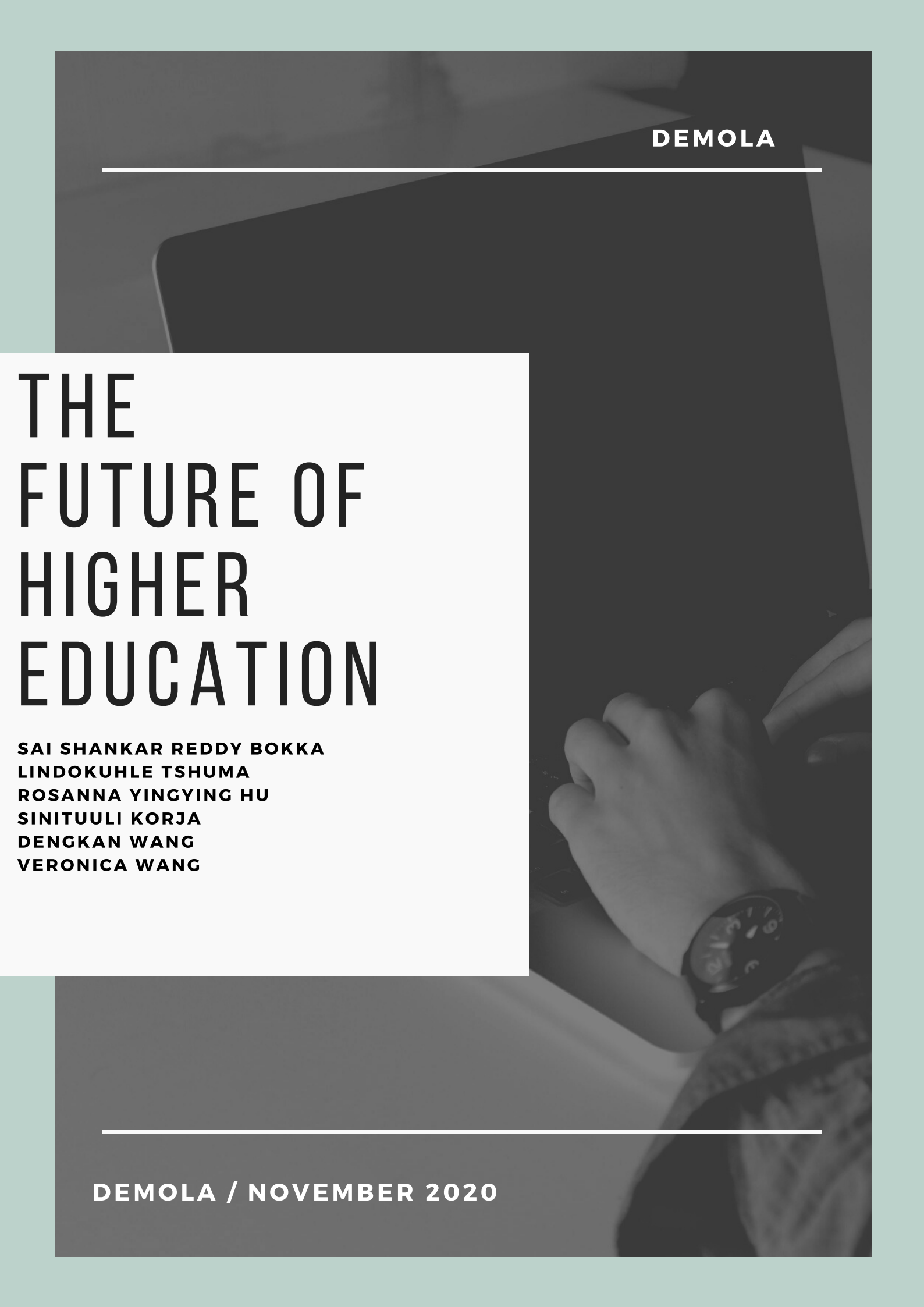




DEMOLA

THE FUTURE OF HIGHER EDUCATION

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DEMOLA / NOVEMBER 2020

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MEET THE TEAM

PEOPLE BEHIND THE PROJECT



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VERONICA
CHUN WANG

MEET THE TEAM

Sai Shankar Reddy Bokka

A full time BSc.Ing., student in the academic study program "Computer Systems" from the Faculty of Computer Science and Information Technology at the Riga Technical University (RTU) Riga, Latvia. His area of interests are related to the fields of Software development lifecycles; Systems analysis, Systems design, Systems engineering; Evolution technologies; and Probability theory statistics. In his research, he currently focuses on the digital transformation of study courses in higher education institutions.

Rosanna Yingying Hu

BSc majoring in Statistics and currently studying data science for her Master's degree at the University of Helsinki. She has lived in four countries and experienced strong cultural blending. During the COVID-19, everything went remote suddenly and accelerated the digitalization of higher education. She is interested in discovering related problems and trying to find solutions with people from different backgrounds. It is her first time joining a Demola project.

Sini Korja

Adult educational scientist student doing her Master Thesis at the University of Helsinki. She is writing her thesis about learning in collaborative working life projects and creative problem solving skills. She is interested in bridging higher education and working life in a sustainable and inclusive way.

**WE'RE A
PASSIONATE
INDIVIDUALS FILLED
WITH DEMOLA**

MEET THE TEAM

Duncan Dengkan WANG

After finishing his Bachelor's degree in Diplomacy at Wuhan University, he is studying master of arts in China Development studies at the University of Hong Kong. Born in a small town and living in big cities, he has met many people from different families and he is always curious about the vast world and different cultures.

Lindokuhle Tshuma

A BSc Aeronautical Engineering student from the University of Witwatersrand in South Africa. She is currently a volunteer in a STEAM organization which aims to bridge the gap in gender inequalities in STEAM related education and careers with aviation as her emphasis. Her family relocated to South Africa as the education system in her home country was facing difficulties. She is currently part of makerthons and exploring software development mostly in aviation.

Veronica Wang

A full-time sophomore student at University of California, Berkeley in the United States. She is majoring in Political Science and Sociology. Growing up in China then going to the U.S. for college allowed her to receive education in a multicultural environment and have more insights about global education. Currently, she is working for a tech company called "Astrasum" based in Silicon Valley which aims to "defining future education".

