PROCESSES OF CHANGE

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UNIVERSITY OF TWENTE

CONTENTS

FOREWORD

"The secret of change is to focus all of your energy not on fighting the old, but on building the new" – Socrates

Change is an inevitable part of our lives. It is not only the individual that changes throughout the course of their life, but also the societies we live in and the organisations we're involved with that undergo constant processes of change. Unfortunately, not all change is desirable and may sometimes even overwhelms us. From time to time, we feel trapped by the complexities of the world we're living in.

The Processes of Change Honours Track is about empowerment. It's about looking at issues and creating a positive change – building the new – as Socrates said. It empowers you to make an impact and change the world by developing creative ideas and daring to implement them. The past 1.5 years encouraged us to become leaders and lead change withing the individual, in organisations and in societies, but also to assist others in creating positive change for themselves through consulting and coaching.

While we gained so many valuable skills and tools in this course, like promoting our ideas, creative problem solving, thinking outside the box, teamwork and leadership, it is a feeling that stands out in particular: The feeling that making a change is possible, that we can have a positive impact on others and the world we're living in. Everyone has this power. So go out, dare to face the challenges your passionate about and change the world.

Nevertheless, to excel in change, expert guidance is a must. As a result, we would like to thank our teachers and guiders Dr. Tsjalle van der Burg, Dr. Julia Wijnmalen, Dr. Wouter Keijser, Dr. Desirée van Dun, Dr. Lara Carminati and Prof. Dr. Celeste Wilderom for the excellent guidance and knowledge as well as really showing by example of what it means to be a leader. Our teachers have shaped us through their passion, knowledge and empathy to become the leaders of tomorrow.

This booklet is full of inspiring ideas and initiatives that we as students carried out to help pay forward the knowledge and experience gained throughout the Processes of Change Track. We hope the content below inspires you to go out there, stand up and make a change.

Warm regards, Processes of Change Class 2022

OUR CLASS

From left to right:
Pedro, Firat, Alexander, Tom, Ann, Mette, Lukas, Alina, Faisane, Rufaro, Lytske, Laureen, Rebecca, Elia

Absent: **Hannah**

OUR TEACHERS

Desiree van Dun

You courageously decided to start your Process(es) of Change during a strict lockdown. As you may have discovered, change can be a rocky road. The past 1.5 years have been an emotional roller coaster for many people and, nevertheless, you managed to arrive at this major milestone on your journey towards becoming a leader of change. This means you are all true HERO's, with a healthy level of hope, self-efficacy, resilience and optimism; characteristics that have been shown to lead to an individual's thriving.

Hence, we are very proud of your accomplishments and we are confident you will be able to spur positive change in the world!

Julia Wijnmaalen

You are now officially graduated honours students! Congratulations! I hope that the skills you have learned in these 1,5 years will be of use in both your professional as personal life. Thank you for the interesting journey: it is always a pleasure to interact with a group of students that come from different studies, ways of thinking, countries, and ways of working. Every year I also learn a lot! I wish you all the best in your future!

OUR TEACHERS

Lara Carminati

Congratulations for reaching the “End” of this exciting journey! An End that will now hopefully open multiple doors of thrilling possibilities and new Beginnings!
As Processes of Change Leaders, it will be your responsibility to take actions, make choices, and keep an inquisitive mind to generate pioneering ideas.
Einstein one said: “Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning. Curiosity has its own reason for existence.”
I cannot but wish you to always treasure this and never forget to be who you are and honour yourself, being proud of your achievements and, most importantly, the processes behind them.

All the best with what is waiting ahead of you!

Celeste Wilderom

Ensure that all the processes of change you co-create are ‘generative’ for all immediate stakeholders involved. *

*This piece of unsolicited advice is based on the forthcoming article of Cees Hoogendijk, dr. Jeff Hicks and prof.dr. Celeste Wilderom on generative change in the field of Organizational Development (OD).

OUR TEACHERS

Tsjalle van der Burg

One day in March this year, when I was on my way to the next Honours cohort, I saw most of your group standing or sitting close to the coffee machine. Only the few students whose turn it was to present their ideas about helping the Dutch railways to its managers were absent. I saw a group that was having so much fun together, and that was so full of energy. That was an accomplishment by itself already, as before March you had been following most of your Honours lessons from home, during depressing lockdowns.

Despite these lockdowns you have done so well, both individually and as a group. There are so many different talents in this group, and each of you has learned much from his or her fellow students (while also listening to the teacher now and then). This is how it should be in Honours. I hope you will keep on learning from other members of this great group for the remainder of your life.

OUR PROJECTS

PROMOTION OF NON-PROFIT SOCIAL MEDIA AT THE UNIVERSITY OF TWENTE



Firat Arslan **Lukas Berndt** **Rebecca Kruschka**

1. Introduction

Social media is in a crisis. Even though more than one billion additional users created social media profiles in the last five years, with numbers expecting to rise further in the upcoming years (Oberlo, 2022), critics have pointed towards the dangers of social media. One of the most prominent examples of this was the Netflix documentary “The Social Dilemma”, in which experts highlight the dangers of social media for society and the individual. More specifically, former employees of companies like Google, Facebook or Instagram explain how persuasive technology is used to manipulate individuals and how this split the American society in particular. Whatever the approach, many of them agree that we need to rethink social media. From its design to its regulation. Of course, social media provides various benefits too (Akram & Kumar, 2017), and the challenge, therefore, is to make social media safe for everyone while keeping the benefits that it provides. However, since high revenues are at stake for social media companies, introducing change is a difficult undertaking. Moreover, social media companies have substantial power over information, which further complicates the problem. It’s not only about creating social media from which societies and individuals can benefit, but also about deciding how much power big tech companies should have. For instance, when Twitter banned @realDonaldTrump from their platform (Twitter, 2021), a discussion about free speech emerged. Hence, rethinking social media is also concerned with matters of values and the democratic concept itself.

In sum, changing the social media landscape is a difficult task that needs a lot of effort. And many of the current problems stem from the way social media is designed – to increase user engagement. If users stay on the platforms longer they will see more ads, which in turn increases the revenues of the social media companies. To do this, Facebook & Co. put a lot of effort in developing their algorithms. They collect user data, analyse it and customise the content to the personal circumstances of each individual user. Simply put, users will see content they like and therefore they stay longer on the platform. There are a lot of issues connected with the increasing screen time of many users. The father of one of us likes to ask if his son got quadratic eyes already after spending a lot of time in front of a screen. While this is not a common issue, the mental health of social media users can be negatively affected in numerous ways (Akram & Kumar, 2017).

In conclusion, change for the social media landscape is urgent as the present landscape affects societies, organisations and individuals in undesirable ways. While there are meaningful and serious efforts to make a change already, for example by the Center for Humane Technology (Center for Humane Technology, 2022a), we would like to investigate a more fundamental possibility for change: Offering social media services not through private companies, but through non-profit organisations. The basic idea is that non-profit organisations are not concerned with generating profit for themselves and hence they can operate with the best interest for users in mind. In addition, non-profit organisations also focus on generating revenues in order to sustain and to improve their products and to implement their ideas and follow their vision statements. In general, non-profit organisations are private organisations that independently operate from the government. Many foundations, and therefore non-profit organisations, are supporting the Center for Humane Technology (Center for Humane Technology, 2022b) already since they believe a change for social media is needed. However, many of these changes might not be needed if social media would be disconnected from the necessity to generate profits. This problem will be investigated further in this paper by means of a comparative analysis between for profit and non-profit social media.

However, the comparison between for profit and non-profit social media is only the first part of this paper. Furthermore, it will be discussed (2) what advantages non-profit social media has for society, and (3) which potential opportunities on the individual and organisational level the UT has toward implementing a non-profit social media platform in the UT environment, and which benefits and costs should be considered on the respective levels. Next, (4) a conclusion is made on which opportunity for change might be the most promising for the UT to successfully integrate a non-profit social media platform. To heighten the likelihood that the UT will actively consider and perhaps will work on implementing such a platform, (5) an action is outlined, including (5.1) specific goals that are desired to be achieved, and (5.2) a change approach which consists of detailed steps that should be followed to achieve the change goals. What follows is (6) the discussion of results regarding what has been achieved in terms of the set change goals and a (7) discussion on what limitations and weak spots the project has and what further steps should be taken to realise the set goals and to implement a non-profit social media platform in the UT environment. Finally, (8) each project group member reflects and elucidates what and how they have contributed to the project and what they learned during their coaching sessions in this module.

When it comes to opportunities for change, another group at our university looked at the individual level already and came to the conclusion that it is hard to convince users to switch to non-profit social media platforms. They suggested that a top-down approach might be worthwhile investigating since organisations can influence users in alternate and more directive ways. Hence, this is what we will do. Our target organisation will be the University of Twente (UT). The UT is suitable because we as UT students are familiar with the organisation. Moreover, a university resembles a small yet divers society, with an organisational body (the one we seek to influence) and individual students. Therefore, we hope our findings are transferable to other universities as well but maybe even to society as a whole. Additionally, if the change project is successful, the UT as an organisation can benefit from it but maybe there is also a spill over to other organisations, which would be the ideal outcome. Nevertheless, only the potential for using non-profit social media at the UT will be discussed in the analysis. This will be followed by a change project and its implementation based on our findings to support non-profit social media use at the UT.

2. Advantages of Non-Profit Social Media for Society

While in Europe there are a few social media companies, which dominate the market, internationally there are a lot more, especially in Asian countries. This leads to the problem that it will be complicated to explain how all of these operate, what their market niche is, and how their market share came to be. That is caused, due to the different cultures, economic structures, political systems. Hence it is for us authors hard to discuss all different societies, which is why this work will only focus on the society and market of the EU.

When we look more closely at our industry, we can see that not only are the large, trendy firms for-profit, but there are more for-profits than non-profits in general. But there are safety issues for both for-profit and non-profit organizations. These firms, particularly in the social media industry, wield enormous power over the general public. Recently, there have been questions over how Meta (formerly Facebook) and other social media corporations manipulated or unfairly affected elections in the United States of America (Kelion, 2020). If these corporations have such power, does this constitute a threat for democracy in general? And will it make a difference if they were a non-profit?

Additionally, it is important to mention the option of a state-owned social media organisation on this topic. This is due to how powerful social media companies can be in regard of being able to manipulate the population of a state and therefore the political order. One could say that social media is the fifth estate within a society.

The idea to have either a strong state-owned social media organisation, supported non-profit social medial organisation or a strong non-profit social media market, which collaborates with the EU, in the EU, could lead to the European independence in social media and employment. Hence this course will affect to the EU with their laws to better control the protection of its people and their data, while lessening the influence from for-profit tech-giants.

As a for-profit organization is one that exists solely for the purpose to make money. Most for-profits in the industry generate money by selling the data of customers, who use the app to advertisement firms or use their data to increase advertisable opportunities. Many social media businesses are focusing on making their app as addictive as possible in order to achieve an ongoing engagement. According to studies, the increased usage of various social media platforms in general is associated with poor mental health, anxiety, depression, eating disorders, and so on (O'Reilly et al., 2018). Would a non-profit, generally with a humanitarian objective, that does not seek these revenues attempt to be less addictive in order to tackle these issues?

If yes, then this will inevitably lead to an increase in mental health of the general population, which in turn will lead to an additional boost of the public health sector, because less of the limited capacities will be used for mental health problems and more for other problems. Hence will an increase in mental health make the public health sector more competitive?

This economic advantage for the public health sector may additionally balance out the economic disadvantages for the entertainment industry, the advertisement industry and other domains affected in a negative way, due to the missing opportunities to generate revenue through social media marketing.

In the EUs social media market, it is apparent that for-profit organizations have the upper hand. Many causes have been blamed for this phenomenon, including simplicity of use, uniformity, and incorrect understanding of the platform as trustworthy. Even people who examine the acknowledged facts and see what is being done to and with their data continue to resist change. They are aware of the drawbacks and privacy violations that come with this media usage but maintain that they need to use these platforms in order to connect with their classmates at university and accomplish their job, and some are even self-employed in a business that works entirely on social media. Many people believe that transitioning to non-profit organizations is a shot in the dark, but is this true? Will Meta (formerly Facebook) and private data mining firms be there after the social democratic order collapses?

There are some escape routes that could help to accelerate the use of non-profit social media on a societal level. Some could be the implementation of non-profit social media platforms in public institutions or the support of all non-profit social media firms through subsidies and similar options, while taxing the for-profit social media platform. Another approach is to go a more radical way and banning or limiting all for-profit social media platforms in public institutions or within the whole of the EU.

The limitation of those social media platforms could also come in a lot of variations. From setting a usage time limit per day, only being allowed to use such with the age of 18, it being necessary to registrate one's own ID or/and needing something like an internet license.

Furthermore, the implementation of EU-wide social media laws, which prevent the designing of social media platforms in a harmful way, like creating addiction. These laws should incentivise the creation of social media platforms, which are beneficial and in the best interest for its users and the general public.

3. Possibilities for the UT

3.1 Individual Level

The bottom-up approach to integrate a non-profit social media platform in society is that the individuals themselves are in favour of this platform and choose on their own to use it instead of being forced to do so by another party. However, in the past this approach, which is also desired by the UT management, was not successful in the UT environment (Alvear Cardenas & Weglage, 2021). In their approach they tried to raise the awareness of student and study associations for Mastodon, a non-profit social media network that consists of thousands of servers which are managed by individuals and various organisations (Mastodon, n.d.). One of these servers is operated by the UT for organising intern communication. Moreover, their main goal was to persuade 15 student and study associations association to engage on Mastodon in the long run and thereby change the UT's social media landscape. These associations were approached by cooperating with the UT's umbrella association of the student association. Besides, Alvear Cardenas and Weglage (2021) aimed on an increase of 30 new accounts by individuals on the Mastodon UT server. They tried to persuade the associations into using Mastodon via a presentation and the UT students and staff via advertisement for Mastodon that was presented at the LED screens which are located at the Vrijhof bulding on the UT campus. However, there are several potential reasons why this individual approach failed. One is that two study associations mentioned that a non-profit social media platform is not a necessity at the moment as other social media platforms such as Facebook and Instagram are already used by them (Alvear Cardenas & Weglage, 2021). Thus, for these associations the benefits of a non-profit social media platform did not outweigh the disadvantages. Other study associations only claimed that they are too busy to implement such a new platform, showing that their motivation was not high enough and that implementing such a new platform might be perceived as too time consuming or not worth the effort. Moreover, the advertisement did not lead to an increase of new accounts on the Mastodon UT server.

However, there are ways to persuade individuals to start using non-profit social media platforms or even to fully switch to these instead of using for-profit social media platforms. In this regard, it must be differentiated between two forms of motivation that could lead to such outcomes which are extrinsic and intrinsic motivation. Together these motivations affect the intentions of individuals in terms of actual behaviour they perform and activities (Davis et al. 1992; Moon & Kim, 2001).

