LAMK Lahden ammattikorkeakoulu
Lahti University of Applied Sciences

From hybrid events to the next generation - interactive virtual events

Viewed from three different stakeholders' point of view

LAHTI UNIVERSITY OF APPLIED SCIENCES
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Johanna Hoods
Taija Pakarinen

Lahti University of Applied Sciences
Master's Degree Programme in International Business Development

HOODS, JOHANNA,
PAKARINEN, TAIJA:

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85 pages, 12 pages of appendices

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ABSTRACT

The traditional event management has changed in recent years with the new technologies and currently we are living at the time of hybrid events, which combines the traditional events and the innovative technologies such as live streaming. Webinars and web coaching have also become part of every-day-life - the future is moving towards the virtual space.

Virtual reality, artificial intelligence and holograms are the technologies that are developed now in many industries. What would happen if virtual reality, interaction, artificial intelligence and holograms would be added to the event industry? The three biggest stakeholders in event business are the attendees, speakers and organizers. How would the evolving technology change their experiences when attending or organizing a virtual event?

Aim is to go through the event journey from the three stakeholders' point of view and think about the opportunities and challenges that the virtual environment, artificial intelligence, interaction and holograms bring to their event journey and what are the points of connection amongst these stakeholders.

In this thesis, there is also a short research done on how virtual reality, holograms and AI is used and what are the probable future scenarios of these technologies.

Key words: event management, hybrid events, live streaming, webinars, web coaching, remote attendee, interaction, virtual reality, virtual environment, augmented reality, virtual events, virtual attendee, virtual interaction, holograms, artificial intelligence

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TIIVISTELMÄ

Perinteinen tapahtumamarkkinointi on muuttunut viime vuosien aikana teknologian kehittymisen myötä ja nyt elämmekin hybriditapahtumien aikaa, joka yhdistää perinteiset tapahtumat ja innovatiivisen teknologian kuten livestreamingin. Webinaarit ja web coaching ovat myös muodostuneet osaksi jokapäiväistä elämää - suuntauskin on menossa kohti virtuaalitodellisuutta.

Tällä hetkellä moni teollisuudenala kehittää virtuaalitodellisuutta, tekoälyä ja hologrammeja. Mitä tapahtuu, jos virtuaalitodellisuus, vuorovaikutus, tekoäly ja hologrammit yhdistetään tapahtumiin? Tapahtumien kolme suurinta sidosryhmää ovat osallistujat, puhujat ja järjestäjät. Miten kehittyvä teknologia ja sen yhdistäminen vaikuttaa heidän kokemuksiinsa osallistuessa tai järjestettäessä virtuaalista tapahtumaa?

Tavoite on käydä tapahtuman kulku näiden kolmen sidosryhmän näkökulmasta ja miettiä mitä mahdollisuuksia ja haasteita virtuaalitodellisuus, tekoäly, vuorovaikutus ja hologrammit tuovat heidän eteensä virtuaalisessa tapahtumassa sekä missä kohtaa nämä kolme sidosryhmää ovat kosketuksissa toisiinsa.

Osa tästä opinnäytetyöstä tutkii myös lyhyesti, miten virtuaalitodellisuutta, tekoälyä ja hologrammeja hyödynnetään eri aloilla ja mikä on niiden tulevaisuudennäkymä.

Asiasanat: tapahtumamarkkinointi, hybriditapahtuma, webinaarit, web coaching, etäosallistuja, vuorovaikutus, virtuaalitodellisuus, virtuaaliympäristö, lisätty todellisuus, virtuaaliset tapahtumat, virtuaaliosallistuja, virtuaalinen vuorovaikutus, hologrammit, tekoäly

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“SUCCESS IS WALKING FROM FAILURE TO FAILURE WITH NO LOSS OF ENTHUSIASM.” - Winston Churchill

1 INTRODUCTION

1.1 Background

This thesis first started with another angle that was more related to traditional events and the current situation, but in the middle of the process and with the guidance of our supervisor, Ph.D. Brett Fifield, we came to a conclusion that traditional events are mostly history and we are currently living at a time of hybrid events. This is the time where traditional elements meet the innovative technology - adding the live streaming and the holograms to the events.

In education, the common tools used are webinars and web coaching. Virtual reality (VR) and artificial intelligence (AI) are the new black so how are they going to change the industries? Moreover, if interaction is added to the virtual reality how will the experiences change? Thinking about the next logical step in event industry, then the next generation of events would be interactive virtual events – utilizing new technologies such as virtual reality, holograms and AI. This is the fourth stage in event history; the first was the traditional events, moving to hybrid, which leads to virtual events and the phase that we are interested in is the fourth stage – bringing the interaction to virtual events.

Until now, the communication has mostly been one-way. The future, in our opinion, is in virtual events, which can happen without any traditional event elements, as they restrict the potential. Virtual reality can reduce risks, decrease costs and increase profits, as the number of attendees is not limited, and the event itself is not restricted by any physical elements.

We decided to focus on innovative solutions and think about what the future could bring to the event business as the first angle would not have served its purpose – it was old information. With the new direction it was decided that this thesis will be used as a base for innovation and development. This work will also be a base for the Virtual Leadership summer course for the new master students in Lahti University of Applied

Sciences. It is a pilot how a thesis could be built, utilized and continued with the the new students.

To get some insights we also interviewed today's event professionals from Finland and Denmark and asked their opinion how familiar they are with these technologies and how would they see the probable future of using these modern technologies in their events. Would they see the potential of them in event industry?

1.2 Research objectives

This thesis aims to define the current situation – hybrid events and focus on the future – interactive virtual events – and the challenges that a virtual environment brings to the event management from three stakeholders' point of view – the attendees, the speakers and the organizers. How will the virtual reality change the experiences of these three stakeholders? What are the opportunities from their point of view and what are the challenges that the virtual environment will bring? What are the connection points of these stakeholders? Could the virtual reality be modelled to every event when the different stakeholders' points of views are known? What is the current status of virtual reality, equipment, holograms and artificial intelligence and what are the future foresights?

Is it possible to implement virtual reality in education and in training purposes? Can it open possibilities to not only for businesses, but also education organizations such as universities? Can you study in Lahti University of Applied Sciences but still live in London? What are the possibilities for third world countries – with the support of UNICEF, Plan International or other Aid organizations – in education and building awareness on health matters? How about the entertainment and gaming businesses? What effects the virtual reality and interaction have on them?

To research via questionnaire how familiar the event organizers are with the new technologies and would they utilize them if there were no limitations. How do the event professionals see how the three

stakeholders' experiences change in case of using the technology and what they see that are the advantages and disadvantages of using them? The other angle was to introduce the thesis to the new master students in a workshop where they started to brainstorm based on this thesis of their groupworks, which they will continue during summer 2018.

1.3 Research methods and knowledge base

There are three common methods to use when doing a research – those are quantitative, qualitative and mixed, which is a combination of the quantitative and qualitative. Research is not just about collecting data, documenting it and searching through materials – it is analyzing and understanding the phenomenon. Research is always systematic and it contains the objectives, data collection and analyzing the results. (Williams 2007).

When looking for a literature of the research methods and how to do a research then excellent readings are following books: Research Methods in Business Studies – A Practical Guide, written by Chauri and Grønhaug (2002), Doing Research in Business Management – An Essential Guide to Planning Your Project, written by Saunders and Lewis (2012) and Research and Writing a Dissertation – An Essential Guide for Business Students, written by Fisher (2010).

The knowledge base for this thesis is from traditional events, hybrid events and platforms, but there is no knowledge base for the interactive virtual event space, as this kind of events do not exist yet with the technology of today. We wanted to create something new and innovative and start the discussion around new types of events – would they be even possible and how the research target groups would react to the idea. We wanted first to brainstorm ourselves and then get the audiences to be involved in the topic discussion. It is a bit innovative way around to do a thesis, but we did not want to have any influences first but do our own hypothesis and then see how others see the subject.

For our thesis we chose the qualitative method with two different audiences – from the summer course workshop and questionnaire for the event organizers. We chose the qualitative method because it involves discovery with holistic approach and viewpoints.

1.4 Structure

The first section of the thesis will go through the current situation, which we are living in at the moment – hybrid events. The platforms are introduced, but the technology is evolving fast, so they will change rapidly in the following years.

The following section is the interactive virtual events, which combines virtual reality, interaction, holograms and AI. This is viewed through by the three different stakeholders. Each of them is examined thoroughly - steps that they would face when attending or organizing an event. The aim is to consider the possible opportunities and challenges that they might face. and what are the connection points where the three stakeholders meet with each other. The conclusions of this part are done via the SWOT analysis.

The third section is the research, where we will open the results from the start of the summer course workshop and the event professionals' answers from the questionnaire. The concluding section of the thesis is the conclusions on how the evolving technology could change different industries: the events, education, travelling, gaming, healthcare and entertainment businesses. It is focuses on the possible prospects and different scenarios that the evolving technology might bring.

During the thesis process our aim was to think outside the box and be innovative, creative and let it be fun.

2 HYBRID EVENTS

The events industry has changed rapidly in the recent decade. The modern technologies have changed traditional events into something new. For years, events have been organized with the same pattern, which is the traditional event management and the process is described in figure 1. There are multiple books and articles written how to organize an event. The book “Special Event: A New Generation and the Next Frontier”, which Goldblatt (2010) wrote is a good example and it gives a lot of information on how to organize an event with five phases namely, research, design, planning, coordination and evaluation.

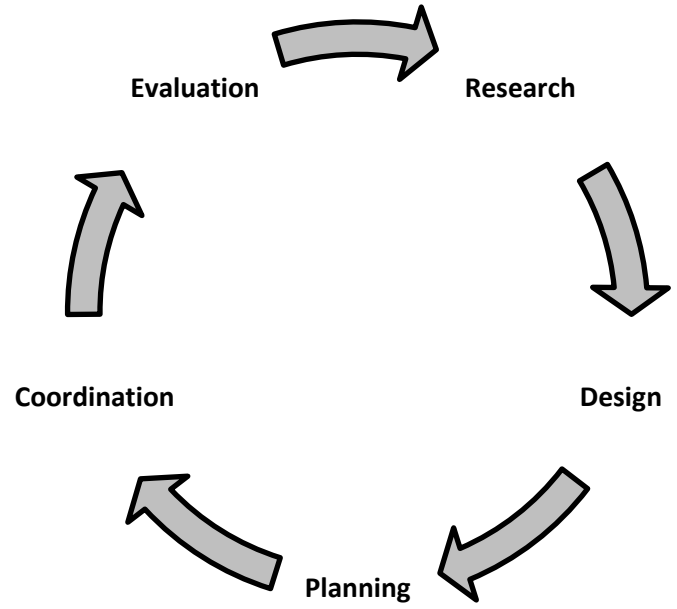

FIGURE 1. Event process (Goldblatt 2010, 65).

Another good book to consider when, organizing international events is written by Ferdinand and Kitchin in 2017 and it is called “Events Management An International Approach”. The traditional events require the basic elements such as venue, catering, speakers, entertainment, theme, accommodation, transportation and they are limited by the physical elements. There are all kinds of checklists and theory available for the

organizers on what should be taken into consideration when organizing traditional events.

As traditional event management is still important, and it is the base for any event, there are also new methods that can be implemented into traditional event management, thus evolving event management into a hybrid, where old and new elements meet. New elements like live streaming, webinars and web coaching.

The following sections will delve briefly into few examples what are the platforms and technologies, which are used at the moment in hybrid events. The term “hybrid event” is still quite new and there is no literature or articles written about it. Part of the text is based on experiences of attending hybrid events, webinars and online courses.

What is common for the hybrid event technologies, which are available today, is that they are mostly meant for one-way communication. This means that for example the live streaming goes from the event or the presenter to the remote attendees. It does not give many opportunities for interaction. Webinar and web coaching platforms offer the option that the video is shared from the presenter and to the presenter but in most cases, attendees cover the camera, so they cannot be seen. None of the platforms is providing full interaction between the speakers, audience and all the attendees. The communication is basically done via social media tools. The remote attendees can participate to the conversations via twitter, Instagram or through another social media channel.

When looking for the literature on hybrid event management, the information is mostly in blogs and in companies’ websites. Cross (2018) has written a list of ten things that need to be taken into consideration when organizing hybrid events. There are good points, which affect the remote attendees’ experiences. These attendees are paying for the attendance, so they need to be included as well. It is harder to hold their attention, as they are not visible to the speaker. It is easier to feel the onsite attendees’ feelings as they are present, but it is trickier to keep the

remote attendees inspired. Cross emphasizes many times that the remote audience need to be noted because they might not be able to react in real-time as there can be delays in the live streaming. They cannot do pair exercises or discuss with the person next to them, as they might look the presentation alone at home. Events have been using Virtual Emcees who work as the voice of the remote audience. This will still not replace the old fashion interaction, so the active interaction is still missing in the hybrid events of today. (Cross 2018.)

2.1 Live streaming

Live streaming is a method where the media is real life live streamed. The media is recorded as a media file and re-streamed out in different formats, meaning that different mobile audiences can receive the streaming and follow the event remotely. It has become a more frequently used method for brands to reach masses - a constantly growing method to reach more audiences all around the world and also one key element to build international events. Live streaming can be used for example as an extra to the event and something that adds value for the physical event itself. (Meola 2016.)

There are many platforms and ways to stream the presentations and it is a cost-effective way to increase the number of attendees who cannot participate onsite. Examples of streaming platforms are UStream, Vimeo, DaCast, Facebook Live and Livestream. Live streaming is a growing business, so the platforms are developing and the number of providers is going to grow. One additional value for live streaming is that it is usually recorded, so the materials can be shared to the attendees after the event. It gives an extra value, as the attendees can refer to the presentations again if they want to.

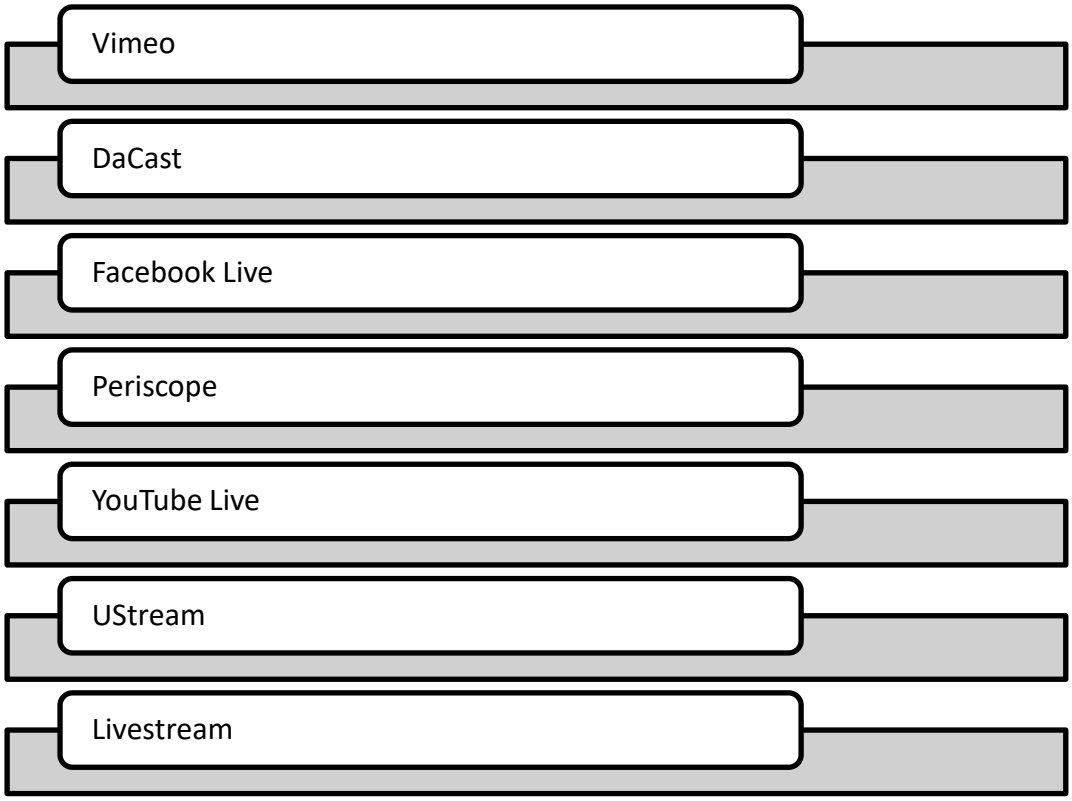

FIGURE 2. Live streaming platforms

Looking closely at the platforms, which described in figure 2 - first of them is Vimeo. Vimeo Live offers ad-free HD video quality streaming and secure sharing. A user can live stream up to three events at once and can get live and post-event stats to see what is working, and dive deeper with Google Analytics. Auto archiving is possible, and users can synchronize seamlessly with platforms such as Dropbox and Adobe. (Vimeo 2018.)

DaCast is an all-in-one professional streaming solution – an easy self-service platform where a user can quickly sign in and begin streaming live. DaCast enables broadcasting for video and audio owners in high quality video over the web, whilst generating new revenue fast. The service has a completely integrated solution and pay-as-you-go pricing, DaCast provides a unique system that is more profitable for broadcasters compared to other Internet-based streaming services. (DaCast 2017.)

Facebook Live helps you stream videos – but only videos, quickly and easily. Going Live on Facebook is simple. You sign into your Facebook account and the click Live Video at the top of the News Feed. You have the possibility to write something about your video and then by clicking GO Live, your broadcast goes live. (Facebook 2017.)

