cannot afford. Concerns about cost and a lack of in-house knowledge have deterred many SMEs from attempting a digital transformation and online upscaling of operations (Everett, 2021).

This research sought to address the opportunities of not only how mobile apps may help SMEs to develop and grow, but also what service design features and elements

must be integrated into the mobile applications for them to provide the maximum number of advantages for clients and the business itself.

The author's own company TOMASchool is the commissioner for this thesis project, as it satisfies necessary criteria for the stated research topic:

- medium sized company
- absence of developed mobile application (good niche for its developing)
- service providing activity (service profile of the company)

1.2 Description of the commissioner

The commissioner is an educational agency named TOMASchool that belongs to the author. It was founded in 2013, in Saint-Petersburg, Russia. The company provides a broad spectrum of services ranging from the consultation services, related to the educational options available worldwide (in foreign education institutions), to the visa support services and language services.

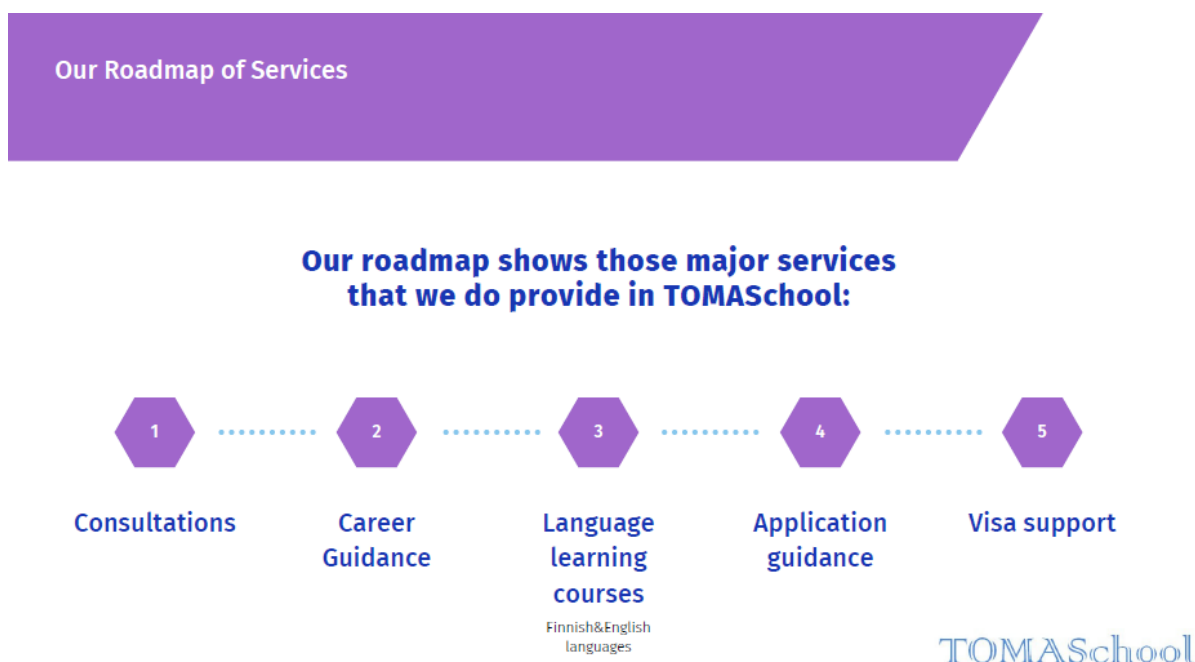


Figure 2. Roadmap of the company's services.

The commissioner has educational partners worldwide and is collaborating not only with clients from different countries and cultures (B2C services), but also with educational agencies, educational institutions all over the world (B2B services). It is worth mentioning

that TOMASchool has been operating purely online since 2015 and is trying to utilize digital tools at the maximum level, so that the digitalization megatrend, and the development of mobile applications, particularly, influence the company a lot.

Good reputation and long-lasting relationships with the clients, international team mixed with multicultural clients' community might be called the major competitive advantages of the company. Finally, the vast field for further growth and development, as education and self-development, upgrading of soft skills are in more demand on a daily basis.

This way, integration of new digital tools to the company's operations, improving the customer journey and working tightly with the concepts of the service design principles seem crucial for the holistic strategic management and company's progress. Due to the increasing competition, it becomes more important to bring new solutions, services and, what is more important, improve the existing ones to satisfy the clients and have their loyalty.

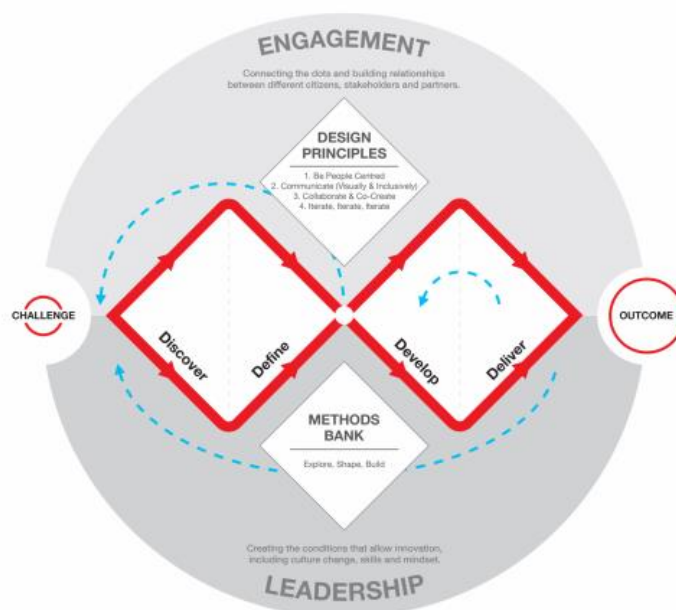
2 Research questions

The research questions are based on the problem presented in the previous chapter as well as on the research objectives mentioned further.

- What kind of applications are the most popular and in demand in the educational service market?
- What features are critical for mobile app development in the educational field? How is it possible to improve the apps from a customer perspective, including service design elements (UX design, customer journey and others)?
- How can SMEs (and TOMASchool, in particular) use the apps to drive additional revenue and develop a company?

3 Research objectives, process chart and methods

This thesis process is based on the Design Council's (2019) double diamond model (Fig.3). The research process follows a logical transformation and movement transition from the steps of discovery and definition to the develop and deliver phases.



© Design Council 2019

Figure 3. Double Diamond (2019). Design Council.

Therefore, the sequence of the thesis' steps (preliminary) will have the following structure:

- 1) **Discovery step:** review of theory and available materials, investigation of the market situation, competitors' research and desktop research
- 2) **Defining step:** focusing on SWOT, benchmarking, netnography, interview, focus groups and analysis of statistical data available
- 3) **Development step:** providing ideas (prototype) of a user-friendly app that shall be based on those features, characteristics that are important from the service design perspective and may allow to improve the customer experience, drive additional revenue.

Personas, developed customer journey and business model canvas will help via the development step flow. There is going to be a Go-to-market plan with the actual UX-elements and pieces of the app's prototype that are going to be more feasible and understandable for testing.

- 4) **Delivering step:** testing the outcomes, communication with the target audience and forecasting the further development steps.

It's important to get the feedback from the audience to realize if the suggested ideas, tools work properly, satisfy the client and help to optimize the customer journey.

This research is going to be primarily based on qualitative methods. Therefore, the focus is going to be placed on the interviews of several types that are sponsoring primary data. Then, part of netnography and benchmarking is going to be implemented to dig deeper into those elements and pieces of information that could help in the development of the app for the commissioner.

Netnography is defined as “*a specific approach to conducting ethnography on the Internet.*” It is a qualitative, interpretive research methodology that adapts traditional ethnographic techniques to the study of social media. (Kozinets, 2015.) Netnography will assist in gathering information from social media to get a better appreciation of the apps’ utilization by the companies, their interfaces, graphic components, colour schemes.

The secondary data, its collection and analysis, will support the below mentioned objectives:

- better understand companies’(SMEs) current situation with application of digital tools and methods
- get a deep comprehension of what mobile apps are popular in the educational sphere and what pain points these apps cover
- sort out the design elements and features that are integrated in the best representatives of educational market apps (to further apply those to the commissioner’s case)

The primary data will be collected from the clients of the TOMASchool company via interviews to find out if the mobile applications are necessary for them and if they provide any additional value to the customer service operations. Also, this research method will help to grasp what mobile apps are most significant for the clients, what features are the most significant to them.

Moreover, in-depth interview with the experts from the industry is going to be organized to perform qualitative research and comprehend, what might be the pain points of the SMEs, when it comes to the development of the mobile apps. The interview method can be defined as a specific technique that involves “*conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, program or situation*” (Boyce & Neale, 2006). Thereupon, for this research interviews are going to be organized, via digital platforms, like Skype and Zoom.

4 Frame of reference

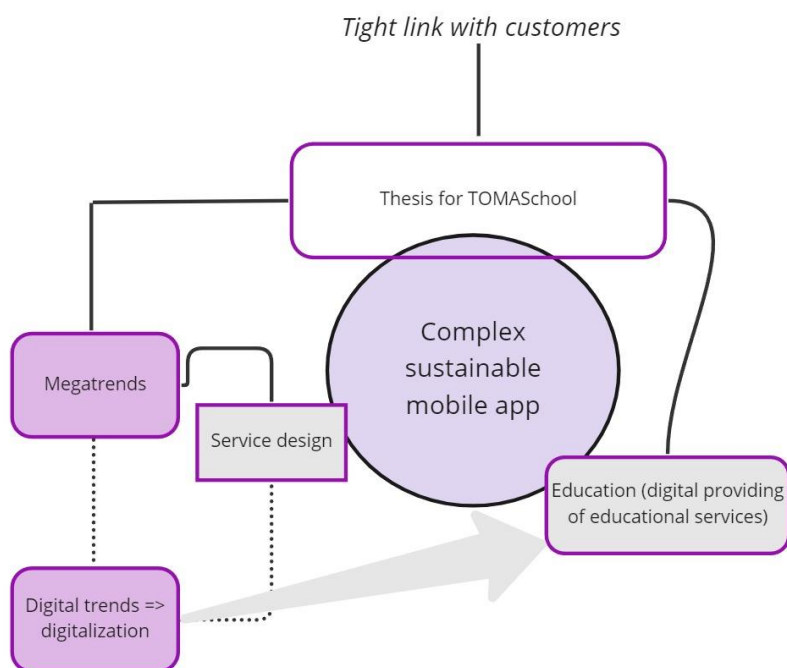


Figure 4. Frame of reference for the thesis.

As the research is going to focus on the issues of those features that are critical for mobile app development in the educational field and prospects for the improvement of the apps, it is essential to start from the point of the digital environment and those trends that influence the SMEs (the commissioner, in particular). As digitalization is one of the most powerful megatrends, it entails different sub-trends influencing the service operators, and the educational area.

In the future, the thesis is going to provide a solution through the mobile app that will have two major functions: being a helpful sustainable business tool, and a fundament for those who are considering options for business growth and optimization of operations. The app structural core may be based on those roots and ideas that have been formed via the ongoing powerful megatrends. While megatrends from their perspective are also covering service design as a phenomenon. From this point of view, service design is considered as a means of shaping the physical or virtual environment, in which services are delivered (Bitner, 1992; Vilnai-Yavetz & Rafaelim, 2006).

Finally, through this project commissioner obtains an opportunity to be closely connected with the existing and anticipated clients and acquire new touch points with the stakeholders. This way, megatrends, and ongoing global shifts form an environment and reality for the

existence of mobile applications. Thus, service design acts as a buffer for the mobile app to be oriented to clients, their comfort, and loyalty.

5 Timeline of the process

The timing of the thesis was rather tight. However, the major portion of the actions, research and activities were conducted between June 2022 and November 2022. The timeline scheme is provided below.

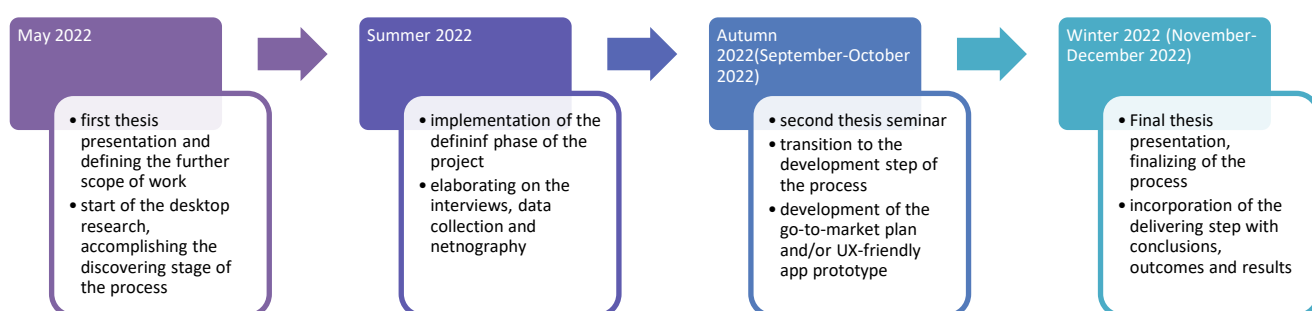


Figure 5. Timeline of the process.

6 Background

It is undoubtful that Covid-19 has dramatically influenced the digital habits of society and learning apps boomed during the pandemic (Singer, 2021). Hence, the impact of digitalization as a megatrend and democratization of AI technologies is undeniable. The e-learning market has been steadily expanding, and it continues to grow with easier approachability and upgraded educational apps that cater to the requirements and needs of people of all ages (Manchanda, 2022).

Applications based on digital technologies have changed the teaching and learning experience as such, by opening up myriad opportunities (Falloon, 2017). Those opportunities include digital platforms, new teaching approaches, social media and messengers that are integrated by educational institutions and organizations. Mobile apps in general have become a common phenomenon in the everyday life of a person. Given the

rapid development of mobile devices, mobile apps have become more convenient than previous social media and technologies, and their functions are more advanced and smarter. (Schlagwein & Hu, 2017; Moravec, Minas, Denis 2019.) However, there should be a smooth transaction, constant flexibility, and connection within different tools in education, as it is necessary to emphasize online and offline real-time interaction and collaborative learning for improving learning efficiency (Stahl, 2021).

Back in 1983, a young Steve Jobs first envisioned the App Store, or at least a very basic version of it (Strain, 2015). Since then, the effect of mobile learning apps in the field of education has been exceptional, primarily noticeable during the pandemic. Mobile learning apps have already become an integral part of the academic routine, and educational institutions will have to further incorporate them into their curriculum and activities. (Tiwari, 2021). UNESCO also claims that digital technology has moved to a phase of becoming a social necessity, not an amusement whim. It has occurred so that technologies can guarantee education as a basic human right, precisely in a world facing more frequent crises, emergencies, and conflicts. (UNESCO Digital learning, 2022.)

6.1 Megatrends

Based on research conducted by the LBC Global, the digital society (previously called the knowledge society) goes hand in hand with innovation and globalization. In this new context, development path is increasingly more complicated and challenging. (LBC Insights, 2022.) According to Cisco, 500 billion devices will be linked to the internet by the year 2030. Cisco specialists also declare that each device contains sensors that accumulate data, interact with the environment, and form an a huge network of interconnected gadgets. Besides, technology and AI become implanted in everything, so that all spheres of life merge the digital space. (Oberzaucher, n.d..)

The tempo of data accumulation is increasing steadily, and its value is growing (Dufva, 2020). What is tremendously critical from the commissioner's point of view is that the effect of the technological revolution on our lives will increase and further transform our way of producing and distributing data, creating economic imbalances and opportunities. Furthermore, technological transformations will change our social behavior and rules, and challenge ethical standards. (LBC Insights, 2022.)