**WE'RE A
PASSIONATE
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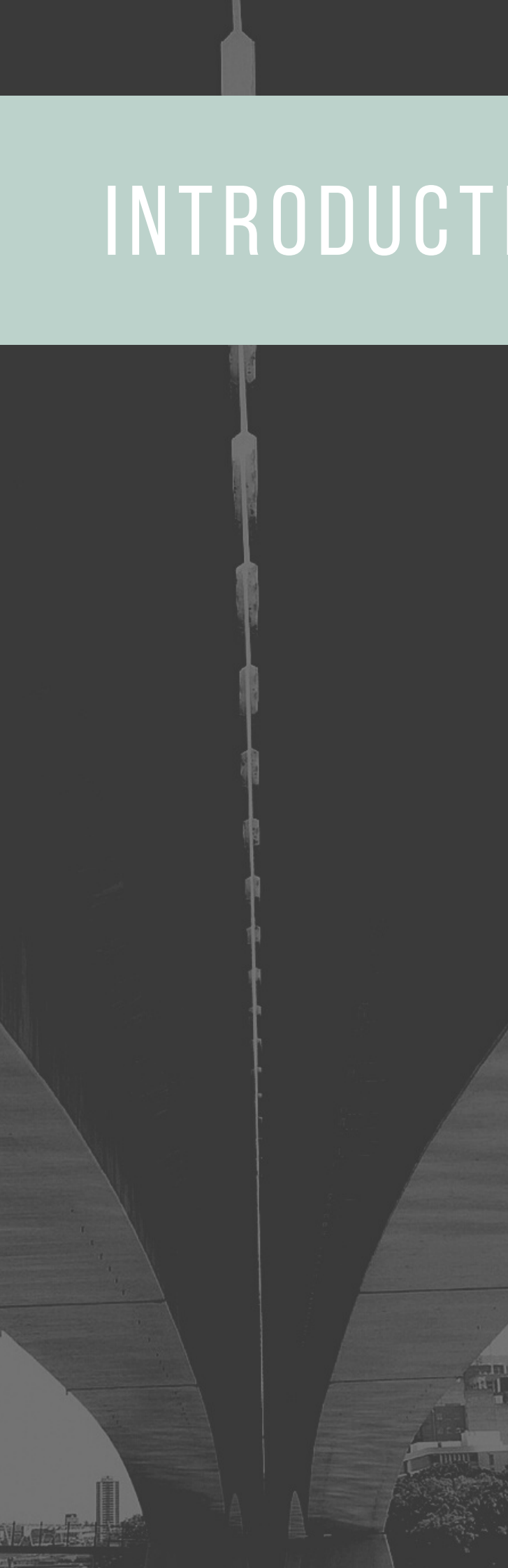
INTRODUCTION

Oral teaching was one of the oldest means for teaching but over a period digital technologies emerged and supported the communication for teaching. The later emerged various digital technologies that supported education, such as blogs, forums, multimedia recordings, wikis, social networks, video conferences, etc. It can be seen that the evolution of such digital technologies in education made teachers teach more effectively. Hence, educational institutes invest in digital transformation for more productive and value-adding learning.

The evolution of digital transformation has already started in the past five decades. For example, Swiss watchmakers were considered as one of the main producers of mechanized watches, over the time computerized watches came out in the late 60s. Japanese watchmakers, like Casio, took control over the market and Swiss watchmakers battled in the wake of this innovation. It can be understood that over a period of time Japanese watchmakers had a disruption. The fundamental forms of the watch remained the same, but they have re-designed the whole concept for disruption. Disruption by innovating and using technology concepts in their organization. Such disruption created new value for business and gave an opportunity. That is one of the significant reasons it took control over Swiss watchmakers.

Similarly, the above example might be used in the future of higher education. Disruption concerning innovation, and using technology produces opportunities. Opportunities such as digital technologies might be used by the end-users as a result. In the previous example, fundamental forms remained the same, but they had re-designing the concept for the disruption. This might also be used for the transformation of future education.

The evolution of education has an influence in different sectors, this includes the economy. To a certain extent, for a functional economy, it is a requirement to produce and to have educated people as leaders. There is a continual change in the economy (e.g. due to the industrial revolution) thus people must be educated about it, hence the need for change in the future of higher education. In addition, education plays a significant role in the nation as it provides people with beliefs, values, and moral ethics. It is said that education is the key to success, but one may argue that, for it to bring future success, it should be relevant and flexible to align with the change.



INTRODUCTION

Another background that cannot be avoided is globalization. Globalization requires all actions, actors and prospects to be placed in one of this background. The international exchange of education, the cross-border flow of personnel, and the cross-border flow of capital all affect the future of higher education. Is the future of education beneficial to the world or will the gap widen between the countries?

With the changes of the times and facing the future of higher education, we have raised one question after another. In order to make the way forward more clear, we conducted research through interviews with different groups.

During the research of the future higher education, many stakeholders of higher education were identified and a few were selected to further conduct extensive research. The selected main stakeholders included teachers and researchers, students, parents, human resources, university administration and change markers. These stakeholders were selected because:

Teachers & Researchers, Students and University Administration: directly involved in the education system.

Parents: influence the education and career paths of the students.

Human resources: influence the future workforce

Change markers: are implementing and introducing innovation and digitization in the educational system.

The identified stakeholders were interviewed to get a clear view of how they will be affected by the future of higher education and what they believe needs to be implemented. Based on the interviews, megatrends were selected concerning each stakeholder group and suggestions on the future of higher education were provided.