Periscope is a live video streaming application created by Kayvon Beykpour and Joe Bernstein. Periscope is owned by Twitter and it is very popular amongst the younger generation. It enables users to broadcast and explore live videos with all the other service users. Periscope is an effortless way to be live with the audience all around the world. (Google 2018.)

YouTube Live can be used to create a Quick event with Hangouts On Air, or a Custom event using an encoder (YouTube 2017). UStream is a live streaming platform created by IBM that allows the user to live broadcast, record, manage, publish and measure the broadcasted material (IBM 2018).

Livestream is a platform that allows the user to reach people across multiple social media platforms. The user can distribute high-quality video for example to apps, websites and/or social media channels. (Livestream 2018.)

2.2 Event supporting applications

There are also applications that support events or offer a virtual platform for connecting people. The first one is Skype – a software that offers a solution for businesses with all the free features and also office applications such as Word, Excel and OneNote – it is also possible to schedule meetings with Outlook. It allows users to send instant message anytime and record meetings that can be arranged with up to 250 attendees. (Skype 2017.) Skype for Business - formerly known as Lync 2013 for iOS, offers possibilities such as voice calls, video calls, instant messaging, conferences and easy presentation from one side of the world

to another. There are some key elements for this application and they are described in figure 3. (iTunes 2018.)

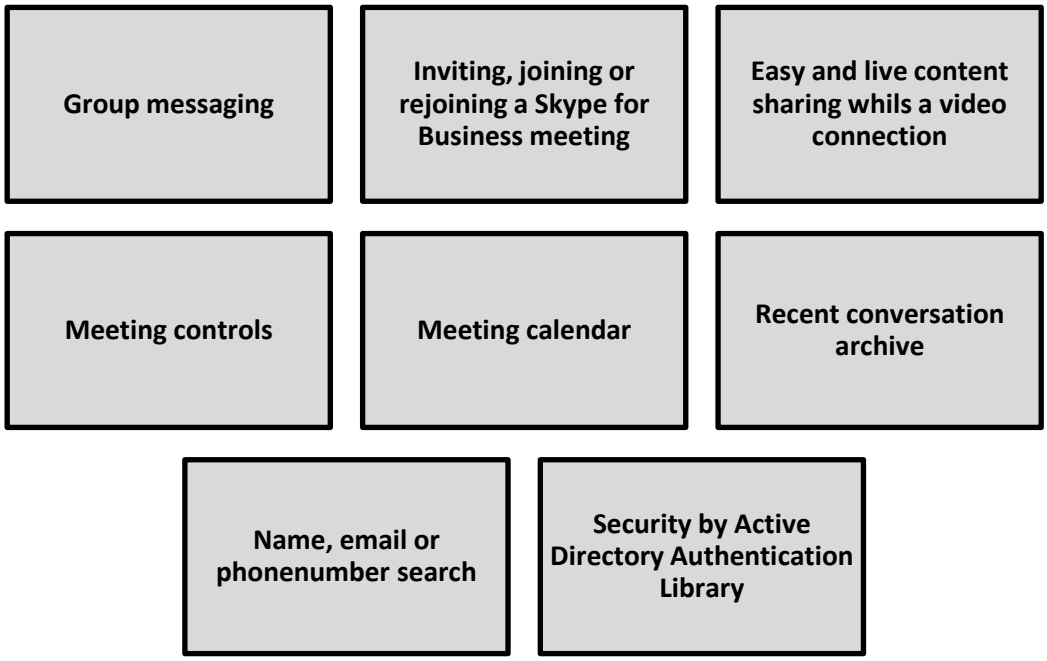

FIGURE 3. Key elements of Skype (iTunes 2018).

Brella is a networking application for events – it is a Finnish software company that provides an effortless way to connect with other attendees at events, conferences and livestreams. It enables automated invitations for attendees and sponsors, offers matchmaking based on business needs and offers time and place for face-to-face meetings. Companies can use this application in their own events and this is used by for example Slush and Nordic Business Forum. (Brella 2017.)

Lyyti is an event support software that offers a variety of services. These are for example invitations and registration, attendee information administration, payment services and ticket sales, reports and data collection, forms and feedback and different integrations. (Lyyti 2018.)

2.3 Webinars and web coaching

The second growing trend recently has been the webinars and web coaching. Almost all training companies nowadays offer a chance to attend the trainings and courses remotely. In addition to business coaching the schools and universities offer online education. The whole course or training will happen with limited amount of meetings or without any physical meeting.

Webinars are web-based seminars that can be broadcasted around the world. Now even the tiniest companies can host and produce webinars – online seminars, without having to rent spaces or have people to travel on them. It is quite easy – viewers can just log in and start watching. Reaching and educating customers has never been this easy. If planning to organize a webinar Burton (2012) has written a book, which gives a systematic guide and instructions to webinars, and it is called “8 Steps to Amazing Webinars”.

There is already a wide range of different platforms for webinars and web coaching existing and likely in near future those will evolve as well, and the offering will expand. Few examples of the platforms are in figure 4.

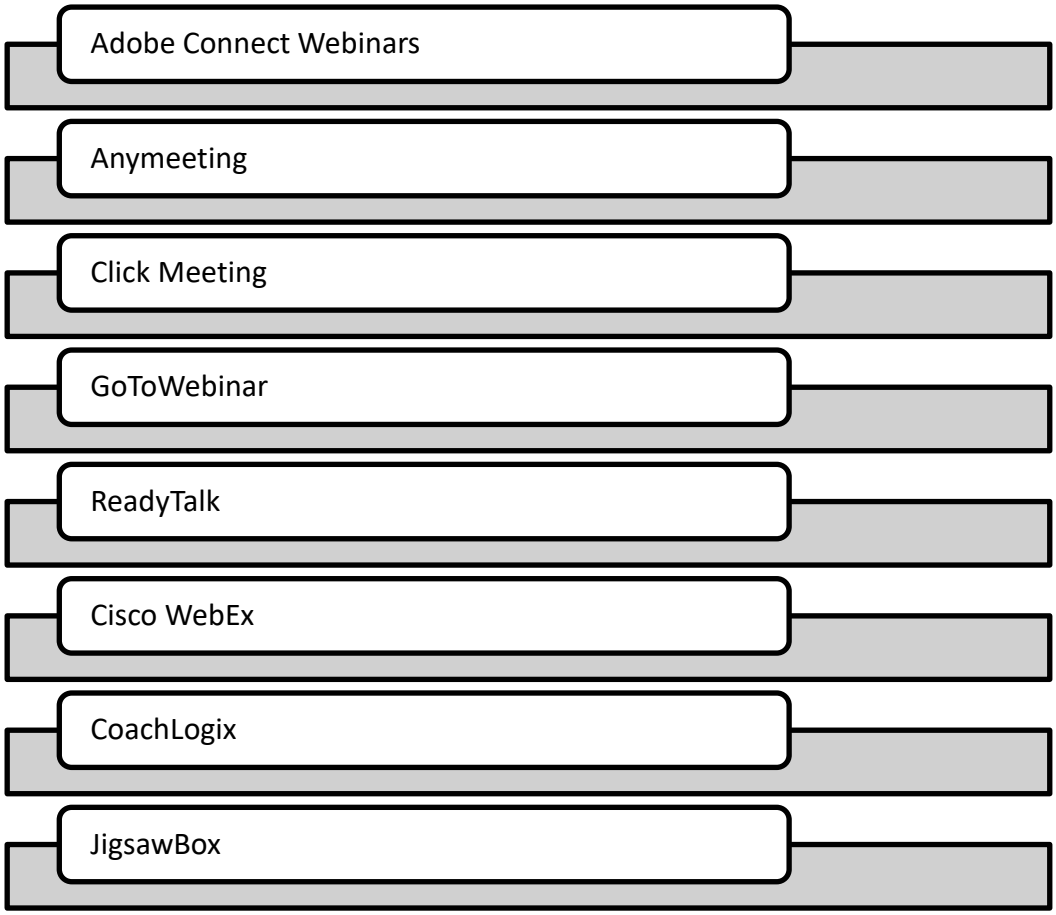

FIGURE 4. Webinar and web coaching platforms

Adobe Connect Webinars is an all-in-one solution for marketers. It offers a solution for dynamic multimedia and video conferencing with multiple interactivity options. It can also be used via mobile devices. It offers a possibility for full customization of events and also registration. With Adobe Connect, it is easy to optimize events to increase return on investment, by easy analytics, engagement monitoring tools and the gathered data. (Adobe Connect 2018.)

Anymeeting is a video conferencing and webinar service. This platform offers different packages, where the company can choose the most suitable one. Every package offers video broadcasting, PowerPoint sharing, live chat, Q&A and polls, recording, hosting and no downloads for attendees. (Anymeeting 2018.) Click Meeting is a web browser-based

platform that enables users to run custom branded webinars online (Click Meeting 2018).

GoToWebinar makes communication with prospects, employees, partners and customers easier and more efficient. Users can host unlimited webinars — including HD video conferencing — for one flat rate. Users can also give presentations, perform product demonstrations and deliver companywide messages to up to 1,000 attendees anytime and anywhere. (GoToWebinar 2018.)

ReadyTalk is an audio and web conferencing service that offers services such as audio, web and video conferencing, webinars, webcasts and hosted voice (ReadyTalk 2018).

Cisco WebEx is a solution for video and web conferencing that offers a secure software-based platform for video and audio conferencing, business messaging, and webinars. Participants can join from any browser, device, or system-just by answering the phone. (WebEx 2018.)

Web coaching or web training means that coaching and teaching is done online through methods like online courses, classes, trainings or tutorials. Web training is very cost effective not only for the producer, but also to the attendees. With web training, it can be possible to reach people all around the world – as long as there is a commonly known language. Schools and universities have their own platforms and software for online studying. Examples of platforms for companies are CoachLogix and JigsawBox.

CoachLogix is a cloud-base coaching platform, which was created to match the coaches and customers. CoachLogix has three functions and it can be used for creating a coaching program, make custom notifications to engage the users and there can be shared information such as articles, videos or questionnaires securely. The sessions can be scheduled and synchronized with Outlook, Google or other calendars to avoid double bookings. The coaching programs can be tailored and those can be with different structures or lengths. The content delivery can be automated so the courses will roll on the schedule. (CoachLogix 2018.) JigsawBox is a

portal for online coaching for online courses. It provides a chance to share modules, packages and videos with customers. (JigsawBox 2018.)

The hybrid model of events is still relevant and will be, until the virtual environment will come closer to the consumers and as a part of day-to-day life. Until the virtual interaction is smooth enough, the hybyrid event model will be a popular way to build events. It is worthy to note that virtual reality technology is constantly evolving, consequently, the future is in VR and interaction in that space.

3 INTERACTIVE VIRTUAL EVENTS

Hybrid and virtual events are already in use, but the future will bring many innovative technologies to support the virtual events and build a new generation of events – the interactive virtual events. One of the most important technologies to enable interactive virtual events is virtual reality.

Virtual and augmented reality

Virtual reality is a technology that can convince a human brain to be somewhere it is not. In virtual reality it is possible to be anywhere, experience anything and anytime. It is a realistic three-dimensional or 3D image – an artificial environment that is created mixing interactive software and hardware. It makes the users believe and feel being somewhere else that they really are. Virtual reality has some key elements – these are the virtual world, meaning the 3D environment build for the experience; immersion, that is the perception of being physically present; sensory feedback, meaning that the experience has to stimulate as many senses as possible; and interactivity, the possibility to naturally engage in the virtual reality space. (Reality Technologies 2016.)

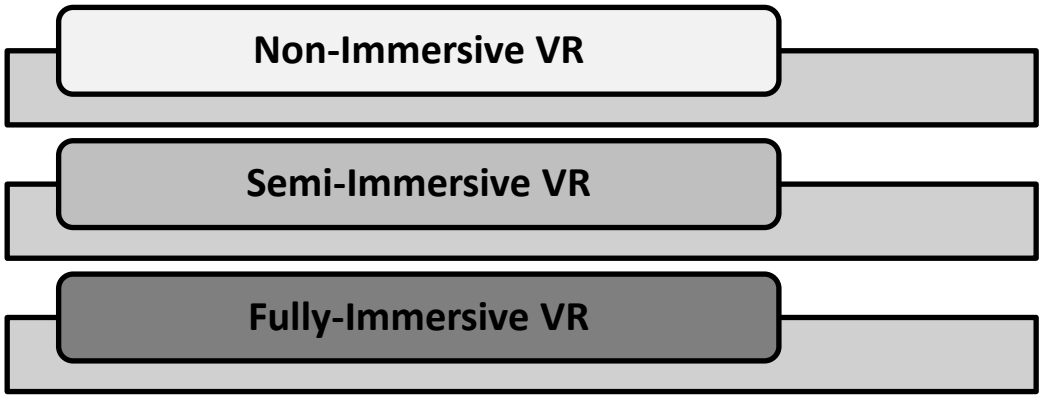

FIGURE 5. Three types of virtual reality experience (Reality Technologies 2016).

The virtual reality experience is divided into three types - these are described in figure 5. The non-immersive virtual reality is a simulation or such, where the space is built to be a 3D experience. It can be a room or a pod, where the hardware and software build a three-dimensional experience for the user. The semi-immersive virtual reality is a space where the user is partly immersed in a virtual world, but not fully. An example of semi-immersive virtual reality is a flight simulation, where high performance graphics and large screen projectors are used to build a more real experience. There can also be added technology to bring movement or such to the experience. The fully-immersive virtual reality is an experience where hardware such as head-mounted displays and motion detecting devices such as the CaptoGloves seen in figure 6, are used to stimulate all user's senses. This version of virtual reality gives the user the most realistic experience. (Reality Technologies 2016.)

FIGURE 6. CaptoGloves in use (Pita 2017).

Augmented reality or AR is technology that enables a user the possibility to view real-time view of the user’s surroundings altered or enhanced by computer generated information. As the user sees the surroundings

through AR device such as Microsoft HoloLens, seen in figure 7, there can be added information or objects on top of the surroundings. AR is already used in multiple purposes, such as training in the medical or industrial sector. (Financial Times 2018a.)

FIGURE 7. Use of augmented reality (Highfield 2018).

Interaction in virtual reality

Building virtual reality experience with a real-life feel is not so easy – even though VR is existing, it has not yet grown into its full potential. The key elements of virtual reality experience are known but are hardly ever all fulfilled. Currently VR is missing the natural interactive connection between people – the sounds, the facial expressions, the emotions and body movements. This means, it is tricky to actually build an interactive event between people who are scattered all over the world. As the future brings new technological possibilities, the true essence of human beings – empathy, feelings and human interaction will become even more important. To actually build an interactive virtual event in a virtual reality space, first of all, the five senses that make the human experience have to

be fulfilled – it means, the virtual world has to feel real. The five senses are described in figure 8, and these are the senses that have to be stimulated for the virtual space to feel like the real world or at least close enough. Not only do we need to see the elements, but we need to also smell, hear, touch and even taste them to get full experience. For example, haptics and the haptic technology brings users closer to a real-life experience by applying touch sensation and also control to interact with computer developed applications. This means that the users get a sense of touch with computer generated environments – it makes the virtual objects seem real and tangible when touched. (Sreelakshmi & Subash 2017.)

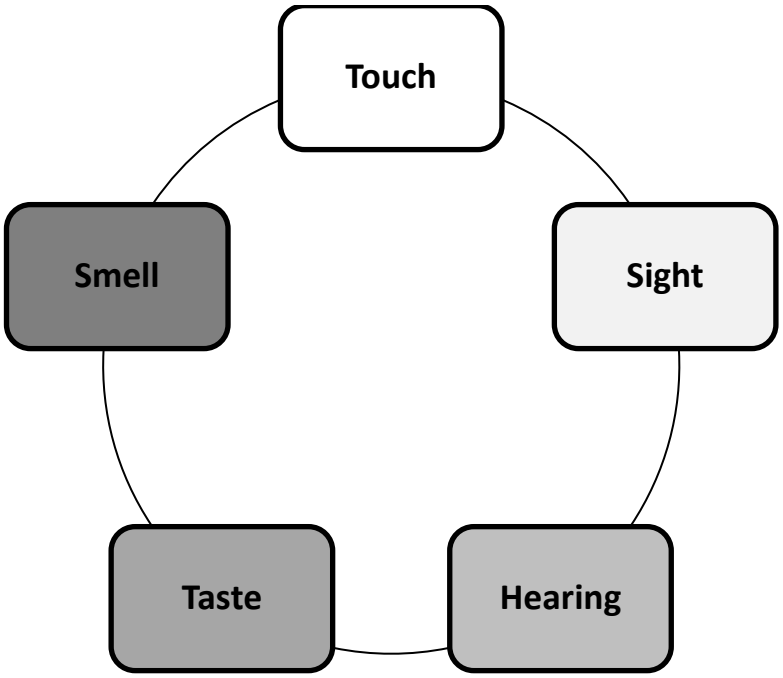

FIGURE 8. The five senses (Ali, Ferdinand & Chidzey 2017, 68).

To understand what is needed in the virtual interaction for a human, it is important to understand not only the senses that build the experience, but also the needs of a human being – the elements and the importance of the social interaction between people. Maslow's Hierarchy of needs describes the social element – belonging as one of the basic need of a human being

(Nyameh 2013). This of course means, that the basic needs also must be fulfilled in the virtual reality event space, so to bring the interactives into the virtual reality event space, we need to look at it also from the interaction point of view. Overall the interactiveness means, that the attendee can be active and function at the event – not only is it actions with the space, but also with the other attendees or users in the same space. To create the interactive event, the common needs for human interaction is first of all to be able to communicate with each other – talk, observe and listen. (Newcomb, Turner & Converse 2015, 27.)