Extrinsic motivation is created via benefits or rewards a person gets for certain behaviour they perform, thus focusing on reasons that are goal-driven (Deci & Ryan, 2013). In this regard, a possibility to motivate students to use a non-profit social media platform, could be to give them money, presents or other benefits. However, this is not very feasible as there are not enough resources the UT has to facilitate it. Also, these costs might outweigh the benefits the UT perceives in students and staff using a non-profit social media platform. A way to circumvent these costs is by attracting sponsors to contribute resources to students by giving these sponsors benefits. For instance, the UT could advertise on campus but also on the non-profit social media platform. This would generate more attention for the sponsors and could make them appear more attractive for students who may consider them as potential future workplaces.

Another way to approach the individual is by enhancing their intrinsic motivation. Intrinsic motivation is inherent satisfaction and pleasure an individual gets from a particular activity (Deci, 1975 as cited in Lin, 2007). In context of implementing a new non-profit social media platform in the UT environment, the UT could convey this pleasure by tailoring the platform to the wishes of the UT students and staff. There are several points that could be integrated and seen as satisfying by these individuals. One would be to integrate all communication levels in this single non-profit social media platform, such as student timetables, communication means with other students and teachers, and news of the UT. This streamlined communication might be perceived as highly convenient for the UT environment as it currently communicates via nine communication platforms, including Facebook, Instagram, LinkedIn, YouTube, Twitter, Canvas, Rooster, the Campus APP, and Outlook. Moreover, the convenience of a new non-profit social media platform could be reinforced by adding less adds which are common on other for-profit social media platforms. For instance, Facebook detects its users' individual affiliations and provides "churning lattice of affiliations" (Vaidhyanathan, 2018, p. 83) to advertisers who thereby can target potential customers via adds. These advertisements which generate financial resources for the social media platform will appear alongside posts and thus hamper the user's reading flow and can distract them from following their initial intention on the platform (Krutka et al., 2019).

Another aspect that could lead to a greater intrinsic motivation towards the use of the non-profit social media page would be the fact that multiple social media platforms, including Facebook, engage in monetisation which has its basis on the management of the data of the users (Krutka et al., 2019). Moreover, algorithms used by most of the prominent for-profit social media platforms put filter bubbles on its users, meaning that the users are exposed to certain posts based on their prior behaviour (Krutka et al., 2019). This implies that the users are to some extent caught in a certain area with other politically and socially likeminded users where attitude-challenging information is scarce. Therefore, these users are inhibited to get to know something different than what they are used to on the social media platforms. When a non-profit social media platform would not use such algorithms but instead would show posts based chronologically, its users would be exposed to a greater variety of content which would enrich their knowledge and may also facilitate their interest for new topics. Moreover, the filter bubbles used by the big for-profit organisations can elicit addictions in users who will have problems to leave their account as they are caught in a loop of exciting and satisfying content. Thus, a new non-profit social media platform which would refrain from such algorithms would lead to improved time usage of its users who would not be stuck in a loop of entertainment.

Furthermore, another part that is harmful for for-profit social media users is that the use of for-profit social media platforms can have a negative impact on the users' mental health. Two important factors contributing to the negative effect on mental health are extensive time the user spent on the platform and heavy use of it. However, due to the for-profit social media algorithms that show posts interesting for the user as they align with the user's previous searching and scrolling behaviour, people will take longer on the platform as they perceive pleasure by looking at the presented content. This in turn would increase the risk for them to face mental health issues such as depression or anxiety (Lin et al., 2016; Vannucci, 2017). Hence, another extrinsic and intrinsic motivational factor of a non-profit social media platform would be that they would have the benefit of not being exposed to algorithms that pose a risk for their mental health and as a result would also perceive more pleasure when using this platform instead of the for-profit versions.

However, even if a non-profit social media platform would contain an algorithm that is in many aspects beneficial for the user, the user may find several aspects to be missing on this platform. For example, even if personalised adds, distract users and disturb the reading flow, some users might be inspired and satisfied by these advertisements as they are tailored to what they most possibly might be looking for. Hence, they might be dissatisfied by adds that are not congruent to what they desire. Moreover, non-profit social media platforms are not as popular as for-profit social media platforms yet. Especially younger adults mainly use social media to stay in contact with people who are already part of their lives, e.g., friends and family members (Smith, 2011). Though, if there are none of these people on the non-profit social media platform, students will not switch to this platform as they cannot communicate with their friends and family on it. In addition, it costs time and effort to set up a new social media account as the users would need to look for others, they know to befriend them on the platform and to get used to the new layout.

In order to motivate individuals of the UT to use a non-profit social media platform, their awareness about the weak spots of for-profit social media and advantages and pleasure of the features of non-profit social media platforms should be enhanced. Thereby, their extrinsic and intrinsic motivation are enhanced which in an ideal case adding This could be done via several means, such as advertisement on the UT Campus, on Canvas, or via email or by organising presentations or workshops in which information is given on this behalf.

3.2 Organisational Level

As already pointed out in the introduction, we will target the organisational level with a specific focus on the UT. This results in the fundamental challenge of how the UT administration could be convinced to adopt a non-profit social media project. What we know so far is that the UT officially supports non-profit social media as an alternative to traditional social media platforms, however not much concrete action has been taken yet. Therefore, we firstly would like to investigate potential costs (and risks) and benefits of taking action to get a better idea of why the UT was reluctant to take action until now. We assume that the perceived costs and risks, from the perspective of the UT administration, outweigh the benefits. Nevertheless, a proper analysis is needed to establish whether this is actually true. Ultimately, we will discuss three different approaches which the UT could utilise to integrate a non-profit social media platform in its environment. These include (1) the development of new social media platform by the UT itself, (2) cooperation of the UT with private non-profit social media companies, and (3) stimulating non-profit social media.

3.2.1 Costs and Benefits

Firstly, potential costs and their management will be discussed. To begin with, there is the risk that the project will fail as a whole, which could lead to numerous negative consequences. For instance, financial loss. In that regard the UT generally wishes to keep costs at a minimum. If the project fails, the costs would be particularly high, but even with a more successful trajectory the UT would aim for as little costs as possible. It is very likely that the UT has to make some financial investments into the project. The extent of these investments differ based on how the project will be organised, but there is a chance that this money will be lost. Since only an estimated 27% of data driven projects and only 13% of full-scale organisational deployment succeed generally, the chance for financial loss is not small (Ermakova et al., 2021). Thus, from the perspective of the UT, investing in non-profit social media deployment could be perceived as costly. Investing costs is something the UT would like to avoid in any case.

Moreover, from an economic standpoint it is important for an organisation such as the UT to efficiently use its resources. Therefore, investing resources in new projects should be carefully considered. In this regard, the UT also has to protect its organisational reputation, which also depends on how the project will be implemented. From an economic standpoint, the UT might be criticised for wasting its resources on projects that are likely to fail. This is problematic because stakeholders such as the government and the students are investing into the institution and would like to see a qualitative return for their investments, such as modern education and good facilities. Additionally, the UT could suffer from a public backlash when it takes a very harsh approach such as banning for-profit social media on campus through firewalls. Students and others might criticise that their freedom of speech is hampered that way and that choices are limited. But even with a moderate approach trust in the UT as an organisation could suffer. It could be that the UT is not perceived as competitive enough or as not being a centre of competency and successful development. Conclusively, student numbers could be negatively affected, which in turn would also mean less governmental funding for the UT.

Even in the case of successful deployment and implementation of a new non-profit social media at the UT, there are additional risks. For instance, supervising and managing a social media service is a great responsibility, which demands great investments in maintenance and data security. Whereas in case of a data loss through hacking compensations must be paid, which potentially are millions.

Moreover, successful development of a non-profit social media service at the UT does not ensure usability, convenience or optimal functionality. The service would still have to compete with for-profit social media services and be a better option to be used by many. This is certainly a challenge since for-profit services have the opportunity to improve functionality and individual user experience based on big data analysis. This is not possible for non-profit services to the same extent since they have to act in the best interest of the user, which forbids manipulation and persuasion of users through algorithms. Therefore, for-profits have an advantage regarding user experience and data use.

Lastly, the UT is used to the social media platforms it currently uses (Canvas since academic year 2018/2019; Twitter since January 2009; Instagram since unknown; LinkedIn since unknown; YouTube since 28.03.2011). Therefore, a switch to a single non-profit social media might take the UT a high degree of effort, including time to get used to new functions on the platform (e.g., via workshops for staff which is internal resource intensive), implementing a new communication medium, and transitioning the current follower base to the new social media platform.

In contrast to these risks stand numerous potential incentives and benefits for the UT, the staff and its students. First of all, the UT could take over the position of a pioneer in the field of non-profit social media (in academia) and gain international recognition for its engagement in case it successfully integrates a non-profit social media platform in the university environment. Of course, this would lead to (inter)national recognition which would positively affect funding and student numbers as well as the potential for cooperations with tech companies. The project would also be more than suitable for the UT motto ‘High Tech Human Touch’. After all, developing a non-profit social media platform is also driven by the desire to overcome the current manipulative and persuasive functioning over traditional social media platforms. Therefore, the human touch of the project is emphasised since non-profit social media is developed with the best interests for its users in mind. Additionally, the UT’s expertise in entrepreneurship could be a benefit for the implementation of the non-profit social media platform. If successful, observers will also recognise the great entrepreneurial potential of the UT, which again might positively affect resource acquisition and cooperation with companies.

Furthermore, being in charge of a non-profit social media platform could offer two vital benefits. The first advantage would be that the UT may be able to regulate it according to its wishes and needs. Due to the potential for tailoring, useful functions could be implemented, which in turn increase the flexibility and efficiency of the UT’s social media ecosystem. As a second benefit, students and staff could be actively involved in the tailoring of the non-profit social media platform by applying the in their studies learned knowledge. For instance, psychology students could utilise their skills in heuristic evaluation to make the platform more user-friendly. Thereby, the UT students and staff would face a more appealing communication environment that facilitates their work and leads to internalising of knowledge and skills conveyed in their studies. Another benefit that this coherent platform comes with is that the UT has more control over its security features and data storage. Unlike Facebook which has data of over? Mio users stored at its server storages including data of the UT and its students and staff, the non-profit social media platform of the UT would be able to administer its own data in-house. This offers greater control over the stored data but also options for transparency. The source code could be open source and accessible to everyone, which is a transparent option of showing users how their data is stored and managed. Additionally, the platform could benefit from the feedback of users who see the code and make suggestions for security enhancement. This would imply that users are able to co-determine functionality and design of the platform, which enables authenticity and democratic participation. Lastly, non-profit social media does not face the problem of manipulating users to stay on the platform to generate revenues. Thus, its algorithms serve the interests of the users more. For example, traditional social media have often been criticised for fuelling discrimination through its algorithms. Non-profit social media could promote diverse content, which might be good for the UT's reputation and might increase the interest of minorities in using it.

3.2.2 Strategies

Besides risks and benefits, it is also important to consider how a non-profit social media platform at the UT could be implemented and managed. One of the more consequent strategies would be that for example the UT introduces the regulation that from 2024 onwards, for-profit social media companies are no longer allowed at the UT for certain functions. This could be achieved by blocking these services for communication within the organisation. In this scenario for-profit social media platforms could only be used for marketing purposes in the external environment, like promoting an event that happens on the UT campus. Restricting the use of for-profit social media provides the opportunity to fully commit to non-profit alternatives and promotes the creative process of finding alternative ways of digital socialisation. In contrast, it limits users in freely choosing which service they would like to use for communication. One could even discuss whether banning social media services would be detrimental to the right of free speech. Countries like China which have been blocking western social media services have often been criticised for doing so (Xu & Albert, 2017). Additionally, when the UT should decide to ban for-profit social media, others could think the organisation wants more control and insight into their staff members and students through increased data control. Even though the UT is not a nation, it might be viewed as a tool for a more authoritarian management approach. Based on the reasons stated above, it is questionable whether a ban of for-profit social media on the UT campus would be feasible and legitimate.

Another approach to promote non-profit social media at the UT would be to cooperate with external partners to develop a new non-profit social media service. Such a project could benefit from increased transfer of knowledge and personnel between the UT and the involved companies but might also be more costly. In specific, companies would have access to recent research findings, which could help them to develop their products or could have close contact to the best UT graduates and recruit them. In addition, partner organisations of the UT can offer internships and jobs on the finished platform, or insight videos for specific jobs to create awareness for the students about job possibilities. The UT would benefit from cooperating with professionals who are very experienced in fields such as software development. The partner companies might also have more resources at their disposal to efficiently work on the development of a non-profit social media service. This exchange and especially the resulting knowledge building activity could be very fruitful for both sides and further partners could become interested in cooperating with the UT. This would increase the leverage of the project, which therefore could potentially grow beyond the organisation structures of the UT.

Moreover, the UT is known for its focus and dedication for entrepreneurship. It has 35, from its 61, years of experience in this field (NovelT, 2022). A project such as the development and publication of a social media platform could enhance the entrepreneurial capacities of the UT, while using also those to ensure a successful project, by letting the students run their own project and deciding through a competition, which project will get funding and assistance from the UT for further development.

Furthermore, it is known that the UT would appreciate an approach where the students develop, distribute and advertise their social media platform by themselves, although such an approach already happened with the case of the UT Mastodon server, which was not successful to gather a large user base. If the UT identifies and supports, the capabilities of its staff and students and include them in the development of an ethical acting non-profit social media platform, then it will also lead to an applied learning experience for the students. Besides the inclusion of students and staff will affect in more awareness of its existence, hence more commitment of the students, and therefore to greater chances for acceptance and success of the non-profit social media platform. Even the different study fields could be involved based on their expertise. Psychology students could deal with user experience analyses, communication science students could be responsible for public communication and marketing, computer science students could work on the source code, international business students could develop a business plan and acquire funds for the project.

It must be mentioned that by a first glance the UT seems to be a state-owned organisation, which would make a social media platform developed by the UT a state-owned social media platform. But the UT is neither a state-owned company, due to its high degree of autonomy, nor is it part of the private sector. Furthermore, we cannot really call it a non-profit organisation, because commonly a non-profit company implies that a non-profit organisation is part of the private sector. Hence, we should call a social media platform developed by the UT a not-for-profit platform, because the UT does not aim to make any kind of monetary profits and therefore the algorithms of the platform possibly resemble those of non-profit social media platforms.

Instead of developing a new not-for-profit social media platform, the UT could also increase their commitment and support for the UT Mastodon server. It incorporates many of the ideas that were already addressed in this paper. For instance, the source code is publicly accessible, and users can contribute to its improvement. It follows ethical design principles as opposed to for-profit social media that persuades users to consume more content to create higher revenues. Moreover, users benefit from good privacy regulations without corporate surveillance in a decentralised network. However, Mastodon currently only has a small user base and is lacking support of the UT administration. It might be worth considering if Mastodon could be connected to the current campus app, which offers features such as a personal timetable, event notifications, a map to find places on campus and the opportunity to organise meetings and personal to-do’s. Mastodon could benefit from a connection with the campus app since it offers valuable features the campus app misses. Additionally, the presumably larger user base of the campus app would have easy access to the Mastodon services. Unfortunately, the UT Mastodon service will be no longer available from July 2022. Conclusively, the UT is currently taking a step backwards in terms of its contribution to ethical and non-profit social media.