BACKGROUND RESEARCH

**INTERVIEWS WERE
CONDUCTED IN FINLAND,
LATVIA, CHINA, HONG KONG
AND SOUTH AFRICA.**

TEACHERS & RESEARCHERS

STUDENTS

PARENTS

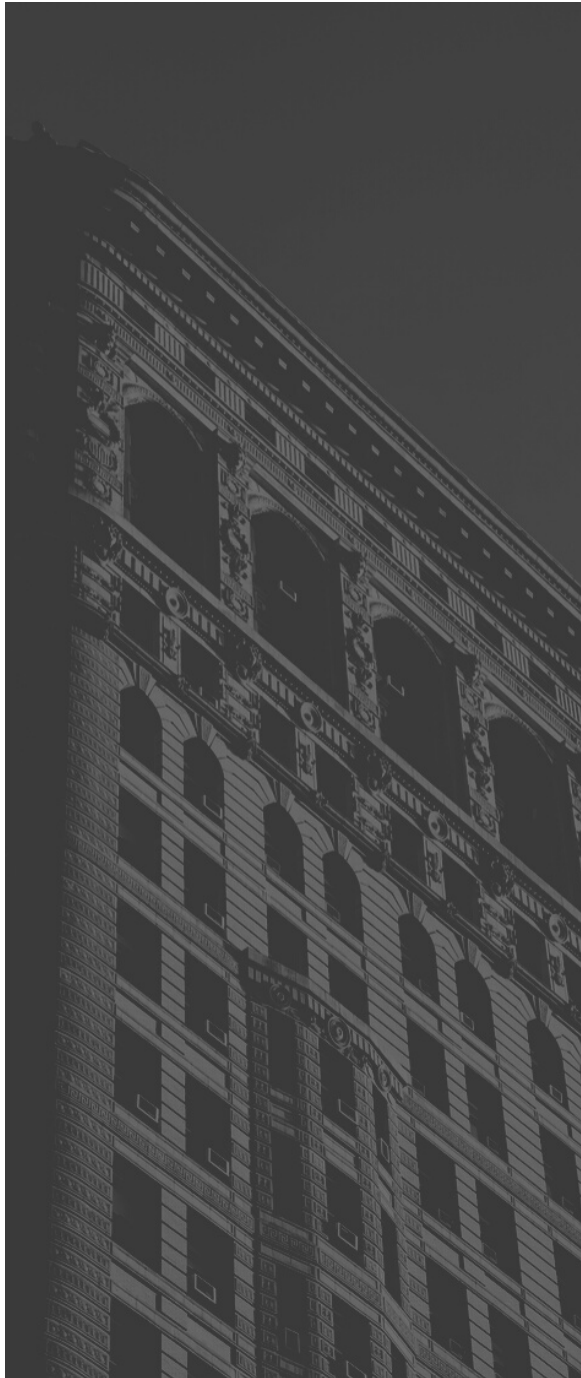
UNIVERSITY ADMINISTRATION

HUMAN RESOURCES

CHANGE MAKERS



TEACHERS & RESEARCHERS

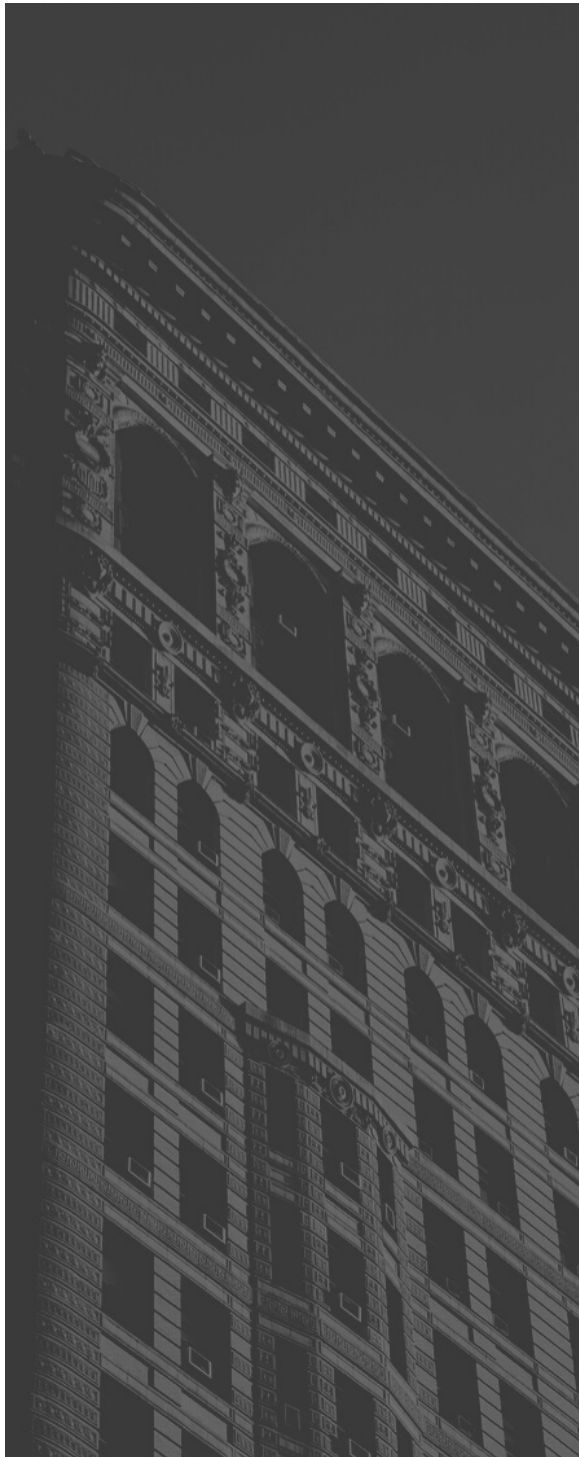


There may be four tendencies of higher education in the future: globalization, more intensive teaching, multilevel education and more obvious competition among universities.

The main difference between comprehensive universities and vocational technical colleges lies in their contribution to social development. Higher education institutions with different positioning have different model fields. Comprehensive universities have greater versatility in their careers, and the standard of measurement is not unique, but vocational schools use technical standards to measure. The two are positioned differently and it is inappropriate to compare them together.

In the future, the living space of Humanities and social sciences may become smaller and smaller. When dealing with a crisis, people are more likely to be dominated by short-term thinking, and long-term research may be reduced. There may be less "pastoral life in the field".

STUDENTS



The study identified students as the primary selection of stakeholders and in this regard, A set of diverse students were chosen as a target group this includes bachelors, master's students studying at different Latvian universities. The interview process included more open-ended questions the main reason is to gather the attitude, behavior, and experiences. The following are some of the real and interesting insights in the context of the future of education that is mentioned by the students.