This still leaves many open questions that only the future can answer. What does interactiveness in virtual reality really mean? What makes the communication interactive, and can it be done also between a human and a machine?

Artificial Intelligence

What does artificial intelligence mean? AI is a combination of different analytical tools, which mission is to imitate life and solve problems. If thinking about AI, the first image is a human kind of a robot, but it is not what AI is all about. Trend is now to combine these tools with innovative technologies to build systems to solve unfamiliar problems. AI can be used in several areas and examples are applications, navigation systems, banking, medical diagnosis and many more. (Gordon 2011, 1.)

Could the Artificial Intelligence (AI) be utilized in the virtual reality more? Yle TV1, a television channel in Finland, showed a document on the 9th of March 2018 about AI. Where Harri Valpola the CEO of The Curious AI Company, startup entrepreneur Ville Hulkko, AI-critic Ph.D. Michael Laakasuo and war examiner Pekka Appelqvist talked about pros and cons of utilizing and developing the AI and robots. Hosts Sean Ricks and Rosa Kettumäki interviewed them about the opportunities and challenges that robots and AI bring. There is already a Robot named Pepper in Helsinki Kalasatama healthcare center welcoming and helping the customers in the lobby. AI is evolving fast and there is a competition between companies

and developers around the globe. AI is still programmed and controlled by the humans and idea is that the AI is doing the supporting tasks, but the robots and A are already able to do some minor tasks independently based on their programming. AI and humans are more efficient together than they are individually, and the idea is not to replace the human resources with AI but program it to help humans. (Valpola, Hulkko, Laakasuo & Appelqvist 2018.)

Utilization of the AI is gaining popularity all industries and in the robots' industry a robot named Sophia was the first robot that got the citizenship of Saudi Arabia. The look and feel of the robots have taken a big step as a result, Sophia has many facial expressions and is built to look like a human but still recognized as a robot. AI is still manuscripted but there is some level of AI which is known as learning AI. An example of this is in the mobile phones that can learn from the users and provide them needed services and applications. The real AI is still not here yet, but it is coming. Real AI is an AI which could learn by itself in new situations and be creative. The most developed AIs at the moment are in games called AlphaGo, which operates the board game Go and AlphaZero, which can play multiple games. Those AIs have won competitions against human champions. The most intelligent AIs are now in the programs and robots and they are just what people like to see. AI can be divided in two categories where the basic AI is developed to help people with everyday matters and Super-AI is the innovative self-learning AI. Competition is ongoing between AI companies but there are moral issues and threats to be taken into consideration. The more complicated the programming is developed the more the variations can go wrong. The big threat is that people do not understand what they create and small errors in the programming can grow to massive ones in the course of time. Can the AI really understand what the developers' mission is and what happens if it understands the mission wrong. It is already known that there are companies developing AI, who do not all share the same values so how can one guarantee that the development is ethical? The development is

not restricted in any way, so threats are possible. Who will benefit from the development the most? (Valpola, Hulkko, Laakasuo & Appelqvist 2018.)

Holograms

It is not only virtual reality or AI but also the technology of holograms is developing fast and it gives opportunity to project high-resolution pictures to a free space. The 3D movies started the enthusiasm towards the holograms. The future and the next generation of events is to add the interaction into hybrid and virtual events. (Chaudhari, Lakhani & Deulkar 2015.)

The holograms can be projected on screens, walls or ceilings and those can be seen without the glasses, for example in figure 9 taken from Hatsune Miku's concert – a hologram artist in Japan. In that environment the users can interact with the holograms and learn by action. It gives an opportunity for the users to learn in enhanced environment without fear of the mistakes. The environment gives a chance for interactive tutorials and usually there are small groups where the students are. It gives the possibility for self-training and cooperative training. The 3D holograms give possibility to see the data from multiple angles which gives unique perspective for them. The details are different than in normal 2D pictures. (Salvetti & Bertagni 2016.)

FIGURE 9. Hatsune Miku's concert (Kim 2016).

Holograms are already used in augmented reality – it can be used not only in gaming and industrial areas, but it can also be used for consumers to see for example, how their new kitchen would look like in their home. Looking Glass, a start-up company has been developing a system, where 3D images can be shown and manipulated with hand gestures on a laptop sized device and Microsoft's HoloLens is already used by for example Japan Airlines as training equipment and – Looking Glass, Microsoft and other similar companies are already researching and figuring out what is the next setup in how humans interact with information. (Murray 2018.)

Virtual events with VR, AI, interaction and holograms

The next step is to figure out how to combine virtual reality, interaction, AI, holograms and all the senses. One way to think about it, is to build a completely virtual world, where people might sit anywhere, but the virtual space is the same – it is where the virtual profiles or the virtual versions of the attendees meet. This space can help people to read each other and really make the connection and interaction. It also enables different possibilities for the actual space of the event – it can be anywhere. This is where it really gets exciting – the only limit is the imagination of the organizer. This of course offers possibilities to train or involve people in a

completely different level – this virtual space can be used in several types of events from education to entertainment.

Consider a situation where events are organized virtually, how would one create the atmosphere and the presence? The idea is to go through the interactive hybrid events and virtual events from three different stakeholders' point of view - the attendees, the speakers and the organizers. The reason this is looked through these stakeholders is that they are usually the ones in every event and have been present in the traditional event management. These are also stakeholders, which are easily identified, and the processes are simple to describe. Speaker could be also a presenter or an artist. How could the virtual environment and interaction change the industry? What are the new challenges and opportunities? Events are also about creating experiences, so how does virtual reality change or will it change the experiences of these three stakeholders? What are the steps that these stakeholders will go through and what are the points of contact that they have with each other? The work reviews the process first from the angle of the attendee, following with the speaker and finalizing with the organizer, which is the combining force.

3.1 Attendees

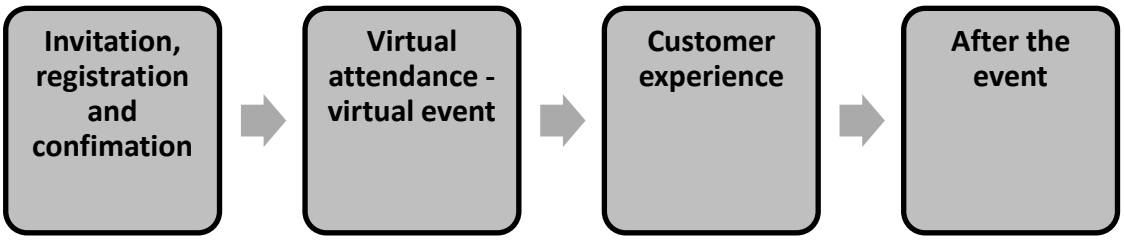

FIGURE 10. The attendees' event process

3.1.1 Invitation, registration and confirmation

Attendees are the business and the more attendees the events get the more profit comes to the organizers. In virtual events as in traditional ones, the first touch point for the attendee is to get aware of the event by an invitation from the organizer, from an advert, mouth to mouth or by another channel. Most important is to get the attendee interested of the specific event. The event needs to offer something that the attendee desires.

The attendee can receive the invitation through many channels. Email was the most commonly used tool but now there are other multiple channels. When sending an invitation, it should be delivered in a way that is most suitable for the receiver. When the attendee gets interested into hybrid or a virtual event it is different from the traditional one. The first thing to check is, are the dates doable to attend the event and also think about registration fees and the price of the event, but the significant difference is that the attendee does not need to start searching for flights, transportation or accommodation options. It is then lower threshold to make the decision to attend virtually.

The customer experience is quite sensitive in nature - the usability of the process - in this case the registration and waiting process until the event needs to be easy and functional for the attendee. If the registration does not work or there are problems with the registration process, the possible attendee might not continue with the process. Obviously, the customer journey must be simple in design – everything must be easy and quick – as this is what the customers of today and in the future expect.

Omnichannel offers the customer an experience, where the customers could undertake whatever the process is, on their terms and at their convenience. Omnichannel presents the opportunity to make the experience so smooth that the customer wants to keep coming back. (Cook 2014.) Omnichannel guarantees that the message is the same for the attendee no matter where they see it.

Even if going more into the virtual world nothing replaces the real customer support and customer service. It is said that even though technology is rapidly developing, the value and need for empathy will not disappear, quite the opposite. This means, that artificial intelligence can take care of a lot of things, but can it learn humanity – emotions, interaction and feelings that makes us human. And people still need humanity, the human touch and contact in order to get and give good customer service and experiences. Therefore, even if there is a chatbot, there should still be the possibility for real human-to-human contact if needed during the registration and confirmation. It is the emotional contact as we still need people – even though the event can be fully virtual and using the latest technology and / or AI. In case of a problem, it is nicer to get help from the customer service than have a discussion with a chatbot.

Virtual reality can provide new ways for the customer service. If the attendee needs help with the registration they could pop into the virtual event space to connect and interact with the customer service, or if the virtual event environment is not in use yet, they could order the hologram of the employer to help them with the registration in their homes. This would bring in the interaction and add more value to the customer. All the

attendees are different and they tend to view the customer service in their own way. Some of the attendees will be fine with AI chatbots and some may be totally against them. That is why all possible customer service options need to be available for the attendees.

The virtual events provide a new way to receive the materials. After registration the attendees could have access to the virtual material bank. There could be hologram agendas, schedules, info packages and speakers' introductions in 3D movies. There would not be a need for printed materials if attending virtually. Attendees cannot follow paper agenda in virtual reality. Today's existing technology should not be forgotten but utilized alongside with the developing technology. The mobile applications should be utilized prior to the event. It would remind the attendee of the forthcoming event and there would be news regarding the event. Applications would provide not only schedules, but also create a platform for the attendees to connect prior to the event. Mobile phones will not probably disappear in the near future.

The innovative technology in invitation, registration and confirmation processes would give more options for the attendees in the future. The attendees would choose which channels they want to use, do they want to discuss with AI chatbots, order the hologram customer servant into their homes or do they prefer the old-fashioned human-to-human interaction. In that way the attendees would have more power in how they want to interact with the event organizer in this phase.

3.1.2 Virtual attendance – virtual event

Attending to an event is always exiting and it is something that attendees usually look forward to. The virtual attendance is a completely new way of participating in events. It would offer the possibility for interaction with other attendees and with the speakers in virtual environment. It would be a two-way communication compared to what the hybrid events offer now in live streaming. The interaction does not require the physical presence or the venue in virtual events, so it will create new possibilities for the

attendees. They will save time and money because they would attend wherever, whenever and without the need of travelling.

The virtual events bring in simplicity - easy to use, easy to access and the easy communication. It is a basic human need to belong to something, so virtual events provide the platform that all the attendees would have the feeling of being part of something bigger and part of the group, which will then lead to experiences. This will create the event's atmosphere and the "us"-feeling for the attendees. Attendees would also have the urge to learn and educate – this comes in every event but when adding the interaction and networking, it is a huge step forward and it is more value for the money. Virtual events would also bring a new kind of WOW elements for the attendees. The virtual reality can surprise the attendees in ways that they would have never even imagine.

Virtual presence – avatars and holograms

Depending on the attendance is built would directly affect the experience of the attendee. There would be different scenarios for the attendance. What is the presence of the virtual profile or the virtual version of the attendee? Can it be a created avatar, or does it need to be a version of the attendee's real person. How about clothing and accessories. In business events should it be the real person's version as the game industry is for imagination and roleplay. Question about clothing rises from the fact that attendees could just be in their homes and the time zones are different. Do they need to wear the business clothing while they are physically at home alone in the middle of the night? The business clothing varies between continents and cultures. Maybe the virtual version of the attendee could be partly created but the person needs to be real. The attendees could be all holograms in the virtual event space or the speaker can be a hologram in attendee's living room.

If the attendees can create their own avatars, it could change the atmosphere. The networking could become difficult if you cannot be sure whom you are talking. The cultural issues need to be considered when

creating the virtual presence of the avatar or the hologram. On the other hand, this could be very exiting if creating the virtual presence is in the hands of the attendees. The organizers must set the boundaries, but it is one additional element for the attendees before the actual event. There should be different options for the attendees as not all of them are eager to build an avatar and some of them might be thrilled.

Equipment, platform and connection

Attendance needs a good connection, the use of the platform and the equipment. There are already virtual glasses available and the virtual reality is used in games and one good example is from education purposes in healthcare sector from the article “Interactive Holograms and Tutorials in Healthcare Education: Case Studies from the eREAL® Experience” written by Salvetti and Bertagni (2016). It shows how the virtual reality and holograms are already utilized.

There are virtual glasses available with a quite decent price, but would the attendees buy own equipment? Virtual events can open new markets for companies providing the technology either selling or renting them. One option is that the organizer provides the equipment and sends the confirmation package; this would probably increase the registration fees. If the virtual events and virtual reality become everyday-life, the more likely the attendees would buy their equipment. From the attendees’ point of view the equipment should be easy to access without extra work, as if it is complicated the attendees will not go through the extra hassle.

The usability is also important if thinking from the attendees’ side. If the virtual events require glasses, gloves or other equipment those should be comfortable to wear. If they are uncomfortable to use it will have direct impact to the customer experience and satisfaction. How to guarantee that the equipment is available for every attendee without complications?

Time zone and cultural aspects

When the physical elements do not make restrictions, the immaterial walls are the challenge. Meaning that if the attendees join the event virtually across the globe, they will all have different time zones, cultural backgrounds and different languages. Until now, the people who attend the traditional events have usually a lot of experience on them. The traditional events are built around of themes or industries and they tend to interest the same kind of people, who attend the events time after time. If providing the option to attend virtually, it opens possibilities to new segments and new event attendees. The attendance will be cheaper without the travelling costs, so it could bring new segment of people to the events. Of course, the platform development will affect to the prices at first but after a while the costs could come down.

When organizing traditional international events there is the time zone aspect, but if the event is physically organized, the time zone is same for all onsite. In virtual events, the attendees are scattered in different time zones and some of them are attending at noon and part of them in the middle of the night. This is new experience for the attendees. The time zone can limit attendance a bit if people are not willing to participate if the time is not the best for them. But if the event is a killer then the time zone will not be a big issue for those who want to participate. The attendees should also be aware that each of them is in different time zones. It is hard to predict how it will affect to the attendees and how is the time zones taken into consideration? Does it have significant difference for the attendees?

Language issues and interpretation could be arranged in the virtual events like in traditional ones. The attendees could choose in the registration the language, which they prefer the interpretation and it could be done via headsets during the event. The headsets can be invisible in the virtual reality and only used in the real presence. But if thinking one step further and about the evolving technology and the fact that the virtual reality is basically only data, there are already platforms where the speech can be

changed to a text. When it comes to translation between different languages, the translation methods are developing rapidly – this means, that in the future it can be possible to talk between people, with different languages, with a translation application, system or program that automatically translates the conversations between these people. There is already for example the Google Brain's Neural Network AI, which has learnt enough to create its own Interlingua – this is not language, but more of an algorithm or a code, that can translate between languages without actually knowing either of them. This system is party being used in Google Translate. (Merriman 2016.)

The understanding of diverse cultures will rise among attendees if the virtual events spread globally but how to avoid cultural crashes? It is a fact that not everyone understands different cultures, it all depends on an individuals' education, background, awareness and level of exposure to different cultures. The attendees can join the virtual events from anywhere and they may have different backgrounds, so it will bring challenges. There are different issues that cultures bring, for example in considering the case of a female speaker or on the covering of different subjects or of attendees; some of these mentioned examples are taboo in some cultures as they may be touching on some elements of cultures or religion. Attendees need to be more tolerant towards others. This is something that the attendees need to learn and understand the nature of the new virtual environment.

Event journey

In traditional events, the event journey starts by travelling to the event venue, but what happens when attending a virtual event? When the virtual event opens, the attendees can join it through the platform. It is more enjoyable than standing and queueing onsite in long registration lines. There should still be reserved time to network before starting the program to make acquaintances and meet new people.

During the sessions, the attendees are virtually present and they can interact just like being onsite in a traditional event. They can have conversations with other attendees and make questions for the speakers. Being virtually present will maintain the interests differently as compared to live streaming where the communication is only one-way. Topics and presenters are one of the reasons for the attendees to participate the events. The structure of the event needs to be fluent and suitable for the attendees, wherever they attend. During the breaks, the options are to shutdown the connection and have lunch, dinner or supper based on the location and time zone of the physical presence and then join back to the event or stay online and network with other attendees.

Catering and breaks have always been one big part of traditional events. Food and beverages are elements that tremendously affect the experience. It is the time for networking and have some side entertainment. In virtual events the experience will change if the idea is to close the connection and eat home or wherever the attendee is physically. The virtual event environment could be utilized for spaces where the attendees' holograms or avatars could be visible and still be home and have the meal. The interaction would then be available. The breaks should still provide alternative options such as entertainment for those who would stay online.

Virtual reality is basically limitless meaning there can be lounges, workshops, extreme experiences – attendees can go and visit the virtual reality version of Mars for example. If the attendees want to book meetings with the colleagues or with new acquaintances, they could book virtual meeting rooms where the access could be limited for only those who should attend the meeting. In traditional events the meeting rooms need to be booked in advance to make sure that there is availability, but the virtual environment gives an option for limitless amount of meeting rooms and setup can be changed constantly, creating the wow experiences. Anything is possible, surprises are possible and these create the customer experience.