Finally, digitalization and related business models are likely to adjust and transform the amount and the nature of work along with the appraisal system, in general. This global shift

is going to pose significant challenges for policymakers and governments. (Scott, 2019.) What is more since the beginning of the Covid-19 pandemic companies have been actively moving towards the principle of ecosystem operations. These ecosystems involve corresponding clusters of services via which users fulfill a combination of cross-sectoral needs. These actions form one multi-level user experience. Obviously, to participate successfully in ecosystems, traditional companies must often adjust the way they think about customers and change their standardized patterns. (Chung, Dietz, Rab & Townsend, 2020.)

Six of the world's top seven companies are ecosystem companies.

Top 7 companies by market capitalization,¹ \$ billion



¹As of August 5, 2020.
Source: S&P Capital IQ; McKinsey analysis

McKinsey
& Company

Figure 6. Six of the world's top seven companies are ecosystem companies. Chung, V., Dietz M., Rab I. & Townsend, Z. (2020). Ecosystem 2.0: Climbing to the next level.

6.2 Trends influencing mobile applications

Except for the megatrends, surely there are some other, external sub-trends that affect the whole process of the apps' usage, their integration in SMEs. Some of them are data security issue, low-code and no-code app trend and service design as a transformational activity.

6.2.1 Data security

Since mobile applications are gaining huge popularity within the business framework, there are certain trends that dominate this field. One of them is data security. On the graph, taken from the portal Exlodingtopics (Data Privacy, n.d.), it is easily noticeable that the issue of the information and data security is acquiring more attention on a yearly basis, and the growth in the number of searches performed with the keywords related to "data security" via Google in USA is 152%, considering the time range between 2017 and 2021.



Graph 1. Data privacy search trend over the last 5 years (n.d.). Explodingtopics

Such a security-focused trend has influenced the rising popularity of certain messenger platforms, like Telegram, using end-to-end encryption. As per Explodingtopics and Google Trends platforms, more than 450 000 searches per month with the relevant keywords (connected to the Telegram messenger), are made on an average basis in the USA and quite a stable popularity dynamic worldwide can be noticed (Telegram, n.d.). The same confidence trend has affected the growing popularity of browsers Brave (searches for "Brave" are up 285% since 2017 as per Explodingtopics) and the cookie-free search engine DuckDuckGo (which also offers a tracker-blocking Chrome extension and standalone mobile web browser).

This way, there is a definite need in focusing on the security features, when it comes to the development of any app. Since educational and service providing areas, in general, are focused on rather personal details and features of a client, without any doubts, safety and security should be prioritized. This topic as a transformational force of digitalization was covered in the previous chapter as well.

6.2.2 Low-code and no-code apps

The second top powerful trend influencing companies and entrepreneurial reality is low-code/no-code apps. Low-code technologies provide everyone with an opportunity to develop their own application without specific coding skills, which might be a superb business option for the SMEs in terms of automatization and digitalization of their operations, so that the author is going to develop these ideas further in the research.

Such giant companies, like Forrester also focus their attention on the low-code technologies and even forecasted that by the end of 2021, 75% of application development peers will utilize low-code platforms (Spanyi, 2021). Thus, it is a widely discussed technological trend, which has influenced big companies worldwide, as, for instance, Oracle corporation, like many others are already implementing this trend in their operations. An example of Google acquiring no-code mobile app platform AppSheet in January 2021 may also be an example of market responding to the colossally solid digitalization trend and its affixes.

Reasons and objectives for enterprises to switch from traditional app development to using low-code platforms are also well-described in the figure below (Fig.7).

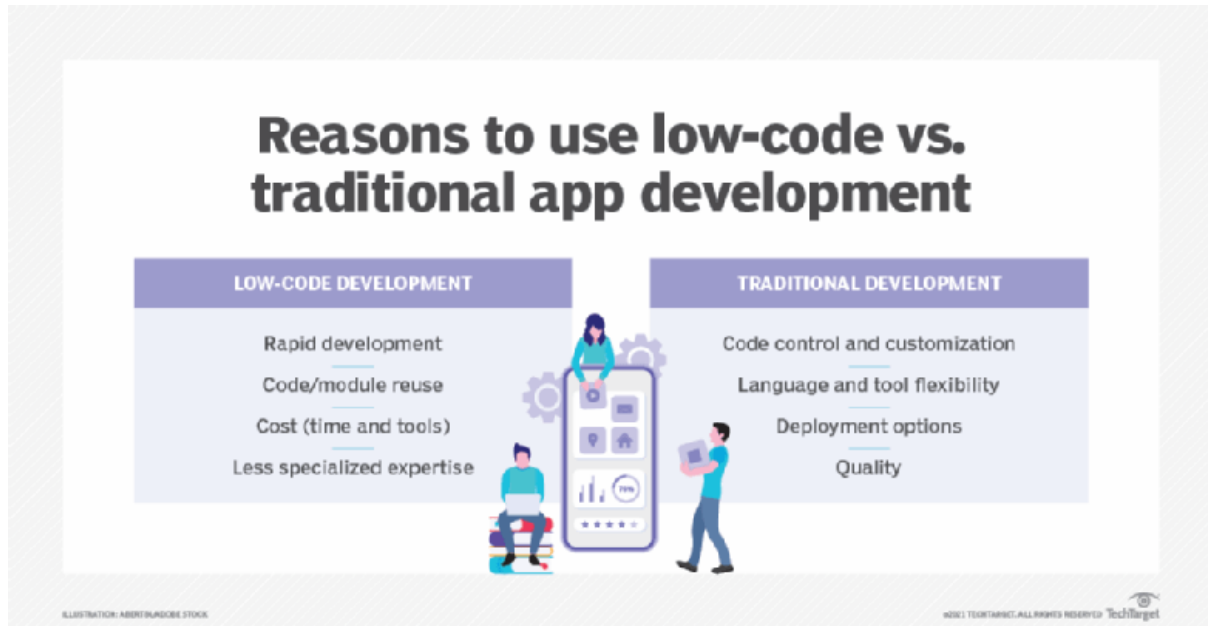


Figure 7. Reasons to use low-code vs. traditional app development. Bigelow, S. (2022). What is low-code? A guide to enterprise low-code app development.

Such technologies are included in the socio and technological trend that is called “*Democratization of AI*”, which can help SMEs and big companies to recover after the COVID-9 pandemic, generate additional revenues and improve the existing service providing path.

6.2.3 Service design and apps

“People don’t want service design, they want their problems solved” (Stickdorn, 2019).

In response to challenging contemporary transformations that inevitably affect both the public and the business sectors, service design is increasingly acquiring a dominant role (Foglieni, Villari & Maffei, 2017). Globally, it is believed that every product is a service waiting to happen (Butler, 2018). Moreover, it is discussed that Design Thinking as a concept is a design methodology that provides a solution-based approach to solving problems (Dam & Siang, 2021). There is a straightforward idea of developing a service through the human-centered perspective and an aim of solving the problems, making life of an end-user easier.

Service Design aims at designing services that are useful, usable, and desirable from the user’s perspective, and efficient, effective, and different from the provider’s perspective. It is a strategic approach that helps providers to develop clear strategic positioning for their service offerings. Services are systems that involve many different influential factors, so service design takes a holistic approach in order to get an understanding of the system and the different actors within the system. (Mager & Sung, 2011.)

“So why does Service Design matter, especially when so much of what we design these days is focused on the digital experience? Because the most important thing to remember is that nothing exists in a vacuum. Everything, and I mean everything, lives within a larger ecosystem, with dozens of external interactions, influences, and factors”. (Pham, 2016.)

User experience is focused on what the end user faces, whereas service design is concentrated on how that user experience is created from the inside, what elements and phases are integrated in the whole process (Gibbons, 2021). UX (User experience) Design may not provide a complex approach, whereas Service Design principles are able to create a holistic unique environment for the app. Furthermore, design is not only about the product, but also about a systematic, step-by-step process of identifying core problems, then researching, creating, testing, and implementing complex solutions. (Pham, 2016.)

All service design elements should be covered while considering a sustainable app, as mobile applications relentlessly create a link between businesses and their intended customers. With the ability to reach customers on-the-go and engage them through real-time interactions, mobile apps have brought the relationship between the business and their customers on a new level. Moreover, through mobile application, it is possible to provide unique and personalized services to the clients, establish a strong long lasting bond. (Babich, 2018.)

Coming back to the critical features that must be considered during the mobile app creation and which are totally transferable and relatable to the service design principles are mentioned further. They are minimizing of cognitive load (connected with sequencing and user-centered approach), adaptability and ease of use via decluttering of information (connected with holistic principle of service design and user focus), consistency of design and optimization of content with limiting the number of available choices (co-creation, user focus and holistic principles). (Kaushik, 2022.)

7 Methodology and research

The biggest share of the qualitative data for this research was obtained mainly from the interviews. Also, applicable service design methods were integrated as well, such as SWOT-analysis and stakeholder's map. Furthermore, netnography and benchmarking were performed to get additional in-sights that are relevant for the project.

The biggest share of the qualitative data for this research was obtained mainly from the interviews. Also, applicable service design methods were integrated as well, such as SWOT-analysis and stakeholder's map. Furthermore, netnography and benchmarking were performed to get additional insights that are relevant to the project.

SWOT analysis allowed me to evaluate further opportunities and threats related to the company's future. Furthermore, it gave a chance to prove the fact that a lot of operations and activities of TOMASchool are tightly interconnected with the digital sphere. The stakeholder map helped to take a look at those directions of growth that the commissioner has, and generalize the levels of interested parties as this structure also influences the planned app.

Interviews supported the collection of insights and valuable data for the creation of the app, its filling, and formalization. Ethnography, on the other hand, provided a great option to dig deeper into the field of mobile applications and important existing trends in this niche. With

benchmarking it became much easier to comprehend what app features should be targeted and what issues must be avoided when it comes to the integration of the mobile app.

Finally, personas let me specify the targeting and visualize the profile of the users that further on are following the customer journey introduced in the customer journey map. Value model canvas, at the same time, allowed fixing those significant pains and gains of the users that should be at the core of the app development process.

7.1 SWOT analysis

Changing process is an inevitable and integral part of community organizing (Renault, n.d.). Being able to accomplish the internal and external analysis of a company, its features, and possible future scenarios, undoubtedly is going to help.

SWOT Analysis (strengths, weaknesses, opportunities, threats) is a popular business tool to assess how an organization compares to its competition. Historically its creation is credited to Albert Humphrey, who suggested this approach in the 1960s. (Teoli, Sanvictores & An, 2021.) This way, in the commissioner's case, it might allow to focus on certain aspects during the app's development, and to figure out, what areas might be more critical for the process flow.

The analysis provided below has been prepared by the commissioner herself basing on her own findings, knowledge, experience, and assessment of the internal operations combined with the findings provided by the team of employees and previously accomplished competitor analysis.

Table 1. SWOT analysis.

<p style="text-align: center;">Strengths:</p> <ul style="list-style-type: none"> - Digital experience of operations - High loyalty of clients and great reputation - Active SMM collaborations - Fast tempo of growth - Close contact with clients - Top-qualified employees as an asset 	<p style="text-align: center;">Weaknesses:</p> <ul style="list-style-type: none"> - Need for a bigger operational/management team - Operational budget - Absence of personalized teaching platform for the academic operations' management (potential ecosystem)
<p style="text-align: center;">Opportunities:</p> <ul style="list-style-type: none"> - Digitalization trend: integration of new digital tools: app, personalized digital platform for teaching and communication with clients - Automatization of the operations (smart innovative growth) - Expanding of the spectrum of services - Deepening each operational direction/offering higher number of services and sub-services in each specific direction 	<p style="text-align: center;">Threats:</p> <ul style="list-style-type: none"> - High level of competition - Huge tempo of digitalization/constant need for transformation - Economic crisis leading to the decreasing buying capacity of existing and potential clients

In the commissioner's case the digital profile of operations, the high loyalty level of clients mixed with the team of expert employees perform as the company's competitive advantages. Also, active cooperation with influencers, SMM activities form a robust bond with existing and potential clients of TOMASchool and allow to proceed further in the developing, evolving direction. On the other hand, due to the fast tempo of expanding operations, there is a huge need for a bigger team. On the other hand, compared to the competitors and the benchmarked companies, the operational budget does not give an additional opportunity for

building a personalized teaching platform with additional supporting tools that altogether might form a commissioner's ecosystem. Those features may be considered weaknesses in the framework of the SWOT analysis.

The beforementioned megatrends connected with digitalization and innovative growth, allow the commissioner to positively evaluate further development opportunities. Also, it is possible to consider expanding the list of services, new collaborations, and automatization options. However, since the digitalization trend is inevitable, the level of competition will constantly increase, bringing new challenges and the necessity to transform. Moreover, transformations and changes depend on financing and additional investments. Besides, the economic difficulties that already arose at the beginning of the pandemic, undoubtedly, influence the buying capacity of clients. The ongoing political and economic deviations bring a feeling of uncertainty as well, which makes the forecasting process even more complex.

7.2 Stakeholder map

Stakeholder mapping is the visual process of laying out all the stakeholders of a product, project, or idea on one map (Vernall, n.d.). The stakeholder map described below may illustrate the three levels of parties that are connected with the commissioner, and the app development process under consideration. The core includes the commissioner's team (management, personnel, and teachers) along with the clients of the company. Clients may be subdivided into several categories, according to their needs, goals, and, what is important, age. For the young students and clients, a new stakeholder group arises, that is their parents who influence the commissioner's activity significantly. Afterward comes the list of internal stakeholders that involves educational partners, like educational agencies and educational institutions (universities, colleges, and schools), and educational collaborating platforms allowing to get access to different courses, lectures, and self-taught materials. Then, there are outsourced IT specialists involved in the operations of the company (smooth running of the website and other digitally-related operations). Finally, there are competitors and a range of companies and tools integrated into the working routine: CRM platform and its specialists, web hosting platform and their support team, IP-phone services, and email services specialists. On the external level lie government, social media with bloggers, influencers and groups with advertising opportunities, a variety of youth organizations, entertainment sector that is tightly related to the majority of the commissioner's clients (events, festivals, museums, exhibitions, and fairs), and NGOs. NGOs and certain foundations may become a

robust support and sustainable supporting fundament for the holistic further development of the commissioner's operations.

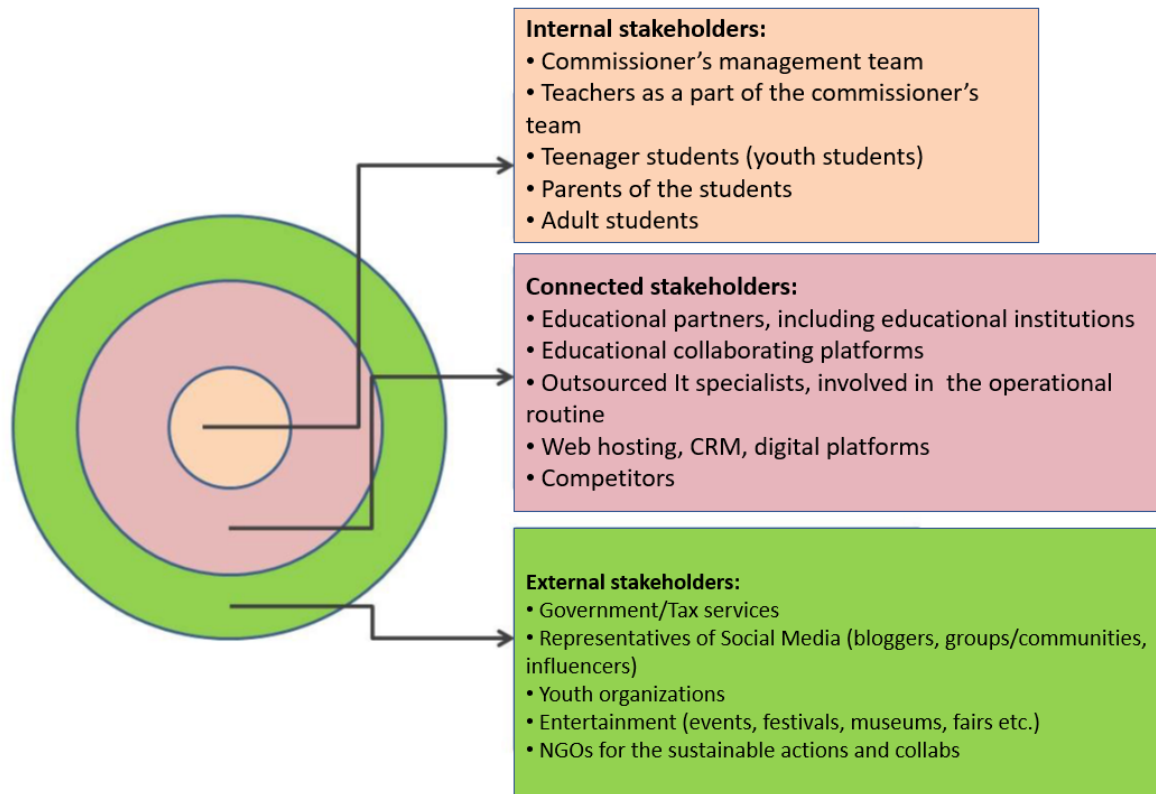


Figure 8. Stakeholder map of TOMASchool.