Similar to the possibility for the UT to improve Mastodon, the UT could integrate an already existing and well-established non-profit social media platform such as Signal. This would mean that the UT would save costs for developing a completely new platform and could rely on an already functioning system which is used by over 100 Mio. people worldwide. However, the messenger Signal is solely used for communicating via chats and thereby would not add enough features for the UT to fully switch to this platform. Additionally, in the sense to achieve the goal of people not using social media platforms which make them addicted to the platform, Signal would not pose a great influence. This is the case as people usually do not spend vast amounts of time on such messenger apps and more often use other platforms which utilise algorithms leading users to stay for longer periods on their platforms (e.g., TikTok and Instagram). Furthermore, by integrating an already existing non-profit social media platform, the UT would hinder the possibilities to tailor the platform to their needs. Moreover, the UT would have no control of how data is stored and protected and would fully rely on trusting the platform in this regard. Hence, implementing an external social media service, like Signal, in the digital UT environment would not suffice the needs of the university.

Another approach to integrate the non-profit social media platform in the UT environment would include publishing information about bigger events and crucial information for UT staff and students solely on it. As the main platform for these information (e.g., Covid-19 regulations), it would be a necessity for all individuals involved in the UT environment to have an account on this website and to actively use it to be up to date with decisions by and information of the UT. In addition, it could provide advertisements to studies published on the Sona System which is a platform used by UT BMS students to conduct and participate in studies. All UT BMS students are required to earn a minimum of 15 Sona Points by participating in studies of other students to be admitted to obtaining their bachelor's degree. This implies that there is some pressure for students to fulfil this requirement. In case that a new non-profit social media platform integrates advertisement or a section with a listing of all available Sona studies with links to the Sona page, students will be actively reminded to obtain their Sona points. Furthermore, this feature would help students and staff who conduct research to generate greater attention for their studies and thereby to get more participants. As a result, these functions may enhance the perceived importance of the non-profit social media platform for individuals involved in the UT environment.

4. Conclusion

Conclusively, we believe integrating a non-profit social media platform in the UT environment could hold manifold benefits for the UT. Even in the eye of the risks it poses for the organisation. Especially, several aspects mentioned above have been identified as necessary/essential to add in a non-profit social media platform that should be integrated in the UT environment. These include ethical algorithms that do not manipulate user behaviour in any way, a decentralised network structure and a transparent source code that is publicly accessible and open to improvements of the user community. In general, we believe that the benefits of such a project outweigh the risks. By involving students and staff in the development of a non-profit social media platform for the UT, there are not many extra costs or investments the UT has to make. Therefore, we favour this approach over cooperating with external partners since there would be more financial risks involved, plus partner companies would also have their own interests, which could make management and goal setting for the project too complicated. Besides that, the UT could benefit tremendously if the project is successful and many of the students would identify with the project as well and create a fairly large user base. Hence, the project would follow a bottom-up approach like the UT administration favours it. In that regard, developing a new platform is the better option in comparison to supporting the UT Mastodon server as the platform is not very popular or well-known among students and the identification and involvement of the students would be missing, too. Furthermore, the project greatly aligns with many of the UT's fields of expertise, like entrepreneurship and technology, while keeping the human touch. Which university would be better suitable for such a project than the UT?

All in all, we advocate for the deployment of a new non-profit social media platform at the UT with as much involvement of students as possible. While this postulation sounds theoretically appealing, we also call for action of the UT administration to implement the project according to the outline above. Of course, our contribution will be needed as well, and we therefore developed a change project to start the process.

5. An Action Plan

5.1 Change Goals

Based on our analysis we came to the conclusion that the UT administration can play an important role in the promotion of non-profit social media within its organisation. However, the UT holds the opinion that such a process should be started from the bottom – namely from the students – as became evident during a previous change project on the same topic (Alvear Cardenas & Weglage, 2021). Unfortunately, the results also showed that creating a change solely from the bottom is difficult and therefore we would like to influence the UT administration but with keeping students and staff in mind. They play an important role as users but also in the development of a non-profit social media service at the UT. Hence, our goal is to persuade the H.V. Ockham committee responsible for organising the Honours plenary sessions (SympCie) to hold one plenary session for all Honours students about non-profit social media. In that regard, we would like them to invite the expert Marleen Stikker as a keynote speaker. This way we hope to impact a large student body who is obliged to participate in the plenary session. The Honours students are also known for their motivation, enthusiasm and critical thinking and are therefore a suitable audience as they are more prone to actively listen and therefore to gain awareness about this topic. Even if only a handful of them will be motivated to promote a change actively, their increased awareness on the topic may lay a foundation for future change towards the integration of a non-profit social media platform. Additionally, the students could play an active role during the plenary session by integrating a brainstorm and pitching exercise in which they need to participate. In this exercise the students work in small groups and need to develop some ideas for the promotion of non-profit social media at the UT and pitch them.

As outlined above, we would like to influence the UT administration as well. Therefore, we firstly considered to invite the UT board members to the plenary session. However, we came to the conclusion that this would be very risky to do since there would be only one chance to create enough impact for a change. Hence, we decided that it would be wise to use the plenary session as a try-out. During the session we could see how the discussions emerge and whether the audience actually agrees with our opinion or what ideas they develop. Moreover, we would also get a better impression of Ms. Stikker's position on the topic. After the plenary session took place an adapted version can be done with a more professional audience of the UT in a Perspectives seminar. These were established by the president of the executive board of the UT himself, Vinod Subramaniam. As such Subramaniam is most likely to attend the Perspectives session and therefore these seminars offer a great option to raise his awareness in terms of non-profit social media. Thereby, a great impact on staff and UT administration can be achieved. The idea would be to use the insights from the plenary session to organise the Perspectives seminar. However, as this would go beyond the timeframe of the current project, this is something upcoming Processes of Change students need to work on.

In specific, our change goal is that SympCie organises a plenary session on non-profit social media with Marleen Stikker as a keynote speaker in the academic year 2022/23.

5.2 Change Approach

5.2.1 Contact with SympCie

To achieve the first change goal, the SympCie committee must be contacted first, because they are responsible for organising and executing the important honours plenary sessions. The plenary sessions status of importance is backed by its mandatory participation for all honours students. Furthermore, the plenary session is representing the excellence of the UT internally and to the public. Hence, SympCie, who is responsible for the plenary session, could be described as a key committee for H.V. Ockham. Perhaps the first idea to contact such a committee is to contact them formally and ask for a formal meeting to discuss our change project. But contrary to that first idea, we decided to ask them through informal channels. This came to be, because H.V. Ockham mainly consists of students, who are the same age as we are, and we already have some contacts with H.V Ockham as well as some of the authors are members of H.V Ockham. Therefore, contacting SympCie formally feels out of place. It would be even more effective according to Cialdini's Liking principle (2016) to let the authors, who are already cooperating with them to some degree, through being a member of their same organisation, contact them informally, which is the standard within H.V. Ockham, so that the committee also feels that we are similar to them.

After our initial informal contact, we will continue the same strategy and ask to have a small informal meeting within the H.V. Ockhams room. In this meeting we will tell the SympCie committee about our change project and its context, while elaborating why it would be a great opportunity to hold a plenary session about social media and non-profit social media by Marleen Stikker. As this topic is one that greatly affects the student's life and is also up to date, it will have a positive effect on the students to have Marleen Stikker as an expert on this field talking to and with them about non-profit social media. Additionally, another principal of Cialdini (2016) could influence the SympCie committee, which is the principal of scarcity. Due to the few possibilities to have an expert and public figure for their plenary sessions, the people would want more of such, which is of a unique opportunity. Hence the honours students will be more willing to participate as well as the SympCie committee to organise such an event.

5.2.2 Plenary Session

After we, hopefully successfully, persuaded SympCie into hosting an Honours plenary session on non-profit social media in the academic year 2022/23 and inviting Marleen Stikker to be the keynote speaker for that session, there is still more to do. We need to ensure that the plenary session is organised according to our wishes and therefore an outline will be discussed in the following paragraphs.

First of all, Marleen Stikker is the director and founder of “waag futurelab” in Amsterdam (Waag Futurelab, 2022) and if she agrees to speak at the plenary session, she should have enough time. We think that 45 minutes would be ideal. The audience is not able to focus longer than 45 minutes and there will be enough time left for the students to ask questions and to engage in a discussion with Ms. Stikker. It would also be possible to split the presentation into two parts of 20 minutes with a 5-minute break in between. 15 minutes should be planned for questions from the audience. If the plenary session starts on time, the first hour is mainly led by Ms. Stikker and ends around 19:15. As in every plenary session, the students will have time to eat and chat afterwards. The break should be around 15 minutes until 19:30.

During the last 45 minutes, the students are involved themselves. The host of the plenary session will quickly explain the rules for the following brainstorming session after the students have been split up into predetermined groups of 5 to 6 during the break. To be precise, every student will already know their group number before the start of the plenary session and will find their group during the 15-minute break. The host gives the students 20 minutes to develop ideas for the promotion of non-profit social media at the UT. Before the students start, the host will shortly present our ideas from the previous analysis as input for the students. In specific, that the UT should develop a new non-profit social media platform with large involvement of staff and students from different academic disciplines to foster identification with the project. Furthermore, it should be mentioned that the UT administration should promote communication of staff and students via the platform for private as well as university-related exchange. After that, the students can start with their brainstorming session immediately. When the 20 minutes are over, a representative of each group will stand up and pitch the groups ideas within one minute. This should take around 20-25 minutes and the plenary session will be ended afterwards by thanking all students for their contribution and Ms. Stikker for her speech.

Usually, there is an attendance check during every plenary session. This should only be done during the break and the brainstorming phase, but not when Ms. Stikker is presenting. It would be a pity if she and the students are disrupted or distracted during her speech. After all, she would be coming all the way from Amsterdam to attend this event and therefore we should give her the courtesy of our attention.

In general, the whole idea for the plenary session is to convince the audience that a change in the social media landscape is needed. Inviting Marleen Stikker will help us accomplishing that goal. According to Cialdini’s principle of authority people will follow credible and knowledgeable experts (Cialdini, 2016). Therefore, the students present should adopt this view during the plenary session and be aware of the problems of traditional social media. Furthermore, the audience should work with the idea of developing non-profit social media services as alternatives that overcome many of the current problems of traditional social media platforms. The active use of adopting a critical perspective based on the insights from an expert should convince the students even more. In addition, we intentionally chose a large group setting to make use of Cialdini’s consensus principle. According to that principle, people will look to the actions of others to determine their own (Cialdini, 2016). If people realise that others in the audience share the perspective of Ms. Stikker or raise their critical opinion during the brainstorming phase, others will most likely adopt these viewpoints, too.

6. Results

Our attempt that SympCie organises a plenary session with Marleen Stikker as a keynote speaker has been successful and therefore our change goal was reached. We spoke with some of the SympCie members and they agreed that a plenary session about changes in the social media domain would be interesting for the students. They also agreed to contact Marleen Stikker via the Honours Office. One student member of SympCie is working for the Honours Office as well and we agreed that establishing contact with Marleen Stikker through the Honours Office would probably raise our chances for her to agree to speak at the plenary session. However, SympCie demanded some involvement in the planning of the plenary session from us. Therefore, we joined the committee for the preparations of this plenary session.

7. Discussion

We are glad that SympCie agreed to organise the plenary session together with us. However, the process of getting there was a little bit different than anticipated. We got the phone number of the head of the SympCie committee from a board member of H.V. Ockham, the Honours association at the UT. We texted him in the evening and scheduled a meeting with him for the following Thursday. However, during the Honours pinning ceremony we realised that the SympCie committee member we wanted to talk to was also there. So, we decided to approach him on the spot after the ceremony. The setting was very informal, as we had imagined anyways, so we thought that this is a good opportunity. Everyone had drinks and people were talking to each other. We approached him and congratulated him for finishing his Honours track to establish some common ground in line with the liking principle. We wanted to show him that we belong to the same association and group of Honours students, which worked pretty well. Next, we told him that we already had contact on WhatsApp for our idea about the plenary session and that we just realised that he’s also here. We mentioned that it’s a nice coincidence that would mean saving an extra meeting on the next day. Luckily, he was very busy anyways and happy that we could talk with him now. So we told him about Marleen Stikker and the waag futurelab, our change project and ideas for the plenary session. We also mentioned that it would be a unique thing to invite her to the plenary session to make use of the scarcity principle and repeated that she’s a well-known expert, author and public figure.

Even though the circumstances were different, maybe even in our favour, it was good that we already had concrete ideas for our contact with the SympCie committee. It enabled us to effectively use the pre-suasion principles by Cialdini on the spot and to get a positive response quickly. It was also helpful to have worked on this project for several weeks already. Therefore, we appeared knowledgeable and well-informed. The SympCie committee member even said that we've been very persuasive. Afterwards, we only had to discuss all the technicalities of our cooperation with SympCie (i.e. how we work together and how we contact Marleen Stikker), which was only a formality compared to getting our request approved.

As already outlined in the change goal section, we hope that future Honours students continue working on this project and carry on the idea of promoting non-profit social media at the UT. This is certainly a very extensive change project that cannot be achieved within a few weeks. Future change projects could try to implement the insights from our plenary session in a Perspectives seminar of the president of the UT board, Vinod Subramaniam, to make a larger impact on the organisational and professional level.

References

Akram, W., & Kumar, R. (2017). A study on positive and negative effects of social media on society. *International Journal of Computer Sciences and Engineering, 5*(10), 351-354.https://doi.org/10.26438/ijcse/v5i10.351354

Alvear Cardenas, J., D., Weglage, F. (2021). Establishing an Alternative Social Media at the Universtity of Twente. *Processes of Change Bachelor's Honours Programme Final Publication Cohort 2020-2021.* https://www.utwente.nl/.uc/f2cd0c43b01024b9ca30140d2db045ce07b60474f292800/Honours%20PoC%20Cohort%202020%20-%202021.pdf

Center for Humane Technology (2022a, June 23). *Together we're working to catalyze a more humane future.* Center for Humane Technology. https://www.humanetech.com/

Center for Humane Technology (2022b, June 23). *Who We Are.* Center for Humane Technology. https://www.humanetech.com/who-we-are#our-story

Cialdini, R. (2016). *Pre-Suasion: A Revolutionary Way to Influence and Persuade.* New York, NY: Simon & Schuster. ISBN: 1847941435.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace 1. *Journal of applied social psychology*, *22*(14), 1111-1132. https://doi.org/10.1111/j.1559-1816.1992.tb00945.x

Deci, E. L., & Ryan, R. M. (2013). *Intrinsic motivation and self-determination in human behavior*. Springer Science & Business Media.

Ermakova, Blume, Fabian, Fomenko, Berlin, & Hauswirth. (2021). *Beyond the hype: Why do data-driven projects fail?* 5081–5090.