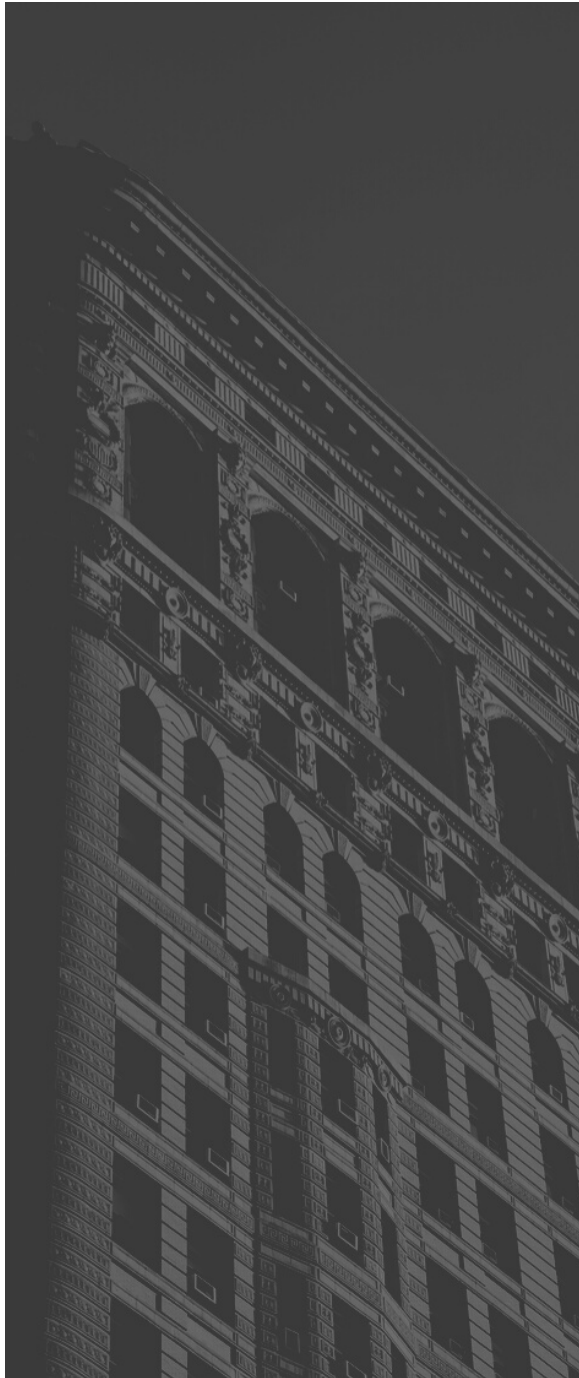
“Learning at University offers a push to apply for dream jobs”

“I don't know where to apply the theory I have learned”

“In my country, it is common practice to continue to seek higher education after high school. Besides, if I don't go to university, I don't know what I can do”

On the other hand, some other students also mentioned that constant motivation from skilled trainers, professional teachers, and domain experts is essential. Therefore, on mastering all the insights from students it is found to be that digitalization of future education is becoming more competitive to fulfill new engagement and expectations in education as a whole. To stay in a place with the present market.

PARENTS



In most families, one's education level and career path are associated with influence from his/her parents. We chose to interview several parents and gathered some insights below.

"Younger generation needs higher education for their future."

Most parents agreed that receiving a higher education will be the solution that maximizes the well-being of their children's future. Higher education will possibly bring a well-paid job and develop a person to possess the ability to think critically and work independently or in a team. However, we observed that to what extent a parent expects his/her child to receive higher education varies in cultures.

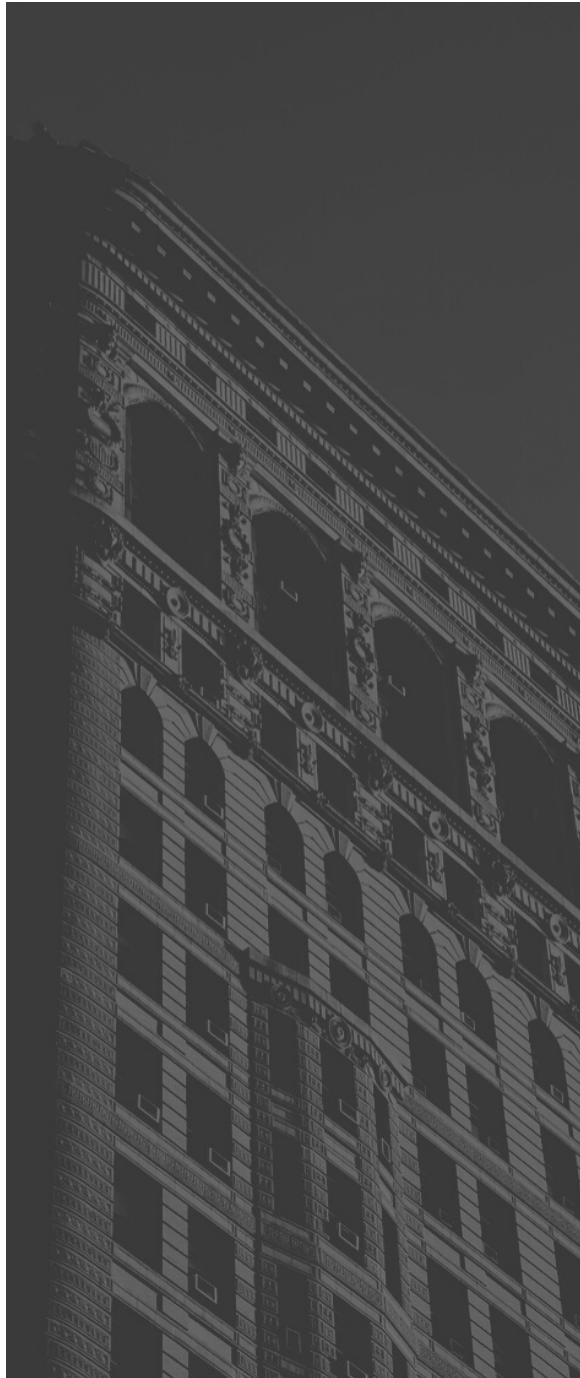
"It is easier to get higher education when your parents have one."

Another pattern we found out is that currently children coming from wealthier or highly educated families are also more likely to appreciate the importance of higher education and obtain a wider horizon since their birth. Class mobility is still not likely to happen frequently.

"Life satisfaction is not positively correlated to whether or not one is highly educated."

Also, one parent has mentioned that although she wants her child to receive higher education, she wishes her child to have a higher degree of life satisfaction.