7.3 Interviews

Expert interviews are a widely used qualitative interview method often aiming at gaining information about or exploring a specific field of action (Döringer, 2020). At the same time, a focus group is “a group comprised of individuals with certain characteristics who focus discussions on a given issue or topic” (Anderson, 1990, p.241). Based on Denscombe (2007, p.115), “focus group consists of a small group of people, usually between six and nine in number, who are brought together by a trained moderator (the researcher) to explore attitudes and perceptions, feelings and ideas about a topic”. In accordance with these two sub-methods of the general qualitative method of interviews, further findings will be described as per the results of the expert interview from the relevant industry and selected focus groups of the commissioner's clients.

For the following part of the research entailing interview material a table below was created to easier navigate via the content.

Table 2. Interview method.

Method	Number of participants	Comments/information
Group expert interview	Three (3)	Representatives of the Fatpanda Apps company
Focus group 1	Six (6)	Participants in the age group between 16 and 17 years old (teenage focus group)
Focus group 2	Six (6)	Participants in the age group between 40 and 45 years old (parents focus group)

7.4 Expert interview

The first interview was conducted with a team of three app developers to collect more data and insights related not only to the process of app development, but also to those difficulties that arise during the workflow with the clients. The questions (Appendix 1) were aimed at understanding, what is the tendency in terms of demand towards the development of mobile applications for the service providers. Also, what are the difficulties during the process of communication with the clients, and what are the concerns of the SMEs willing to create a mobile app? Finally, the commissioner wanted to understand if there is feedback from the companies regarding the influence of app utilization on the company's operations.

The expert team under the research consideration is a medium-sized internationally oriented company named Fatpanda Apps that is dealing with clients from different regions, including Europe, Turkey, Russia, and UK. The team consisted of three participants, that were: Team Leader (respondent A) and two Client Managers (respondents B and C). Their expertise has been proven not only in terms of their programming skills but also concerning customer service, communication with clients, and service design integration principles. Their insights helped to better understand the market situation, motivation of the clients addressing the app development topic, reveal app features that interest SMEs.

One of the most critical factors that has been noticed by the interview participants is the fact that the ongoing political situation has seriously affected the wish and desire of SMEs to make any big investments, including investments in digital tools. Unfortunately, the demand

has decreased almost by 40%, and it is very difficult to predict right now when the situation is going to stabilize. Nonetheless, there are still those companies that, on the contrary, would like to invest in sustainable and holistic growth to improve their customer experience or introduce absolutely new services to existing or potential clients.

As per the experts, basically, their clients that focus on service providing approach them in two different situations. The first one happens when the company is brand new, and it launches a new service or group of services that must be supported by an array of digital means. In this scenario, one of the tools is going to be a mobile app. The other situation occurs, when a service provider is introducing a mobile app as an addition to the existing platforms and operational structures, like in the commissioner's case. Experts advise that the second condition might be easier for the implementing side as there is an opportunity to rely on the company's experience, expertise, comprehension of the clients' personas, brand standards, and any other features.

During the conversation, it became clear that this company most often faces a group of difficulties, related to communication strategies and budget allocation. The problem with SMEs is usually that the company owners or managers would like to influence the process of the mobile app, while in most situations these individuals lack technical skills and knowledge. This results in a very long process of initial planning and layout approval. With big companies, for example, the process runs much faster as the team is usually equipped with the digitally savvy specialist(s) that are responsible for this kind of decision and development procedures. The same situation arises when SMEs are trying to develop a complex, multifunctional app, but are not ready for the financial, and organizational aspects of the process. These are the reasons, why experts of the company under consideration start their collaboration process with a client from a long introductory consultation to have an opportunity to discuss all required questions and issues, which may influence the further steps of work.

According to the experts, SMEs in most cases try to take into consideration several major subjects. One of them is the navigation through the app pages and sections. The clearer the logic of navigation is, the better it is for all parties in the process. Then, the clients try to integrate the system of personal accounts and create a personalized ecosystem that will connect the website, social media, and app functions. This way companies would like to simplify the processes for the clients.

Finally, moving to the feedback coming from the clients. Mostly, companies state that app development is helping from different perspectives, simultaneously. The first advantage lies in the field of becoming more digitalized and, consequently, more competitive. Thereafter, this action helps in bringing a client a new, helpful service path. At the same time, clients suggest that apps allow to collect more helpful insights regarding their clients, which later becomes a valuable asset for further development. Besides, an app allows either to upsell certain services or create a totally new operational platform. So, as per the interviewees, there was never negative feedback from a client or a wish to get rid of this tool. However, some clients experience difficulties in maintaining the app or finding a specialist that can perform this procedure regularly. Sometimes these complications are also related to the fact that a company is not willing to inject additional money into the processes connected to a new app, which has not yet proved its efficiency.

7.5 Focus groups

A focus group is a research method used to accumulate data through group interaction. The group includes a small number of carefully chosen people, who discuss a given topic and suggest relevant ideas. As a rule, focus groups are used to determine and analyze how individuals think and act, and they serve as a source of first-hand qualitative data. (B2b International Research Methods, n.d.)

Problem defined: mobile apps may vary in their realization, functions, and value; the spectrum of possibilities is too broad.

Objectives of the focus group research:

- Define if the idea of the app development is relevant for the commissioner?
- Find out what apps (type, features, value) are popular among the clients?
- Gather more information about the clients' expectations towards the commissioner's app.

Implementation:

For this step, two focus groups were organized online to collect additional information. According to the internal data from the commissioner, which was covered and explained earlier, two major stakeholder groups of clients in the case of TOMASchool are the young, teenage students, while the second group is their parents. These sectors of clients are distinguished based on the internal statistics gained via the CRM system and managers'

experience that lies in the core of the stakeholder map. For the successful implementation of the research, an assistant from the commissioner's side also took part in the process.

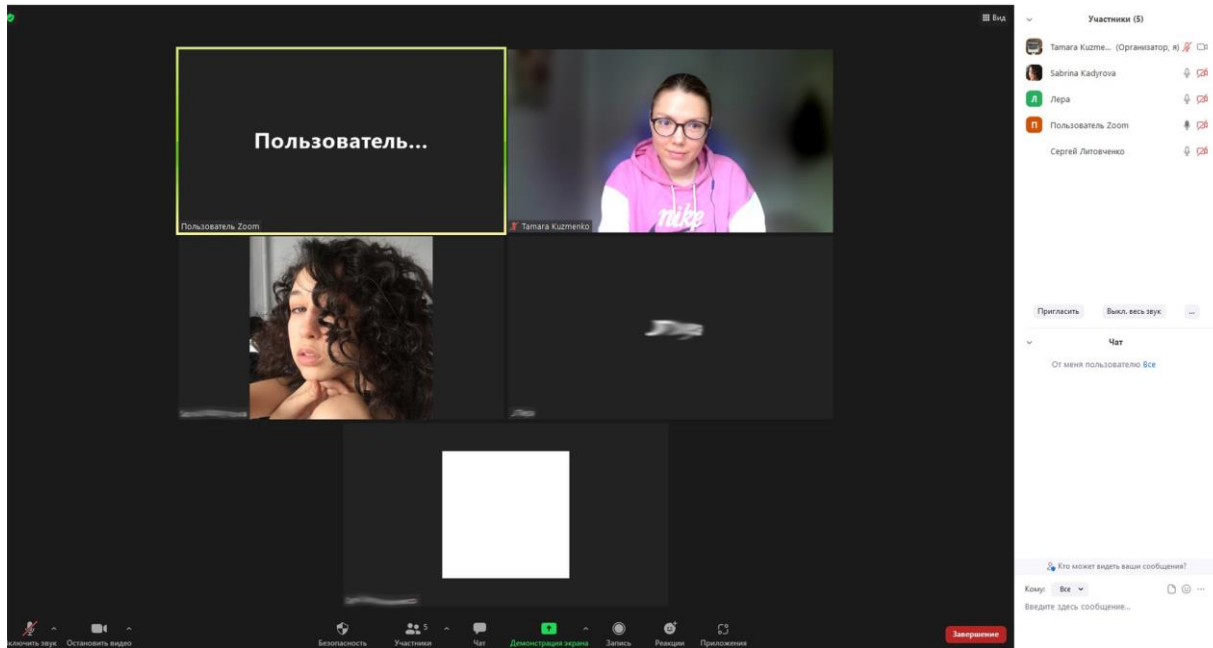


Figure 14. Screenshot of the Focus Group 1.

7.5.1 Focus group 1

As per the first group members, referred to further as teenagers, participants were picked in line with their positive answers and agreement to participate in the survey, coming from the Telegram placed questionnaire. This focus group was gathered in the Zoom session, and was asked questions regarding their current experience of using different apps, their expectations, and wishes for the commissioner's app.

Focus group 1 contained six participants in the age group between 16 and 17 years old. To pursue gender balance, three of the participants were females, while the other three participants were males. All the members know at least one foreign language, are socially active, and actively utilize different digital tools in their education and entertainment routine. The participants were demonstrating a genuine interest during the whole process of the discussion and were eager to share their ideas, findings, and views.

Appendix 2 contains a precise table with the questions together with the key findings related to the communication with focus group 1.

Finally, it is interesting to mention the value matrix of the purposes for which the apps are being used by the TOMASchool clients. It is being formed according to those “values” that were mentioned most often in the interview.





 Relaxation value	Inspiration value 
 Educational value	Communication value 

Table 2. Value matrix of the app usage based on the Focus group research method.

Since the commissioner is going to integrate a mobile app into its company operations, the app concept should be based on the value principles of the customer to improve the user experience and customer journey on different levels. Besides, the app should become an additional value provider not only for the clients as a stakeholder group, but also for other parties involved in the workflow: specialists of the company, external partners, and even NGOs. This is possible to implement via upgrading the app, integration of additional features, communication channels, news feed as well as through creating a certain ecosystem that may be connected to other platforms and digital tools.

7.6 Ethnography

Ethnography is a popular type of qualitative research that brings in immersing oneself in a particular community or organization to closely observe its behavior and interactions (Caulfield, 2022). While online ethnography plays a role of a “*potent way to reach qualitative understanding of online communities*” (Skågeby, 2011). Netnography is also a specific approach to conducting ethnography on the Internet (Kozinets, 2015).

Via digging into the the topic and subject of the mobile applications, the following relevant information was found out. According to the report of SensorTower, users spent 53 million years in the top 500 apps in Q3 2021. The experts forecast that this indicator will overcome 66 million years by Q4 2022, with a 17 % increase. In the manner of the same report, in 2021

the leading app classes (Fig.9) concerning the time spent in them, were sport, finance, books, productivity, and business. (Sensor Tower Annual Report, 2022.)

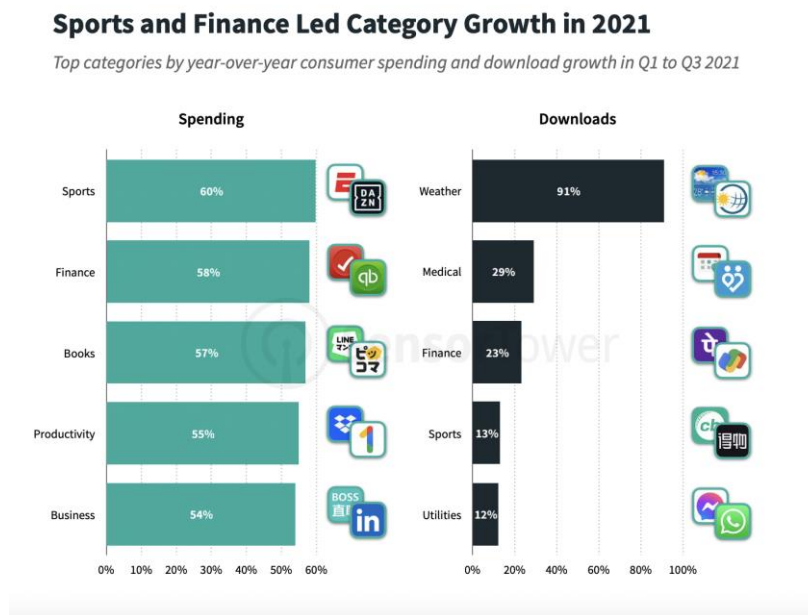


Figure 9. Top categories of apps in Q3 2021 (2022). SensorTower: Sensor Tower Annual Report.

As specified by Onix Systems, there is a well-noticed trend for the apps, which is the so-called “super-apps”. A super app is a one-stop hub that lets users solve numerous issues by providing various services, which are able to cover existing pain points. Those services might represent different spheres, like food delivery, online shopping, entertainment, financial services and banking, communication, and even creative self-expression. If there is a need for a great example of a super app, it easily can be WeChat. WeChat is a Chinese multi-functional app entailing messaging, social media, and mobile payment features. The number of active app users is over 1.26 billion from absolutely versatile age groups. (Kholen, 2022.) This information additionally proves the trend towards growing ecosystems and developing multi-purpose spaces for users. PYMNTS research of 2021 also shows that 67% of US respondents would like to see at least two of their everyday activities integrated into one mobile place. At the same time, around 11% are willing to acquire one app for managing their entire digital lives (Auchterlonie, 2021).

Mobile learning is also one of the strongest trends in this industry. By the year 2026, the total worldwide market for digital learning is expected to expand and reach \$370 billion

(Statista, 2022). In addition, there is very impressive data listed in Figure 10 about mobile learning that is tremendously promising for the commissioner's further plans.