Kelion, B. L. (2020, November 17). *Facebook and Twitter grilled over US election actions*. BBC News. https://www.bbc.com/news/education-54974819

Krutka, D. G., Manca, S., Galvin, S. M., Greenhow, C., Koehler, M. J., & Askari, E. (2019). Teaching “Against” Social Media: Confronting Problems of Profit in the Curriculum. *Teachers College Record, 121*(14), 1–42. https://doi.org/10.1177/016146811912101410

Lin, H. F. (2007). Effects of extrinsic and intrinsic motivation on employee, knowledge sharing intentions. In *Journal of Information Science. 33*(2). 135-149. https://doi.org/10.1177%2F0165551506068174

Lin, L. Y., Sidani, J. E., Shensa, A., Rad ovic, A., Miller, E., Colditz, J. B., ... & Primack, B. A. (2016). Association between social media use and depression among US young adults. *Depression and anxiety*, *33*(4), 323-331. https://doi.org/10.1002/da.22466

Mastodon. (n.d.). *Social networking, back in your hands.* Retrieved July 7, 2022, from https://joinmastodon.org/

Moon, J. W., & Kim, Y. G. (2001). Extending the TAM for a World-Wide-Web context. *Information & management*, *38*(4), 217-230. https://doi.org/10.1016/S0378-7206(00)00061-6

NovelT (2022, June 23). *Incubase*. NovelT. https://novelt.com/en/services/incubase/

Oberlo (2022). *How many people use social media in 2022?*. Oberlo. https://www.oberlo.com/statistics/how-many-people-use-social-media#:~:text=The%20latest%20figures%20show%20that,jump%20in%20just%20six%20years.)

O’Reilly, M., Dogra, N., Whiteman, N., Hughes, J., Eruyar, S., & Reilly, P. (2018). Is social media bad for mental health and wellbeing? Exploring the perspectives of adolescents. *Clinical Child Psychology and Psychiatry, 23*(4), 601–613. https://doi.org/10.1177/1359104518775154

Palmquist, W. J. (1979). Formal Operational Reasoning and the Primacy Effect in Impression Formation. *Developmental Psychology. 15*(2).

Smith, A. (2011, November 15). *Why Americans use social media.* Pew Research Center. http://www.pewinternet.org/2011/11/15/why-americans-use-social-media/

Twitter (2021, January 8). *Permanent suspension of @realDonaldTrump*. Twitter. https://blog.twitter.com/en_us/topics/company/2020/suspension

Vaidhyanathan, S. (2018). *Antisocial media: How Facebook disconnects us and undermines democracy*. Oxford University Press.

Vannucci, A., Flannery, K. M., & Ohannessian, C. M. (2017). Social media use and anxiety in emerging adults. *Journal of affective disorders*, *207*, 163-166. https://doi.org/10.1016/j.jad.2016.08.040

Waag Futurelab (2022, June 23). *Marleen Stikker*. Waag Futurelab. https://waag.org/en/users/marleen-stikker

Xu, B. & Albert, E. (2017, February 17). *Media Censorship in China*. Council on Foreign Relations. https://www.cfr.org/backgrounder/media-censorship-china

HELPING CROSS-DISCIPLINARY RESEARCHERS TO BE MORE RESILIENT

Pedro De Freitas Barros Neto

Introduction

The problems in our society are becoming more complex by the day, and new approaches are necessary to provide holistic, sustainable and innovative solutions to these issues. On the same note, cross-disciplinary research is growing significantly and has the potential to solve problems through the beauty of collaboration (Nordgreen et al., 2021). Cross-disciplinary research is the umbrella term for all research that involves two or more fields (Daniel et al., 2022). Therefore, for this report, the terms cross-disciplinary, interdisciplinary, and multidisciplinary research are used interchangeably and carry the same meaning.

This report focuses on how to make cross-disciplinary researchers more resilient. This demographic is hindered by the issues discussed below. This report aims to describe the behavioural change approach adopted by multidisciplinary scientists, aiming to increase awareness of the problems faced by the target group and offer potential solutions to the issues encountered. This change intervention is done through an interactive workshop. The following sections of the report include the situation description, change approach, change goals, results from the workshop, advice for the target group and future interventions, and a personal reflection about this project and the author's learning throughout the Processes of Change honours track.

Situation

With the increase in complexity of problems faced by society, there is inherently a surge in demand for cross-disciplinary research (Nordgreen et al., 2021). These academic researchers are becoming an increasingly vital component of scientific and societal development, considering that real-world problems differ significantly from the niche investigated in research papers (Murray, 2021). There is a need for looking at issues from multiple perspectives, taking into account the needs and desired outcomes of all involved.

Despite the clear importance and need for interdisciplinary research, the researchers that take this approach encounter many barriers that conventional researchers do not have to face.

Daniel et al. (2022) state that disciplines can be considered their cultural ecosystem that outputs knowledge. This also means that each domain has its values, norms, beliefs, and communication. Apart from the jargon from each discipline, each culture (discipline) has a conventional way of presenting its research, its approach to problem-solving, and expectations.

Cross-disciplinary researchers had to border-cross, the process of working between two or more cultures (Strober, 2006). This process involves adapting one's behaviour to match the expectations or norms of the other group. Some border-crossing can be done, for example, adapting between 'at home' behaviour and 'at work' behaviour. In contrast, others can be considerably more complex, especially when it involves overcoming organisational or systemic challenges. Often, multidisciplinary researchers are not considered central members in any of the departments with which they are involved. Multidisciplinary researchers are seen as "disciplinary outcasts" (Nordgreen et al., 2021).

After investigating the relevant literature, there are three identified main challenges faced by cross-disciplinary researchers:

1. Communication: refers to the specific wording or 'jargon' used in each field. Research fields are often very particular about the way they communicate their findings. Both researchers and the audience must be familiar with the specifics of the area to communicate and adequately understand the conclusions of their research correctly. Due to this issue, cross-disciplinary researchers find problems when attempting to publish their work because it is not specific to only one field, and most journals focus on a particular field of research or niche (Boyd, 2005).
2. Funding: since the department of the cross-disciplinary researcher is not well-defined, scientists in this field often struggle to receive funding from a specific department. Additionally, research grant reviewers have expectations based on knowledge creation within their departments and may not know or acknowledge the value of the interdisciplinary research project (Murray, 2021). On top of that, depending on the

nature of the research in question, the scientist does not know which department to approach, which can lead to increased stress in an already stressful situation (Daniel et al., 2021).

3. Lacking support structures: In a conventional research situation, it is more apparent who the scientist can reach. Often, they have to look beyond their home institution and lack a clear vision of who to contact, creating a feeling of isolation and not knowing where to begin when creating their support network (Daniel et al., 2022; Nordgreen et al., 2021).

The three issues identified provoke increased stress and can cause interdisciplinary research and development to be hindered. Indeed, the conventional intradepartmental analysis also encounters problems within the three discussed above (Strober, 2006). However, having the support structures and a defined discipline can be comforting. Strober (2006) states, "Every academic knows the experience of reading something from outside their discipline and knows the unsettling feeling it induces. Disciplines provide a core element of the identity of most intellectuals in Modern America" (pp. 4). This thought illustrates that the nature of cross-disciplinary research can exacerbate the abovementioned issues. Additionally, these issues can trigger a negative feedback loop that results in cross-disciplinary scientists having an identity crisis (Boyd, 2005).

Change Goals

The situation illustrated in the section above deserves attention and, therefore, is the focus of this change intervention. The overall goal is to make cross-disciplinary researchers more resilient. To make the results of this report measurable, three subgoals were developed, as follows:

1. Participants will become more aware of the issues that come with cross-disciplinary research.
2. Participants will develop at least one open-ended question that improves their communication and discussion with colleagues.

3. Participants will feel more confident and comfortable as cross-disciplinary researchers.

These goals will aid cross-disciplinary researchers to feel more aware of their issues and empower them to communicate better with their colleagues. The three issues pinpointed are heavily connected to communication, meaning that focusing on communication is the most efficient tool to tackle the main barriers encountered by cross-disciplinary researchers.

After investigating the literature pertinent to the importance and challenges encountered by cross-disciplinary researchers, change management literature was examined and shed light on the importance of communication. In any change management or research project, proper communication "creates a synergy" and makes the team feel more connected (Azhfar, 2022). Furthermore, Jones (2021) states that with appropriate communication tools and a communication plan, a project runs smoother and brings those involved to collaborate more closely and effectively. Therefore, empowering and bettering the communication of cross-disciplinary researchers is of great importance and has tremendous potential to reduce their stress. The following section highlights the approach selected to instigate this behavioural change and how the outcomes of this intervention are measured.

Change Approach

The approach selected for this intervention is an interactive workshop. The participants are recruited based on two factors: they are cross-disciplinary researchers and have encountered similar issues when communicating and presenting their research. The context is within the University of Twente. With these two prerequisites in mind, any participant is welcome, with no restrictions based on age, discipline, and education level. The target audience is those who fit within the criteria and are motivated to change or help their colleagues change. For the workshop and the desired outcomes, the more engaged and participative the audience, the better the experience for all those involved (Jones, 2021).

The 'weapon of choice' is a workshop, due to its numerous benefits. It took place on campus, on a Thursday, and lasted about one hour. A workshop is an optimal space to teach a new skill or improve on an already existing one (Holt, 2021). Since the participants join under the assumption that they are engaged and there to learn something, a safe space is more easily constructed, meaning they feel more comfortable applying a skill while minimising the fear of failure (Jones, 2021). A workshop also creates an environment of unity, cooperation, and partnership, which positively affects the desired results of the workshop and activities conducted within (Azhfar, 2022). On top of these benefits, the workshop is also a networking opportunity for researchers to meet, increasing their contacts and relationships with those who encounter the same issues.

Workshop

The participants are recruited through posts on social media, such as Linkedin and Instagram, and word-of-mouth. Since the author's environment is multidisciplinary, many people are available to recruit through word-of-mouth. To optimise the efficiency of recruitment, multiple persuasion tactics were used, based on the work of Cialdini (2016).

When recruiting, the "foot-in-the-door" technique was used, which consists of giving potential participants just enough information to get them hooked, but without giving away the full extent of the content (Cialdini, 2016). Furthermore, combined with the principle of 'liking', which includes my enthusiasm towards the cause at hand and belief in the workshop, may cause participants to be more engaged and interested in the workshop. Additionally, Cialdini (2016) emphasises that taking small steps towards the change strengthens the chances of participants becoming fully involved in the intervention. This method is through a small commitment message they have to write to me before joining the workshop and by a small survey at the start. Lastly, Cialdini (2016) states that the higher the topic is for the participant's relevance, the more engaged they are in the event or change intervention, so it is essential that the message is clear, captivating, and strikes the participants in the pain points that they face as a cross-disciplinary researcher.

After recruitment is successful, the workshop takes place. Lunchtime (12:45-13:45) was decided as the optimal timeslot to conduct the workshop, as usual, that is a time of day when the university takes a break from classes and meetings. The workshop invitation has a 'bring your lunch!' message to maximise the welcoming feeling and make the situation more appealing and convenient for those who take the time to come.

The workshop starts with an icebreaker, allowing participants to engage and break the first barrier of fear, shame, or discomfort. The icebreaker was done using "menti" software and asked participants to share their field of study and, if allowed, which projects they are currently working on. This icebreaker is also an excellent way for the organiser to have more input from the participants, enabling the organiser, when explaining the theoretical concepts, to give more relatable examples to engage the audience.

After the ice was broken and the participants were more comfortable sharing their input, I will provide the information I gathered through the literature investigation, also presented in the first two sections of this report. Following the presentation of information, I asked the participants to share a situation in which they encountered difficulties in communicating or when they felt lost as a cross-disciplinary researcher. In this situation, Victor DeCounick, a guest lecturer in the Processes of Change (PoC) track, stated that sharing a personal story and adding feelings and passion to it engages the audience and increases their interest in what is being said.

Following that discussion, I present them with information on what constitutes an excellent open-ended question and information o why open-ended questions facilitate communication and input. This increases participants' awareness of robust and constructive communication and hopefully teaches them this new skill. After the information is presented, I ask them to share a few examples with the group of questions that could have been asked in the situations they described in an earlier stage and how these types of questions would have helped them in that situation.

After being given the information and the opportunity to apply it, the participants are asked if they are willing to join a communal WhatsApp group with me. This is an attempt to initiate a support community for participants to share their future issues, and the group can provide input. Because some of the problems can be very personal, I try to create a safe, no-judgement space that focuses only on understanding and providing support. I ask the participants to co-create the Whatsapp group name since that adds ownership, commitment, and engagement with the group (Cialdini, 2016; Strober, 2006). With the group activated, a week-long pilot takes place, and if successful, can continue to provide support to the group. They can create even larger support groups focused on cross-disciplinary researchers. This approach is a follow-up to the workshop and to increase the impact and measurability of the intervention.

Measuring Intervention Effects

The effects of the interventions are measured through questionnaires. The first questionnaire, at the first moment of the workshop, starts by asking how comfortable the participants currently are when talking to other researchers, especially those that are fixed within a specific niche in a single discipline, as there may be the hardest to communicate with (Muts et al., 2015). The other question concerns the participants' openness to change and adopt new methods to improve their quality of life and communication effectiveness. Both questions are asked using a seven-point scale, ranging from "strongly agree" to "strongly disagree". This first questionnaire serves as a baseline for the questionnaire at a later stage, five days after the intervention.

The second questionnaire, done five days after workshop completion, is the key to concluding whether there was an effect on the participants. A five-day buffer time is given to ensure the information is stuck with the participants. Additionally, the buffer time allows for the Whatsapp group to consolidate and foster the support system co-created in the workshop. This questionnaire, different from the first, comprises an objective, seven-point scale and subjective, open-ended questions. The objective questions are very similar to those asked in the first questionnaire, which helps with objective measurements of the intervention. The questions that follow are open-ended. These are a way of gathering insights into the overall effectiveness of the workshop. One of the questions asks, “What aspects of the workshop were the most useful or relevant for you?” another example is “What could have been done better when presenting and implementing the workshop”. Furthermore, there is a space for general comments, questions, or concerns that the participants may still have. The combination of the two-step input from the participants allows me to gauge their situation before and after the workshop, resulting in undeniable evidence of whether the workshop had an actual positive effect on the participants’ way of communication and overall quality of life.

Results

The workshop was completed successfully. Five participants joined the workshop. These are all interdisciplinary bachelor's students from the Technology, Liberal Arts, and Sciences study program at the University of Twente. Two students came through the posts on social media, and the other three were invited through word-of-mouth. The first questionnaire showed that the participants had trouble communicating their research to experts focused on a specific niche. Since the projects in the study programme are interdisciplinary, the students did have some experience with cross-disciplinary research, even though they are not at the PhD level. The second question, which asked whether the students were open to change, showed that, generally, the participants were open to change. This answer was not as strong as the input of the first question; however, it did show that the participants are genuine and, to some extent, welcome changes in their life that change them for the better.