UNIVERSITY ADMINISTRATION



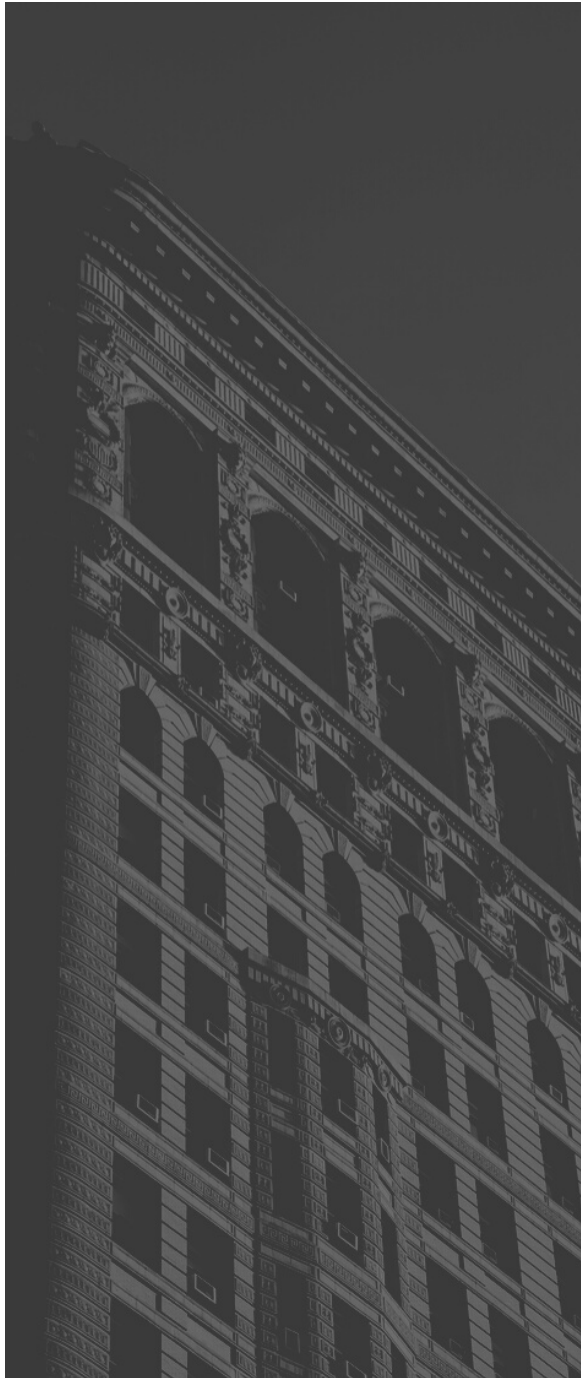
University administration brought up three main insights of how they see the future of higher education. First, they brought up the need for multidisciplinary collaboration between different branches of sciences as well as with other organisations outside of academia.

"universities should generate students with better systemic thinking skills as well as better communication and collaboration skills with people from other disciplines"

The second insight concerned the creative problem-solving skills that higher education should be teaching better in the future: a lot of the students only learn how to apply the knowledge learned - not create new knowledge.

Thirdly they brought up the changes technology and AI will bring to higher education - they will challenge the old school teaching methods.

HUMAN RESOURCES



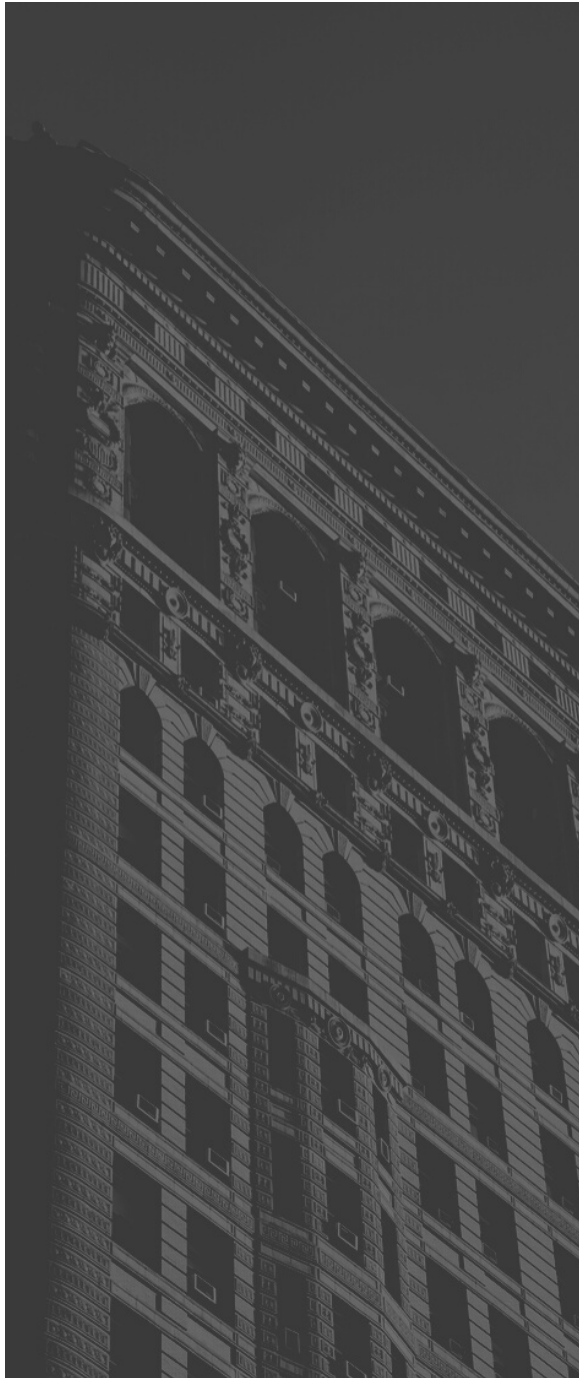
Different recruiters were selected and interviewed on their view on the future of higher education. The interviews conducted highlighted a strong emphasis on how the future of education will affect the future workforce quantitatively and qualitatively so. One mentioned that there might be difficulties in forecasting the jobs that will be available in the future, thus it will be highly recommended to provide students with skills that can adapt to change in future industries.

“how does the education sector prepare students for industries that haven’t been developed yet”

“who knows maybe most companies will switch to remote working, but this will require the most disciplined employees”

In addition, as the world needs more innovative thinkers, the recruiters highlighted that the time for project-based learning should be increased, most courses should have a blend of STEAM education and students should teach themselves how to handle complex technological related tasks. Furthermore, recruiters highlighted soft skills and the ability to work remotely will continue and be highly required in the future.