3.1.3 Customer experience

Customer experience is described as “what people really desire are not products but satisfying experiences” (Abbot, 1955, 40). The human experience is studied for hundreds, or even thousands of years, but the customer experience element is still quite new for researchers (Lemon & Verhoef 2016). Customer experience is increased as a focus point, as the touchpoint where the organization and customer meet, is getting more complicated and this means that the customer journey is more and more complex than before. As the value of customer experience is also growing, it is a key, that the organization focuses on the customer journey – to make it easy, simple and omni – feel of a single channel or a journey. As the importance of customer experience has recently been growing, it is assumed that it will be as or even more crucial factor to organizations in the future. Today, it is a customer’s market, and something radical has to change, to not continue so in the future. (Lemon & Verhoef 2016.)

Virtual events would create new kinds of experiences for the attendees. The interactive connection will break the walls and make the event unite. All attendees have the same option to interact and this will be the most interesting experience of them all. The look and feel are different in the virtual events as it is an immaterial world and does not have the physical limitations.

The attendees do not need to travel therefore they will not suffer from jet lag. The experience of attending from one’s own home might feel more secure for the attendees. It is a chance for remote working and the taking of breaks is easy as it is just done by clicking the connection closed. Attendance does not require extra days, so it will not have any effect to the normal life – it is in the hands of the attendee and it is quite comfortable.

When solving the language barrier with innovative technology it would create the same experience for all the attendees and it would reduce misunderstandings and false translations. When everyone can communicate in their native language it would be more comfortable. As a

result, there would be less problems in communication and networking would be much easier. The addition of emotions, body movements and facial expressions would create full interaction for the attendees. On top of that, there could be private meeting rooms, private messaging and private experiences – for example playing chess with another attendee.

The virtual environment is totally different because it creates new experiences for the attendees. They can be part of creating the virtual atmosphere by designing their own avatars and virtual presence thereby ensuring the attendees are involved in the event creation. Maybe the attendees could change their view of how they see the virtual event and they could control the design options. It does not need to be in hands of the organizer and maybe all the attendees can see the virtual event differently – what is most suitable for them. That could increase the customer satisfaction to a whole new level.

3.1.4 After the event

The last step for the attendee is the feedback and satisfaction questionnaire. Questionnaires are a nice follow-up for the attendees and they can give feedback and feel valued. The questionnaires need to be easy to use for the attendees as they may otherwise not fill the questionnaire. An option to win a prize always motivates attendees to fill the forms. It can also be a good time to register for a new event at the same time or provide information of forthcoming events to the possible attendees.

The virtual event could offer some extra value for the attendees after the event. The virtual space could be available for the attendees for post event meetings and networking for a limited time after the event. The virtual event is not restricted like in traditional event venues, so it could be utilized for the attendees' use. The materials could also be available in the virtual space and the attendees could re-check the videos, see photos and holograms from the event. It is part of the experience that they could go back to the event and relive the event moments.

3.1.5 Pros and cons - attendee

As the events are virtual, attendees do not have to leave their homes. This means less traveling costs, less hassle and less stress. Attendees can join the event from where they feel the best. The virtual events offer the possibility to join more events. Meaning that when there is no longer need for traveling, it saves time. Attending is simpler, so it is a less threshold to attend more events at any time around the clock. If bored, just click and search for virtual events and attend. The interaction is a big plus for the attendees. Everyone will have the same opportunity to interact and network and be part of the event in a way that they feel the most comfortable.

Whilst thinking about the combination of virtual reality, AI, holograms and interaction from the attendees' point of view it could be an experience of a lifetime. They will have more options for the communication with the customer service / hosts and it would be faster, they would communicate in their native language, understand everybody else without false translation, the AI hosts would keep them company thereby reducing loneliness and holograms would be a way to express creativity and give a feeling of being part of creating the event.

However, as much as virtual events offer positive experiences for the attendee, there exists a possibility for security breaches, harassment, crime or just lack of legislation securing the rights of the attendee. Hacking and security issues are a problem that need constant focus. When technology moves forward, it is not only the positive issues that it enables. Even virtual events can go bad – it is important for the attendee to feel safe even in the virtual world. This means, that there has to be a safety system around the customer – not only protecting the customers' information, but also the humanity, as in the virtual world, there can be harassment or inappropriate conduct taking place in the virtual platform.

Not all the people are the same and some of them might have some fear towards the virtual environment, AI and holograms. Not all of them are

eager to go to virtual reality and create avatars – it needs some adventurous mind, at least at first. There will always be attendees who want the real-life experiences because the developing technology is not comfortable for all. If securing the functioning platforms and equipment are in the hands of the attendee, it could be too major task to deal with and it could reduce the willingness to participate virtual events. It could take time for the attendees adapt to the interactive virtual events and on to the travelling factor, there are three types of persons; the ones who want to explore and go to places where no-one else has ever been then virtual reality is a go for them. The second group are the ones who wants the same time after time and nothing new and they are the last group who would go to virtual events. The third group is in-between and will follow the first group easily.

3.2 Speakers

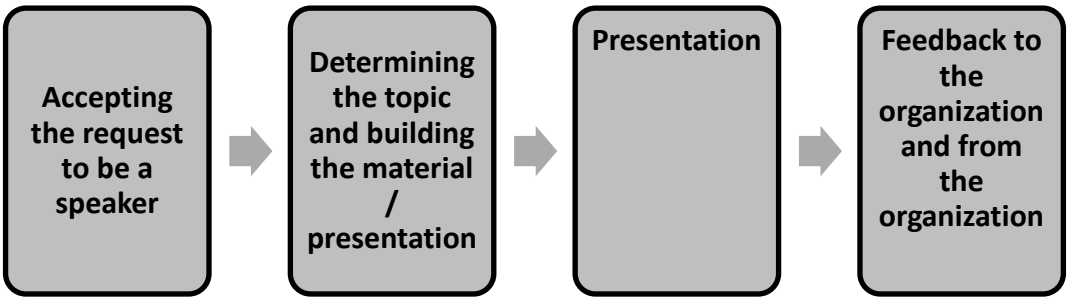

FIGURE 11. The speakers' event process

3.2.1 Accepting the request to be a speaker

This is the first touch base for a speaker and receiving a request to be a speaker is always an honor. It gives a huge amount of responsibility as it has a direct impact on the success of the event.

First thing is that the speaker needs to be found. Being available and out there is a combination of activity on social media, events and connections. LinkedIn is and probably will be a proactive platform to be noticed – there is also a high probability, that more of this type of professional platforms will be built. Bringing out interesting ideas and views, it is possible to get into the radar of those looking for a speaker or a presenter. Overall social media is good, to keep people interested. Many times, being found also needs connections and this means, being active in events, at work and everywhere, were potential customers are. Of course, the main reason for the speaker to attend an event is compensation, but then, it is also a clever way to make new connections, make new clients and develop professional skills. If the presentation is successful in an event for hundreds of people, it is quite possible that it will lead to a new event to speak.

How about if turning the idea upside down and the speaker would be a hologram or created figure without any touch base to the real world? There are already cases where the holograms have used for entertainment. One example of this is Japanese hologram artist – virtual vocal idol Hatsune Miku, who tours around Japan and collects a huge crowd. Hatsune is not a real human being, but an anime hologram. (Crypton Future Media 2018.) The other example is band called Dio, a real band, but whose lead singer Ronnie James Dio died so they tour around using a hologram; so the band is there and tangible with the lead singer post mortem. Other famous artists whose holograms have used after their death are Michael Jackson, Tupac Shakur and Elvis. (Billboard 2018.)

In some cases, the speaker could multiply him/herself and sell the knowledge that he/she has many occasions at the same time. It is a business opportunity for the speakers and experts of specific areas. This is a chance to build a business to sell perfect speakers of different topics combining the innovative technology of AI and holograms.

3.2.2 Determining the topic and building the presentation

Getting ready for a virtual event needs time and effort meaning that first of all, the speaker has to think about the time of the event, what time zone is the speaker in? What about the attendees? What cultures are participating, or does it matter? Having a clear schedule is necessary and this is partly the responsibility of the speaker, by being on time and ready, but also partly the organizer to give clear details to the speaker.

For example, some topics can be sensitive in different cultures and it can also be a manner, gender or something else depending on the culture. This means the speaker must firstly understand the cultural issues and differences, and secondly, be alert therefore doing some research and planning ahead is key. By cooperating with the organizer, the speaker can get valuable information on the attendees and nature of the event. With the knowledge and briefing from the organizer, the speaker can modify the presentation to fit the audience in a best way. The topic can be an area of expertise of the speaker or given from the organizer.

Determining the presentation has more or less the same functions than in traditional events like mentioned above but planning the presentation of a virtual event will differ from the speaker's perspective. The attendees can be from any time zone so all the typical things like timing is different for the attendees and the speaker. It should be also noted that the speaker might be in the wrong time zone and by that, it means that he/she might need to give the presentation in the middle of the night. The speaker needs to consider those when planning the flow of the presentation.

Thinking about the possibilities that the virtual environment opens for the speaker - the sky's the limit with the imagination. The set-up could be changed in the middle of the presentation and it is not anymore, the basic setup, where is the stage and the audience is in a classroom style. Virtual elements could be utilized to make the presentation more alive. The speaker could also decide his/her presence. Is it a hologram of the speaker or the avatar of the speaker? The speaker needs to design and

create the virtual presence in a same way as the attendees. In addition, will the hologram/avatar be in the virtual space or will the hologram be visible in attendee's living room? Mostly the planning of the presentation is related to technical issues and visuals. The equipment, connection and the platform need to be tested and make sure that they function properly.

The virtual events give an option to plan the interaction with the attendees prior to the event. Maybe the audience could be muted in some parts of the presentation and the discussion could be opened when the time is right for comments and questions.

Language barrier might not be a problem in the future, as mentioned the translation programs develop rapidly and this means that the speaker can have even more freedom in the future, as the presentation can be held in the native language of speaker and the application / AI will translate the presentation into every needed language. This affects the speakers experience positively as then the speaker can reduce misunderstandings and enable the situation where, the communication is in the most comfortable language. Challenges when building the presentation are related to technical issues. What would happen in case malfunction? There should be a plan B ready for the presenter as the time goes by how to surprise the audience in a new way again and again?

3.2.3 Presentation

The presentations are the key elements of the events. They are one of the reasons why people attend the events, so it is a huge pressure for the speakers. The presentation needs to be practiced and well prepared prior to the event. There are books written on how to be a good speaker and mostly the speakers who give presentations in the events are professionals. The question is how the virtual events and virtual environment change the presentation and experience of the speaker.

The aim is to bring the interactivity into the events via virtual reality. How will the speaker see the audience in the virtual events? Are they

holograms and how will they be seen if the number of attendees is huge? How will the speaker feel the audience? It is a big task for the speaker to keep the interest of the audience. The presentation needs to be a success as the attendees have an easy way of going offline if they are not interested. It might be lower level for them to exit the virtual event than it is in traditional ones. Attendees have decent amount of respect for the speaker and they do not easily leave the room in the middle of the presentation but virtually it is not that visible.

Like mentioned in building up the presentation there are no limitations for the setup. This will change the speaker experience completely. The setup, decorations, clothing of the speaker or the background could be changed in the middle of the speech and it gives huge advantage in keeping the audience interested. The speaker can provide any kind of surprises for the audience. Easy interaction with every attendee is also possible in virtual events.

Questions and answers section will have a new aspect when all the attendees can join. Now the remote attendees send questions via social media or other platforms but in virtual environment everyone has the same possibility and it’s an easier the task for the speaker. He/she does not have to keep on eye on the different channels in virtual reality. Everybody is in the same environment in a virtual event. There will not be delays in Q&A.

3.2.4 Feedback to the organization and from the organization

Getting the feedback of the presentation is valuable for the speaker. It is the most useful tool for creating the future presentations. It can be a reference for the speaker and it can be used to get more chances to get speaker’s jobs. The positive feedback could be utilized in social media for example in LinkedIn. The negative feedback is always hard to get but the question is how to react to it. It could be utilized for self-learning and self-improvement. The speaker would also give feedback to the organizer, what went smoothly and what could be improved for forthcoming events.

Feedback is mostly gathered but sometimes it is not utilized with its highest potential.

How will the virtual events differ in this step? In traditional events the speaker usually travels home after presentation or if he/she stays onsite there is not much time to sit down and discuss. The virtual environment could be utilized for after meetings and feedback sessions - for example having the feedback visually via augmented reality system such as Microsoft HoloLens (Microsoft 2018). This visual feedback could be in the form of 3D videos, where the receiver will get a more interactive feedback experience.

3.2.5 Pros and cons – speaker

Virtual events bring in a nice addition to the speakers that they do not need to focus on two different audiences. When compared to the hybrid events now, part of the audience is at the end of the live streaming with possible delays. They have paid for attendance via live streaming as well, so they should be involved in the event and it is not that easy. The speaker needs to remember to talk to the cameras every once in a while and notice the remote attendees. The remote attendees might be delayed and interaction with them is now harder. The virtual events bring everybody to the same level, so it is one stress less for the speaker.

The speaker can present from his/her home or the place that is the most comfortable for him/her. When the technology allows the speaker to give the speech in his/her native language it is also one less stress to deal with. The audience will get the correct information and there are less misunderstandings. The technology of holograms could be an advantage for the speakers who suffer from stage fright. Being present only with an avatar or a hologram can release the stress. Big plus is that when there is no time wasted for travelling the speakers can sell more gigs and give more speeches.

The virtual reality could give limitless potential for planning the setup and changed in the middle of the presentation if needed. Every speaker slot can have their pleasant decorations, designs and whatever they will need for the speech. Speaker has the responsibility to do the research and plan the presentation not only because the audience is paying, but also as matter of responsibility.

If a presentation goes bad, it might offend the audience, organizer or even a whole culture. The presentations and topics should be well planned. There is a possibility also that humans are not needed anymore. If you design a perfect AI speaker, then you might not need the unreliable element of the human. Or will it be so that in the future, the human element of empathy and innovation will be highly valued?

Virtual reality, AI and holograms need more knowledge from the speakers as well. They need to be up-to-date on the developing technology and building a presentation will need new skills and information of the new technology. It is self-improvement for them as well because if they cannot utilize the new virtual environment and its possibilities they might not be wanted anymore as a speaker. It needs new kind of creativity from them than just building the presentation. Sometimes limits are better because if the virtual environment is limitless it is harder to surprise and create WOW-experiences time after time when the time goes by.

3.3 Organizers

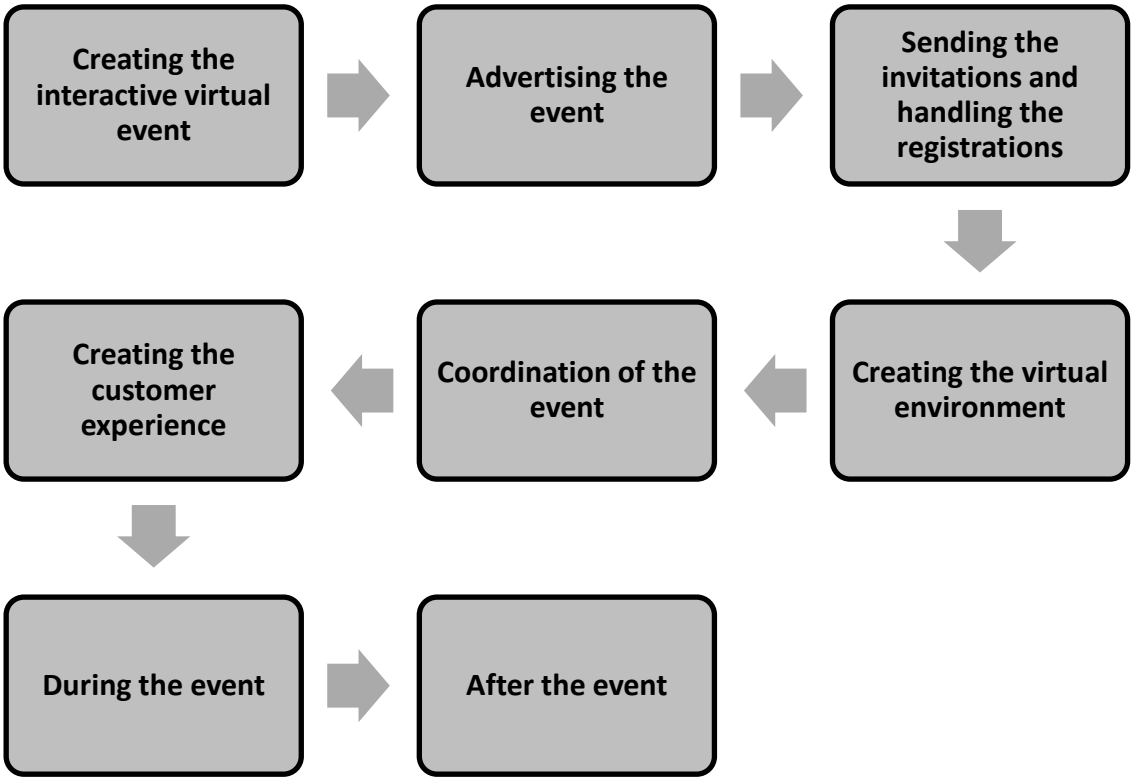

FIGURE 12. The organizers' event process

3.3.1 Creating the interactive hybrid / virtual event

If there are no longer physical limitations for the event – it will give enormous potential to the organizers. Planning process will be very different from the traditional events. In case of a hybrid event, which combines the traditional events and the technology, the planning will follow more the traditional phases. The traditional events always require the bookings of physical elements even if they should combine the innovative technology elements to be hybrid ones.