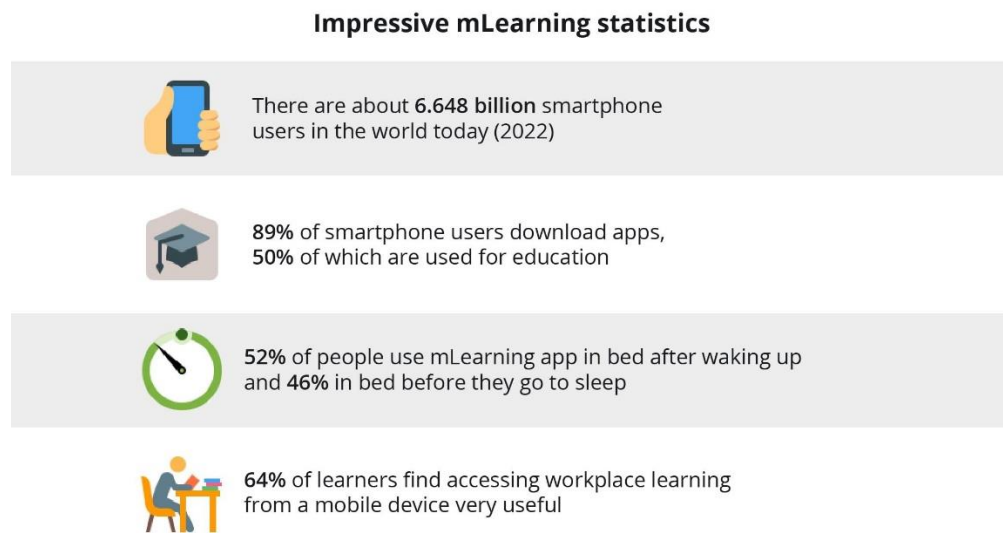


Figure 10. Impressive mLearning statistics. Kholen, S. (2022). Onix systems: Onix systems blog.

7.7 Benchmarking

Benchmarking is defined as the method of measuring services or products, against those of organizations, communities and institutions that are known to be leaders in one or more characteristics of their operations (ASQ Quality Resources, n.d.). This method is going to bring additional value to the research and gather helpful insights from the leading examples of the apps, follow their evaluation metrics and go deeper into the users' feedback.

According to the collected data, desktop research and performed interviews there are certain features and app elements that are the top priority for the users. Remarkably, these features are suitable not only for educational or service apps but for other categories, as well. Some of them are the easiness of navigation, the logic of the structure, the color scheme, and integration with the most famous and complex digital environments, like Google (Fig.11).

Likewise, as the most important app functions for the commissioner have been defined already, it becomes possible to investigate the leading examples of apps from Appstore and GooglePlay that relate to two categories: "Organizing&Scheduling", and "Education". These categories have been picked up in consonance with the planned functionality of the commissioner's app, as the major tools are forecasted to be in two major fields of educational

scheduling and learning. Defined criteria have been taken into consideration to analyze some app market examples.

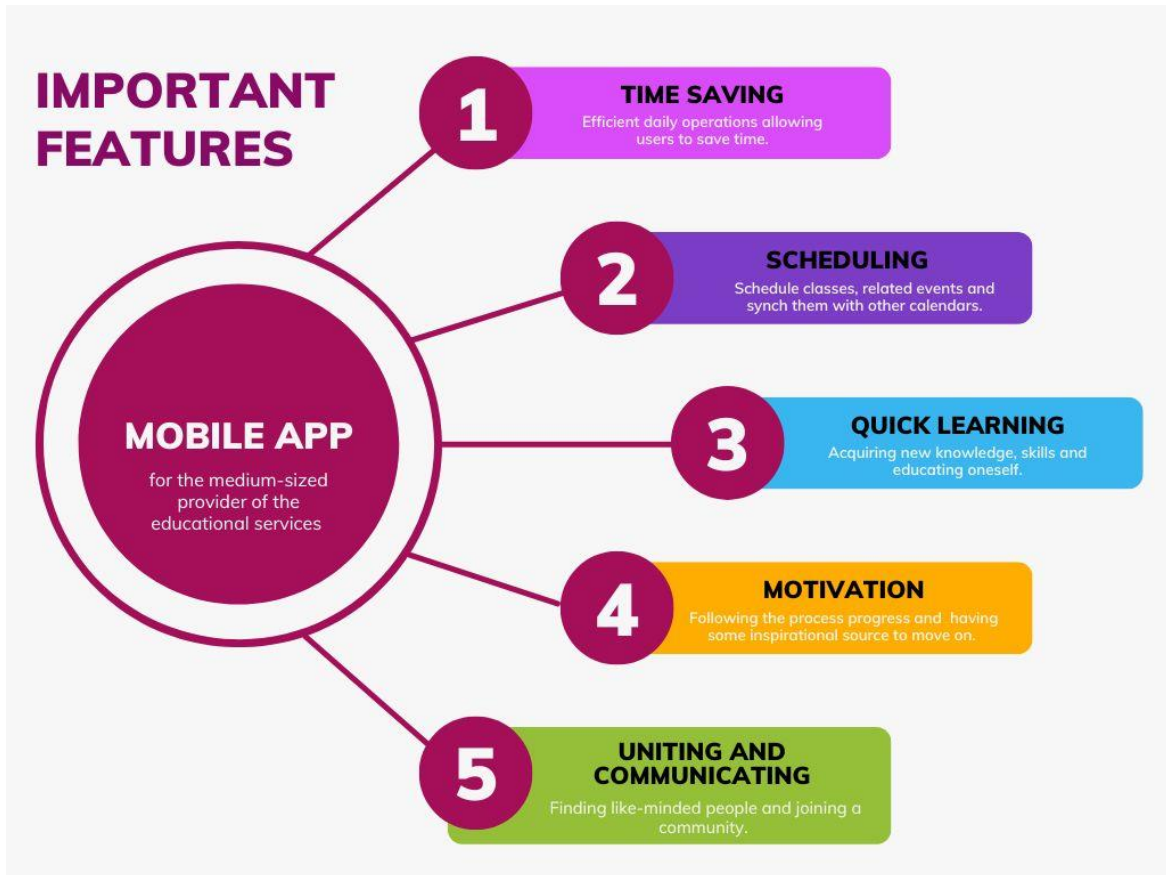


Figure 11. Important features of mobile applications.

7.7.1 Day One app

Day planning apps are definitely popular with users of different age groups. Surely, in most cases, they provide quite a standard, basic opportunity to schedule different activities, organize life and group tasks, but each of them offers something unique.

Some of the well-known examples are apps, like Structured and Day One. The defining features of these apps are attractive design, the option to choose a colour scheme, well-thought notifications and the availability of widgets. As per the New York Times, for instance, “*Day One creates something so rare it feels almost sacred: a completely private digital space*” (Manjoo, 2019). So, there is an element of journaling (one of the major elements of Day One) that allows one to somehow personalize the schedule, add more privacy to it, and involve different pieces of important information to memorize it.

Key elements of the app based on the description, and marketing message: personalization, scheduling, journalling, creation of the “safe” space, broad range of features available, eye-catching and pleasant design, and inspiration source.

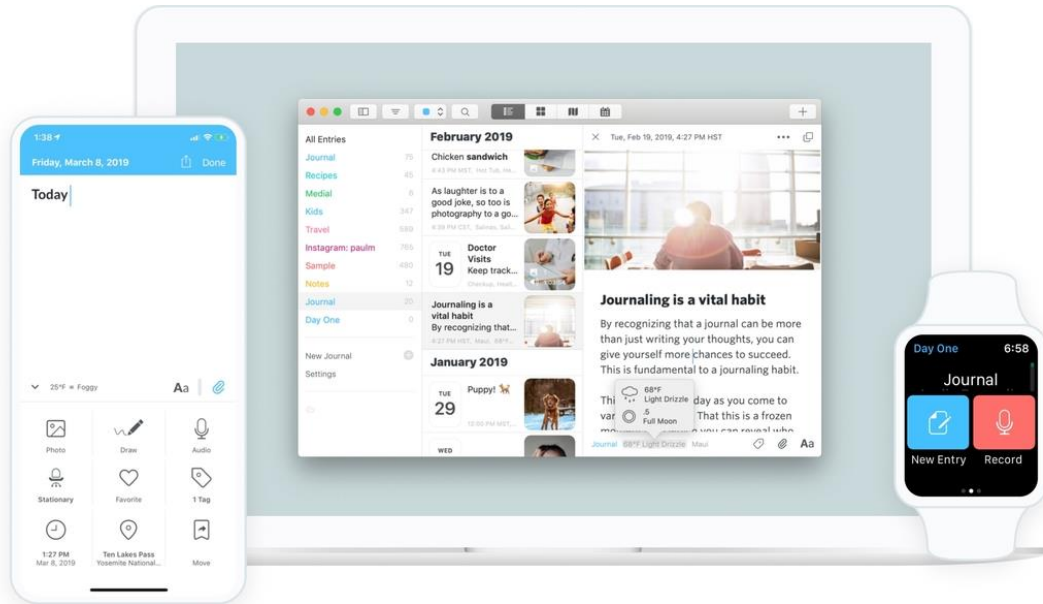


Figure 12. Day One app screenshot.

What users love about the app according to the reviews: design, text modification option, user-friendliness, ability to memorize one’s life (diary feature), templates, and customization.

Points for growth based on the reviews: autocorrect feature, technical issues during registration.

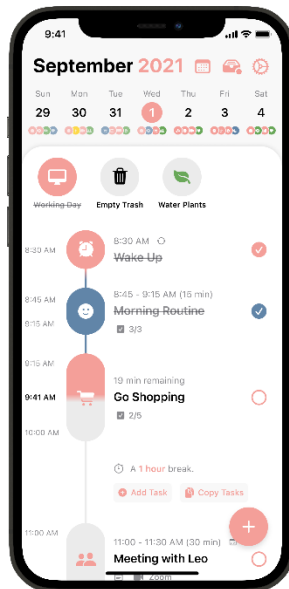


Figure 13. Dayreview app screenshot.

7.7.2 Brainly

One of the popular “helpers” in student life and activities is the Brainly app. Developers claim that this app is going to provide necessary support with step-by-step homework answers via their database. Also, there is an option to ask their community about a specific problem or chat with a tutor for a personalized advice (Playmarket, Brainly app, 2022).

Generally, the apps from this category demonstrate that there is a constant search for ready-made solutions and a desire to speed up the academic process. Also, creative bright design becomes a nice visual advantage for the users. An access to the tutor/mentor/manager also significantly supports the user’s journey. A personalized approach and availability of a support channel help to improve the rating of the app and, generally, influence the feedback.

Key elements of the app based on the description, and marketing message: a safe community, mentoring, guiding real-time quick help, reliability, intuitive design, and logical navigation.

What users love about the app according to the reviews: knowledge, help with subjects and teaching, connection to reliable tutors, and uniting with other app users.

Points for growth based on the reviews: extended free tariffs, technical issues (crashing).

7.7.3 Duolingo

“Far and away the best language-learning app.” – The Wall Street Journal (Duolingo, 2022).

One of the world’s most-downloaded education apps, which allows one to learn more than 40 languages online. Duolingo without any doubt has particular elements that have to be under specific focus. These are clear and bright designs with the usage of decorative and fun cartoon characters, progress tracking, and a unique science-based teaching methodology. According to the reviews, users of the app love it as they obtain the possibility to learn faster and use this app as a helpful efficient tool in approaching their academic goal - language learning. Another fact noted by the users is the need for competitiveness that helps students in their academic achievements. Besides, the “club” system allows learners to create community, communicate and feel united that also influences motivation.

Key elements of the app based on the description, marketing message: extensive data source, progress tracking, unique design, language assistance and support, inspiration source, and motivational elements.

What users love about the app according to the reviews: knowledge, language support, joining the community, motivation to proceed with the language learning, helpful tools, and reliable data.

Points for growth based on the reviews: progress bar feature, new layouts, and re-design.

7.7.4 Foxford

Learning apps in Wikipedia format allow users to educate themselves and acquire access to the necessary data related to a certain discipline or subject. Foxford is an example of an app developed in a form of an encyclopedia, that accumulates different topics of the school curriculum with problems, solutions, examples, and detailed video tutorials. This app was developed by one of the biggest online schools in Russia and serves as a helpful tool for all students that are willing to improve their academic progress. Some of the elements that excel according to the comments are simplicity of usage, the richness of data, and the ease of its provision via the app. One of the details distinguished by the learners of the Foxford app and some of the others from the same category, is an opportunity to download materials for their

further studying. Unfortunately, this feature is not always available in the apps, which makes the processes for the users more complicated and uncomfortable.

Key elements of the app based on the description, and marketing message: extensive data source as per different subjects, educational motivation, mentoring during studies, user-friendly design, digital school society.

What users love about the app according to the reviews: helpful tool, access to data, learning and teaching remotely, acquiring new skills, data logic, user-friendly design.

Points for growth based on the reviews: language limitations, requires an Internet connection

7.7.5 Benchmarking conclusions and findings

Summing up, it is clear that certain features are of absolutely significant importance for the users. The first one of them is the simplicity of usage combined with the client orientation. Also, without any doubt, design is important as it affects the way data and available functions are perceived from the client's perspective. The clearer the customer's journey via the app and the easier it is to access available functional, the more effortless and logical it is for the client. Also, the support function is important for users, as it helps via the journey and makes the app's space more comfortable. Eventually, it is the feeling and experience that truly matters to the users.

In today's reality, using available free time to learn, is the key demand and a pre-requisite of mobile education field. However, surprisingly, many developers of mobile education application still design products by following a subjective idea without fully considering the needs of learners. Correspondingly, to emphasize the user's perspective, it is vital to take the requirements of learners as the starting point, fully explore the characteristics and the key needs of a learner, to help developers to define design and form relevant concepts. (Zhang&Liao, 2015.)

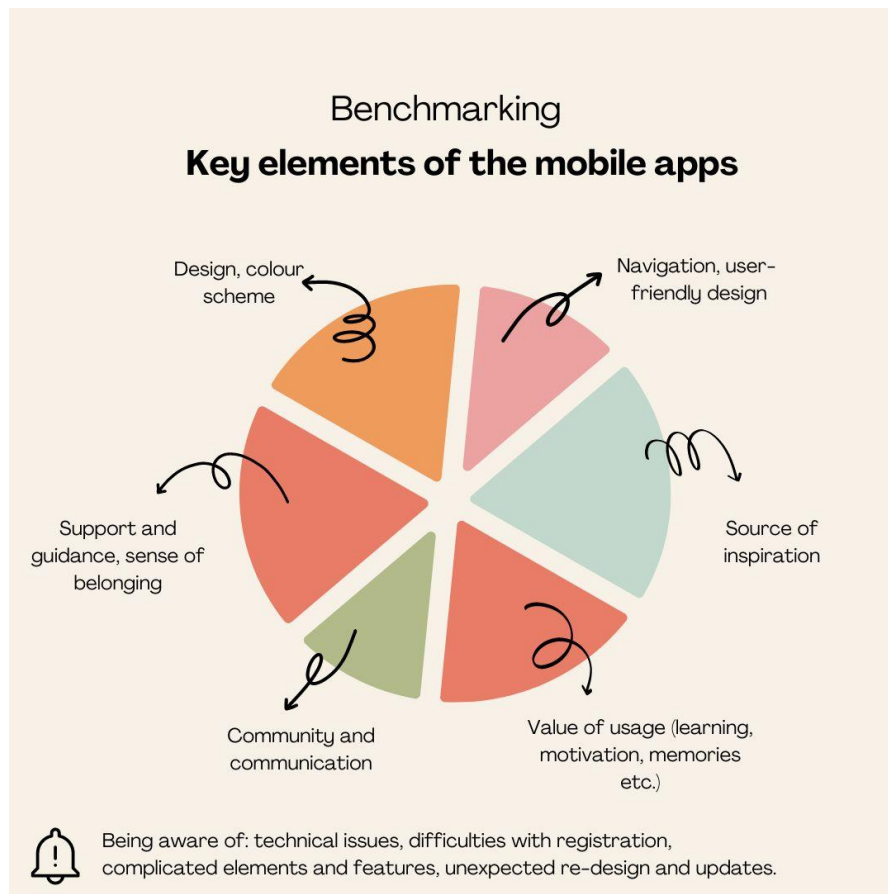


Figure 14. Benchmarking visualization: key elements of the mobile apps.