CHANGE MAKERS



Several interviews were conducted with CEOs and Founders of companies that are aiming to bring about change in the current education system. This includes Ivan the CEO Of Astrasum, a tech start-up aiming to help define future education. In his perspective, the meaning of education is to pass on everything we have accumulated as humanity and to ensure the ancient wisdom is embedded in everybody. This process of putting in thousands of years of information is a journey of discovering oneself and allows us to dive into the deepest of our being/existence.

Changemaker's missions: not “define” future education, because there will always be more “future” after “future”, but “defining”.

Technology has changed, and is changing people's learning behaviors.

Change maker's visions for the future education are exciting and inspiring:

1. Teaching will not be monopolized (by a single school, teacher, institution), which makes "teaching" not an essential behavior/activity anymore.
2. The process of learning would be more efficient and productive: input of information—>process the knowledge—>apply to hypothetical problems—>create actual output by solving real-life problems.

Two main challenges that change makers face in the post-COVID world are human interaction/connection and the sense of community.

TIPPING POINTS FOR FUTURE HIGHER EDUCATION

**TABLE 1.1. REPRESENTS MEGATRENDS FOR THE
SELECTED STAKEHOLDERS**

Students	Teachers	Human Resources	Administration	Parents	Change Makers
Barriers to adopt	Globalization	Digitization	Emphasis on the continuous development of competence	Younger and more open-minded parents, e.g. more gender equality in some culture	The transformative technology in education (e.g. VR/AR, AI, etc.)
Technological awareness	AI replacing human beings	Continuous need to reskilling	Shifting to knowledge society - the changing structures of works	Non-traditional ways to 'success', thanks to technology, e.g. e-sport	Increasing educational exchange and interaction among borders
Online education resources	More intensive education	Practical skills-based interviews	Technology transforms operating methods	Less family influence on one's education level	Educational start-ups VS Established institutions
New forms of motivation (Communication, collaboration, sharing)	Political factors VS academic freedom	Ability to work remotely and informally	Multidisciplinary wicked problems / network versus bubbles	'Universal' higher education	Higher inequality in educational resources

TEACHERS & RESEARCHERS

Megatrend selected: Globalization of higher education

The globalization of higher education in three aspects will have an impact on teachers. Firstly, the globalization of personnel mobility means that teachers can go to more countries and regions for teaching and research. Secondly, knowledge is shared all over the world via different ways, which is influencing academic research and education design of countries involved in the wave of globalization. The third aspect is the globalization of physical bodies of universities. Universities take an active and important part in globalization by setting up branches or cooperating to found joint universities in different states.

Utopia

Globalization develops quickly and it does not bring any negative effect on higher education. Firstly, teachers are freer and much easier to have trips through boards so that they can get more affluent knowledge and there will be more job possibilities to teachers because global recruitments will take the place of the domestic recruitments. Besides, it would be much more convenient for researchers to do transnational fieldwork. Secondly, the latest research outcomes will be shared among countries instead of being blocked by borders, researchers can save much time and energy in their research. Teachers can also master the most novel teaching methods through the global network of knowledge sharing so that they would deal with their teaching work more effectively. At last, when there are more branches and joint academic organizations in different countries, teachers can enjoy the outcome of globalization without going abroad. It means more job opportunities, knowledge communication, and research collaboration appear locally. At the same time, globalization also puts forward higher requirements for teachers and researchers: first, language ability, they must be familiar with English or

some other commonly used languages, so as to have advantages in transnational activities; second, they should be more proficient in the use of information and digital technology, so that they can easily communicate with universities and scholars in different countries across the space; Third, they need the ability of adapting to different cultures, so that they can avoid cross-cultural conflicts.

Dystopia

There are two aspects of dystopia in globalization of higher education.

On the one hand, with the process of globalization, more and more problems of globalization are becoming obvious. Firstly, globalization of mobility may attract more teachers and researchers to developed countries, which will also lead to the educational resources transferred from developing regions to developed regions. As a consequence, the teachers and researchers would confront a challenge of imbalance of educational resources. Secondly, globalization may attach more unstable factors to teachers and researchers. Global risks and challenges will replace the domestic ones such as cultural collision, transnational pandemic and so on.

On the other hand, political factors may hinder the globalization of higher education. Knowledge knows no country, but scholars have their motherland. With the tension of international relations, countries will take measures to prevent the spread of technology and knowledge, thus inhibiting the free development of academics.

STUDENTS

Megatrend selected: “Barriers to adopt” in digitalization of future education.

Students might be one of the most benefited stakeholders in the process of digitalization for future higher education. This provides them many possibilities to learn and lead not only from the classical classroom style of doing things but also to learn out of the side of the classroom and apply. In this regard study from various articles found to be that the digital process of information might give steady benefits to all involved stakeholders in education such as teachers, students, administrators, etc. Advantages include new forms of engaging, achieving long-term success, increasing the efficiency of digitalness, etc. There might also be few barriers that hinder the future education such as lack of motivation, lack of infrastructure, lack of individual barriers, etc.

Utopia: In a positive case scenario, to overcome the barriers a bridge between the digitalization of education and the current education curriculum might be strengthened by future decision-makers. This could give a global possibility for the learners to create, communicate, collaborate, and share access to more information sources.

Dystopia: In a negative case scenario, if the barriers are not identified in the initial stages then it might result in poor results in the transformation of future education. This might also lead to the structural changes in the digital transformation framework and structural changes to the hierarchical arrangement particularly concerning the position of new digital activities. Use of technologies, change in value-adding, structural changes, financial aspects might be major factors to be influenced.

PARENTS

Megatrend selected: Younger generations as parents

Family is everyone's first school. Traditionally, one's original family has had a vast influence on one's education level. Children coming from highly educated families often have a wider horizon and are more appreciative of receiving higher education, while less literate families are not able to consistently instill the importance of higher education to their younger generations. In our era where uncertainty and instability are its very fundamental properties, this growing generation is becoming the new parents. We will be better educated, more familiar with the new-tech applications, and will have grown along with the changing world.