The virtual events would follow a different planning process. Creating the event would be more in immaterial things. Creating the virtual space requires technology but also partly same things such as designing, schedules, agendas, speakers and so on. The virtual event space is created for a specific event, this means that the event dates are more

flexible if compared to the traditional events. In traditional events, the venue defines a lot. When organizing the event, the venue must be booked early in advance. If there are no suitable venues available, the dates might need to be changed. Virtual events will change this totally. Hybrid events can also be organized in a bit smaller venue and then just sell the virtual seats for the rest.

Virtual events can happen anytime and anywhere so how to decide what time zone the event will take place. Will it be where the organizers are, or how will the time zone be decided - based on the majority of the attendees' location or what is the solution for this? There are no right answers for the question yet, but the time will show how the virtual attendees react to the time zone question. The virtual events will gather the attendees from across the globe.

Virtual events will also be more cost effective in a way as the cancellations and no-shows will not take seats from any potential attendee. The number of attendees does not limit the virtual events, and this will maximize the potential of the event. The costs will divide differently, and it is easier to create the theme and add decorations than decorate a physical venue. All this can be done in early advance in virtual reality. The colors can be changed by a click and it does not need the hassle with printing houses. In traditional events, the setup is just in few days before the event and it does not allow tremendous changes.

Part of the planning process is to decide the topics and the speakers. Will the organizer use humans as speakers or create the AI holograms, which would give an option to create a perfect speaker? Those could be programmed to be an expert in the chosen topic? The programming could include all the possible information of the attendees, their cultures and languages. The created speaker could be able to answer in any language to the questions and it would note all the aspects of cultural differences.

One tricky question is what is the presence of the attendees? If using the holograms or avatars how much can the attendees decide about their own

hologram? There needs to be clear instructions and restrictions so that the virtual versions or holograms do not offend other attendees. It needs to be in the organizers hands as otherwise there is no possibility to avoid misunderstandings. When planning the registration, the instructions need to be already there. If attendees break the rules they should be banned from the event with no refund. The rules and regulations of virtual events need to be written clearly in the planning phase.

If the event is only happening in virtual reality what is the legislation that is will govern? The legislation is usually late compared to real life. Is it the organizer who makes the rules and regulations for their own events? The virtual events could be quite a wild west at first before the legislation follows to the virtual reality. The virtual reality does not have same restrictions compared to the real world. The risk assessment is really needed as it might be quite unpredictable at first in the virtual events.

Sustainability of virtual event

Virtual events also have a sustainable side on them. Instead of attendees or speakers traveling to one place to another, many times long distances, they can attend only by a connection, which means less pollution by traveling by planes or cars. The more common these virtual events become, the less people actually have to go anywhere. People can attend from their own homes. Mostly people are afraid now that the younger generation will not be able to hold conversations as they spend their time online but if the virtual reality has the interaction, then they will not be totally lost. It could maybe even help people to communicate and interact with each other in virtual events. When compared the traditional events, virtual events do not have the issues of physical presence of the attendees and this means no hassle with for example rubbish, catering or other sustainability matters.

3.3.2 Advertising the event

What affects the advertising and the creation of a new event is a thorough research. If attendees can be from all around the world how to choose where to advertise the specific event to reach the targeted attendees? Which languages should the advertisement be done? How to choose the right channels to advertise? If the target segment is spread all over the globe it is a tough decision to choose how to market the event. When planning the advert of a virtual event, should there be multiple different adverts to different countries and channels? The advertisement needs to take into consideration the different cultures and languages. Should the materials be designed for different regions? The main idea is to sell the virtual seats and the easiness of attend for possible virtual attendees.

Will the attendance fee be the same in every continent or would it vary? The virtual environment can be utilized for the advertisement. There could be teasers that the possible attendees could check the virtual environment and visit it to get the feeling of the event.

Competition might grow if the virtual events are easy to organize. If the technology becomes available and the costs are low, the organizers would compete with the entire world. Now when the events are physically in specific location, it reduces the number of attendees. However, going to virtual reality opens the competition to a completely new level.

A different way to look at advertisement in the future and in the case of interactive virtual events is not to advertise, but to use the algorithms and advanced data not only to search and find the attendees without advertisement but also predict on the topics and trends that interest people by analyzing for example what people are talking about in social media or what they are buying. Algorithms - described to be a mathematical formula, which forms a sequence or a set of steps for solving a given problem – it could be used to find information or solve a question. Algorithms are already vastly used, but the development in this

area and also growing amount of data available online about people could be a game changer – a pro and a con. (Financial Times 2018b.)

Finding and using specific algorithms on the available data the right attendees are found. This can change the planning and advertisement of events – instead of finding the people to advertise to, the search can invite the people straight to the event, based on the data available and sort out the exact right people to invite into the different events.

Turning the algorithm thinking around, there could be developed an application for attendees, which would suggest suitable events for them. Already applications such as music provider Spotify uses algorithms to suggest music that the user might want to listen. Spotify provides lists that could be the genre of music that the user might want to try. In this case the attendee could be a user of an event application and register to events via that. The application would then gather the data of the types of events, which the user is interested and make suggestions based on the data. It could be a matchmaker between the organizer and the attendees. If there is a lot of offering possible attendees might be lost or get confused in the competition. From the attendee point of view, the application would help to make the decisions where to attend. But of course, this is something that has to be though carefully – for example Facebook has been under scrutiny as the Cambridge Analytics has misused the data to build psychological profiles of Facebook users to develop political propaganda campaigns in the UK and in the US. (Bowcott & Hern 2018.)

Attendee motivation

The event industry is very complex because of the variation of the different kind of events, so it is harder to get data, which covers the entire industry. It can be only examined by the individual sectors or events. Even though the technology is developing people still have the urge to interact and feel as being part of the community. When analyzing the urge of people to attend the events, the motives can first be divided in two; primary and secondary motives. Primary motive can be educational and secondary can

be status value of making appearance in the event. Looking detailed at the motives they can be social, physical, personal or organizational. Social motives can be interaction with other attendees, community spirit, status or recognition. Physical motives are relaxation, eating, drinking or physical challenge. Personal motives can be seeking for experiences, educational and status or recognition. Organizational motives are making an organizational presence or making sales. These are only examples and there can be more motivations under each one. While the motives might be known, it still is a guessing how many actually will participate the event. It takes some effort to make a research whether there is a demand for an event and whether it will attract enough attendees. When conducting a research for a target market, it should be noted that there is a difference if people say that they are interested, and would they attend. (Shone & Parry 2004, 25-28.)

The better the research is done the most likely the outcome is what was desired. When the event is placed before knowing the attendance the research is crucial to avoid the nonattendance. Like in any research, there are three different ways of doing the research, quantitative, qualitative or combination of those two. Quantitative is most used as it is less expensive, and it is quite easy to execute and analyze. Usually it is a questionnaire where the goal is to research if the event would attract the possible attendees. The qualitative research tells what is behind the numbers. In qualitative research usually, there is a group to whom to interview, it can be participant observation or a case study. (Goldblatt 2010, 41-44.)

In many occasions, the event is built around an artist or a speaker. Artists aside, there are lots of people who earn their living by being a professional speaker. The speakers can also be celebrities like movie stars or politicians. As the meaning of education grows, there is more demand for experts in different fields, motivational speakers, sales trainers and so on. Choosing the speaker should be done based on the target audience and their need. The speaker can also add marketing value for the event. Sometimes people choose to attend based only on the speaker. It should be also calculated in the budget as some of the speakers may invoice high

fees, so is it value for the money. The topic of the speech needs to be negotiated so the speaker prepares a speech which is suitable for the event and goes with the theme. (Goldblatt 2010, 308-310.)

The better the motives of the attendees are known the more likely the event is a success. Even though virtual events might become cheaper to organize in the future, if there are no attendees there is no point of organizing them.

3.3.3 Sending the invitations and handling the registrations

Why not use the imagination when sending the invitations and use the technology? The invitation could be a hologram of the speaker inviting the potential attendee or there can be used 3D technology and make the invitation to a 3D video. The invitation should create a feeling for the customer that they do want to participate in that specific event. The registration needs to be planned carefully as it is the only chance to get the needed information from the attendees for example where are they located and what culture do they represent – do they need translation. As the attendee might need instructions or materials for the event, these could be built in a virtual form or even using hologram technology - to offer data to the attendee. It could have a visual presentation of the timetable or pre-material of the topic of the event. Applications could still be used to keep the attendee in touch with what is happening and at what time. In this, the organizer should use the omnichannel system – whilst using multiple channels, to the user, it has to feel like one. When organizing such an event, it is important to follow current trends in used to communicate with people.

3.3.4 Creating the virtual environment

The platform, connection and equipment are in the center when creating the interactive virtual environment. How to make sure that all the attendees will have the needed equipment and that the connection is good enough. If the organizer sells the event and it does not function properly, it

could be expensive case for the organizer. How can they secure that the attendees will not drop away from the virtual environment and not be able to get back in. Even if the virtual reality creates the possibility to take maximum number of attendees it should work accordingly to everybody.

The platforms could be shared or will the currently bigger companies such as Microsoft, Apple or Google create platforms for the users. Then the platforms serve the customers from individuals to companies. Anyone could create their event in a cloud and the platform would be provided by the market leaders. This could be compared to the traditional event venues as now anyone can book the venue for small gatherings or for big company events. Basically, the venue is changed to a cloud service / platform.

This could also unite people and give them a possibility to rent the virtual space to meet the relatives or friends in other continents. The interaction could be moved from the messaging applications into the virtual space. This could also reduce the loneliness and make people more interactive.

Equipment

An important part of the interactive virtual environment and events is the equipment used to function in virtual reality. The virtual environment is not yet a part of normal persons day-to-day life, but it is becoming it rather fast. There is already The Microsoft HoloLens headset, which is a mixed reality device – it is the first holographic computer, which enables the user to engage with different digital content and interact with holograms in the surroundings around the user (Microsoft 2018). Samsung VR offers different 3D spaces to explore with your phone – you can add the phone to the VR headset and choose different 3D or virtual reality experiences (Samsung 2018).

The headset itself is made by Oculus who also offer virtual reality equipment, which you can use to watch movies, play games or experience other things, such as nature (Oculus 2018). There are still issues concerning these headsets, as they do not yet offer a completely free

movement in virtual reality, meaning that there are still some functionalities that do not work in the same way as in the real world. The optics of the systems are not yet a match to the real world, but of course, it has come a long way. Some systems need controllers, and some are connected to the computer – making the experience restricted in movement. Of course, there is also the issue of price – the high-end equipment is still quite expensive to be a new norm, but the Chief Scientist of Oculus, Michael Abrash, predicts that in five years hand tracking, without the use of any controller or gloves, would become a standard. This way of interaction would be accurate enough to represent precise hand movements in virtual reality, and particularly useful for expressive avatars. Among other elements improving the quality of the feed, he also predicts that the VR headsets – in the high-end products – will become wireless. He also predicts that there is a strong potential that the real world will be brought in the virtual space – something, that he calls “Augmented Reality” – it could render the environment you are in now, or it could place you in another scanned environment. This can offer an ultimate mixed-reality system – you can move around in your real space, but also feel like you were anywhere on the planet -this burrs the line between the real-world and virtual reality. (Oculus 2018.)

It is already possible to build high quality recreations of many environments but of course, doing it in real-time is a bigger issue, that according to Abrash will be resolved in five years. The technology will be different at that point, and will be moving away from headsets, towards augmented reality, that allows complete control over every pixel in the scene, allowing for much more precise changes, complete transformations of the entire scene, and anything in between. The real significance of augmented reality is being able to share any environment with other people, locally or across the world. The development in technology will also allow possibilities to create new methods in work life - unlimited whiteboards, monitors, or holographic displays in any size and configuration, instantly switchable depending on the task at hand, maybe

even virtual people, to building a more productive work environment. (Brennan 2016.)

This supports the thought, that virtual space and virtual interactiveness will be part of the future, something that will bring people together and bring interaction back to non-physical connections. It means that we can have the possibility touch and feel people, even though they are on the other side of the world. This does need for the technology to move beyond headsets and towards augmented reality – where the real world and virtual world can collide.

Design

The power balance will change from the traditional events. As the physical elements will change to immaterial ones. There is no need for printing the event guides, agendas or badges and other materials. The events do not need any more logo printed pens and notepads. The virtual environment is easier to brand as it is only data to code. This will save the costs and it will directly go to creating the environment. The design can be limitless and the whole environment can be branded. The cultural issues must be considered when branding the virtual environment though. The design and the setup could be changing as the event is on. If there is an evening gala or entertainment, the virtual space and setup can be created in advance and opened when it starts.

This gives also a good chance to take sponsors or co-operators involved. The sponsors could be sold branded meeting rooms, visuals in the setup, holograms in the lobby and only the imagination is the limit. This is also more sustainable way as there will not be waste from the sponsor materials.

This will give also different opportunities on how to price the tickets. There can be different valued tickets and they could be designed to specific areas. In hybrid events now, there is no way to monitor how many are actually watching the live streaming. The virtual presence is for only one person, so there would not be free riders.

3.3.5 Coordination of the event

Coordination on the other hand brings new difficulties to the organizers, but at the same time, it releases resources. If the event is organized as a hybrid or totally virtually it relies massively on the technology.

If the event is only in virtual reality, there is no more need to order catering, transportation or accommodation and it releases resources of handling the bookings. Those resources are needed elsewhere in virtual events, so allocating the resources would be very different. From physical elements to immaterial ones.

As the virtual events can and many times will be global, some issues must be taken into consideration. First, the organizer needs to understand the time zones and this means simply that as some might be at work, some might be sleeping and some part of the world has daylight and the other part does not. How to guarantee equal atmosphere for all the attendees?

Language is an important element to the event, as people have to understand each other. In the registration should be asked if the attendee needs the translation and in which language. The problem in virtual events could be the number of different languages. How to get the translation for all of them. If there are not enough options, it could decrease the number of attendees. It should be considered would the organizer decide beforehand which languages are available for the translation or will they try to offer every language that is needed. The technology that Google is already using, could be a solution also in the future - it means that the languages are translated by an AI (Merriman 2016). This can be a supporting system in the virtual space, helping any attendee to understand all the other users and also giving the attendees the possibility to communicate in their own language – translating languages in real time, from any language to another and assuring that the experience can be equal to everyone from the language point of view.

The organizer needs to understand the different cultures when bringing the people together from all across the globe. There are different culture

theories, which the organizers should be aware. One excellent book is When Cultures Collide, written by Richard D. Lewis (1999). Other culture theories are from Geert Hofstede and Fons Trompenaars. All three have different categories on how to understand the different cultures. The more knowledge the organizer has the safer it is to bring the attendees together.

Understanding the cultures will reduce misunderstandings and conflicts. If the event gathers attendees from many cultures, the organizer needs to understand the differences. Even though the attendees will also have their role in tolerance and understanding others, but the organizer is in charge of handling the possible problems. Thinking about the different categories and there arises a conflict, then the organizer needs to understand how to settle the situation and how to keep all parties satisfied.

Human resources, virtual teams and artificial intelligence

There needs to be enough human resources and already gaming industries and social media channels are using community managers. In virtual events the employees can be physically located anywhere and there is no travelling or accommodation costs for the organizer. What needs to be secured is the functioning platform and the connection so that the employees can join the platform.

The human resources need to be coordinated like in any event and the responsibility areas need to be clear. The running schedule is a useful tool and then everybody is aware what is happening and what time. Challenges that the virtual events might bring is that some of the events might be huge, so it is hard to predict the needed human resources and guaranteeing that everyone is properly trained for the event. The employees need to be experts of helping the attendees and understanding diverse backgrounds and human behavior. How to manage the virtual teams? It is a completely new way to lead teams and the companies are moving towards to it as the employees are scattered all around the globe. As it is getting more common there are handbooks available for managers. Good thorough book is “The Handbook of High-Performance

Virtual Teams – A Toolkit for Collaborating Across Boundaries" editors Jill Nemiro, Michael Beyerlein, Lori Bradley and Susan Beyerlein in 2008.

When the AI is developing some of the tasks could run with AI customer servants in virtual events. The AI holograms could be programmed to be hosts and if there are attendees alone the AI hosts could keep them company, so none is left outside the group. The AI could take care of the smaller issues that the organizers do not have the time. It also helps the organizers if the events grow to be huge ones they can replace the easier tasks with AI. It helps to plan the needed resources. AI can also do security checks or other necessary safety precautions before or at the time of the event. As getting data about people is getting easier and easier with social media, there is a lot to know about people.

3.3.6 Creating the customer experience

How to create the customer experience so that the attendees keep coming back to new events? Here comes the elements of understanding cultures and building a pleasant atmosphere. The attendees need to be kept interested and virtual environment gives good tools to create the WOW experiences. This is an opportunity for the organizer as the virtual reality provides unrestricted environment. The event should run smoothly, and the challenge is to make sure and maintain the connection and platform stability. Error in the platform will affect immediately to the customer experience. Users of different platforms are already expecting smoothness when using them and even a minor delay or error is annoying. This will not probably change in the future as the technology evolves.