Coming back to the recommendations from Sagara Technologies, the principle of the breakdown of any process into small stages, which is crucial in mobile design as there is a need in bringing easiness and comfort to a user. Step-by-step smooth checkout flow in a good e-commerce app is a perfect example. The designer subdivides a complex checkout task into small logical parts, each of which requires user action. (Sagara Technologies Medium blog, 2019.) In the commissioner's case, the app shall assist with critical operations, scheduling, and teaching functions. It should focus on the user's perspective and combine the purpose of improving the user experience with bringing extra value to the educational process with a smooth transition from one functional chapter to another. All in all, there should be a clear value and purpose for the app to be helpful and practical.

Furthermore, according to the operational activity of those companies that deal with specifically school app development and work only in this niche, some critical features might also be distinguished. For instance, as per TappIT Technology, a company that is focusing on the creation of customized school apps, it is vital to cover three major areas: instant communication, parent engagement, and information about the education provider (provider

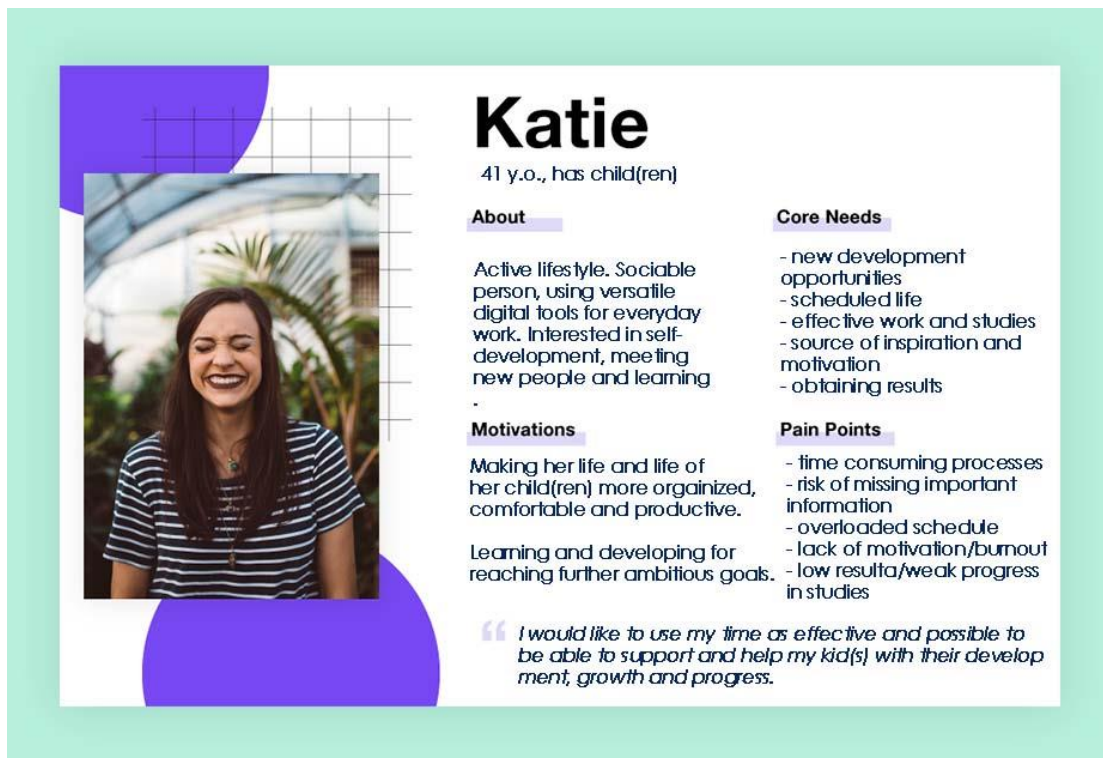
of services) (TappIT Technology, 2021). Surely, these aspects play a significant role in the customer journey and influence the level of trust and loyalty coming from the clients.

Ultimately, there are five key principles for service design that have to be incorporated into the mobile app and affect its usability and further development. They are user-centricity, co-creation, sequencing, evidencing, and being holistic (Stickdorn & Schneider, 2011). So, these principles might be the integral core idea of creation a user-friendly mobile app that is able to support a company's operations and play a significant functional role in cooperation with clients.

7.8 Personas

A persona is a user model one can use to help guide decisions regarding product or service features, navigation, interactions, and even visual design. By designing for the archetype, whose goals and behavior patterns are well understood, one can easily satisfy the broader group of people represented by that archetype. (Goodwin, 2001.) Usually, a thorough comprehension of a target audience is essential for creating exceptional products that can transform a business or a service niche. This way, by understanding the anticipations, concerns, and motivations of target users, it's possible and realistic to design a product that will satisfy users' needs and therefore be successful. (Faller, 2019.)

In the commissioner's case, two major personas might be formed. It is easily noticeable that they have a lot in common, despite the difference in their age, which is easily understandable if considering their characteristics, interests, and predisposition to new technologies. Digital tools, technological loyalty, empathy, common mindset, readiness to experiment, and making one's life easier and more effective unify these personas. Also, orientation towards *timesaving*, *effectiveness*, *quick learning*, and *teaming with like-minded people* is pretty common for the typical clients in the TOMASchool's setting.



Katie
41 y.o., has child(ren)

About
Active lifestyle. Sociable person, using versatile digital tools for everyday work. Interested in self-development, meeting new people and learning

Motivations
Making her life and life of her child(ren) more organized, comfortable and productive.
Learning and developing for reaching further ambitious goals.

Core Needs
- new development opportunities
- scheduled life
- effective work and studies
- source of inspiration and motivation
- obtaining results

Pain Points
- time consuming processes
- risk of missing important information
- overloaded schedule
- lack of motivation/burnout
- low results/weak progress in studies

“ I would like to use my time as effective and possible to be able to support and help my kid(s) with their development, growth and progress.

Figure 15. Persona 1: parent persona.

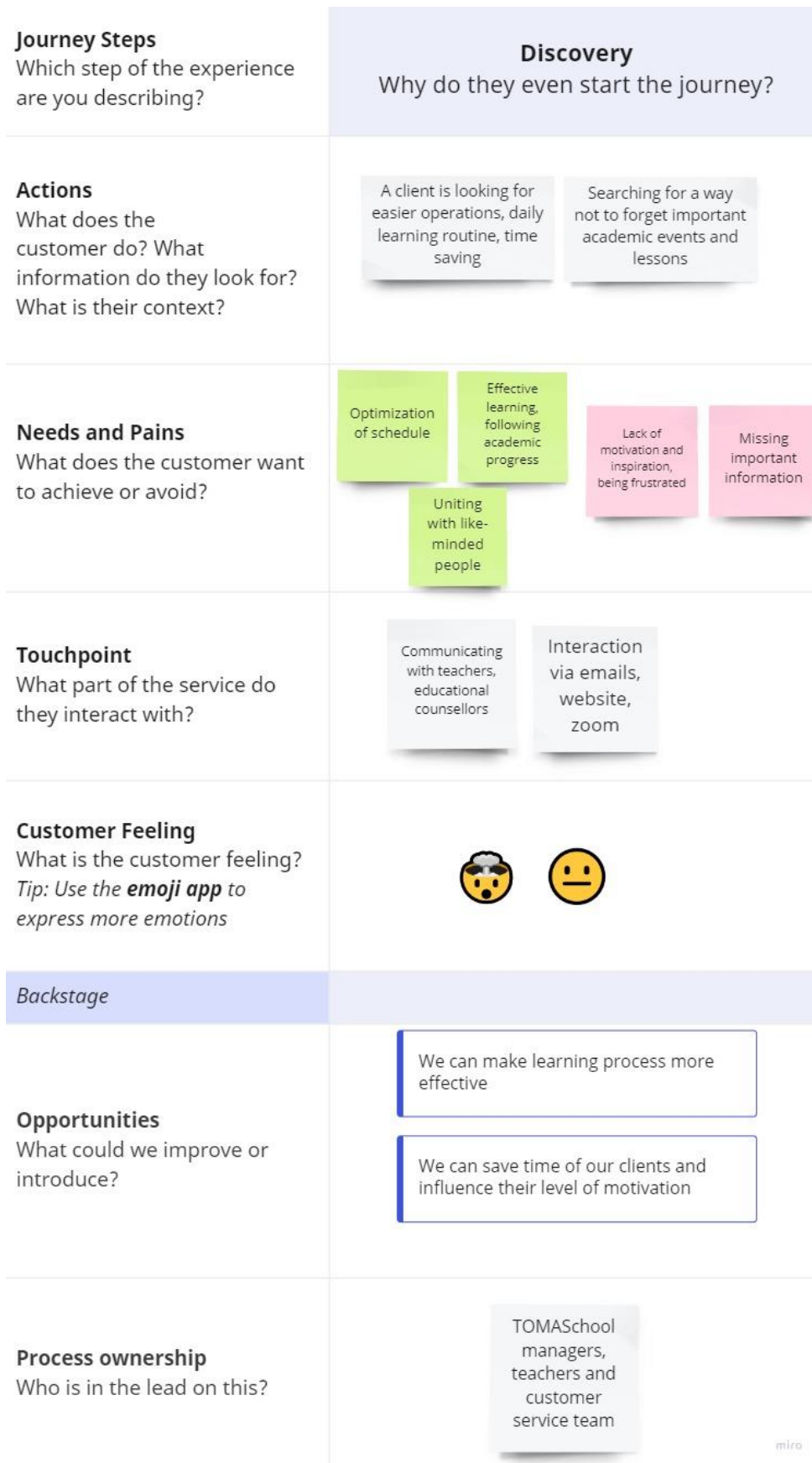
The data for the personas have been collected as per the internal statistics obtained from the CRM system of clients as well as with help of the communication with the company's Client Service Specialists and performed focus group interviews. Mostly, in the case of the TOMASchool company, clients form major groups, that are teenage students (approximately 60%), and adult student clients (approximately 40%). However, as it was mentioned on the stakeholder map and in the previous chapters with the interviews, there is a massively noteworthy stakeholder group, which is the parents of the young students. Specifically, this user group will influence not only the app development but also the whole operational process of the company and the creation of new tools, as well.



Figure 16. Persona 2: teenager persona.

7.9 Customer journey in the app

The customer journey includes many elements that occur before, during, and after experiencing a product or a service. It becomes possible to improve performance and introduce some positive meaningful changes only after evaluating a customer experience and truly comprehending it. (Maechler, Neher & Park, 2016.) The customer journey of the TOMASchool personas might be split into four major phases demonstrated below and in Appendix 3. The first step is “Discovery” that is being followed by the “App uploading and registration”, “Onboarding and first use” and, finally, “Sharing and maintaining the app activity level”. It is clear that despite the complexity of the internal structure and necessity to integrate a variety of functional elements, the journey should stay smooth and as easy as possible.



miro

Figure 17. Customer journey Step 1.

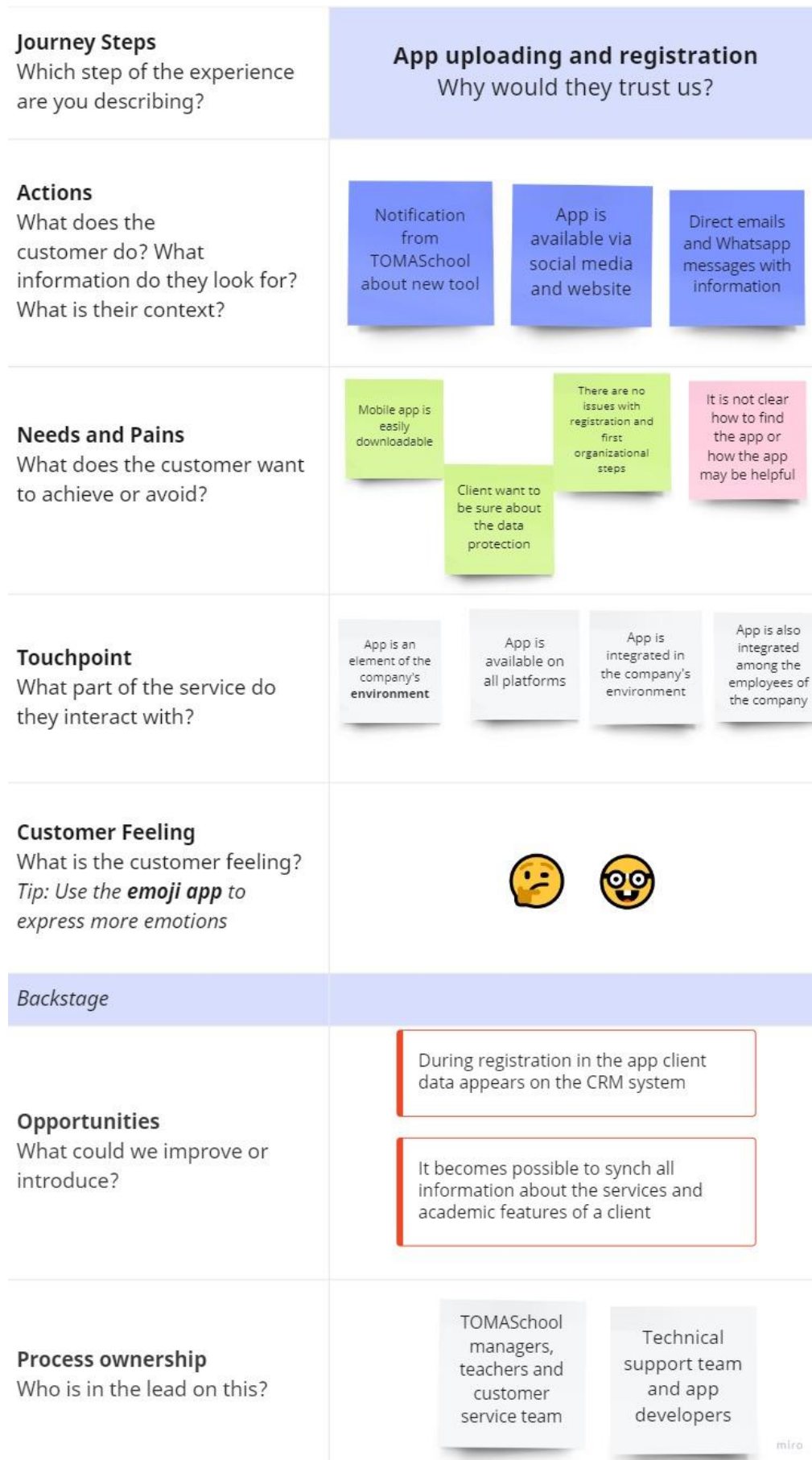


Figure 18. Customer journey Step 2.