Utopia: In this ideal scenario, we make good use of new technology. Students from all kinds of families are able to get to know the field of their passion thanks to technology and globalization. Distance, time or limited resources are no longer obstacles to learning. Everyone actively makes choices, becomes part of the society and contributes to it. The new parents will be more open-minded and well aware of new fields and possibilities. For instance, in the past, if you made a living by gaming or being a blogger, the older generation might have thought those are not 'proper' jobs, while in our utopian future, this will no longer be a problem.

Dystopia: On the other hand, we are the generation that incredibly relies on technology. Educating a child is like farming instead of producing spare parts of a machine in a factory. Every single child is special and unique, we should treat them differently. Can AI, big data and the internet really help students to learn better, as these are the products of the industrialized world? The algorithms behind those are aiming to classify the obtained data according to similar patterns, in some sense the uniqueness of each individual will be erased. Also, a large dependency on technology might result in less care of children's mental world and emotions.

UNIVERSITY ADMINISTRATION

Megatrend selected: Network versus bubbles

The globe and societies face multidimensional, "wicked" problems that can not be solved alone. More systemic thinking is needed which requires professionals to network and collaborate more than before. Universities are reacting to this by transforming their teaching and research towards more multidisciplinary ways of working. Higher education institutes create multidisciplinary research groups and studying programs. Students are expected to learn and participate in courses that might be outside of their desired expertise or in their "bubble".

Utopia: In an ideal scenario the universities will succeed in creating studying programs where students will get more familiar with multiple disciplines. Thus they learn how to communicate and collaborate with people from different branches of science, which will give them better offsets for working with diverse teams and people in their future working life. Social skills seem to be the one of most important "working life skill" according to university administration. In addition, to the social skills multidisciplinary collaboration has also been seen to help teaching critical thinking skills to students since it should give larger and more distinct perspectives about the phenomena.

Dystopia: In worst case scenario students will be forced to study distinct courses that they are not motivated to learn and thus don't give effort in the classes, which is a waste of resources. Also since more and more courses and learning material will include larger amounts of knowledge the learning might get more superficial and shattered which will not enhance the deep understanding and learning of the phenomena. When more and more people are becoming generalists, expertise and deep knowledge and understanding of a phenomena might die.

HUMAN RESOURCES

Megatrend selected: Remote working

Throughout history, many factors have influenced the workforce, due to a continuous change in the industrial revolution. The changing and meaning of future education will have an impact on future employees and employers. This will then play a huge role in impacting the old processes and tools used by the human resources departments in recruiting new talent, reviewing their performances depending on the places and ways they conduct their work. The COVID-19 pandemic has forced a switch to remote learning and remote working. Several companies were flexible to make remote working feasible and some companies are still investing in implementing this change. The impact of the pandemic has thus shown the possibilities of remote working as the future workforce will have completed their degrees through remote learning. The 'remote working' trend presents advantages and disadvantages.

Utopia: Remote working presents a tremendous of opportunities for the company and for the employees as well. For instance, remote working cuts down the time one takes to drive to and from work, hence giving employees the flexibility to schedule and conduct other activities on their extra hours. One can agree that besides saving money (e.g. transportation, office supplies), such flexibility can increase the productivity of employees as they are not working under pressure. Just as remote learning, remote working will allow most companies to have an expanded hiring pool, thus having different backgrounds and environments talents collaborating. As the future employees will have more remote learning which can be claimed to be good preparation for remote working, it will be advisable for short courses to be implemented to gear them up for remote working skills.

Dystopia: With the implementation of remote working, many HR departments will face a unique set of challenges. The old traditional methods do not seem to quite work in such an instance. Employees will be likely to have a less sense of company community thus instilling a rigid community engagement on the employees. Furthermore, HR departments will also face the vast challenge of having to manage employee productivity and morale. The environment where employees conduct their work also plays an important role in work effectiveness, with remote working, there are high possibilities that the employees might be working in an informal environment where they will be posed with disturbances. Nevertheless, with the growth in digitization and globalization, remote working will be further made efficient with time.

CHANGE MAKERS

Megatrend selected: Higher inequality in educational resources

With global economic inequality and class divisions on the rise, people are witnessing increasing education disparity at every level and in many countries. Inequality in higher education poses serious problems to our society since it paves way for structural inequality in the future. The traditional education system fails to create a more equalized and embrative space for everyone to receive proper education. Many institutions and resources are still focused on people with relatively high socio-economic status, which is sad and disturbing. Change makers are trying to find solutions to shorten the disparity in education areas around the globe, and they have reached many astonishing achievements so far.

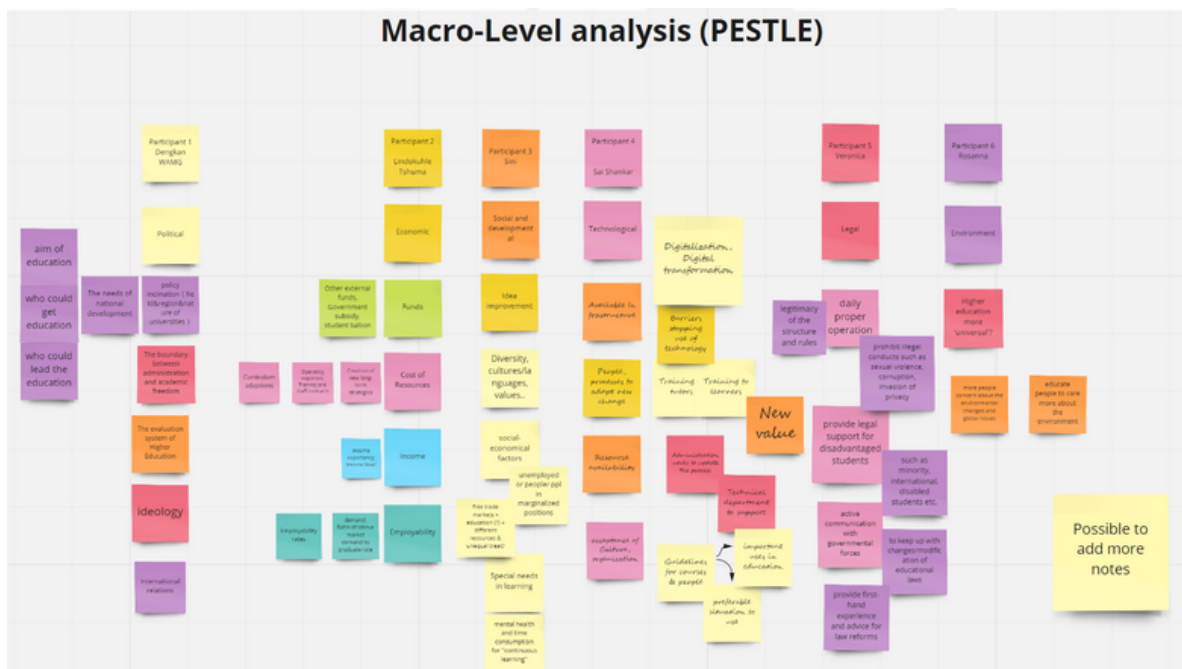
Utopia: In a world with constantly evolving high technology and new media, everything is closer to everything. Change makers now can use many new technologies to fix the problems with the disparity in educational resources. Many of them are using the internet to do a lot of inspiring things, such as broadcasting good lessons and learning materials that used to be limited to people in top universities and institutions. Some of the change makers are trying to apply the technology of VR to people's daily learning process, making the learning experience more vivid and interesting. Some change makers use robots as study partners to foster good learning habits for young children. In short, the world will be fundamentally changed by these new technologies that revolutionized education and made it accessible and affordable to everybody.