The results of the second questionnaire are promising, although it does not encompass the level of change expected. The seven-point scale questions showed that there was indeed a slight increase in awareness and showed an increase in skills and empowerment of the participants when communicating their research. The valuable part of this questionnaire came from the second part, which included open questions and asked for general feedback regarding the workshop and change approach. The questions also asked whether the Whatsapp group inflicted any change. The participants stated that having this support community is a lovely idea, but they were not engaged in the Whatsapp group for the five days after the workshop. One participant stated that they would like to keep the group; whenever a problem arises, he would still want to consult with the other participants and me.

Overall, the participants were engaged and found the workshop an enjoyable experience. One participant also stated that he felt safe and that a nice space was created where he could inquire and consult with peers who face the same or similar issues. When asked, they all said they learned something new in the workshop, which is also a positive point. The constructive feedback is discussed in the following section, "Advice for Next Steps".

Advice for Next Steps

Numerous aspects of the change approach and workshop can be improved, and the participants' input help with making these aspects clear. This section comprises two parts. The first consists of advice for future change managers and the improvements to be made to this change approach, and the second is advice for the participants to maximise the effects of the workshop.

The change approach could have been more efficient. The recruitment on social media was not as successful as expected, as the presence of cross-disciplinary PhD researchers or more experienced researchers would add value to the change approach. They have more exposure to the problems presented and should have valuable input on how they deal with those problems already. For next time, it would be an idea to ask tap into the network of PhD and experienced researchers, reaching out to them specifically. With more experience and dealing with research daily, it is expected that they would have kept the Whatsapp group more engaging, as they would have more input. In general, having more than five participants would also increase the engagement and optimal results of the change intervention. Furthermore, I am not an expert (yet) on cross-disciplinary research and its problems, although I tried my best to become one, so having more experienced members there would have indeed increased the value of the workshop.

The participants can still take some measures to maximise the effects of the workshop and change intervention. They could have made a better effort to keep engaged in the Whatsapp group. Additionally, they must implement what was taught in their attitudes, even if it is a little bit every day, so that the skills acquired stick and they apply them to their lives. I do acknowledge that I should have been the one to guide them to be more engaged and emphasise the benefits of doing so.

Learning Experience and PoC Track

This change intervention has been an enlightening, fulfilling, and challenging experience and aggregates to the overall learnings of the Processes of Change (PoC) track. Furthermore, this experience refined some of my existing skills in areas such as leadership and communication.

Throughout the PoC track, I have acquired leadership and communication skills. For example, we had a module called "Effective Leadership in Organizations", which taught me how to foster a good culture and be a leader, not a boss. It has taught me to look into myself, tap into my emotions, and realize why I have specific reactions to certain situations. For example, I learned how to constructively give feedback without referring to one's characteristics but rather to the work they have submitted. This workshop further helped me take charge, as I had to coordinate the workshop's presentation and implementation, which required active listening while keeping the audience engaged. My communication skills were also amplified, as I have to be eloquent, precise, and clear with my words. These skills will help me in any academic or professional context I find myself in.

A fascinating aspect of this track is the opportunity to complete an Insights Discovery profile. This personality test outputs my working style, communication preferences, and how I act when placed under stress. This test allowed me to tap into my needs and emotions and identify the factors that motivate me. My preferences are already embedded within me, but without a detailed and precise description, I could not discover what they are. This test allowed me to realize that I thrive while working in groups, and my work needs a social component to it, or else I do not feel motivated to engage in it. My work requires a greater vision, and in general, these converge into making the world a better place for us and generations to come.

Self-discovery and understanding the root cause of our actions are extremely important for achieving happiness or peace. A final aspect that helped me achieve that is being coached throughout the last module, "Learning-by-Doing". On top of guiding me and supporting my workshop idea, the coach asked me challenging questions about my personality and actions, mostly starting with 'why'. Being challenged to tap into the underlying reasons is very difficult, and it sparks fear and places the coachee vulnerable because you must open up and discuss deep and private thoughts. The coaching aspect of this module is significant and valuable and has also helped me keep on track and deliver the work on time.

Overall, conducting this change intervention and completing the PoC track are valuable experiences for which I am grateful for the opportunity to participate. I have made significant progress towards my self-discovery journey, which I place extremely high importance on, equally if not more important than my academic and professional development. I want to thank my supervisor, Dr Lara Carminati, and my coach, Younjung, for the unparalleled support and for maximizing the learnings I take away from this experience. I would also like to thank my colleagues for making this journey more enjoyable. I am proud of myself and my colleagues for finishing this cycle and that we can hold our heads up for this achievement!

References

1. Azhfar, A. (2022). Workshop: Definition, Benefits, and Its Purpose for Individuals. BusinessTech. Retrieved 22 June 2022, from https://www.hashmicro.com/blog/understanding-workshop/.
2. Boyd, D. (2005). Identity Crisis: the curse/joy of being interdisciplinary and the future of academia | danah boyd | apophenia. Zephoria. Retrieved 21 June 2022, from https://www.zephoria.org/thoughts/archives/2005/05/07/identity_crisis_the_cursejoy_of_being_interdisciplinary_and_the_future_of_academia.html.
3. Cialdini, R. (2016). Pre-suasion: A revolutionary way to influence and persuade. Simon and Schuster.
4. Daniel, K. L., McConnell, M., Schuchardt, A., & Peffer, M. E. (2022). Challenges facing interdisciplinary researchers: Findings from a professional development workshop. In M. S. Kirgiz (Ed.), PLOS ONE (Vol. 17, Issue 4, p. e0267234). Public Library of Science (PLoS). https://doi.org/10.1371/journal.pone.02672
5. Holt, C. (2021). Conducting a Workshop. CommunityToolBox. Retrieved 22 June 2022; https://ctb.ku.edu/en/table-of-contents/structure/training-and-technical-assistance/workshops/main#:~:text=A%20workshop%20can%20introduce%20a,fail%20in%20a%20safe%20situation.
6. Jolly, M. (2022). Accepting identity crisis as an identity itself. IndiaBioscience. Retrieved 21 June 2022, from https://indiabioscience.org/columns/journey-of-a-yi/accepting-identity-crisis-as-an-identity-itself.
7. Jones, K. (2021). Benefits of Workshops. Rove Agency. Retrieved 22 June 2022, from https://www.rove.agency/post/top-5-benefits-of-workshops.
8. Murray, K. (2021). Reflections on post-graduate student experiences of cross-disciplinary research. ReDress. Retrieved 19 June 2022, from https://www.redressliberia.org/blogs/reflections-on-post-graduate-student-experiences-of-cross-disciplinary-research-by-carrie-barrett-bea-egid-ya/.

9. Muts, R., Bornmann, L., & Daniel, H. (2015). Cross-disciplinary research: What configurations of fields of science are found in grant proposals today? Research Evaluation, 24, 30-36.
10. Nordgreen, T., Rabbi, F., Torresen, J., Skar, Y. S., Guribye, F., Inal, Y., Flobakk, E., Wake, J. D., Mukhiya, S. K., Aminifar, A., Myklebost, S., Lundervold, A. J., Kenter, R., Hammar, Å., Nordby, E., Kahlon, S., Tveit Sekse, R. J., Griffin, K. F., Jakobsen, P., Lamo, Y. (2021). Challenges and possible solutions in cross-disciplinary and cross-sectorial research teams within the domain of e-mental health. In Journal of Enabling Technologies (Vol. 15, Issue 4, pp. 241–251). Emerald. https://doi.org/10.1108/jet-03-2021-0013
11. Strober, M. H. (2006). Habits of the Mind: Challenges for Multidisciplinary Engagement. In Social Epistemology (Vol. 20, Issues 3–4, pp. 315–331). Informa UK Limited. https://doi.org/10.1080/02691720600847324

NS SUSTAINABILITY CASE

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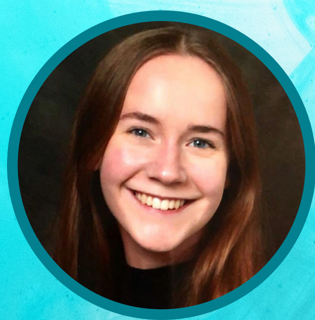


Lytske Wijma

1. Introduction

We do not inherit the earth from our ancestors, rather we borrow it from our children, a native American proverb that illustrates the importance of sustainability in just a few words (*UNESCO*, n.d.). Sustainability by UN definition is meeting the needs of the present without compromising the ability of future generations to meet their own needs (Oberhofer & Dieplinger, 2013). Within the European Union, transport and logistics is the fastest growing sector in terms of energy consumption, accounting for 56% of CO2 emissions among countries of the EU (Eurostat 2012). While this is the case for most transport and logistics companies across Europe, one transport company since 2020 no longer contributes to this massive output. That is NS, the Dutch Rail company, which is carbon neutral, 100% powered by wind energy, circular and highly accessible by most members of society (NS Annual Report 2021).

Despite NS being sustainable, COVID-19 has seen a dramatic decrease in the number of passengers on NS trains. There are many reasons why this decrease has occurred such as the rise of the remote economy, resulting in more people working from home. Another reason that is of prominence is alternative methods of transport such as cars or electric bikes being preferred over the use of the train as a main mode of transport (NS Annual Report 2021). However, these other sources of transport in comparison to using the train are less sustainable. This challenge has come to us as change agents. Being change agents, we wish to raise awareness about NS sustainability whilst inquiring about the perceived sustainability of NS and figure out which communication platforms and in what way the general population would like to hear and/or see what NS sustainability is. For this project Alina, Lytske and Rufaro had to investigate the perceived sustainability of NS to people in the Netherlands; how much they know about the sustainability of NS and what they would like to know. This leads us to our case description as can be seen below.

1.1 Case Description

Goal: Improve the perceived sustainability of NS to convince people to travel by train more by implementing awareness-raising elements on the website.

NS strives to be sustainable, accessible and contribute to the economy (NS, 2022). The factors aforementioned contribute to the company's corporate social responsibility (CRS). Fernando (2022) states that companies that practice CSR pay a lot of attention to the impact they are having on such aspects of society as economic, social and environmental. By practising CSR in the business and successfully communicating that to the customers, companies are able to enhance their corporate image which leads to an increase in purchasing intention (Wang, 2018). NS is a leader in sustainability, however, their customers/potential customers do not know this (NS Sustainability Expert). NS requested us to design the sustainability addition to the website and the mobile app that customers of NS will see, however as a team we decided due to time constraints to solely focus on the website.

This project aims to provide insights on whether people are aware of the environmental benefits of travelling by train and whether increasing the perceived sustainability of NS would increase people's intention to use trains while going on a trip. Moreover, the main goal of this project is to investigate whether behavioural change, specifically people choosing to travel by train rather than by car, can be achieved by including additional sustainability information on the website of NS. The website is the chosen avenue to relay information as a high majority of people intending to take the train search the website to see their options and decide if they should or should not use the train. Additionally, after acquiring this information, we would also want to implement a workshop intended to test the design of a prototype of the website page of NS (further called "prototype") to raise awareness of NS sustainability and increase the intention to take the train on individuals who could use alternative methods of transport. The process of presenting this prototype is the key driver of intention to use the train.

2. Approach

Our approach begins with market research on what information about NS sustainability customers would like to see on the website. We begin with market research because the success of the product depends on the clients' needs. These needs must be met so the product can be appreciated by the market (Slade, 2015). In this case, the new sustainable design had to grab the audience's attention and tell people what they wanted to know to ensure that people would be interested in reading/watching it.

There are four basic methods of market research: surveys, focus groups, personal interviews and observation (Jiwa, 2022). A questionnaire was used in our approach as this was the fastest way to collect data. Although conducting interviews would be the most insightful way of collecting data (Jiwa, 2022) for future design, our team was met with time constraints that led us to choose the questionnaire as a method. Creating a questionnaire allowed us to get insights from different groups of people such as students, parents, and teachers in the fastest and most timely way possible. Questionnaire data generates a lot of possibilities for the initial construction of a prototype, particularly when it comes to figuring out what the population needs to see on a web/app-based application. (Corry et al., 1997) This aids us in developing a prototype based on collected data.

After the collection of questionnaire data, the prototypes were made in line with the results of the survey and discussions held with sustainability experts from the University of Twente and NS. This data generated ideas which we elaborated on to design the prototypes which were presented in the workshop, which is commonly used in the construction of prototypes (Prillwitz & Barr 2011). Subsequently, the workshop was conducted thereafter to assess the prototypes developed, increase the perceived sustainability of NS and increase the intention to use the train more. To measure an increase in perceived sustainability and an increase in intention to use the train, a pre- and post-workshop questionnaire were implemented.

Approach Outline:

1. Construct and distribute the prototype survey to gather data on information that should be presented on NS' website.
2. Use data from the prototype survey and expert opinions of sustainability experts at the University of Twente to make prototypes.
3. Conduct a workshop to assess these prototypes and drive the intention to use the train for sustainable reasons

2.1 Questionnaire Construction for Prototype

This survey, as seen in Appendix A, contains a consent form that informs respondents how their data will be used and the purpose of the questionnaire. The reason for this implementation is because it is the respondents' right to understand why they are taking the survey and as change agents, we have an ethical responsibility to inform our respondents. Additionally, demographic data such as age, gender, nationality, and how often they use the train on a 5-point Likert scale was collected on the participants. This was to aid us in making conclusions about the data later, so NS understands the subset of the population we worked on and how diverse it was.

Another question asked before information was presented to the participants had to do with how sustainable they think NS is as well as how often they consider sustainability when choosing a method of transportation. Both these questions were put in the survey at the request of NS. Additionally, these questions aid to understand to what extent sustainability is an important factor in comparison to other factors such as time and money when it comes to choosing a mode of transport. Prillwitz & Barr (2011) investigated a similar question for the purpose of understanding individuals' mobility behaviour by assessing the influence of environmental concern on travel choices.

In the next block of the questionnaire, we presented information about NS' sustainability. First, the information is shown on the screen to raise awareness among the respondent of the facts on how sustainable NS is, so they could indicate what they would like to see on the app or website based on what they think is most interesting. Following this, the current website and app pages of NS were shown, and the respondents were asked to inspect the photos of the website and the app and subsequently begin by answering the question of what information they would like to see as well as why they would want to see this information. This question helps understand what is important for people and what grabs their attention. This would help NS in making decisions about how to increase the perceived sustainability of NS.

Additionally, respondents were also asked in what format and where they would like to see this, which would aid in the redesign of the app/website with the extra sustainability features. Finally, the last question of this survey was asked where else they would like to see these features, this is to inform NS of any other points other than their website or app that could be useful to increase the awareness of how sustainable NS is.

2.1.2 Survey and Distribution Persuasion Techniques

To influence individuals to fill out the questionnaire, we implemented some persuasion tactics when sharing this questionnaire.