<p>Journey Steps Which step of the experience are you describing?</p>	<p>Onboarding and First Use How can they feel successful?</p>
<p>Actions What does the customer do? What information do they look for? What is their context?</p>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid #ccc; padding: 5px; background-color: #f9e79f; width: 30%;">Client gets familiar with the app and its features</div> <div style="border: 1px solid #ccc; padding: 5px; background-color: #f9e79f; width: 30%;">Client digs in to the information on the app</div> <div style="border: 1px solid #ccc; padding: 5px; background-color: #f9e79f; width: 30%;">First opinion about the app is being created</div> </div>
<p>Needs and Pains What does the customer want to achieve or avoid?</p>	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid #ccc; padding: 5px; background-color: #d9ead3; width: 20%;">Clients finds all necessary information about the classes, educational elements and features</div> <div style="border: 1px solid #ccc; padding: 5px; background-color: #d9ead3; width: 20%;">Colours, navigation and design, in general, are appealing</div> <div style="border: 1px solid #ccc; padding: 5px; background-color: #d9ead3; width: 20%;">There are a lot of helpful tips that positively influence a client's mood</div> <div style="border: 1px solid #ccc; padding: 5px; background-color: #f4cccc; width: 20%;">It is not clear how to navigate through the app and where to find necessary data</div> </div>
<p>Touchpoint What part of the service do they interact with?</p>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid #ccc; padding: 5px; background-color: #d9ead3; width: 15%;">Client interacts with schedules of classes</div> <div style="border: 1px solid #ccc; padding: 5px; background-color: #d9ead3; width: 15%;">Clients has an access to the list of services available and news feed</div> <div style="border: 1px solid #ccc; padding: 5px; background-color: #d9ead3; width: 15%;">There are options to access educational materials</div> <div style="border: 1px solid #ccc; padding: 5px; background-color: #d9ead3; width: 15%;">There is access to the communication channels with teachers, managers and other students</div> <div style="border: 1px solid #ccc; padding: 5px; background-color: #d9ead3; width: 15%;">App contains elements of all major services of the company</div> </div>
<p>Customer Feeling What is the customer feeling? <i>Tip: Use the emoji app to express more emotions</i></p>	
<p><i>Backstage</i></p>	
<p>Opportunities What could we improve or introduce?</p>	<div style="border: 1px solid #d9ead3; padding: 5px; margin-bottom: 5px;">The organization efficiency of the available services is increased</div> <div style="border: 1px solid #d9ead3; padding: 5px; margin-bottom: 5px;">The level of clients' loyalty increases</div> <div style="border: 1px solid #d9ead3; padding: 5px;">It becomes possible to influence the academic productivity as well as introduce and market new services more effectively</div>
<p>Process ownership Who is in the lead on this?</p>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid #ccc; padding: 5px; background-color: #d9ead3; width: 30%;">TOMASchool managers, teachers and customer service team</div> <div style="border: 1px solid #ccc; padding: 5px; background-color: #d9ead3; width: 30%;">Technical support team and app developers</div> <div style="border: 1px solid #ccc; padding: 5px; background-color: #d9ead3; width: 30%;">TOMASchool marketing team</div> </div> <p style="text-align: right; font-size: small; margin-top: 5px;">miro</p>

Figure 19. Customer journey Step 3.


Journey Steps Which step of the experience are you describing?	Sharing and Maintaining app activity level Why would they invite others?
Actions What does the customer do? What information do they look for? What is their context?	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid #e91e63; background-color: #e91e63; color: white; padding: 5px; text-align: center;">Client regularly uses the app and its features</div> <div style="border: 1px solid #e91e63; background-color: #e91e63; color: white; padding: 5px; text-align: center;">Client suggests some changes and improvements that could be done</div> <div style="border: 1px solid #e91e63; background-color: #e91e63; color: white; padding: 5px; text-align: center;">Client feels positive influence of this new instrument</div> </div>
Needs and Pains What does the customer want to achieve or avoid?	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid #9ccc65; background-color: #9ccc65; padding: 5px; text-align: center;">Information in the app is relevant and regularly updated</div> <div style="border: 1px solid #9ccc65; background-color: #9ccc65; padding: 5px; text-align: center;">Clients gets necessary notifications and updates</div> <div style="border: 1px solid #9ccc65; background-color: #9ccc65; padding: 5px; text-align: center;">Client is following his/her academic progress</div> <div style="border: 1px solid #9ccc65; background-color: #9ccc65; padding: 5px; text-align: center;">New connections have been made through the app</div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid #9ccc65; background-color: #9ccc65; padding: 5px; text-align: center;">It is much easier to pay for the services</div> <div style="border: 1px solid #9ccc65; background-color: #9ccc65; padding: 5px; text-align: center;">There are positive mood boosters that support a client</div> </div>
Touchpoint What part of the service do they interact with?	<div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="border: 1px solid #ccc; background-color: #f5f5f5; padding: 5px; text-align: center;">App is synched with other relevant environments for the client (Google, banking apps etc.)</div> <div style="border: 1px solid #ccc; background-color: #f5f5f5; padding: 5px; text-align: center;">New app is updated accordingly to the necessity of the commissioner and clients</div> </div>
Customer Feeling What is the customer feeling? <i>Tip: Use the emoji app to express more emotions</i>	
Backstage	
Opportunities What could we improve or introduce?	<div style="border: 1px solid #008000; background-color: #e1eef6; padding: 5px; margin-bottom: 5px;">Clients demonstrate better academic progress and higher level of motivation</div> <div style="border: 1px solid #008000; background-color: #e1eef6; padding: 5px; margin-bottom: 5px;">The app is being shared and recommended that brings additional clients to TOMASchool</div> <div style="border: 1px solid #008000; background-color: #e1eef6; padding: 5px;">Internal communities are being created that positively affects the corporate culture</div>
Process ownership Who is in the lead on this?	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid #ccc; background-color: #f5f5f5; padding: 5px; text-align: center;">TOMASchool managers, teachers and customer service team</div> <div style="border: 1px solid #ccc; background-color: #f5f5f5; padding: 5px; text-align: center;">Technical support team and app developers</div> <div style="border: 1px solid #ccc; background-color: #f5f5f5; padding: 5px; text-align: center;">TOMASchool marketing team</div> </div> <div style="text-align: right; font-size: small; margin-top: 5px;">miro</div>

Figure 20. Customer journey Step 4.

7.10 Value model canvas

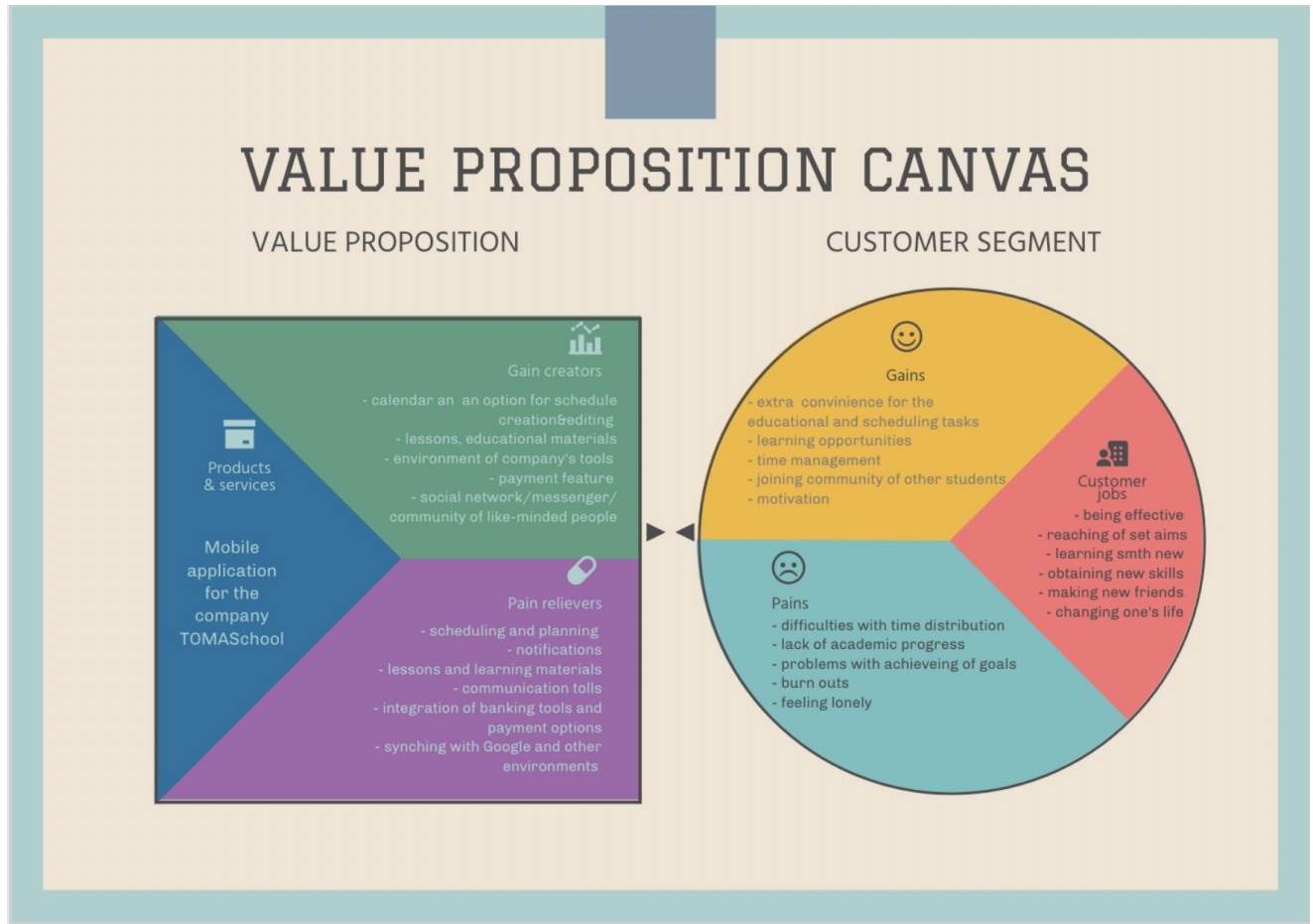


Figure 21. Value proposition canvas for the mobile app of TOMASchool.

To begin with, the value proposition canvas usually concentrates on comprehending customers' concerns and designing products or services that solve them (Varga, 2020). As for TOMASchool, value proposition canvas is presented in Figure 21 and separately, in Appendix 4. In the Table 2 with the value matrix of the app usage based on the focus group research method the major priorities of clients have been demonstrated. Thus, those sought-for gains come from the pain points of the clients.

The pain points that affect clients of the company have been related to the areas of time management, scheduling, learning, payment for services, and motivation and finding like-minded people that are ready to support each other. To overcome those difficulties, TOMASchool may introduce certain tools and features to the mobile app, which might help the customer journey be more harmonious and smoother. An internal calendar with the option of notifications and following the progress in studies will help in reaching the desired goals. Also, the digital community and communication alternative with other students (their parents) are tendentionously helpful from the perspective of motivation, making new friends,

and finding a source of inspiration. It becomes possible to obtain material and non-material valuable gains via the suggested company tools so that lives become more comfortable, filled, interesting, productive, more efficient, and conscious.

8 Service development: app concept

It is clear that a mobile app as a business tool should be a safe buffer between the company and its clients, a facilitator, and a helpful instrument. As per the commissioner's operations and the requests of the clients, the app shall contain those features that will help to monitor their schedule, learning progress as well as the financial and organizational elements. It should be a prototype of a personalized "diary" that will help in the academic progress and support clients from the organizational perspective.

It is also important to remember, that usually there are several major reasons for educational organizations or schools to engage in app development. The first reason is the real-time connection to all relevant pieces of information, updates, and academic questions, which makes it effective for all clients (students) to stay informed and be more motivated to proceed with the educational process. Furthermore, it's a cost-effective solution that allows to optimize organizational procedures with making them more efficient. (Poduval, 2018.) Besides, from the commissioner's perspective, it's also an opportunity to influence the level of clients' loyalty, upsell the services, and additionally control the internal service flow.

8.1 Important features and critical elements from the client's perspective

One of the major features that must be in the cornerstone of the app is the data security and protection of the clients' personal information. As it was discussed earlier, data protection is a necessary component of modern service and business operations, so additional attention shall be paid to this topic.

Secondly, the easiness of usage is one of the major principles of the app. User-friendliness and "cleanliness" of design are critical since the client portraits are very different. So, to make it acceptable for various personas, the design should not be overloaded with elements, colors, or features available.

Thirdly, the app should have an option of synchronization with social media platforms and calendar apps, so that a certain intern-connected universe is created for the user's

convenience. Users are willing to have a chance to share their educational progress, leave comments and connect their schedules, which is why this issue is significant. A certain ecosystem must be created or, at least, planned, to have a space for further growth and optimization of other business channels, updating and transforming the app.

Besides, the app has to allow some options for service payment and service catalog familiarization. Since the commissioner is offering different categories of services, it is easier to have constant access to the catalog of services with their pricing information and description.

One more element that is important for the clients is the news feed, related to the commissioner's activity and the educational field, in general. Clients would like to stay informed and be aware of those additional options that they might have in the academic sphere, language perspective. Push notifications can be a supportive feature here that also assists in scheduling and informing clients.

Another interesting idea that was mentioned in the interview is the bonus system, which makes clients more loyal and generally brings an additional sense of motivation into the process. This way an app may become a strong marketing tool helping the operational activity.

Thus, from this viewpoint, the commissioner suggests that different motivational elements integrated into the app would positively influence the clients, improve their mood, and absorb them more in the app's usage. Some examples might be affirmations of the day, motivational pictures, quotes, automatically set language goals and others.

8.2 App concept and prototype

To proceed further with the discussed ideas for the mobile app an actual prototype has been sketched and demonstrated to the commissioner's clients to get some start comments and collect feedback for further actions. The digital version of the prototype can be found via following the link: <https://xd.adobe.com/view/8808933b-4bad-422d-b720-bd64e62f8590-dd5b/>

Substantial screenshots will be demonstrated further as well. Also, accumulated comments shall be described as the final step of the process.

8.2.1 Mobile app prototyping

For the main page of the app (Fig.22) clean design has been chosen as well as basic menu icons at the bottom that are going to navigate a user through the app. The color scheme correlates with the commissioner's brand standards, while the data block in the center allows one to check the news, marketing information, and special offers provided by TOMASchool.

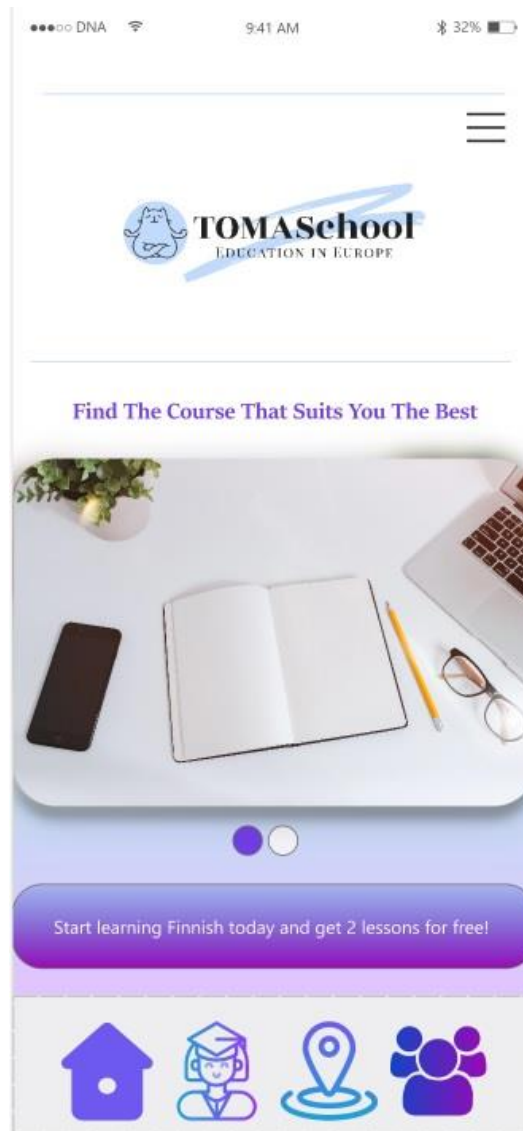


Figure 22. Main page of the prototyped app.

The catalog of courses (Fig.23) is going to provide an opportunity to acquire learning materials, get quick access to the required academic features, ask questions to the teachers (tutors) and follow updates in the curriculum. Furthermore, surely, there is going to be a separate element of the calendar (schedule) that is changing depending on the chosen course.

As it was discussed earlier, the schedules will be available for syncing with other organizing ecosystems, like Google Calendar, for instance.

Via entering a course, one also gets a chance to join the integrated chat which is linked with the Telegram app and allows a student, or a parent immediately get in touch with other peers that are involved in the process. This way students are automatically connected with other course participants, while parents of the teenage students get a chance to communicate with each other as well, discuss common issues, or suggest some ideas for further improvement. On top of that, through benchmarking common learning platforms, a common feed of announcements is introduced for every course (group), so that every participant (student, teacher) can share helpful materials.