Dystopia: However, another scenario is that change makers won't create huge impacts because the world of education is still controlled by the Establishment of traditional education systems. This is no good in building a new education system for them, even if it's better and advanced than the former one. They would try to stop the change makers to make higher education accessible and affordable to more people. They would hinder change maker's innovation and revolution since they will hurt their interests and their fundamental values of how education should be like. For example, the leaders of top universities of the world might not like the idea of making their courses free and open to the public. In the future, educational resources could be more limited because of the higher class disparity in society. The competition over educational resources could be more fierce.

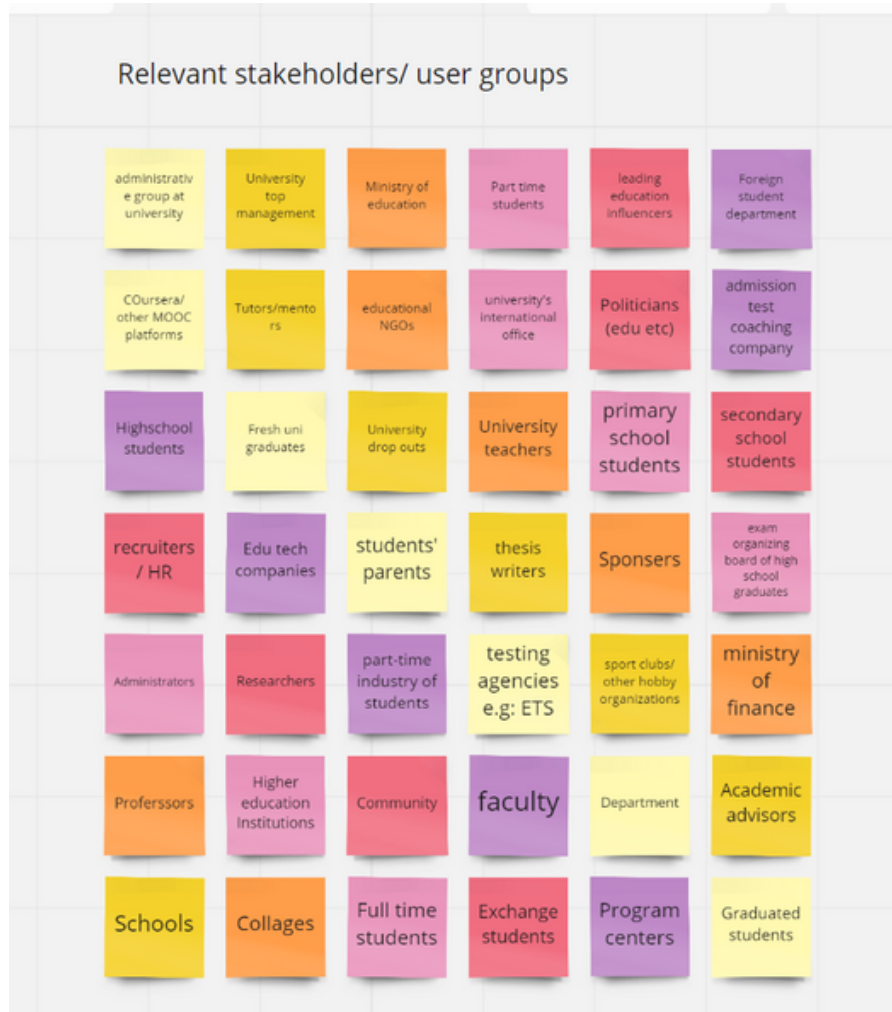
COLLECTION OF IDEAS

WE USED MIRO BOARD THROUGHOUT THE PROJECT IN COCREATING AND SHARING EACH IDEAS.

PESTLE analysis was used to find the factors influencing on the future of higher education from various perspectives.



We used diagrams to explore the stakeholders and to share our research from interviews.



SUGGESTIONS FOR FUTURE HIGHER EDUCATION

Accept the change. Change might lead to new opportunities for both teachers and students in new forms of engaging such as new ways to deliver lectures, etc. Hence, it is important to accept it.

Possibilities for the students to explore. Constant encouragement for the students must be given using new approaches such that they might bring their pure contributions by one or in a group.

Involvement of stakeholders. Technology specialists, etc. require to uphold the instructor's potential ideas to bring new forms of teaching into the classroom.

Focus on what is important. Students in the course should be motivated by their instructors on their requirements and interests in the study course. Preplanned digital activities can rehearse the teacher to design what is required for the course organization.

SUGGESTIONS FOR FUTURE HIGHER EDUCATION

Emphasize the significance of digitalization. In this process, it must allow both teachers and students to gain new possibilities (new ways of sharing, etc.) with excitement rather than missing the possibilities.

Provide different approaches for existing ways as a substitute. Transformation in future education might not be static, it can later evolve in many different ways, choosing the right way such that it combines classical ways of doing things as an alternative might always be valuable.

Great importance should be attached to the ability to adapt to different cultures, since students, classrooms and knowledge will come from all over the world, due to globalization. The exchange of different cultures rather than conflicts will contribute to a better future for higher education.