The customer experience is a combination of many different things and they are different for every attendee. In traditional events all five senses need to be thought; hearing, sight, tasting, smelling and touching. In virtual environment these five senses will be fulfilled differently. Hearing and sight are the senses that will rise while tasting and smelling are harder to control, touching will be in the middle. The visuals of the event and planning the environment is the easiest and the hearing as well. If the

event is completely in virtual environment there will not be catering so the tasting is outsourced to the attendee, who eats in his/her physical location. There is not much how the organizer could affect to that. The smelling is also in the hands of the attendee. Touching in virtual environment could be available when the technology develops.

A company called Sensiks has developed a virtual reality and experience pod, where there is not only the visual virtual reality experience, but also the user experiences smells, temperature and weather conditions. They also measure the attendee's physical reactions such as heart beat, body temperature and blood pressure during the experience – this tells the organizer how the attendee is physically experiencing the event and can optimize the environment of the experience according to it. (Sensiks 2016.) So maybe in the future it could be possible to fulfil all attendees' five senses.

The customer experience will also be partly created with the interaction. This is one of the most important factor and that is to get everybody involved and provide them the two-way communication option. Making everybody involved and making them feel as being part of the event is the key to success. It is a basic human need to belong to something bigger.

3.3.7 During the event

During the event the organizers' role will become more of a host and observer to ensure that everything runs smoothly. Making sure that the presentations start the scheduled time and people are enjoying the atmosphere. Utilizing the AI and algorithms as a security helps the organizers tremendously. The main task is to make sure that the platform and the connection functions properly. Considering the traditional events it is also about coordinating and solving problems. Always expect the unexpected and be prepared for anything. During the event days the tasks change from traditional events as there is no longer making sure that the transportations arrive on time or making sure that catering is ready before

the breaks start. It is also a bit scary if the role is making sure that the technology works as it should.

The event starts when the platform opens to the attendees. It is a matter of making sure that everyone can join and that the connection works. The platform needs to be secure and ensured that only the registered attendees can join the event. It is also about helping and serving the attendees in case they have problems connecting to the event. Customer servant holograms could be utilized as they can pop-in to the attendee's home and help in case of a problem, the chatbots and AI customer servants can support but the responsibility is still in the hands of the human resources.

When all the attendees have joined the event and the presentations start, it is more about coordinating the visuals of the virtual environment. How the speakers want the virtual space to look during the presentations. It is in the hands of the technicians, but the organizer needs to supervise the process. It is also being available for the attendees if they need help with anything. There are multiple platforms and data to process and they should work flawlessly with one another – the virtual elements, holograms, AI and translation.

If there is misbehavior from the attendees, they can be kicked out and banned but what if the attendees are not enjoying the event and they leave?

3.3.8 After the event

Once the event is over, it is important to gather feedback not only from the attendees, but also from all the other stakeholders in this process. Feedback is valuable to improve the experience to everyone involved. The feedback process can be more efficient in the future – yet again using new technology to support it. Giving feedback has to be easy and simple – this can be a simple few step process, either done for example using the event app or it can be hologram feedback forms or hologram avatars gathering

the feedback. It can be a virtual reality space, where the attendee or stakeholder can go and give feedback, when having an interactive conversation with either a real human avatar or an AI avatar it is more satisfying to the giver and also offers a more diverse feedback. The same methods can be used inside the organizer's team.

The organizer could decide how the after event space is utilized, for example there could be post-event meeting, material or feedback galleries be available after the actual event. What resources does this need? Could it be monitored by AI, so there is no human resources needed? This could add value to the actual event.

3.3.9 Pros and cons – organizer

Interactive virtual events offer lots of possibilities for the organizer as it is not related to physical elements anymore. It gives more freedom when planning the events. The creativity has almost no limits and the design can change during the event. There is no longer need for the venue and restrictions that the physicality brings. The potential of the events could grow as there is no limits for the number of attendees. This will also increase the profits if the event is a success and attracts the attendees. The virtual events will not have any more problems with poor catering and problems with printing houses.

Utilizing the artificial intelligence will give more potential to organize events without boundaries and the hologram technology can open new possibilities. The organizer does not need to be there anymore around the clock and some of the tasks can be run by the AI and hologram hosts. Bringing the interaction to the events and building the two-way communication between all the parties would be a big advantage. If the language barrier can be solved with the innovative technology the communication will become easier and fluent. The organizer does not need to use clumsy translation systems and can serve the customers using their native language. This is helpful whilst thinking about the quality of the customer service. When the customer needs help there is no need

to find an interpreter and waste time and nerves of the customer - just start the conversation and fix the problem that they have. The AI should be designed to help and make complicated issues easier.

Difficulties that the virtual events will bring for the organizers is that they should understand the evolving technology more. Even if they have experts to run the platform they still need the skills to understand the basic functions of the virtual environment. Otherwise it is quite risky to trust that the technicians will handle everything as planned.

The whole event process will rely heavily on evolving technology and the problem is how to make it steady. If the virtual events and platforms open for everybody, the competition could be fierce. Potential attendees could be spread around the globe but if there are too many events to choose from, it can be risky to organize an event. Basically, the same risk is in the traditional ones and the event should be thoroughly thought about and decided on if it would be wise to go ahead and organize it and if it will attract enough attendees.

3.4 Points of connection

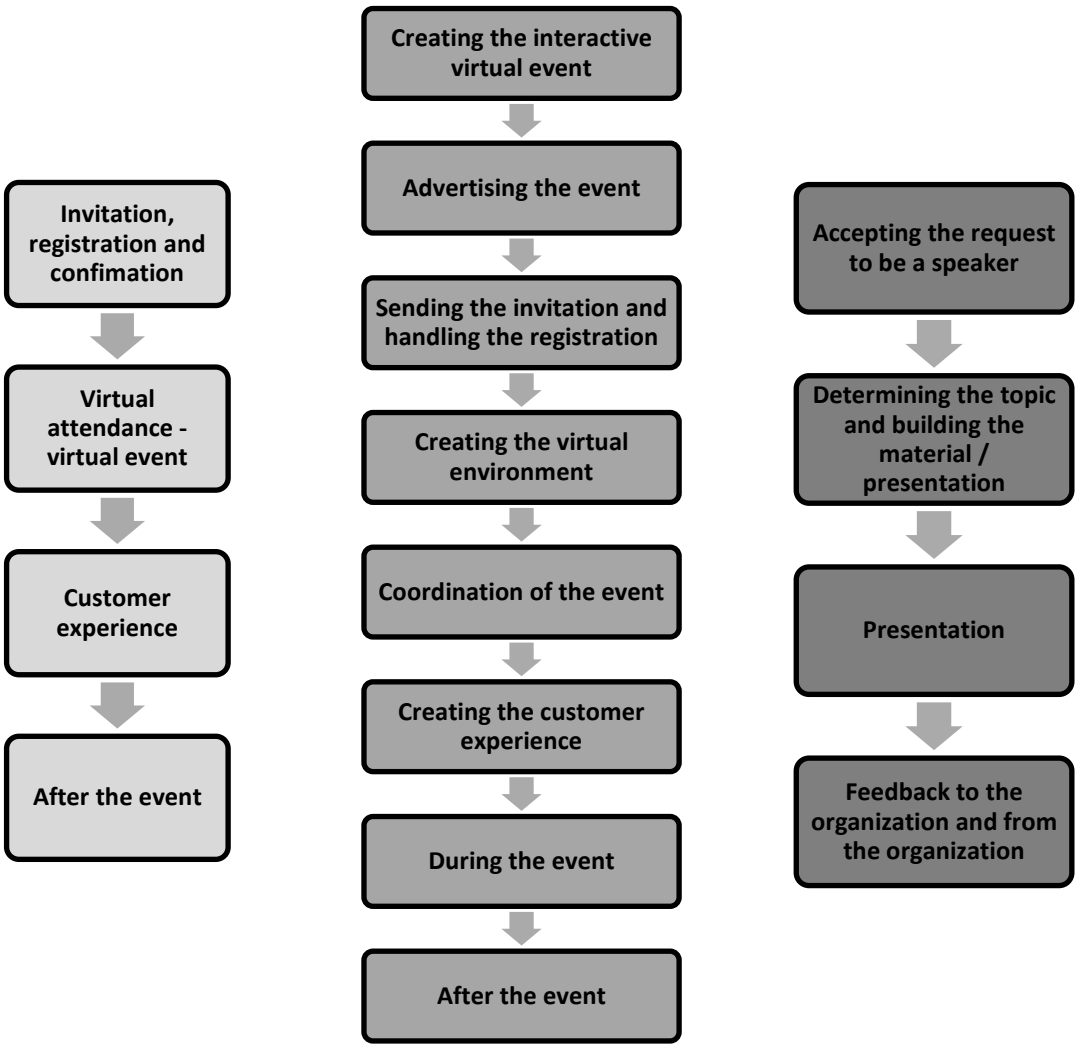

FIGURE 13. The three stakeholders' event processes side-by-side

One task of this thesis was to think about the interaction between the stakeholders in virtual events – how it will happen. The following section will go through the points of connections, the pros, cons and other issues to take into consideration. The interaction is not only during the event dates, but these three stakeholders have also other connection points with each other.

The entire process starts from the organizer when they start to plan and create the virtual event. How the virtual event team interacts, what is the

working platform, virtual leadership, where are the people? Using the AI and possibly the algorithms to research possible trends, attendees and speakers. The virtual event could be built as a hologram at first as a miniature to check the possibilities of the environment. It could be shared with the team and possible setups and decorations can be tested. This phase also contains organizers' negotiation of the vendor contracts.

The first touchpoint between the stakeholders is with the organizer and the speaker – at this point, the organizer is requesting a specific person to be a speaker or at least determine a specific topic. In this touchpoint, the key element is co-operation – checking the schedule, understanding the topic perspective and the value, which both stakeholders will get from this opportunity. The organizer also sets the instructions and boundaries for the speaker/s and also the actual presentation. These stakeholders can also communicate with each other on the visual design of the event, on the requests of the speaker and other important issues for both stakeholders. In this point, the organizer can also determine if the speaker is a real human or possibly a non-human AI speaker. This touchpoint will be different, if the organizer decides to create the speaker – the only professional support the organizer might need help to creating the non-human speaker and / or on the topic. If the non-human speaker is designed by someone, it is key to build it in cooperation with the organizer, in the matter as if it was a human speaker.

Depending on the method of advertisement, the first touchpoint between the organizer and the attendee are the adverts themselves. If there is no advertisement in traditional meaning – invitation only, algorithms et cetera – the invitations and/or registration opens the communication between the organizer and the attendee. If the registration process goes smoothly, the attendee does not need interaction between the organizer in this phase of the event. If things do not work as they should, the key in this situation is a functioning customer service. Any problem should be handled fast and with the customer and the resolution in focus. The registration is the phase where the organizers need to give the instructions and restrictions to the attendees how they can create their avatar and the virtual presence. What

are the dos and don’ts. As mentioned earlier, the customer service can be with chatbots, holograms, AI or visiting the virtual environment.

After the event is planned – the step is to create the virtual environment. This touchpoint is connected not only to the attendees but also to the speaker / speakers – this is where the event experience starts. Creating the virtual environment is mostly the responsibility of the organizer, but links also to the speaker and the attendee. In this point these stakeholders can also be a part of the developing process – for example the possibility to modify their own space or settings and creating their own virtual presence using holograms or avatars. This phase needs a lot of interaction with the technicians and the platform owners.

Coordination of the event is in the hands of the organizer, but of course, might need cooperation with the speaker. Coordination is also related to the attendees and it is also about of solving challenges or problems. The interactiveness of the coordination is mostly inside the organizer’s team – coordinating the AI, speakers, settings and other elements concerning the virtual environment. At this point the organizer has also take care of issues such as cancellations and other expected or unexpected changes. Also making sure that the platform is up and running – interaction is between the organizer and the vendors.

Creating the customer experience - this is probably one of the most important interactions that make or break the virtual event and interactiveness, this interaction point touches the speaker and of course the attendees. During the event the organizer is responsible for the event’s success, but the speaker is also a factor – success depends on the attendees, as they are the ones attending, experiencing and evaluating the event and also the experience. This is a point where all stakeholders meet, to make a successful event. Customer experience is an ongoing process that starts when the stakeholders meet and start the interactive communication with each other. Where the experience is highlighted is in the actual virtual interactive event when it starts – this is where the organizer, attendee and the speaker are in the same space, making the

experience. The event is why the entire process even exists. The virtual reality space provides a platform for simulating real interaction between all the stakeholders and attendee to attendee, speaker to speaker, attendee to speaker and so on.

Interaction is not only restricted to for example the possibility of a conversation or seeing the other attendees – there can also be other ways to interact. This can be done in common breaks, hangouts, meetings or via shared entertainment such as games and shows.

After the event, the organizer of course gathers feedback from the attendees – this feedback will also interest and include the speakers – yet again, a touchpoint where these stakeholders make a connection with each other. The virtual reality creates the opportunity to use the virtual environment after the event for interaction. It can be left open for the three stakeholders to visit the environment which adds value for them. The AI could be left there to supervise the activity, so there will not be any misuse of the space.

How then to keep the all three stakeholders satisfied for the entire process starting from the idea of the event until the end and guarantee that the interaction is available for all? Recognizing the touchpoints and understanding the behavior can make it more fluent. If the virtual events will get full interaction with all the five senses available, it is easier to avoid misunderstandings. Meaning that there is always a risk if reading just a text to misunderstand the writer. If people are speaking on the phone there is voice and hearing added to the plain text, but misunderstandings are still a risk. When we add sight, we can see the facial expressions and body movements. So, the more we have senses in the interaction and communication the less there could be misunderstandings. When we can add the touching, tasting and smelling it will bring the experiences and interaction to a totally new level in the virtual world.

3.5 SWOT analysis

SWOT analysis of the interactive virtual events using virtual reality, holograms and AI is described in figure 14. In this work, the events can be thought as anything – the three stakeholders point of view is just an example what the three stakeholders could face in the virtual event space. Those are the common three stakeholders, that can be found in any kind of event, but the event itself can be anything from small scale family gatherings up to multi-international exhibitions.

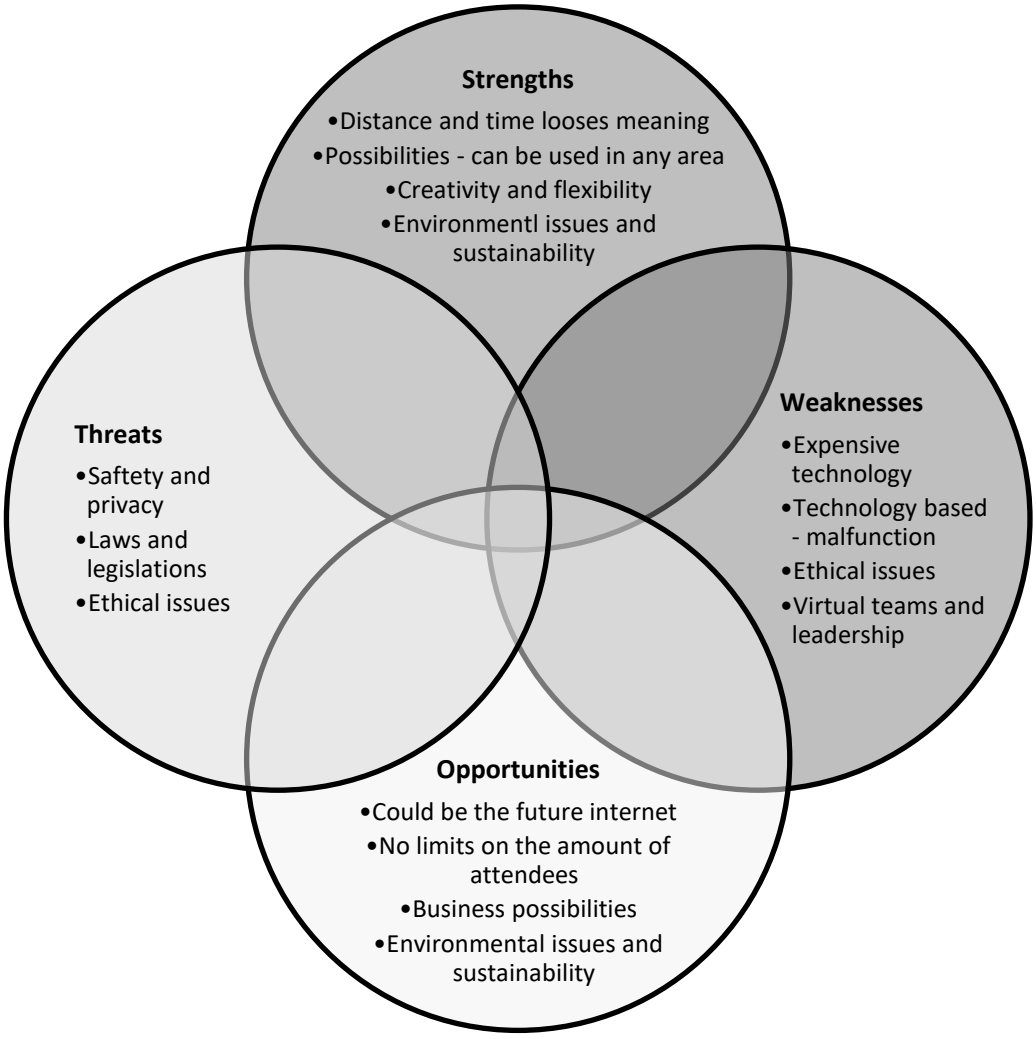

FIGURE 14. SWOT analysis for interactive virtual events

Strengths

When thinking about the strengths of virtual events, the first thing is, that it brings the world closer, as people from all around the world can meet in the virtual environment. Distances or time will become less meaningful, as people can interact in the virtual space. Currently we have Skype, that allows us to talk via video connection, but what if in the future we can see our relatives or friends in a virtual form? The interactive virtual environment gives the opportunity for a more equal world for example education can be multiplied and/or shared with a large amount of people and not depending on location. With the virtual event space, the technology could bring interaction back to communication between humans. Even though the messaging and writing is one kind of interaction, but virtual reality and virtual environment would bring the full interaction available with the facial impressions, body movements and feelings.