Figure 23. Courses menu page of the prototyped app.

Then, with the help of the menu page “About us” (Fig.24) it becomes possible to get access to information about TOMASchool company, plans for development, ongoing projects, available vacancies, mission, and vision of the commissioner. From this page one may

navigate to the “Team” sub-page, where the whole list of managers, teachers, and company consultants is presented.

Moving to the “Personal account” page, it is planned to be a private hub with the most essential information for a user: settings of the app, payments, schedule and its updates, details about one’s courses and a technical support feature. Also, there is going to be a motivational space with an affirmation of the day allowing to focus on positive vibes and improve the mood of a user (Fig.25).

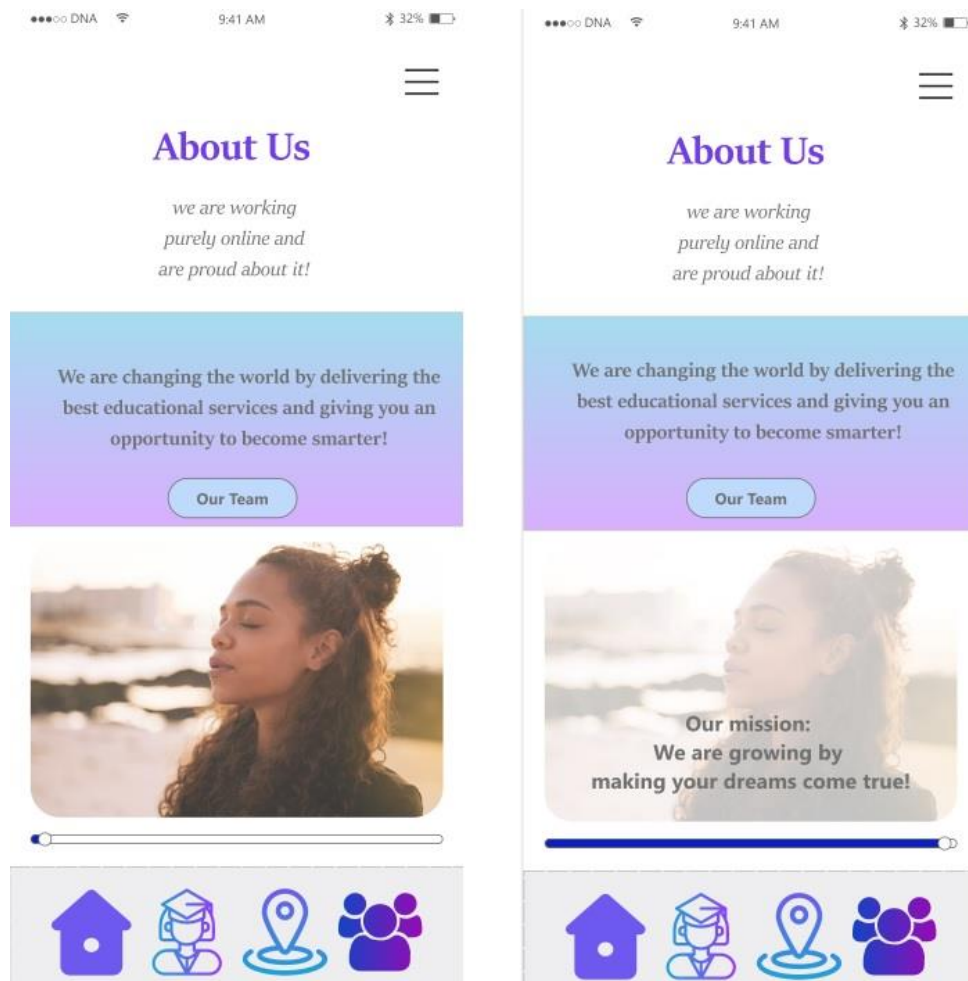


Figure 24. About us menu page of the prototyped app.

Altogether, the app prototype contains all features described in the previous chapter, allowing a commissioner’s clients to optimize their studies, obtain access to the schedule and payment option, and follow the news and updates from TOMASchool. Also, this app is going to be integrated into the existing environment of the company, allowing it to connect each and every segment with either CRM, social media, or other critical corporate tools. This way, an app is becoming a buffer connecting all operations of the company, optimizing them, and making them more efficient.

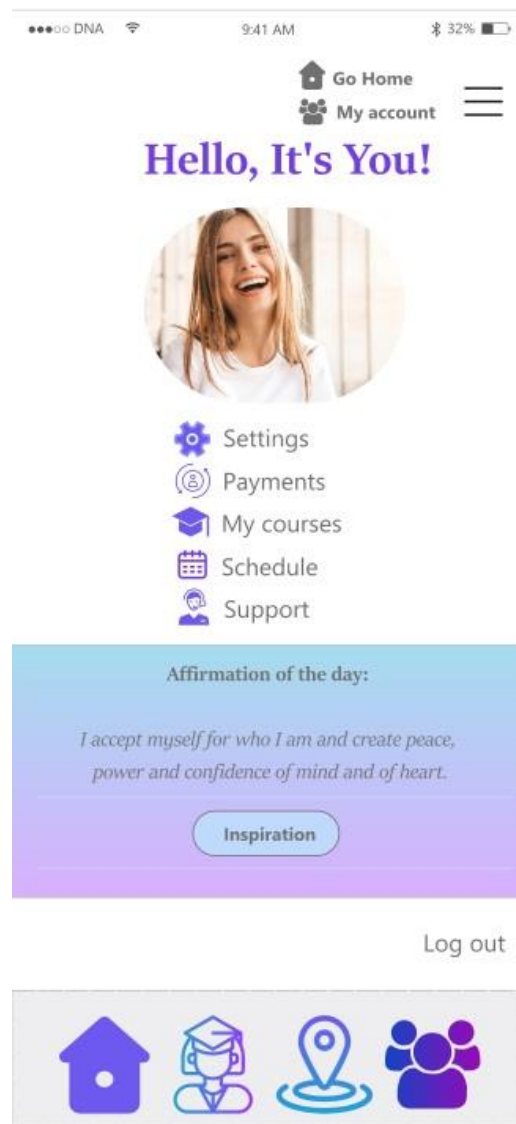


Figure 25. Personal account menu page of the prototyped app.

8.2.2 Budgeting and limitations

According to the calculations from several mobile app developer teams, such a complex app that entails various functions and has diverse synchronization features will cost not less than 8000 euros. The optimal budget is predicted to be around 10000 euros for the whole project. However, by simplifying some of the processes and pushing the app to the basic scheduling features, it is possible to reduce the budget by up to 3000 euros.

Therefore, synchronization with the company's databases and multiple platforms, and integration of the payment feature not only make the user experience better but also increases the required budget of the project. Coming back to the discussed topic of low-code and no-code technologies, it also may be an opportunity for developing a simple app version. It may

be a trial launch for testing some of the elements before developing a complicated and expensive tool. Various platforms nowadays make it possible to activate Adobe XD or Figma prototypes that one can create by himself/herself. These digital platforms provide an option not only develop basic apps, but also create more complex applications by connecting the designs to the external tools with help of APIs (Application Programming Interfaces).

It is also important to mention that the app development journey is time-consuming and, in most cases, requires some external support either from company employees or from external peers that are able to assist in this process. In the commissioner's situation, from the company's perspective, it has happened that members of the customer service, marketing, and service development teams have participated in the research and are planning to join the actual creation and further integration of the mobile app. Correspondingly, the external app development team is going to take care of the actual technical process due to the beforementioned complex and ambitious plans for the tool.

8.2.3 Testing and feedback

After creating virtual prototypes, relevant links have been distributed among clients via emails to collect feedback and opinions regarding the presented app project. The results have exceeded expectations, as the outcomes turned out to be almost perfect, with some tiny suggestions that could be taken into consideration for further plans.

Appendix 5 demonstrates a small list of questions for the survey that has been sent to the TOMASchool clients, while the chart below (Fig.26) shows the statistics of the gained feedback for the first four questions. Seventy clients have provided their responses to the questions and positively evaluated the initiative along with the suggested design, elements, and particular app features. Participants were asked to evaluate their experience of app usage on the scale from 1 to 10. So, most answers (more than 95%) are allocated between the 7 and 10 score. This proves the fact that clients are willing to use the app and support this initiative. Also, additional comments have been collected by the teachers and customer service managers of the company, and they have proven the prototype to match the wishes and urges of the clients.

As per the extra remarks that have been suggested (Appendix 6), mostly, they indicate the ideas of introducing more entertainment features, getting access to some external helpful platforms for language learning and podcast listening and creating video conferences with

other students or teachers right in the app. Moreover, there were a few comments about trying different icons to experiment with the general app look. Those ideas have to be saved for future plans and upgrading updates.

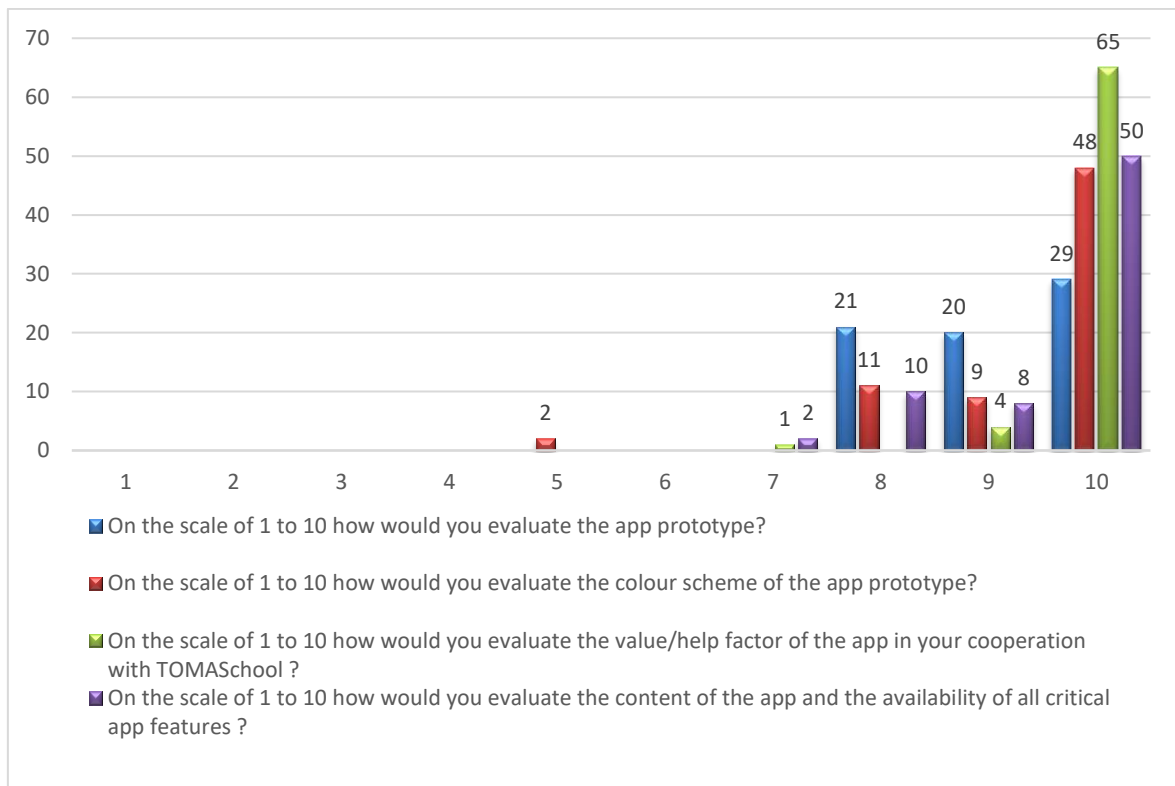


Figure 26. Feedback collected regarding the prototype of the TOMASchool app.

9 Conclusions

Drawing up the conclusions, it might be said that the initial research questions have been successfully covered. The research questions were:

- What kind of applications are the most popular and in demand in the educational service market?
- What features are critical for mobile app development in the educational field? How is it possible to improve the apps from a customer perspective, including service design elements (UX design, customer journey and others)?
- How can SMEs (and TOMASchool, in particular) use the apps to drive additional revenue and develop a company?

After the conducted research it became clear that not only educational (“learning”) apps are booming, but also that users enjoy the so-called “super-apps”, which provide an opportunity

to solve multiple problems. Furthermore, mobile apps are being integrated into complex company environments, which have become critically important for businesses after the pandemic.

A lot of information has been collected regarding those app features that are crucial for the service of mobile applications. Those features include not only the visual design, easiness of use, structural logic, support, and guidance components, but also the motivational and inspirational elements as well as the feeling of belonging to a global goal, and community. Moreover, obtaining the value from the app usage is tremendously significant, so that the users know exactly, what specific gains they could get via the new tool. The collected information has allowed designing a prototype that will become the starting point for the creation of the new business tool. Also, this data can be used by any company or entrepreneur that is considering the development of a mobile app and those positive outcomes and a variety of issues that one may face.

Improving the app is an ongoing journey that shall help in improving the customer's experience. There are no limits to making an application project better. On the contrary, with the help of further surveys, co-design principles, updated and improved customer journey it is going to become possible to introduce new app functions, upgrade the existing ones, and scale the possibilities of the app. For example, user-oriented workshops in the future could be very beneficial from the development perspective. It is possible to integrate gaming and survey elements in the app, which will also allow constant monitoring of the ongoing processes and introduce necessary changes to be able to holistically serve the clients.

For now, a properly constructed and optimized mobile app may suit as an additional operational instrument influencing the loyalty and comfort of clients and simultaneously being a channel for marketing existing products and services. This way, it becomes possible to satisfy the clients and focus on the sustainable spread of the company's operations at the same time. The app is planned as a business tool, supporting the students, helping them in organizing their studies, monitoring academic progress, uniting with other like-minded people, and getting the necessary support from teachers. On the other hand, it is also considered to allow users to pay for their courses (services) via the app and check relevant financial information. A client may always check the list of available services and products, subdivided accordingly, and become interested in some additional suitable lectures, products, courses, or services. This way, a client doesn't have to follow several informational

channels, multiple messengers, and emails. One app makes it easier for a user to get direct access to all information regarding her/her studies.

Thus, client orientation and the ability to generate convenient digital solutions aimed at covering the client's pain points can bring a company to a new level. Since digitalization is going to thrive further, mobile apps will inevitably accompany business progress. Moreover, for TOMASchool, in the future, the integration of additional elements and options mentioned in Appendix 6 can be considered in line with presenting various additional functions and expanding in the direction of collaboration with other companies. This consistent growth, mutual projects based on the service design principles, may generate extra flows of revenue, and allow TOMASchool and any other company from the service sector to evolve.

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Appendix 1

Questions for the expert interview.

1. How the ongoing political and economic situation influences your operations?
2. How and for what reasons clients (especially, service providers) are approaching you?
3. What difficulties do you usually face during the cooperation process with your clients?
4. What app features are usually the most important for the SMEs? What do they usually try to focus on?
5. If you get any feedbacks from your clients, then, what are those feedbacks?
Positive or negative?