To spread the survey and convince people to fill it out completely, we mainly focused on the six persuasion principles introduced by Robert Cialdini in his book "Influence: The Psychology of Persuasion" in 1984. One tactic used is *Reciprocation*: when you do something for a person, he/she will feel like he/she owes you and try to return the favour (Cialdini, 2016). Since it is the end of the academic year, many students are working on their theses and have been sending out surveys to their friends during April-May. After filling out such a questionnaire we sent our questionnaire back and asked those students to complete ours.

Additionally, a poster was created to get more responses to the survey from the people around the university (see Appendix B). In this poster, we tried to implement some of Cialdini's pre-suasion tactics (Cialdini, 2016). The first pre-suasion principle that we used was *Directing Attention*. In order to direct the attention of people to the poster, we ensured that the poster was noticeable. We did this by using bold colours, which were the colours of the NS and might therefore already look familiar to people. Furthermore, the text on the poster was big and we tried to ensure that there would not be too much text so that people can easily read what the poster is about. Additionally, we used the tactic of *Implicit Egoism*. We implemented this tactic by using the word 'you' and variations of it multiple times on the poster. For instance, there is the line "then we need **your** input". The use of the word "you" and putting emphasis on the importance of the reader's opinion, makes individuals feel important, which might compel them to look into what the poster is aiming at. By implementing these tactics by Cialdini, we tried to make the poster stand out to people and persuade them to scan the QR code.

For this survey, there were 29 participants. The mean age of these participants was 26.11 with a standard deviation (SD) of 12.06. The ages ranged between 18 and 63. Furthermore, among these participants, 18 people identified as female and 11 as male. 15

participants were Dutch, and the remaining 14 were either German, Indonesian, Indian, Russian, or Lithuanian.

2.2 Workshop

After creating the prototype, we wanted to talk to a group of 10-15 people to, first, gather feedback on our prototypes and find out how they can be improved and, second, persuade people to travel by train more often. The reason why we chose to do a workshop is that we wanted to have an interactive session with a discussion of the prototypes.

The target audience that we aimed for was a diverse group of people of different ages and incomes, and we planned to recruit these people from the customer panel of NS. It would be more difficult to design a workshop suitable for such a diverse group because people of, for example, different ages have different learning styles (How to Design a Training Workshop, 2017). However, we thought that a diverse group would be beneficial since everyone who wants to check the time of the trip and/or the cost would open the website of NS and would see the sustainability addition designed by us. Unfortunately, we were unable to get the panel of NS. The process of requesting a panel went too slow because the panel and our contact people at NS were very busy. Hence we had to adapt and change the plan. Without having the panel, we were unable to recruit a diverse group of people due to the fact that we are (mostly international) students. We tried asking some of the teachers we knew from our studies who always drive by car, but none of them were available to join. Lytske tried to get her parents to join, but they also could not join. Therefore, we only managed to get students. To recruit people, we sent out personalised messages to people who always travel by car instead of using trains, asking them to join our workshop. Moreover, we sent a general message to different WhatsApp groups to reach a wider audience (see Appendix C).

In the end, we thought it was beneficial for us to recruit workshop participants ourselves because were able to use Cialdini's persuasion tactic called *liking* which implies that the more participants associate themselves with us and think they are like us, the easier it is for us to influence them (World of Work Project, n.d.). We used the principle of *liking* while recruiting people. For the people we knew and who we have good relationships with, we sent personalised messages. These people are our acquaintances or even friends, therefore, we believed they would be more eager to help us.

As for recruiting people we did not know, we used Cialdini's principle of *scarcity*, which states that you can increase interest in something by reducing its availability (World of Work Project, n.d.). In the message, we stated that there are limited spots available. Here we aimed at giving the impression that people need to act fast and sign up before all the spots are filled up.

2.2.1 Workshop outline

The following chapter describes the layout of the workshop that includes the description of each part of our workshop. The workshop design consisted of several parts and was supposed to take around 50 minutes. The full planning of the workshop can be found in Appendix D.

First, an ice breaker activity was planned at the start of the workshop. Since a discussion was planned and most of the participants had not met each other before, we wanted to let them get used to each other and get into the topic by engaging in a short interactive activity (Ice Breakers, n.d.). According to the research of Fullwood (2006), in comparison to control groups, groups that have done an ice breaker managed to finish their task faster and more efficiently. Furthermore, the workshop was planned in the evening, so we decided to ask participants to move around to add some energy to the room. To get people talking and thinking about sustainability, we did a "would you rather…" type of game with sustainability related questions. We asked participants to stand in one line in the middle of the room and move left or right according to their choice and then discuss why they chose that side.

Next, we did a presentation to let participants know how sustainable NS actually is. The presentation was structured in a "heart, head, hands" technique that we learned from Victor Deconinck in the second module. The *heart* part was a story about how greenhouse gas emissions partially caused by transport are at an all-time high, causing global warming (Budd, 2017). This causes the earth to change and hundreds of species to go extinct every single day - which is 1,000 times the normal rate of extinction (Nelson, 2022). During the *head* part we gave facts about what steps NS takes to become more sustainable. The *hands* part included a discussion of the prototypes, overall discussion of the changed perception of NS, and a call to action to take trains. First, participants were split into two groups. One group was asked to give only positive feedback on all the prototypes. The other group had to find all the negative aspects of our designs. Participants first talked with their group members only and later a discussion with the whole group was held. Second, we discussed with participants how and if their perspective on NS changed after our session. Third, a call to action was made that invited people to take a first step into becoming more sustainable by taking a train more often.

By having a discussion with the participants, we wanted to achieve two goals. First, we wanted to get feedback on the prototypes. We wanted to know whether the designs were eye-catching and struck people's interest to learn more about NS's sustainability. Or, if this was not the case, what needed to be changed. The second goal was to influence people to use the trains by means of discussion of the prototypes but also engaging in a sustainability discussion of NS. In other words, we aimed at people changing their attitude towards taking a train while discussing the importance of sustainability overall and specifically sustainability of a specific train company, NS. McKenzie-Mohr (2000) states that community-based social marketing through engaged conversation is an effective way to foster sustainability in communities. In comparison to general information sharing, getting a community to engage with sustainability within a given context that they understand leads to behavioural change. In this case, the community would be potential NS commuters. Hence train sustainability fits the given context of NS commuters which could likely lead to an increased intention to use the train for sustainability reasons.

2.2.2 Workshop setup

We booked one room in the university that had a screen. The reason why we needed a screen was that during the presentation we wanted to show the participants photos of some items that NS makes out of old train materials. The presentation can be found in Appendix E. Additionally, we planned on showing the prototypes on our screen as they were animated and interactive (see Appendix F). Therefore, we wanted to ensure we had electricity to charge the laptops if necessary. We also booked a second room where we removed the table to give space to walk during the ice breaker.

Since we are not sustainability experts it was decided to seek some help from NS but also from the University of Twente. We had several meetings with the sustainability department of NS (with Joost Bekenkamp and Ilse van Eekeren) to gather more insights about what measures NS is taking to be more sustainable that could be used as facts on the prototype and the workshop. For example, Ilse shared with us that NS uses old train materials to make items like speakers, bags, notebooks and so on. Furthermore, we asked help from Green Hub Twente and Brechje Marechal from the UT. Green Hub Twente is an organisation within the UT that helps with shaping and tracking UT's sustainability policies and implementing them into different parts of the organisation of the UT (Green Hub Twente, n.d.). Furthermore, Green Hub Twente is experienced in giving workshops about sustainability and thus, they were useful for us to talk to, as we could ask for advice for our own workshop. Brechje Marechal is an environmental and sustainability policy officer of the UT. During these meetings we were able to gather many ideas that we used to create the content of the workshop.

2.2.3 Pre- and post-workshop surveys

To measure behavioural change, two more surveys were created specially for the participants of the workshop. Before and after the workshop we asked the participants to rate from 1 to 10 their perceived sustainability of NS and the likelihood of them taking the train to their next trip. Moreover, Tim asked us to put some additional questions in the pre-workshop survey to see what people know about NS. Although these questions wouldn't help us to better measure change, they would be a valuable input for NS to gather more insights of what is customers' current knowledge about NS's sustainability. Both pre- and post-workshop surveys can be found in Appendix G.

On Monday the 20th of June we held a workshop on NS sustainability. The participants received a pre-workshop survey 2-3 days prior to the workshop. The post-workshop survey data were collected at the end of the workshop, right before the participant left. In total, there were five people who attended the workshop. The attendees were from 19 to 27 years old, four of them were female and one male. Moreover, four participants were German and one was Dutch.

3. Results

3.1 Prototype

After the results of the first survey were collected, the prototypes could be created based on the suggestions found in the survey. With regards to the question of how often the participants used public transport, with answer options on a 5-point Likert scale (Never/Once in a while = 1; A few times a month = 2; Once a week = 3; Several times a week = 4; Every day = 5), the results were as follows. The mean of the responses to this question was 2.74, with a standard deviation of 1.32 (see Table 1). Specifically, 33.33% said they use public transport several times a week, 29.63 % said to use public transport once a month, and 22.22% said never/once in a while.

Table 1

Results of the question "How often do you use public transport?"

	Minimum	Maximum	Mean	SD
How often do you use public transport?	1.00	5.00	2.74	1.32

The next question was "How often do you consider sustainability when choosing means of transport?". The results were as follows. The answer options were on a 5-point Likert scale ranging from "Never" to "Always". The minimum that was found was 1, and the maximum was 4. This shows that none of the 29 participants said that they always considered sustainability when choosing a means of transportation. Furthermore, the mean was 2.62 and the SD was 0.96, showing that most of the answers were either "About half the time" or "Sometimes" (see Table 2).

Table 2

Results of the question "How often do you consider sustainability when choosing means of transport?"

	Minimum	Maximum	Mean	SD
How often do you consider sustainability when choosing means of transport?	1.00	4.00	2.62	0.96

Another question that was added per request of the NS was "How sustainable do you think the NS is on a scale from 1 to 10?". The mean score on this question was 6.26, with a standard deviation of 1.48, a minimum of 3 and a maximum of 9 (see Table 3).

Table 3

Results of the question "How sustainable do you think the NS is on a scale from 1 to 10?"

	Minimum	Maximum	Mean	SD
How sustainable do you think the NS is on a scale from 1 to 10?	3.00	9.00	6.26	1.48

As for the questions that were asked with the aim of prototype design, the results were the following. Participants were asked with an open question what type of information regarding sustainability they would want to see on the NS website. Not all participants gave specific suggestions, but the valid answers are shown below (see Table 4). The most important finding was to show a comparison between the train and other modes of transportation, and more specifically, how much CO2 is saved when one takes the train instead of the car. Additionally, it was mentioned that participants would want to see something regarding the energy sources the NS trains use. Two participants mentioned that they would want to see more information regarding the green and circular business strategy. Furthermore, two participants suggested mentioning the Paris climate agreement and showing how goals are being met. One participant mentioned the possibility of using a "sustainability icon", a symbol that could be used to indicate sustainability. Lastly, someone wanted to know more about the sustainability of the process of producing the trains, and another person wished to know about climate compensation.

Table 4

Results of the question "What information about sustainability would you want to see that would convince you to take the train instead of a less sustainable mode of transportation?"

Suggestion	Quote from survey answers as example	Frequency

Comparing the train to other modes of transportation	*"A small impact analysis comparing emissions from your planned journey to if it was done by car."*	11
CO2 emissions	*"Co2 emitted per time or kilometre"*	7
Where NS gets energy from / 100% wind energy	*"Where does NS get its electricity from? Does it have its own windturbines or does it buy it from a different company?"*	3
Circular / green business strategy	*"...circular and green business strategy…"*	2
Paris agreement / how goals are met	*"Explanations on how certain sustainability goals are met"*	2
A symbol / icon indicating sustainability	*"If there was like an internationally acknowledged eco friendly icon that would be cool"*	1
Sustainability of production of trains	*"Indirect effects on sustainability of for example production of trains"*	1
Climate compensation	*"What percentage of the payment will go to climate compensation, whether it will be fully compensated"*	1

When asked "In what way would you want this information to be presented?", which was an open question (see Table 5), *fun facts* were mentioned the most often, followed by *pop-ups or notifications* of facts regarding sustainability. These elements were mentioned 16 and 6 times, respectively. Furthermore, three participants mentioned that they would want to be able to watch a video about sustainability, and that there could be a link to this video. Additionally, the use of *infographics or statistics* was mentioned three times as well. Some participants suggested the use of *colours*, more specifically the colour green. Lastly, two participants wanted to be reminded of sustainability through the use of *pictograms or animations*.

Table 5

Results of the question "In what way would you want this information to be presented?"

Suggestion	**Quote from survey answers as example**	**Frequency**
Fun facts	*"A short fun fact with an opportunity to read more"*	16
Pop-ups/notifications	*"A fact that pops up after filling in your destination"*	6
Video	*"I think it should be a video on the top of main page"*	3
Infographics/statistics	*"A straight forward statistic always visible at the journey tab"*	3
Use of colour	*"Maybe the use of a green color could support the message"*	3
Pictograms/animations	*"Just like a pictogram on which you can click for some additional information."*	2

Furthermore, the participants were asked where on the website or app they would want to see information regarding sustainability. This was a multiple-choice question, with the opportunity for participants to add an answer category if the desired option was not included (see Table 6). The vast majority mentioned that they would want to see this information on the main page, the first page you see when you open the website or app. This was mentioned 14 times. Next, seven people said they wanted to see it when they were in the process of buying tickets. Four participants wanted to see the information on every page, and two participants wrote their own answer category, stating they wanted to see it on the "planned journey tab" or "while choosing tickets", which we understood to be closely related to the “process of buying a ticket”. The remaining two participants did not answer this question, as it was added after the first two people had already filled out the questionnaire.

Table 6

Results of the question “Where on the website/app would you like to see the information you provided above?”

Suggestion	Frequency
Main page	14
Process of buying the ticket	7
Every page	4
Planned journey tab / while choosing tickets	2

Lastly, to gather more information for the NS and to look beyond the online environment of the website and app, participants were asked if they wanted to see information about the sustainability of the NS anywhere other than on the website or app, and if so, where they wanted to see it (see Table 7). This question was not mandatory to answer, and in total there were 17 participants that provided suggestions. Many of these participants, namely eight individuals, mentioned the use of advertisements. Not all were clear in what medium they wanted to see these advertisements, but some mentioned the use of posters, billboards and banners. Five participants mentioned that they would want to see these advertisements in or around the train station. Furthermore, two participants mentioned that this information could be put on the tickets, two people mentioned showing it on the 9292 app, and two people suggested the use of social media such as TikTok, Instagram and Facebook.

Table 7

Results of the question “If you want to see this information anywhere other than the website or app, where would that be and why?”