The possibilities are endless – this technology can be used in any area from gaming, travelling, medicine to business. It can take our day-to-day life into another level using this technology to help in our personal and work life – by connecting with people like we have never connected before and being able to focus on the more demanding tasks at hand, leaving the AI to do the simple tasks. This of course means, that people are able to develop themselves to another level as well.

Artificial intelligence could bring more possibilities for people to use the human resources for more complicated tasks. The easier things could be handled by the AI. This could guarantee that the customers will probably have the help faster if the AI is supporting, but the humans would still be available for those who wants to have the human contact. AI could be also addition for the ones who cannot find company and talking with AI is much better than feeling lonely.

The strengths of using holograms is creativity in mixing real world and hologram technology – augmented reality. Holograms give an option to

examine things as 3D images projected anywhere. This can be used in areas like healthcare, architecture and even history. It can open possibilities to attend the virtual reality and create own avatars. Holograms can be utilized in the virtual environment as a decoration and advertising. Using holograms is only limited by imagination.

Flexibility of visuals in virtual reality and hologram technology is something that can make the event space into anything or anywhere – depending on the technology and virtual architecture possibilities.

Environmental issues and sustainability is an important element now and, in the future, – virtual event space can change travelling by offering virtual traveling spaces, where people can visit places without actually going anywhere. Not only can it affect how people travel, but also bring environmental awareness. Not only can people see what their actions result into, but they can actually interactively feel what it means for example if the seas are full of rubbish, what the meat production or child labor means in 3D reality – virtual reality space can bring people closer to understanding the reality of their choices.

Weaknesses

The technology to actually utilize the interactive virtual event space is expensive, but as the technology evolves, the technology will be there for the regular persons. It can still be too expensive to reach the poorer countries. The process of development is time-consuming, and it needs lot of knowledge. Who will own the technology and the platforms and in case of disagreement what if the owner shuts down the platform? Building the haptic technology is difficult and complicated and other equipment as well. Those are not yet in a level that it could bring the all five senses to the virtual events.

Running the event will rely heavily on technology and there needs to be technicians to run the platforms and applications and the organizers must have more knowledge to understand the systems. The roles could fade, and the technicians need to understand the organizing and organizers

need to understand the technology. How to find multitaskers to take care of the virtual events?

AI is a good servant but a bad host. What if there are malfunctions and part of the resources are replaced with AI. How to get more manpower fast to fix the possible problems?

Designing the holograms needs to be instructed and have specific guidelines to avoid cultural crashes and misunderstandings. How to make sure that there is the correct person behind the hologram or avatar?

The weaknesses are mostly related to the technological issues. It will still take time to get everything figured out and have the clear rules for the virtual environment.

Virtual leadership and teams – it is humans that run the show, so the leadership and commitment problems are still there, even though the technology offers opportunities. Managing people is crucial and the element of people not being present can make it even more complicated than the tradition face-to-face management. How to build virtual leadership and teams? How to get people that are not physically in the same place to communicate and organize an interactive virtual event?

Opportunities

Virtual reality can be the future internet and the mobile phones. This can be something which is present everywhere, and it can be utilized from gaming, working, event management to advertising. Advertisement and sponsorship can be remodeled and there are no limitations with the needed vendors, like printing houses. The technology of algorithms can matchmake the events, attendees and the speakers providing the full potential for all of them.

The number of attendees is not limited by space or by their physical location. There will be less boundaries as the things change to immaterial ones. The creativity will be limitless, and it is an enormous potential to create WOW affects to the all the stakeholders.

The virtual events can be new major business since the fact that there are no physical limitations. It can open new businesses such as companies, who rent the equipment to the attendees and to the organizers, all kinds of new innovations and applications can be created around the virtual events and creating the technology will require new kind of expertise. Even though the AI can handle some of the tasks the expertise is even more needed from the humans, as most of it has to be taught and programmed to the AI by humans. The development of virtual reality, AI and holograms will also create a new industry itself. It is already happening and there is need for professionals in all the three areas.

One big advantage if using the virtual events and virtual environment is the environmental issues and sustainability. If the virtual reality could be utilized in at least in some of the events it would reduce the garbage and pollution. Environmental issues are important and rising all the time since the world is over populated and there are real problems with the climate change. The technology should be used if possible to decrease the pollution.

Threats

Safety and privacy issues – who is making sure what is happening and how? This is a crucial element as the technology and opportunities evolves, so does the systems that can use the data available for criminal intentions. The methods are evolving also in the hands of hackers.

This means that also that the laws and legislations must follow the development cycle – to keep up with the development. There needs to be laws and regulations to support and protect the virtual reality space and the possible scenarios concerned. It is also important to understand, that this might not be a place where everyone gets to therefore the laws can also work against the development and the freedom that comes with this element for example the situation in China or North Korea.

Ethics is a very important element to consider when adapting the virtual reality space to day-to-day life. Virtual events can also give a platform for

crime and misuse. These events can be sadly used also for more sinister reasons. It is clear, that the laws and legislations need to change among the development of technology and the possibilities it offers. Meanwhile the organizations that provide such events and interaction, must offer a secure platform where not only information, but also the human rights and basic rules of interaction are in safe hands. It's not only the sinister objectives of criminals that are a problem, but also the problems met by an individual. This can be for example mental health issues - if the virtual reality feels real, so what if the things that happen in that space affects to the person the same way as in the real world? Do the games or experiences affect to the mental health of the users? It can also be, that people will go further from social communication - losing themselves into the virtual space. This can also mean, that people can drift apart also from themselves as well – this can be body image issues, which is already seen in social media. The possibility to photoshop pictures to be flawless and give a certain image in the social media is already present in today's world. If there is a possibility to create a perfect avatar and go to the perfect world in virtual reality, who wants to stay in real world anymore.

Ethical issues can also be seen in hologram technology - is it ethical to use the holograms of the dead artists that we are already doing today? Who is the one who can decide can the holograms be used. Maybe the artists of today should make their will if they do not want their holograms to be used after their death. Yet again, holograms as well can be used for sinister aims.

If the virtual reality would be available for just a click, it would be an easy escape from problems. At the same time, we have problems with overeating and health issues, so what would happen if people would not need to leave their houses anymore? Would the health issues grow as people would not be exercising anymore?

4 RESEARCH METHOD AND PROCESS

The research process of this work is described shortly in figure 15. First of all, we decided questions for the answers and also chose the qualitative research methods to support our hypothesis – to gain insights and ideas from the target groups, thus using this type of research method. There was two type of data collecting methods used – a workshop and questionnaire. These data collection methods were targeting different groups - students and event management professionals to get different views and ideas on the topic.

The workshop was constructed to build interest in the topic and gain new innovation and business ideas from the other Master students. The questionnaire was aimed to reach the event professionals that currently work in the area of event management and are mostly dealing with the current traditional and/or hybrid event management. This was to get insights on what ideas these professionals have in using these new technologies, how they would use it and what pros and/or cons they see in interactive virtual events. Even though Finland and Denmark are both Scandinavian countries and quite similar cultures, we still wanted to use our connections to get the international aspect into this thesis. We wanted to gain data from both of these methods, with supported but not limited questions to give the respondents ideas, but not lead them.

FIGURE 15. Research process

4.1 Workshop

We had a great opportunity to pitch our work for other Master Students attending the Virtual Leadership course at Lahti University of Applied Sciences on the 13th of April 2018. The teacher, Brett Fifield, held the first part of the day and then the second part of the day was held by us – presenting our work – the idea, technology and the three stakeholders. We also had a workshop in small groups on this topic after the presentation asking the students to decide an area of interest in areas such as gaming, travelling, entertainment or such and to think about the interactive event process from three stakeholder's point of view.

The idea was to get new innovative ideas and business possibilities by introducing this topic to them – processing the topic also from the virtual leadership in mind. As the problem space is messy, the teams had to start understanding what the process of their idea would actually be and what elements it needs. By doing things, the process of building these ideas into for example a business possibility starts. There were a lot of great ideas presented concerning the virtual reality event space – a virtual city or a second reality space with movie theaters, bars and other entertainment possibilities; virtual platform experiences mixed with a real life business opportunities, where people can experience for example picking strawberries, and then receive real ones afterwards from a distributor; a virtual training platform to learn dancing, other sports or even a place where you can learn to deal with having stage fright or other fears.

There was also an idea where augmented reality was used to have concerts for example in the marketplaces – artist would be virtual, attendees would have some sort of a headpiece to view the surroundings and the added objects such as artists. This means that the artists can be in one place, but people everywhere could see their concert. This could be used in many events, such as music, or sports events. There were great ideas that would change the world as we see it – change the element of distance and also time.

It was exciting to see how the students started to really process the innovative ideas with enthusiasm. It gave a feeling that the base that we had done was not completely crazy and it excites others as well. The students will continue to process this problem space in their own coursework in the summertime, build possible business ideas and present their solutions, based on our work, in August 2018 – we will be of course there to watch their presentations and see what the students have innovated. It was obvious to see, that this is a limitless area that not only interests people, but also offers new possibilities in business opportunities - an area that will be part of our lives, one way or another.

4.2 Questionnaire

We interviewed via questionnaire, appendix 1, few event professionals of today from Finland and Denmark. The full responses are appendixes 2-6. The interviews were done as questionnaire for the lack of convenient and matching schedules – having every interview as a questionnaire gave an equal base for the answers of the respondents. We also decided to have only a set of five questions – to keep the survey simple, interesting and easy to answer, but still covering our thesis topic. We also added a possibility for the respondents to freely comment on the topic – to gain some information that could not be gained from the ready-made questions. This part was not used as we wished and by the respondents, thus not giving us any new data.

We chose our questions so that first of all we wanted to know how familiar the respondents were with the new technologies – to have a baseline for our following questions. In the second question, we wanted to open the minds of the respondents with the possibilities of the new technologies, by leading them to answer what they would use the new technologies for if there were no limitations. The third question was for the respondents to answer what they think on how these technologies can or would change the traditional event space and how it could change the experience of the three stakeholders. The last set question was to review on what the

challenges and opportunities are if organizing interactive virtual events. The respondents were also able to leave free comment about the topic if they would feel like it.

The awareness of the technologies is in the event industry and respondent C said that “VR and AR are already widely used in the exhibitions and live events forums”, but it was interesting to see how they feel about the totally virtual events. Most of the respondents were quite familiar with the new technologies and some have even used them in events. However, when thinking from the client’s point of view, it can be seen that these new technologies are not familiar to everyone nor ready for them.

> *It is still a bit early for many of our clients to integrate it in their events and they mentally are not ready for it or, in many cases, the price still proves to be an issue.* (Respondents A & B)

> *We are exploring how we can integrate it in our own preparation/everyday work to optimize and improve e.g. our pitches etc.* (Respondents A & B)

Where these technologies could be utilized in the future events the answers were vast. AI and chatbots are something that the events could benefit from – they could be used in to securing the customer experience by handling minor tasks and help the customer with basic problem solving. Holograms were seen as a real possibility – something that could really be implemented more in event organizing. Not only can it be a solution for sustainability, but they can support the event journey and add a WOW-element to the events. Augmented and virtual reality could be used to visualize things and giving experiences to the customers – it can be tailor-made and optimized for the customer, to give the information and setup based on individual interests and needs. Respondents A, B and F also saw that virtual reality could be used in site visits – saving the organizers and customers time and money.

> *To engage an audience, to enrich the live experience and to add interest*

> *To excite an agenda with technology that is often new to the audiences*

> *To teach and inform on the technology itself or to bring alive products and services.* (Respondent C)

Respondent D was critical on the experience that a virtual event gives the attendees – whether it will give the same experience and atmosphere as the traditional event, where people are in the same physical place together.

When answering the question concerning the three stakeholders and how these new technologies could change the experience for them, one of the element that would change is traveling – this can ease not only the organizers, leaving a big hassle of travel arrangements aside, but also speakers and attendees by simply not demanding them to travel as much, or at all. The knowledge, skills and resources needed is a question that arises from the responses – virtual events need a new set of skill-base and of course, investment in the technology.

Respondent E saw the possibility of using holograms from the speaker's point of view attractive, as "...you don't have to leave the comfort of your home to give a speech in an event." Also, there is a possibility for the organizer to use celebrities as speakers – to endorse the event. The respondents A and B answered though, that there will always be a place for face-to-face meeting as

> *...magic happens when people are together...*

Respondent C sees that there are many pros for the speaker, such as easiness in logistics and resources, but is unsure that if it will be the same as when actually being present. For the organizer, respondent C sees that there are many benefits from the new technology such as supporting the event planning process, but still questions the completely virtual event space.

The biggest challenges that the event organizers saw in virtual events are the lack of interaction. This is what our thesis was about; how the virtual events would change if the interaction could be added to them. Based on the answers the interaction needs to be integrated to virtual events before

those can be successful in anyway. All of them underlined the fact that events are all about emotions, people have the urge to meet and without interaction in the same space the event loses its atmosphere.

The thesis topic was seen as interesting by the respondents – as the technologies are changing, it is good to have a base for these changes as this is something that can change many industries. It is good to understand though, that at the end, the events are all about:

> *The success of an event in terms of audiences leaving in a different mindset: having learnt more, wanting more, feeling more, believing more. Whatever the aim of the event, it is only a success if at the end they feel differently about something than when they arrived.* (Respondent C)

If we could one day add the real interaction with all the five senses, we could create successful events in virtual reality.

Overall, even though the respondents were from two different countries, the answers did not change between the cultures, thus telling us, that there are not many cultural differences between these countries in event management. All the event managers have same kind of background and all of them are doing events all around the world, mostly in Europe.

5 CONCLUSIONS

This thesis has so far covered the virtual events from three stakeholders' point of view and the virtual events itself, but the virtual reality, AI and holograms will open options in different industries such as education, gaming, healthcare and entertainment businesses at the same time. The following section will cover shortly what is going on in other industries in this field of technology and then finalize with conclusions.

Virtual reality can also be used for training, for example Walmart is training its employees in a virtual training academy that they have set up using immersive technology utilizing virtual and augmented reality. They use the virtual training academy - it allows the employees to be in a real-world situation, using an Oculus headset, and prepare for situations such as dealing with holiday rush crowds. (Feloni 2017.)

The same can be used in education - changing the way people learn in school and universities. Learning to be a doctor or an engineer will be different, using up-to-date information, virtual reality or holograms in the learning process. As the virtual event space is not restricted into a physical place, it might be possible to attend Harvard and still be living in Lahti. With the virtual space, AI and hologram technology it could also be possible to take education everywhere, places where education has not reached the people yet – and with education, it is possible to change the world, giving people knowledge, understanding, equality and ultimately freedom. The possibilities of education are restricted on the availability of the technology – mainly depending on the monetary situation and infrastructure.

The virtual reality space could transform the gaming industry – bringing the real-life feel to the games, can really take the gaming experience into a new level – by that increasing interest in gaming. Sony is already trying to step into the virtual reality gaming world with the PlayStation VR – gaming equipment that bring the PlayStation games into virtual reality space. PS VR enables the user a hyper-real 3D environment, 360-degree vision and

smooth visual to create and immersive gaming experience. (PlayStation 2018.)

Good example of augmented reality was seen for example in the mass craze interactive game - Pokémon Go. When the game was published in 2016 it was a huge success. In this game people hunt Pokémons, fantasy creatures, in the real world, walking around places but of course, the actual Pokémons are in the Pokémon Go app. These Pokémons can be seen in the surroundings through the app, making the experience augmented – mixing the real, and the virtual world. (The Pokémon Company 2016.)

Travelling is also something that can be affected largely by the virtual reality space – it could change it. Travelling can be done in the virtual space, offering the chance to visit not only different places but also in different times – time travelling. It could in one hand satisfy peoples need for travel, open possibilities to those who do not like to or cannot travel in the traditional way or even be a way to get people to travel more. Japan's biggest airline ANA is investing into the future of virtual travel and their aim is to reach people that are not yet travelling by air by building real-life avatars that can transport senses and actions to places all around the world, without physically travelling there. The aim is to drive demand for air travel with this virtual tourism by giving the virtual experience, the user is even more keen on to go on a real trip. (Financial Times 2018c.)

The entertainment business could utilize the virtual environment to share their events to a larger audience. If concerts and festivals were organized in the virtual environment it could guarantee perfect weather conditions for each event and sell more tickets. It would also be an advantage to the attendee if they happen to be awake in the middle of the night and their favorite band is playing in the virtual reality; why not just buy the tickets and join the concert?

Healthcare sector is a huge business, which is also investing heavily to the innovative technologies and VR. The healthcare industry is a wealthy

industry and they have the money for the development. University of Turku has a publication named Aurora. In January 2018, there was an article about virtual hospitals and the fact is that those are already here. The text is written by Tilda Junko (2018) and she was interviewing the Ph.D. Sanna Salanterä and Ph.D. Pasi Liljeberg. Aging is a problem in developed countries and the digitalization and technology is one option for that problem. The virtual reality and holograms could be an addition to home healthcare in the future. That would guarantee that the elderly could stay in their homes longer but still get the help, which they need.