Appendix 2

Findings from the Focus Group Research method

Questions	Respondents
<i>Focus Group 1</i>	
<i>Focus Question</i>	<i>Respondent 1 (16-year-old female student, learning 2 foreign languages, interested in educational opportunities provided in Europe): key findings</i>
What type of apps you use the most?	Entertainment, social networks (chats) and educational
List your top 3 apps.	TikTok, Instagram, Duolingo
What is important for you from the user perspective?	User friendliness, visual design, lack of glitches
What value do you find in those apps that you use?	Relaxation, inspiration, education.
Would you find an app from commissioner useful?	Yes
What features in a planned app (or any educational service provider) could interest you?	Scheduling, additional knowledge/educational function, some entertainment options, communication with other students
<i>Focus Question</i>	<i>Respondent 2 (16-year-old female student, learning 1 foreign language, preparing for the SAT exam, planning to study in USA): key findings</i>
What type of apps you use the most?	Social media, sport and entertainment (games)
List your top 3 apps.	Instagram, Whatsapp, Candy Crush

What is important for you from the user perspective?	Easiness of download/registration, visual design and colours, free tariff, reputation of the app.
What value do you find in those apps that you use?	Joy, fun, communication, relaxation, health advice.
Would you find an app from commissioner useful?	Yes
What features in a planned app (or any educational service provider) could interest you?	Scheduling (full-format diary), helpful tips, study progress, communication with other students and teachers
<i>Focus Question</i>	<i>Respondent 3 (17-year-old female student, learning 1 foreign language, preparing for the IELTS exam, planning to study in UK): key findings</i>
What type of apps you use the most?	Social media, English language apps, photo/video editing apps
List your top 3 apps.	Telegram, Snapseed, Instagram
What is important for you from the user perspective?	Easiness of registration, personalized account, and access to different features (Settings), free tariff, function of data sharing.
What value do you find in those apps that you use?	Communication, self-realization globally, inspiration and access to necessary data.
Would you find an app from commissioner useful?	Yes
What features in a planned app (or any educational service provider) could interest you?	Study progress, communication with other students and teachers to share progress/information, possibility to form a community, scheduling (full-format diary), making notes.
<i>Focus Question</i>	<i>Respondent 4 (17-year-old male student, learning 2 foreign languages, preparing for the SAT exam, planning to study in Finland): key findings</i>

What type of apps you use the most?	Social media, English language apps, games
List your top 3 apps.	Telegram, Whatsapp, Call of Duty game
What is important for you from the user perspective?	Easiness of navigation, personalized settings, free tariff or available pricing, interaction with other users.
What value do you find in those apps that you use?	Communication, relaxation, making new friends globally, access to necessary data.
Would you find an app from commissioner useful?	Yes
What features in a planned app (or any educational service provider) could interest you?	Study progress, communication with other students and teachers, making teams/groups according to interests (possibility to form a community), scheduling with home tasks, technical support.
<i>Focus Question</i>	<i>Respondent 5 (16-year-old male student, learning 1 foreign language, improving English language skills for further entering universities/colleges): key findings</i>
What type of apps you use the most?	Social media, sport apps, games
List your top 3 apps.	Telegram, Youtube, Whatsapp
What is important for you from the user perspective?	Quick registration, navigation, ability to stay anonymous, when necessary, interaction with other users, access to different features and settings, integration with other platforms.
What value do you find in those apps that you use?	Communication, relaxation, scheduling/reminding, education.
Would you find an app from commissioner useful?	Yes

What features in a planned app (or any educational service provider) could interest you?	Payment options (paying for services), study progress, following the relevant news, setting reminders (push-ups), communication with other students and teachers, forming communities, scheduling, technical support.
<i>Focus Question</i>	<i>Respondent 6 (16-year-old male student, learning 1 foreign language for further entering German universities): key findings</i>
What type of apps you use the most?	Social media, organizers, learning apps, games
List your top 3 apps.	Youtube, Twitter, Whatsapp
What is important for you from the user perspective?	Speed of work, navigation, absence of glitches, data protection, ability to stay anonymous, when necessary, possibility to personalize the interface, integration with other platforms.
What value do you find in those apps that you use?	Communication, organizing and scheduling, relaxation, education/learning.
Would you find an app from commissioner useful?	Yes
What features in a planned app (or any educational service provider) could interest you?	Study progress, communication with teacher, tech support and other students, news feed, light and easy downloading/registration, clear structure, some fun elements.
<i>Focus Group 2</i>	
<i>Focus Question</i>	<i>Respondent 7 (41-year-old female parent, actively participating the life of her children that are using commissioner's services): key findings</i>
What type of apps you use the most?	Organizers (email), social media, banking
List your top 3 apps.	Google ecosystem (Gmail, calendar etc.), Instagram, Telegram

What is important for you from the user perspective?	Clear navigation, possibility to unite and integrate several tools/creation of connected ecosystem, data protection/reputation of the app, possibility to personalize the interface.
What value do you find in those apps that you use?	Organizing and life structuring (making life easier), work effectiveness, communication, relaxation, inspiration.
Would you find an app from commissioner useful?	More yes, than no
What features in a planned app (or any educational service provider) could interest you?	Payment options for the services, anonymous study progress and interaction with teachers, benchmarking/goal setting for the students, news feed, registration via other platforms (Google, for instance), personalization.
<i>Focus Question</i>	<i>Respondent 8 (43-year-old female parent, learning foreign language and using commissioner's services for herself as a well as for her child): key findings</i>
What type of apps you use the most?	Organizers (email), banking, work apps (internal communication), conferencing apps
List your top 3 apps.	Gmail, Slack, Zoom
What is important for you from the user perspective?	Lightness and speed of app navigation/operation, pleasant interface, available and diverse tariffs, data protection/reputation of the app, possibility to personalize the interface, unique information or features available.
What value do you find in those apps that you use?	Scheduling, work effectiveness, communication, personal growth.
Would you find an app from commissioner useful?	Yes

What features in a planned app (or any educational service provider) could interest you?	Integration of payment options, using of multiple accounts, benchmarking/goal setting for the students, clear navigation and personalized design, news feed, scheduling option, connection with other platforms/messengers and digital tools.
<i>Focus Question</i>	<i>Respondent 9 (45-year-old female parent, learning English language for her further master's degree, following her kids progress and actively supporting their studies): key findings</i>
What type of apps you use the most?	Organizers (work, email etc.), shopping, social media
List your top 3 apps.	Telegram, Whatsapp, Bitrix
What is important for you from the user perspective?	Available app functions, navigation, tech support, profile settings, app value, data security, interface.
What value do you find in those apps that you use?	Scheduling, productivity, education, time saving, communication, inspiration.
Would you find an app from commissioner useful?	Yes
What features in a planned app (or any educational service provider) could interest you?	Feedback system from teachers, bonuses available, scheduling and payment options, adaptation of interface, monitoring of the study progress.
<i>Focus Question</i>	<i>Respondent 10 (43-year-old female parent, supporting her child in learning two foreign languages, active with the commissioner's SMM channels): key findings</i>
What type of apps you use the most?	Organizers (work, email etc.), shopping, social media
List your top 3 apps.	Telegram, Whatsapp, Bitrix
What is important for you from the user perspective?	Available app functions, navigation, tech support, profile settings, app value, data security, interface.

What value do you find in those apps that you use?	Scheduling, productivity, education, time saving, communication, inspiration.
Would you find an app from commissioner useful?	Yes
What features in a planned app (or any educational service provider) could interest you?	Feedback system from teachers, bonuses available, scheduling and payment options, adaptation of interface, monitoring of the study progress.
<i>Focus Question</i>	<i>Respondent 11 (44-year-old male parent, learning English language for himself): key findings</i>
What type of apps you use the most?	Social media, learning apps, organizers
List your top 3 apps.	Telegram, Facebook, Reword
What is important for you from the user perspective?	Easiness of usage, available functions, intuitive interface, personal account.
What value do you find in those apps that you use?	Communication, learning, financial savviness, entertainment.
Would you find an app from commissioner useful?	Yes
What features in a planned app (or any educational service provider) could interest you?	Easiness of usage, logic of the app, available functions, easy access to the necessary data, intuitive interface, personal account, convenient hierarchy of the app/structure, notifications.
<i>Focus Question</i>	<i>Respondent 12 (41-year-old male parent, following the academic process of his kid preparing for the SAT exam): key findings</i>
What type of apps you use the most?	Social media, organizers, trading apps
List your top 3 apps.	Whatsapp, Binance, Google Calendar

What is important for you from the user perspective?	Functionality, easiness of usage, clear interface and design, personalization, data security, connectivity to banking apps.
What value do you find in those apps that you use?	Financial savviness, communication, safety, scheduling, revenue.
Would you find an app from commissioner useful?	Yes
What features in a planned app (or any educational service provider) could interest you?	Safety and data security, easiness of usage, available functions, possibility to connect to other platforms and apps, intuitive interface, plain logic of the app, notifications.

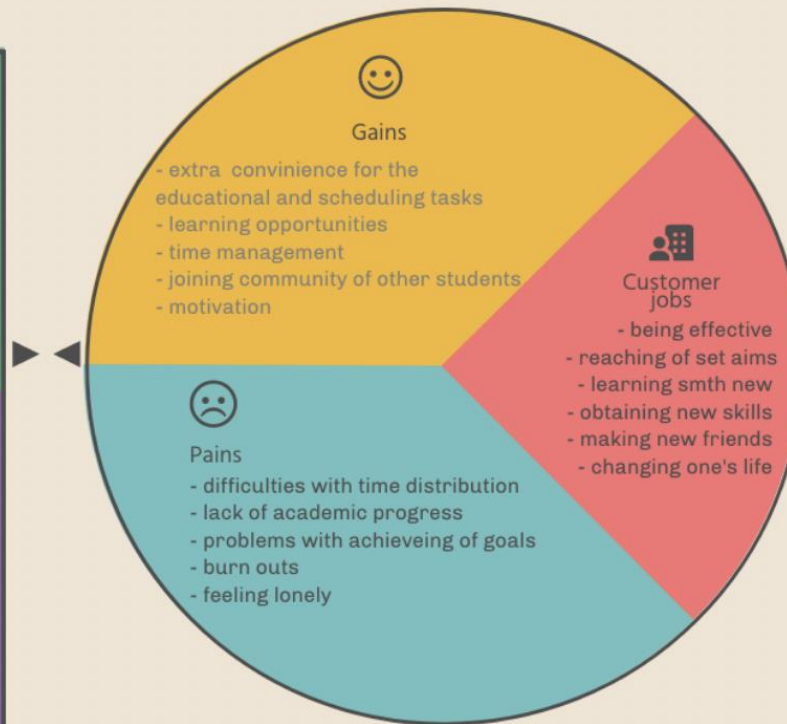
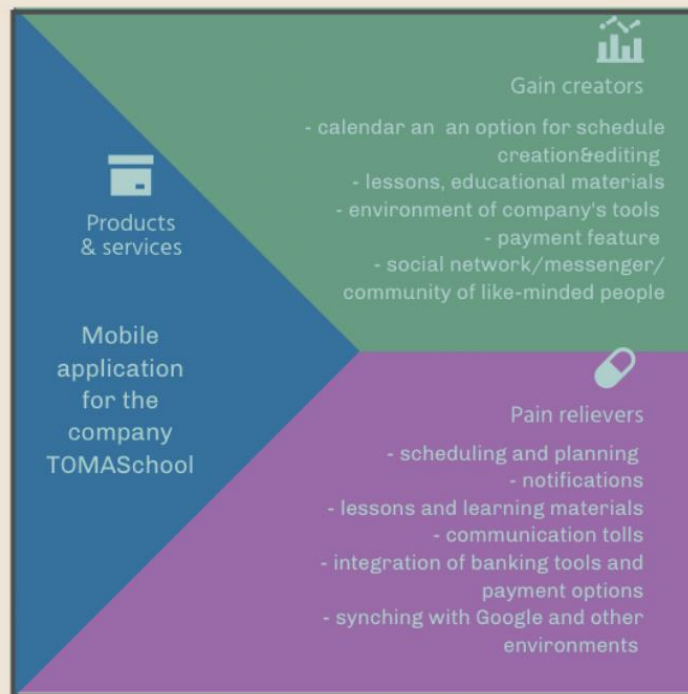
Customer journey map for a TOMASchool client

Journey Steps Which step of the experience are you describing?	Discovery Why do they even start the journey?	App uploading and registration Why would they trust us?	Onboarding and First Use How can they feel successful?	Sharing and Maintaining app activity level Why would they invite others?
Actions What does the customer do? What information do they look for? What is their context?	A client is looking for easier operations, daily learning routine, time saving Searching for a way not to forget important academic events and lessons	Notification from TOMASchool about new tool App is available via social media and website Direct emails and Whatsapp messages with information	Client gets familiar with the app and its features Client digs in to the information on the app First opinion about the app is being created	Client regularly uses the app and its features Client suggests some changes and improvements that could be done Client feels positive influence of this new instrument
Needs and Pains What does the customer want to achieve or avoid?	Optimization of schedule Effective learning, following academic progress Lack of motivation and inspiration, being frustrated Missing important information Uniting with like-minded people	Mobile app is easily downloadable Client want to be sure about the data protection There are no issues with registration and first organizational steps It is not clear how to find the app or how the app may be helpful	Clients finds all necessary information about the classes, educational elements and features Colours, navigation and design, in general, are appealing There are a lot of helpful tips that positively influence a client's mood It is not clear how to navigate through the app and where to find necessary data	Information in the app is relevant and regularly updated Clients gets necessary notifications and updates Client is following his/her academic progress New connections have been made through the app It is much easier to pay for the services There are positive mood boosters that support a client
Touchpoint What part of the service do they interact with?	Communicating with teachers, educational counsellors Interaction via emails, website, zoom	App is an element of the company's environment App is available on all platforms App is integrated in the company's environment App is also integrated among the employees of the company	Client interacts with schedules of classes Clients has an access to the list of services available and news feed There are options to access educational materials There is access to the communication channels with teachers, managers and other students App contains elements of all major services of the company	App is synched with other relevant environments for the client (Google, banking apps etc.) New app is updated accordingly to the necessity of the commissioner and clients
Customer Feeling What is the customer feeling? <i>Tip: Use the emoji app to express more emotions</i>				
Backstage				
Opportunities What could we improve or introduce?	We can make learning process more effective We can save time of our clients and influence their level of motivation	During registration in the app client data appears on the CRM system It becomes possible to synch all information about the services and academic features of a client	The organization efficiency of the available services is increased The level of clients' loyalty increases It becomes possible to influence the academic productivity as well as introduce and market new services more effectively	Clients demonstrate better academic progress and higher level of motivation The app is being shared and recommended that brings additional clients to TOMASchool Internal communities are being created that positively affects the corporate culture
Process ownership Who is in the lead on this?	TOMASchool managers, teachers and customer service team	TOMASchool managers, teachers and customer service team Technical support team and app developers	TOMASchool managers, teachers and customer service team Technical support team and app developers TOMASchool marketing team	TOMASchool managers, teachers and customer service team Technical support team and app developers TOMASchool marketing team

VALUE PROPOSITION CANVAS

VALUE PROPOSITION

CUSTOMER SEGMENT



Appendix 5

Questions for the email feedback survey regarding the app prototype.

1. On the scale of 1 to 10 how would you evaluate the app prototype?
2. On the scale of 1 to 10 how would you evaluate the colour scheme of the app prototype?
3. On the scale of 1 to 10 how would you evaluate the value/help factor of the app in your cooperation with TOMASchool ?
4. On the scale of 1 to 10 how would you evaluate the content of the app and the availability of all critical app features ?
5. What would you suggest for improvements?
6. General comments.

Appendix 6

Open answers (feedback) provided by the respondents of the final survey (Appendix 5) to the 5th and 6th questions.

	<i>General additional comments</i>
<i>Respondent 34</i>	I think, that creating of some corporate character can be a nice idea (like a bird in Duolingo). It could be a cat/character etc.
<i>Respondent 55</i>	Some smaller and creative icons could be more suitable :)
<i>Respondent 58</i>	Option of video conferences or even streaming could be interesting to bring students and teachers closer.
<i>Respondent 60</i>	Linking to translating app and platforms could be nice.
<i>Respondednt 65</i>	I suppose that creating of own TOMASchool podcast or a possibility to listen to other relevant podcasts through the app might be existing.
<i>Respondent 68</i>	I think that some other colors (blue or maybe grey) could be more suitable. Probably, some color settings in the app might be a good thing to consider.