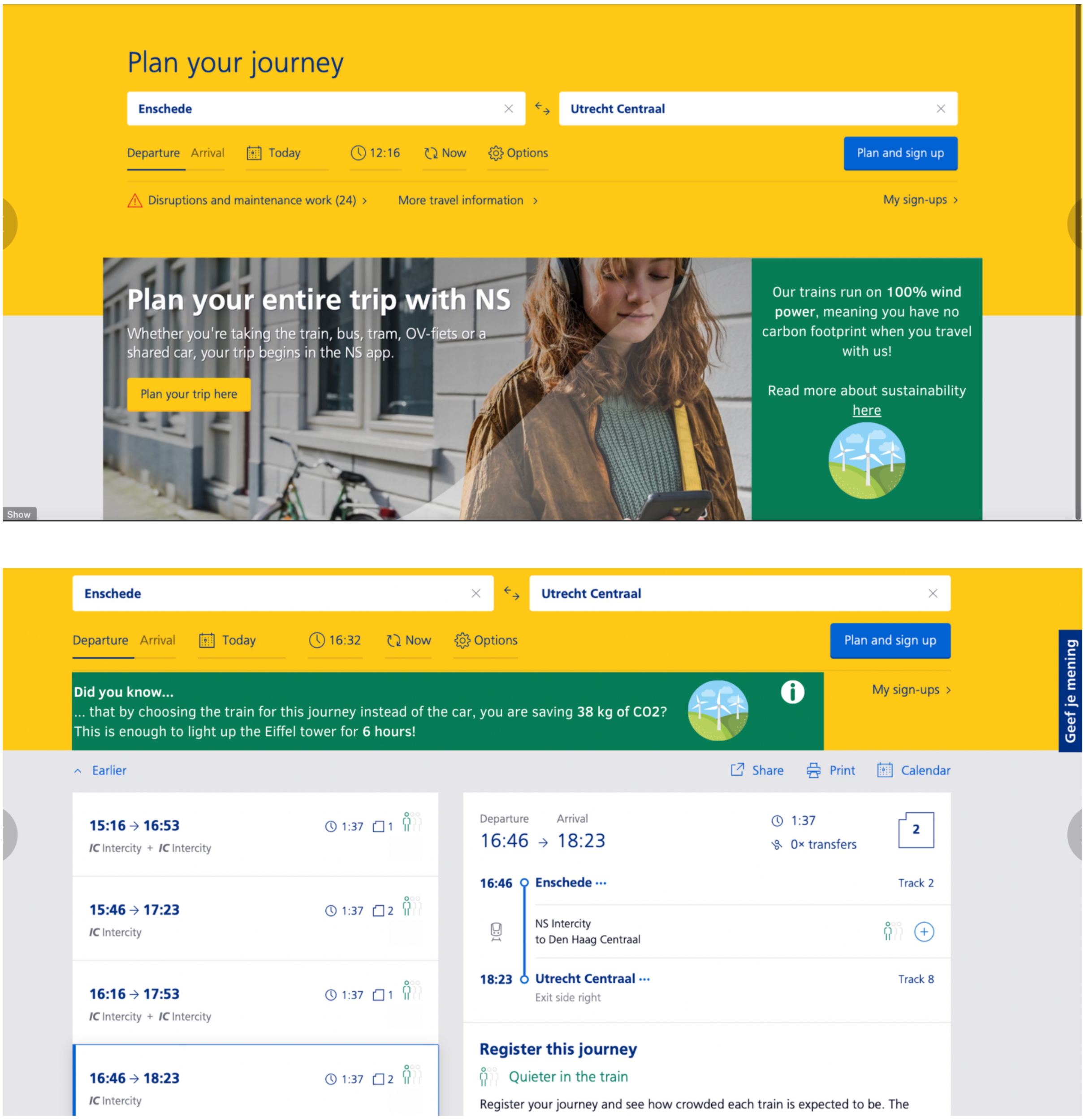
Suggestion	Quote from survey answers as example	Frequency
Advertisements	*"Ads, because users use such information to choose what transport to use, so they should see it before using the website"*	8
Around train stations	*"...next to the stations to raise the awareness"*	5
On the tickets	*"Maybe on the tickets"*	2
9292 app	*"9292 because thats where a lot of people also check trains"*	2
Social media	*"Instagram and tiktok, everyone is using it. Or to reach into communities, use facebook"*	2

In order to develop prototypes, the most frequent answers were looked into and it was attempted to combine the answers to the different questions. This means that the prototypes were made to test both the information they wanted to see, where this was presented, and in what format. It was decided that three prototypes would be created, so that multiple elements could be tested and each researcher could develop a prototype, which meant the work would be divided equally. Two prototypes were first created in Canva, and then they were developed further in Invision in order to make them interactive. The third prototype was a moving image so a YouTube video was created to show how it works. The links to these can be found in the Appendix F.

For prototype A, the following elements were combined. As the *main page* was mentioned frequently in the answers to the question regarding where participants wanted to see information regarding sustainability, the information was presented on the main page of the website. This was in the form of a *fun fact*, which did not have movement on the page, it was not animated in that sense. The information that was presented was that the trains run completely on *wind energy*. When one clicks on the information icon in the corner, they are taken to the NS webpage that gives more information about green energy. When one clicks on 'Plan and sign up', they are taken to the page where you see the possible journeys one could take. On this page, there is another *fun fact*, stating *how much CO2 travellers are approximately saving if they take the train* for this specific journey, instead of the car. Furthermore, on both pages, there was a small *icon of wind turbines*, to catch the attention of the users and to already show something regarding sustainability without having to read the text. These elements seemed important to participants in the questionnaire, and therefore they were included in this prototype (see Figure 1).

Figure 1

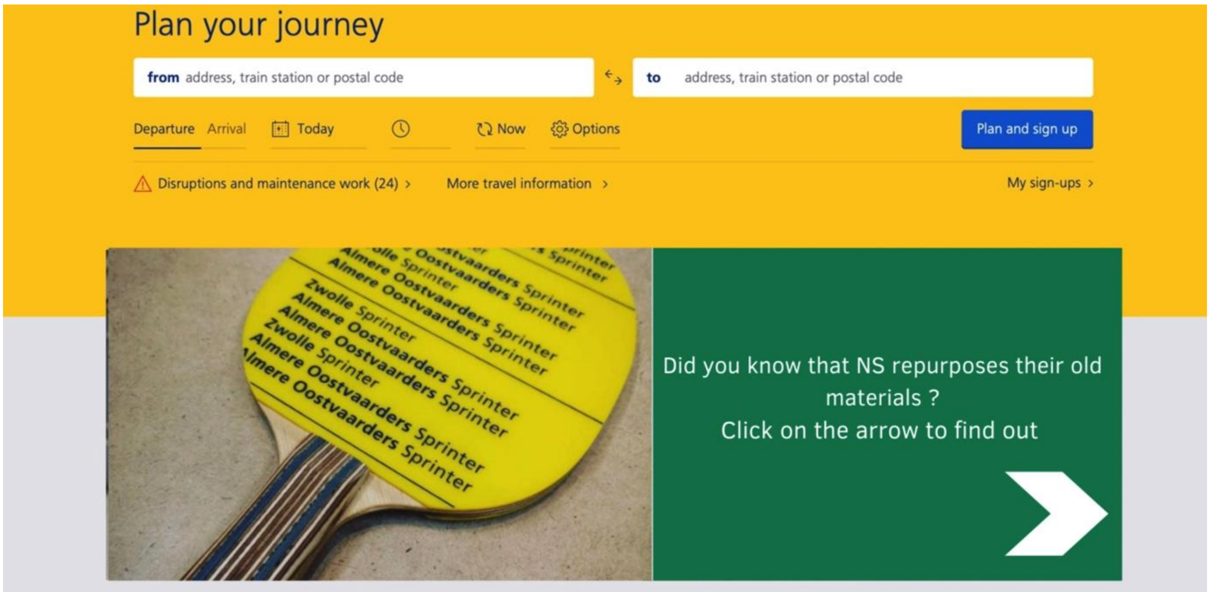
Screenshots of Prototype A



The second prototype, prototype B, was created on the *main page* as well (see Figure 2). This prototype consisted of a *fun fact*, similar to the first one. However, this fun fact was focused on the circularity of the NS. With the use of *text and pictures,* examples were shown of the repurposing of old train materials. Users of the prototype could click through the pictures to see several examples. This prototype therefore combined the elements of a *fun fact*, on the *main page*, and the information was regarding *circularity*, since the participants mentioned the wish of more information regarding the green and circular business strategy of the NS.

Figure 2

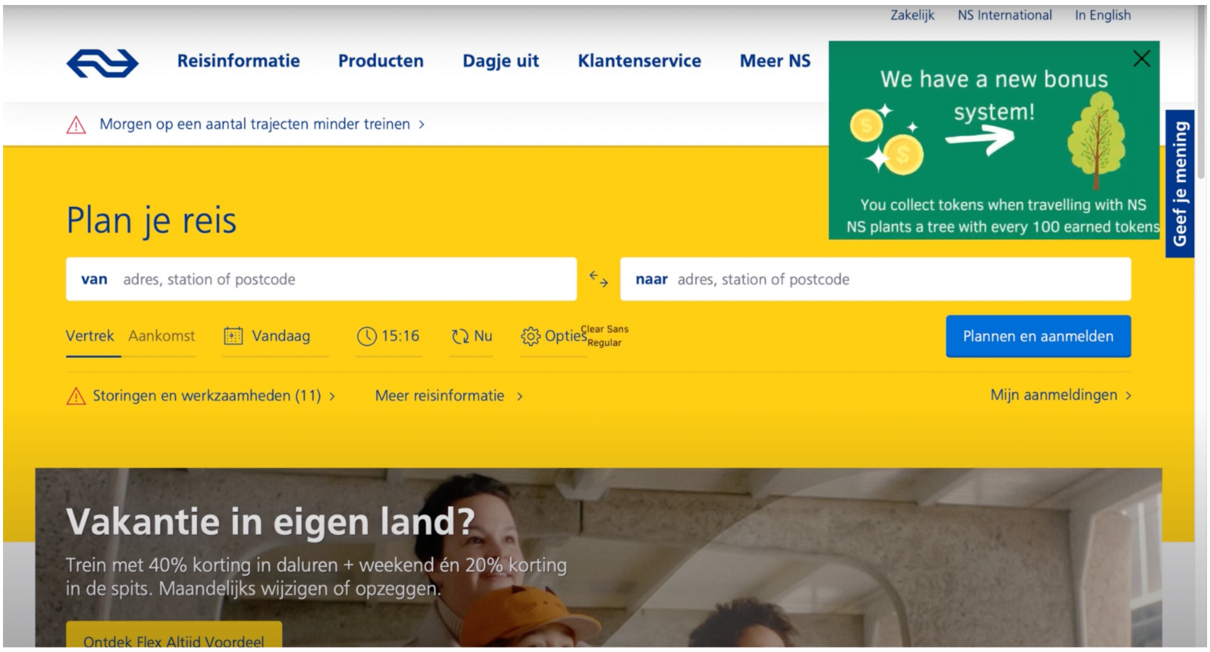
Screenshot of landing page of Prototype B



Prototype C was slightly different (see Figure 3). As participants often mentioned the use of a *pop-up*, it was ensured that this prototype had an animation so that it could appear on the website and catch the eye of the user. Not only did the block with information appear in the corner, it also included *moving images* that could potentially catch the attention of website users. The content of the prototype was not something that was found in the survey, but something that was mentioned during the meeting with Brechje Marechal. She suggested that the NS could implement a sort of token system, or a gamification aspect. In her example, she mentioned that NS could, for instance, say: "for this journey, you earn X amount of tokens" and for every Y amount of tokens one person collected, NS would plant a tree. We included this in the prototypes because we found it an interesting idea that was different from the other ideas that were gathered, and it was a nice opportunity to test the idea of a pop-up, as the other two were both in the format of a fun fact.

Figure 3

Screenshot of Prototype C



3.2 Workshop

3.2.1 Pre-Workshop Questionnaire

Results of the pre-workshop questionnaire were collected prior to the workshop. The results state that two participants never used the public transport or used it once in a while, one participant used public transport once a month, another participant used it once a week and another participant used public transport several times a week. Additionally, three participants sometimes consider sustainability when choosing a means of transport, one participant considers sustainability about half the time and the other participant considers sustainability most of the time when choosing a means of transport. On a multiple-choice question, participants were asked what mode of transport they usually use when travelling around the Netherlands. Three participants said they use their car when travelling around the Netherlands and the other two use the train more often. Participants noted the cost, comfort and availability of the train were the most important factors when deciding which type of transport to use. Participants on average believed a little amount of CO2 is emitted when travelling by train. The responses also indicate that participants assume NS uses multiple power sources for the train, namely coal, sun, crude oil, wind and gas. Wind was the most chosen power source amongst the choices given to participants. Participants on an average gave NS sustainability a 7.8 rating and Likelihood of using the train on average was 6.20 using a 10 point scale. Table 8 below illustrates the above results to do with ratings of sustainability and the intention to take the train prior to the workshop. This is done to measure the differences in means of these questions later.

Table 8

Pre-workshop questionnaire results

	Minimum	Maximum	Mean
How sustainable do you think the NS is on a scale from 1 to 10?	6.00	9.00	7.80
How likely are you to take the train on your next trip?	0.00	9.00	6.20

3.2.2 Workshop Observations

The atmosphere of the workshop was good as the participants got to know each other and their beliefs on sustainability because of the ice breaker, which helped ease conversation for the presentation of the workshop. After the ice breakers, a presentation on the impact of climate change as well as what NS does as a company to deal with issues on sustainability. After this talk, participants made remarks and this was the most common remark: “Ohh…. I did not know that NS uses 100% wind energy.” Following this, participants were split into two groups. Both groups were shown prototypes in the same room but at a distance that they could not interfere with each other. One group stated the positives of the prototypes, the other group said the negatives. After this, the groups came together to make some remarks about the prototypes in an engaging discussion. For all prototypes (the link to prototypes A and B and a video of prototype C in Appendix F) the most common positive remark was, “ the amount of information presented was just right.” The most common negative remark, “the colours do not match, it seems dull especially the green with the yellow although it promotes sustainability.” Specifically for Prototype A, the most common remark was, “have the sustainability addition cover the entire/most of the banner so it's really popping out to people.” For prototype B, the most common remark was, “use more flashy pictures for the repurposed items, to catch people's attention more” and for prototype C the most common remark was, “to be more specific with the token system add explanatory notes so people can understand what the meaning of these tokens was.” Common observations were written down as notes and discussed after the workshop by the change agents.

After the workshop, a brief discussion was held on the steps to take to initiate change towards sustainability and how taking the train more often was one of many ways they could begin to be more sustainable. Participants generally did not know the extent to how sustainable NS is and were pleasantly surprised by how serious NS takes their sustainability initiatives.

3.2.3 Post-Workshop Questionnaire

For the post-workshop questionnaire which was conducted straight after the workshop as an online questionnaire each participant only had to rate again how sustainable they think NS is and the likelihood they would use the train when they are going on their next trip. Participants on average rated NS sustainability a 9 and the likelihood of using the train on their next trip a 6.60 on a 10-point scale. Table 9 shows the change in perceived sustainability of NS and the increased intention to use the train on their next trip.