These are just a few industries where the evolving technology is going to be used but all technologies – VR, AR, AI and holograms are getting more and more popular and will be utilized in different areas. The more research is done the more there are options where to use these technologies.

When starting this thesis process, we started to think outside the box, it felt that we had some crazy ideas and continued with them. The more we researched on what is available and what is coming in this area of technology, we felt like our ideas were already old. So, during the process we needed to step up time after time as we really wanted to push the boundaries.

Comparing the two different audiences; the workshop that the students had as a start of the summer course and the answers from the event professionals were from a bit different angle. It was nice to see that both; the respondents from the survey and the students were open-minded even though the topic is a bit different than in normal thesis. There is no tangible things and it is only the imagination what the future could bring with these technologies. All the respondents were a bit afraid that they had not answered in a way they should have when they returned their surveys, but when we received the forms we informed that all are in line together. There are no right answers to this topic and it was relieving to see that even the professionals see the same opportunities and challenges that we covered in this thesis.

The students focused in different areas and the event professionals focused on the event organizing side. The schedule for doing this thesis was really tight and if it would have more flexibility we would have gotten deeper data from the survey and we could have gotten the group works from the students. However, luckily, we had even some insights from both, the professionals and it was a pleasure to get the students working with different problem spaces.

The big question is, who will have the ownership of the virtual reality space? Who will bring the virtual reality space for the consumers and make it the new internet? Whoever gets it, gets to evolve it to their liking and also determine how the system will bring monetary value – this of course, will bring power. Depending on who it will be, it will also determine which way it will go. Is a scenario possible, where the virtual reality space is owned by everyone / people?

Or maybe the virtual reality space is something that can be adapted in to our bodies – technology that combines the human physiology and virtual reality technology, making a virtual reality experience as real as we can experience it – there can be equipment in the brain or in the eyes to be able to log into the virtual space, thus having the virtual reality equipment in your own body. Maybe technology and humans will be one at some point – creating the ultimate experience.

Developing the technologies will bring also a lot of response. It cannot be developed slightly without understanding the risk, which might come in aside of the opportunities. The SWOT analysis had some concerning issues that should be taken into consideration and even if the technology would be useful it should be developed with common sense.

Overall, the virtual spaces and interaction can completely reform not only events, but also education, traveling, working and affect positively into for example loneliness that is already a growing problem. Different industries are utilizing the same innovating technologies and it is a growing area in industries – whether it is virtual reality, AI or hologram technology. This

can also give possibilities in the problem of aging generations as it can bring the world closer than ever before – closer to a human interaction, without physical connection. This is a time of change – a breaking point, where we can discover our humanity again – by the help of digitalization and technology. It means, we will become closer again – closer than we ever have been before.

When starting this thesis process, we started to think outside the box – we had some crazy ideas and we continued with them. The more we researched on what is available and what is coming, we realized that we are not so crazy at all, especially after analyzing the thoughts of event professionals. The process of this work was inspiring, exciting and fun. We learned a lot, gained a huge amount of confidence and also adapted a new way to learn. We understood that even the most unfamiliar of topics is available for anyone – to be a professional at something just needs enthusiasm, resilience and capability to find information, so you do not have to be a typical researcher to be a professional. We also found each other and we will continue to work together in the future…

…to be continued...

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APPENDICES

APPENDIX 1 – Questionnaire

From hybrid events to the next generation - interactive virtual events Viewed from three different stakeholders' point of view

Johanna Hoods & Taija Pakarinen

The traditional event management has changed in recent years with the new technologies and currently we are living at the time of hybrid events, which combines the traditional events and the innovative technologies such as live streaming. Webinars and web coaching have also become part of every-day-life - the future is moving towards the virtual space.

Virtual reality, artificial intelligence and holograms are the technologies that are developed now in many industries. What would happen if virtual reality, interaction, artificial intelligence and holograms would be added to the event industry? The three biggest stakeholders in event business are the attendees, speakers and organizers. How would the evolving technology change their experiences when attending or organizing an interactive virtual event?

Questionnaire

1. How familiar you are with the new technologies such as Virtual reality (VR), Augmented reality (AR), Holograms and Artificial Intelligence (AI)?

2. How would you utilize these technologies in the future events? (you do not need to think what is possible, but if the technologies would be available and there is no limitations)

3. How would you think that it would change the experiences of the three stakeholders (attendees, speakers and organizers) compared to traditional events? (Event organized fully in interactive virtual environment with the hologram attendees and AI as a help in resources)

4. What would be the biggest challenges and what are opportunities in interactive virtual events?

5. Free comments about the topic

APPENDIX 2 – Respondents A and B from Denmark

From hybrid events to the next generation - interactive virtual events Viewed from three different stakeholders' point of view

Johanna Hoods & Taija Pakarinen

The traditional event management has changed in recent years with the new technologies and currently we are living at the time of hybrid events, which combines the traditional events and the innovative technologies such as live streaming. Webinars and web coaching have also become part of every-day-life - the future is moving towards the virtual space.

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Questionnaire

1. How familiar you are with the new technologies such as Virtual reality (VR), Augmented reality (AR), Holograms and Artificial Intelligence (AI)?

   Quite familiar, I would say. However, it is still a bit early for many of our clients to integrate it in their events and they mentally are not ready for it or, in many cases, the price still proves to be an issue.

   We are exploring how we can integrate it in our own preparation/everyday work to optimize and improve e.g. our pitches etc.

2. How would you utilize these technologies in the future events? (you do not need to think what is possible, but if the technologies would be available and there is no limitations)

   We could easily see VR as a way to visualize and take our customers on a journey already in the pitch phase. So as replacement or addition to the traditional site visits.

   Furthermore, it would enable us to tailor-make the customer journey to the individual participant as they could pick and choose information and content to a larger extend than with a traditional set up.

   Holograms could be used in many ways – replace hostesses and information personal, replace signage and bring it to live, it will open the possibilities of having speakers in larger numbers or of a different magnitude than a normal budget would cater for etc.

3. How would you think that it would change the experiences of the three stakeholders (attendees, speakers and organizers) compared to traditional events? (Event organized fully in interactive virtual environment with the hologram attendees and AI as a help in resources)

   We think this is answered via the above reply – furthermore, it will make conference calls more interactive and probably also more effective if you are "present" I hologram.
   There will always be a need for people to meet – something magic happens when people are together and things move forward in a different way, but many of the pre-meetings and travel will be reduced and changed.

4. What would be the biggest challenges and what are opportunities in interactive virtual events?

   Opportunities are also described a bit in previous replies. On top you will be able to reach a much broader audience and at a much more cost-effective way.

   Another opportunity is to create tailor-made experiences (more than in the real world), only limited by creativity (and budget, probably).
   Challenges are to keep your attendees on their toes, to feel them, to understand their reactions, to create an event feeling, a togetherness, a common goal, high fives in the room, etc. The biggest challenge must therefore without a doubt be to overcome the fact that you don't have a physical event.

5. Free comments about the topic

APPENDIX 3 – Respondent C from Denmark

From hybrid events to the next generation - interactive virtual events Viewed from three different stakeholders' point of view

Johanna Hoods & Taija Pakarinen

The traditional event management has changed in recent years with the new technologies and currently we are living at the time of hybrid events, which combines the traditional events and the innovative technologies such as live streaming. Webinars and web coaching have also become part of every-day-life - the future is moving towards the virtual space.

Virtual reality, artificial intelligence and holograms are the technologies that are developed now in many industries. What would happen if virtual reality, interaction, artificial intelligence and holograms would be added to the event industry? The three biggest stakeholders in event business are the attendees, speakers and organizers. How would the evolving technology change their experiences when attending or organizing an interactive virtual event?

Questionnaire

1. How familiar you are with the new technologies such as Virtual reality (VR), Augmented reality (AR), Holograms and Artificial Intelligence (AI)?

   Rather familiar with all of them. Have tried some at events and have reviewed others' opinions of them.

2. How would you utilize these technologies in the future events? (you do not need to think what is possible, but if the technologies would be available and there is no limitations)

   VR and AR are already widely used in the exhibitions and live events forums. In my situation, I propose them to be used for a number of reasons:

   To engage an audience, to enrich the live experience and to add interest

   To excite an agenda with technology that is often new to the audiences

   To teach and inform on the technology itself or to bring alive products and services

   Holograms in general are used as a gimmick, to spice up and agenda and enliven presentations.

3. How would you think that it would change the experiences of the three stakeholders (attendees, speakers and organizers) compared to traditional events? (Event organized fully in interactive virtual environment with the hologram attendees and AI as a help in resources)

I don't believe and wouldn't want to see this kind of technology proposed for any of the above. My specialty is Live Events, whereby the interaction of people is key to the success of the forum – both for organization and also for attendance. I am a strong believer in introducing technology for a purpose (could be entertainment or education or anything else, but with an aim). But I don't believe in technology for technology's sake. Events are successful because of the emotional element of human interaction. Technology can play a part, but it cannot be used to execute events stand alone.

Attendees would suffer from a lack of personal interaction and the chance to be part of an emotional journey that events are created for. I don't believe that after the novelty had worn off, they would be further encouraged to attend, and we want events to have longevity. It is why video conferencing is not as successful as a meeting when it's important

For Speakers, it could be fine. Easily accessible for them, cheaper in terms of logistics etc. However, would an audience only want to see/hear an image. It does work in the circumstances of a speaker having sufficient 'draw' that an image is enough. Once again, it is the feeling you get in the presence of a great speaker that makes the difference.

For organizers, technology can of course help as tools in planning. If AI can support, then this is great as event planning is considered one of the most stressful careers and perhaps an unflagging resource could be a welcome thing. However, again, so much of the communication with stakeholders is done in person that the lack of personality might be a drawback. E.g. how could an AI resource comfort a nervous speaker just before rehearsals. This needs a different touch. A combination is possibly the answer but never in totality.

4. What would be the biggest challenges and what are opportunities in interactive virtual events?

Challenges as above. But the single greatest, is the lack of interaction needed in executing successful live events.

Opportunities are many for the inclusion of technological elements that are omni-present in the audience's worlds. Bringing technology into the event and not basing the event around technology.

5. Free comments about the topic

This is the opinion of an event producer who sees the success of an event in terms of audiences leaving in a different mindset: having learnt more, wanting more, feeling more, believing more. Whatever the aim of the event, it is only a success if at the end they feel differently about something than when they arrived. I would struggle to see how technology could be as efficient in doing that alone.

Saying that, I am a little old-fashioned and many events are successfully led by technology!

APPENDIX 4 – Respondent D from Finland

From hybrid events to the next generation - interactive virtual events Viewed from three different stakeholders' point of view

Johanna Hoods & Taija Pakarinen

The traditional event management has changed in recent years with the new technologies and currently we are living at the time of hybrid events, which combines the traditional events and the innovative technologies such as live streaming. Webinars and web coaching have also become part of every-day-life - the future is moving towards the virtual space.

Virtual reality, artificial intelligence and holograms are the technologies that are developed now in many industries. What would happen if virtual reality, interaction, artificial intelligence and holograms would be added to the event industry? The three biggest stakeholders in event business are the attendees, speakers and organizers. How would the evolving technology change their experiences when attending or organizing an interactive virtual event?

Questionnaire

1. How familiar you are with the new technologies such as Virtual reality (VR), Augmented reality (AR), Holograms and Artificial Intelligence (AI)?

   All of the technologies are more or less familiar and those are already used in events at some level. Holograms and VR in exhibitions for example.

2. How would you utilize these technologies in the future events? (you do not need to think what is possible, but if the technologies would be available and there is no limitations)

   AI could be used in some of the minor tasks and maybe it would be interesting to organize a completely virtual event. But the event business is all about experiences and the atmosphere that all parties create together. It would be hard to get the same feeling if the event is only in virtual world.

   Holograms on the other hand could be used in events more. Using holograms could reduce garbage and technologies should be used more for sustainable reasons.

3. How would you think that it would change the experiences of the three stakeholders (attendees, speakers and organizers) compared to traditional events? (Event organized fully in interactive virtual environment with the hologram attendees and AI as a help in resources)

   I guess that the experience would be totally different for all of them. Less travelling, less crossing time zones and more time. The experience on the other hand could change tremendously as like mentioned before the events are all about experiences so could the virtual world provide the same for them? Us as an organizer should have more knowledge of the technologies and how the

presence would be in the virtual world. Maybe going back to school is needed if we need to know more about the technology.

4. What would be the biggest challenges and what are opportunities in interactive virtual events?

   Challenge is to create the atmosphere that events are all about. It is crossing with people, making new connections and feelings. At the best events are something that you take to your hearts and take home with. Events are an experience that you can remember when you are old. If that can be added to virtual events then we have something, but without it, it is not an experience to remember.

   Opportunities can be limitless if there are no limitations. Virtual world could be fun to play with. Those kind of events would be good for the climate change and sustainable reasons, less travelling and transportations. At least part of the events would be wise to replace with virtual events. It could be also different kind of meetings if not using old fashioned video conference calls for project meetings at least.

5. Free comments about the topic

   Interesting topic for a thesis. The technologies are going to change many industries and maybe it is good to have some guessing or a hypothesis what the future could bring. Good luck girls finalizing your work and hope the answers help even a bit.

APPENDIX 5 – Respondent E from Finland

From hybrid events to the next generation - interactive virtual events Viewed from three different stakeholders' point of view

Johanna Hoods & Taija Pakarinen

The traditional event management has changed in recent years with the new technologies and currently we are living at the time of hybrid events, which combines the traditional events and the innovative technologies such as live streaming. Webinars and web coaching have also become part of every-day-life - the future is moving towards the virtual space.

Virtual reality, artificial intelligence and holograms are the technologies that are developed now in many industries. What would happen if virtual reality, interaction, artificial intelligence and holograms would be added to the event industry? The three biggest stakeholders in event business are the attendees, speakers and organizers. How would the evolving technology change their experiences when attending or organizing an interactive virtual event?

Questionnaire

1. How familiar you are with the new technologies such as Virtual reality (VR), Augmented reality (AR), Holograms and Artificial Intelligence (AI)?

   Not very familiar, however have heard about them all. Mostly about the AI, but also Virtual reality and Holograms. Not used them in any event yet.

2. How would you utilize these technologies in the future events? (you do not need to think what is possible, but if the technologies would be available and there is no limitations).

   Chat Bots based on Artificial intelligence could be used to help serve the event attendees for example before the event with their basic questions, freeing time for organizers to concentrate on more complex issues.
   Sometimes getting the speaker you would want in your event to physically come to the event is difficult, but with hologram technology it will be easier to organize. With virtual reality, you can give the attendees an experience of the product or place without actually having that brought or built to the event place.

3. How would you think that it would change the experiences of the three stakeholders (attendees, speakers and organizers) compared to traditional events? (Event organized fully in interactive virtual environment with the hologram attendees and AI as a help in resources)

   From attendee perspective it would enable more people to participate in events, as it will not require travelling and budget from companies. Also from organizers perspective this will eliminate huge task of travel arrangements. But there will also be a drastic change of skills needed when organizing a virtual event compared to traditional event, also big investments needed in the technologies. From speaker perspective the hologram option sounds very tempting; you don't have to leave the comfort of your home to give a speech in an event. Also the possibility to utilize celebrities as a speakers / endorsing the event would come more possible.

4. What would be the biggest challenges and what are opportunities in interactive virtual events?

   As a biggest challenge I would see that when event is organized as a virtual, you will lose the "atmosphere" in the room; the inspiring feeling of people coming together under same roof to learn, discuss and engage with each other.
   But at same time, you will get totally new type of participants to your events, who wouldn't have participated in a traditional event. And environmental issues are not a small part of why virtual events should get more popular in the future.

5. Free comments about the topic

APPENDIX 6 – Respondent F from Finland

From hybrid events to the next generation - interactive virtual events Viewed from three different stakeholders' point of view

Johanna Hoods & Taija Pakarinen

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Virtual reality, artificial intelligence and holograms are the technologies that are developed now in many industries. What would happen if virtual reality, interaction, artificial intelligence and holograms would be added to the event industry? The three biggest stakeholders in event business are the attendees, speakers and organizers. How would the evolving technology change their experiences when attending or organizing an interactive virtual event?

Questionnaire

1. How familiar you are with the new technologies such as Virtual reality (VR), Augmented reality (AR), Holograms and Artificial Intelligence (AI)?

   Not at all!

2. How would you utilize these technologies in the future events? (you do not need to think what is possible, but if the technologies would be available and there is no limitations)

   As an old-fashioned event organizer I believe face-to-face time is the most valuable thing and therefore would not use too much of these technologies in my events. I think I could utilize

   - VR instead of site-visit to familiarize myself with the event location and that way save time & money (no travelling)

   - AR for creating wow-effects in event venues

   - AI for for FAQ

   - Holograms to get speakers or other performers who would not like to travel to event location

3. How would you think that it would change the experiences of the three stakeholders (attendees, speakers and organizers) compared to traditional events? (Event organized fully in interactive virtual environment with the hologram attendees and AI as a help in resources)

   In many way it would make organization & attendance much easier & cheaper, but could not reach the same emotional level as traditional events.

4. What would be the biggest challenges and what are opportunities in interactive virtual events?

   Challenges: loose atmosphere and instant feedback & possibly some attendees too (attendees who are as old fashioned as I am..)
   Opportunities: wider attendance / new attendees, saving money & time & nature as no need to travel

5. Free comments about the topic