Table 9

Post-workshop questionnaire results

	Minimum	**Maximum**	**Mean**
How sustainable do you think the NS is on a scale from 1 to 10?	8.00	10.0	9.00
How likely are you to take the train on your next trip?	0.00	10.0	6.60

4. Discussion and Conclusions

4.1 Prototype design

In conclusion, the most important findings of the survey for the prototype design were the following. Participants mainly want to see information regarding green energy, the comparison in sustainability (mainly CO_2) between trains and other modes of transportation, and information regarding the green and circular business strategy of the NS. They mostly wanted this information to be presented on the main page of the website or app, or in the process of choosing and buying tickets. Furthermore, respondents mostly mentioned that they would want the information to be presented in the format of a fun fact or a pop-up. If the information was to be presented anywhere other than on the website or app, it should be via advertisements, according to participants. These advertisements could be in the shape of posters, and they should be placed around train stations and around cities.

As for the limitations of this part of the project, there are some. Firstly, the participants of the first survey were not an extremely diverse group, as we mainly sent it out to our family, friends and other acquaintances. Most of the participants were between the ages of 19 and 23, with a few outliers. This shows that other age groups were not as present, and they might have different ideas than the people between the ages of 19 and 23. Therefore, the prototype might not reflect all the wishes of the general public. Furthermore, the workshop was sent out to a few people that do not live in the Netherlands, and therefore, might not be frequent passengers of the NS. Although their answers were still valuable in the development of the prototype, their answers regarding the perceived sustainability of the NS might have been more of a blind guess. Lastly, regarding the prototypes, one limitation is that they were all developed based on the website of the NS, although NS asked us to investigate both the website and the mobile app. It was chosen to use the websites because the pages were more spacious, which gave us more room to implement our designs, but by doing so, we have not gathered feedback on how it should look on the app, as the layout is slightly different.

4.2 Workshop

If the pre- and post-workshop questionnaires are compared, the following things can be concluded. Before the workshop, participants rated the sustainability of the NS a 7.8 on a 10-point scale. After the workshop, the participants rated the sustainability a 9, which shows that the workshop caused a change in perceived sustainability. It can be stated that by providing the information regarding the steps NS takes to be more sustainable, attitudes can change and individuals may perceive NS as more sustainable than they did before. Additionally, in the pre-workshop survey, the likelihood of using the train for the participants' next trip was on average 6.20, using a 10-point scale. In the post-workshop survey, this average slightly increased to 6.60. This shows that there was a minor change in the intention to use the train, but nevertheless, there was a slight effect of the workshop in creating this change.

The workshop, just as the prototype design, had some limitations. Initially, we enquired if we were able to use the customer panel of the NS. It took many weeks before we could have a meeting with Valerie Severens of the NS, who is in charge of setting up panel meetings. After this meeting, she informed us that they could start sending out invitations to the workshop on the 27th of June. This was, however, too late for our project, as the first deadline was on the 23rd of June. Therefore, we had to find our own participants for the workshop in just over a week, and therefore asked some of our friends. This caused the group to be smaller and less diverse than we initially wanted. We had hoped that by using the panel, we could get around 8 to 15 participants of different ages and backgrounds. Now, however, we had only five participants, four of which were German, and all of which were students. This was not a representative sample. On the brighter side, we agreed afterwards that the size of the group was quite pleasant. The smaller group size allowed more participants to have time to talk, and perhaps because the group was small, participants were less nervous to speak up than they would have been in a larger group. Additionally, we were able to find a group of people that were all in possession of a driver's licence and/or car, who use the car more than the train. Therefore, we had a specific group of people that could potentially arrive at behavioural change after the workshop. If the workshop had only consisted of participants who already take the train for most journeys, it would have been more difficult to see any attitude- or behavioural change. Thus, the group was not representative, but we concluded that the group size was pleasant and it was useful to focus on a group that still mostly uses the car.

5. Advice

In this part we want to discuss what is our advice for NS based on the outcomes of this project. The outcomes of the surveys and the workshop that are described above were shared with Tim during our last meeting with him. We also sent him the prototypes that we made and the feedback we received from workshop participants. Here, we want to summarise what we found during the project and what recommendations we gave to NS.

First, we advise NS to look at our prototypes and the feedback that we got from the workshop participants. Of course, our prototypes are a rough sketch of what the people would want to see (based on the survey). We do not have graphic design skills required to design the full possible prototype of a website, therefore, that is the first step that NS should take. In other words, NS should start by developing a proper version of our prototypes. Next, the feedback from the workshop can be implemented. The main suggestions for improving the prototypes were to make the colours stand out a lot more than they do now and make the addition bigger to really grab people's attention. It was also suggested to create a mystery by writing "Did you know…" and intriguing people into clicking the ad rather than telling them the fact right away.

Second, it can be seen from the prototype survey that people are really enthusiastic about the idea to see how much CO2 you would save by travelling by trains instead of by car. Participants of the survey liked it because it shows them a measurable impact of taking a train and not the car. Therefore, we highly recommend NS to implement this idea in the process of buying a train ticket (to show the amount of CO2 saved between two cities the person will travel) but also as a general "Did you know…" fact.

Next, based on the survey and the workshop, we noticed a couple of things that could trigger people to use trains more. These are:

- Share some fun facts about NS's sustainability rather than boring statements. An example of a fun fact can be that NS is reusing old train materials to make speakers, notebooks, bike parking space and so much more.
- The addition needs to stand out on the webpage. The prototypes that we developed all had a green background to be aligned with the sustainability topic. However, we got feedback that green looks too bland on the yellow page and is not attracting enough attention. Bright colours on the opposite spectrum of the colour wheel can be helpful to attract attention to the sustainability addition on the website. One difficulty here is that the opposite colour of yellow is purple which is not related to environment or sustainability in general. We recommend NS to look into the colour scheme of the website design in more detail.
- Use more communication channels to spread the information about NS's sustainability. For example, use NS's social media accounts to make people aware of how they are trying to be more sustainable. Make use of other apps that people use to plan their trips too, for example, 9292 or Google maps. It could also be useful to move outside of the web environment and create billboards on the stations and around cities to be more visible even for people who never take trains.

Lastly, according to Wang (2018), there are more factors that play a role that lead to purchasing intention of customers, such as, for example, customer satisfaction (See appendix H). We also noticed that by asking people what factors they consider when choosing how to travel. For example, people consider travel time, comfort, price and customer experience. We, therefore, advise NS to conduct a deeper research on the factors that lead to people travelling by car.

References

Budd, S. (2017, October 25). *Six scary facts about climate change*. Ecotricity. https://www.ecotricity.co.uk/our-news/2017/six-scary-facts-about-climate-change

Cialdini, Robert. (2016). *Cialdini's 6 Principles of Persuasion – The World of Work Project*. World of Work Project. https://worldofwork.io/2019/07/cialdinis-6-principles-of-persuasion/

Corry, M. D., Frick, T. W., & Hansen, L. (1997). User-centered design and usability testing of a web site: An illustrative case study. *Educational Technology Research and Development*, *45*(4), 65–76. https://doi.org/10.1007/bf02299683

Fernando, J. (2022, March 7). *Corporate Social Responsibility (CSR)*. Investopedia. https://www.investopedia.com/terms/c/corp-social-responsibility.asp

Fullwood, C., Derrer, N. M., Martino, O. I., Davis, S. J., & Morris, N. (2006). The Effect of an Icebreaker on Collaborative Performance. In *Contemporary Ergonomics 2006* (pp. 293–295). Taylor & Francis.

Green Hub Twente | Sustainability at the University of Twente. (n.d.). Universiteit Twente. Retrieved June 21, 2022, from https://www.utwente.nl/en/sustainability/green-hub-twente/

Grenier, L. (2019, January 22). *How to Do Market Research in 4 Steps [Guide] | Hotjar*. Hotjar. https://www.hotjar.com/blog/market-research/

How to design a training workshop. (2017, June 23). NCVO Knowhow. Retrieved June 30, 2022, from https://knowhow.ncvo.org.uk/how-to/how-to-design-a-training-workshop

Ice Breakers: Getting Everyone to Contribute at the Start of a Successful Event. (n.d.). Mind Tools. https://www.mindtools.com/pages/article/newLDR_76.htm

McKenzie-Mohr, D. (2000). Fostering sustainable behavior through community-based social marketing. *American Psychologist*, *55*(5), 531–537. https://doi.org/10.1037/0003-066x.55.5.531

Nelson, A. (2022, April 22). *7 climate change facts for Earth Day 2022 - from food waste to carbon emissions and plastic pollution*. NationalWorld. Retrieved June 22, 2022, from https://www.nationalworld.com/news/environment/climate-change-facts-earth-day-2022-food-waste-carbon-emissions-plastic-pollution-3663879

NS Annual Report 2021. (2022). NS; NS. https://www.ns.nl/en/about-ns/who-are-we/vision.html

Oberhofer, P., & Dieplinger, M. (2013). Sustainability in the Transport and Logistics Sector: Lacking Environmental Measures. *Business Strategy and the Environment*, *23*(4), 236–253. https://doi.org/10.1002/bse.1769

Prillwitz, J., & Barr, S. (2011). Moving towards sustainability? Mobility styles, attitudes and individual travel behaviour. *Journal of Transport Geography*, *19*(6), 1590–1600. https://doi.org/10.1016/j.jtrangeo.2011.06.011

Silva, C., Eler, M. M., & Fraser, G. (2018). A survey on the tool support for the automatic evaluation of mobile accessibility. *Proceedings of the 8th International Conference on Software Development and Technologies for Enhancing Accessibility and Fighting Info-Exclusion*. https://doi.org/10.1145/3218585.3218673

Slade, R. (2015, March 22). *The Importance of Market Research in Product Development*. BrandRefinery. https://www.brandrefinery.co.uk/the-importance-of-market-research-in-product-development/

Wang, C.-C. (2018). Corporate social responsibility on customer behaviour: the mediating role of corporate image and customer satisfaction. *Total Quality Management & Business Excellence*, 1–19. https://doi.org/10.1080/14783363.2018.1444985

Appendices

Appendix A:

Questions of the survey to make website prototypes:

1. What is your gender?
    a. Male
    b. Female
    c. Non-binary / third-gender
    d. Prefer not to say
2. What is your age?
3. What is your nationality?
    a. Dutch
    b. Other, namely:
4. How often do you use public transport?
    a. Never / Once in a while
    b. A few times a month
    c. Once a week
    d. Several times a week
    e. Everyday
5. How sustainable do you think NS is on a scale of 1 to 10?
6. How often do you consider sustainability when choosing means of transportation?
    a. Never
    b. Sometimes
    c. About half the time
    d. Most of the time
    e. Always
7. **NS Sustainability: What you should know!**

NS is the most prominent social provider of sustainable mobility. To that end NS pursues a zero-emission, circular and green business strategy (for example, their trains run on 100% wind energy!). In addition, NS is working to make their product truly accessible and make NS a truly diverse and inclusive organisation. NS aim to contribute to the Paris Agreement on Climate Change (CO_2 reduction), the UN Convention on the Rights of Persons with Disabilities, the UN Sustainable Development Goals and the European Green Deal. (NS Report)

Key Facts:

NS is a zero emission enterprise
NS is circular
NS is for everyone
NS is green

8. Below you will see the NS website and app, these are currently the main source of information that

NS customers use to check train time and/or purchase a ticket.
We ask you to look at these front pages of the website and the app that appear and answer the questions that follow.

9. What information about sustainability would you want to see that would convince you to take the train instead of a less sustainable mode of transportation?
10. Why do you want to see this information?
11. Where on the website/app would you like to see the information you provided above?
    a. Main page
    b. Process of buying the ticket
    c. Every page
    d. Other, namely:
12. If you want to see this information anywhere other than the website or app, where would that be and why?

Appendix B

Appendix C

Text to recruit people to the workshop:

LIMITED SIGN-UPS! 15 spots max..!

Do you want to be more sustainable?
Do you drive a car when travelling around the country?

Join us for a fun interactive workshop and learn what does NS, a Dutch Railway company, do to stay green and circular.

What's in it for you? —> You will learn more about a topic that is important for you and provide insights that will help a real company!
What's in it for us? —> We will get valuable feedback on our work that can be shared with NS.

Interested? Leave your detail below and we will see you next Monday, 20th of June at 17:00!

Sign up now ➡️
https://forms.gle/mVwM1K2oQNR9L2Bc8

Appendix D

Workshop outline:

Time	Person	Heading	Content
2 min	Alina	Introduction	Welcome everyone Thank them for coming We are: Alina, Lytske and Rufaro Shortly explain the project we are doing Today we'll start with an ice breaker to get moving, then we'll move onto a presentation and lastly we'll have a discussion about NS and the prototypes we've made Invite people to the other room for an ice breaker activity
10 min	Alina	Ice breaker	Participants stand in one line in the middle of the room. Questions like "Would you rather A or B"

			- choose A → walk to the right - choose B → walk to the left Explain why you made this choice Questions: 1.Would you rather give up all plastic products or cut meat? 2.Would you rather repair your damaged clothes or repair it? 3.Would you rather provide free healthcare for the whole world or stop climate change? 4.Would you rather only buy sustainable clothes or never buy clothes again? 5.Would you rather bike to work in the rain or cut out dairy products?
10 min	Lytske	Presentation	Bring everyone back to the first room Open the slides Story about hundreds of species going extinct every day due to climate change. Climate change is largely caused by CO2 emissions from transportation. Present facts of NS's sustainability and what they do to be more green. Now we divide people into 2 groups
20 min	Rufaro	Discussion	Explain that we will show prototypes and one group needs to leave critical feedback on each prototype and the other group all the positive feedback. They first discuss it within the group (10 min) A full group discussion about the positives and negatives of the prototypes. What to keep and what to change/improve. A full group discussion about NS's sustainability overall and how their perspective changed after our presentation Call to action!
5 min	Everyone	Post-workshop survey	Scan the QR code and fill out the questionnaire Thank everyone for their time Closing

Appendix E

Link to a presentation used during the workshop:
https://universiteittwente.sharepoint.com/:p:/r/sites/NSproject/_layouts/15/Doc.aspx?sourcedoc=%7B59494264-60BF-4FDB-9F8A-93A92D331918%7D&file=NS%20workshop%20presentation.pptx&action=edit&mobileredirect=true

Appendix F

Prototype A:
https://lytske382867.invisionapp.com/console/share/3HCZVGFDU2M/926018198

Prototype B:

https://rufaro424982.invisionapp.com/console/NS-cl4jt9guy022c01b4atl7ep48/cl4jz7e5t3mpj01947nb5fh61/play

Prototype C: https://youtu.be/g7-4omyKilM

Appendix G

Pre-workshop survey questions:

1. How often do you use public transport?
    a. Never / Once in a while
    b. A few times a month
    c. Once a week
    d. Several times a week
    e. Everyday
2. What means of transport do you usually use when travelling around the Netherlands? (E.g. Travelling from Enschede to Utrecht)
    a. Car
    b. Train
    c. Bus
    d. Bike
    e. Other, namely:
3. What factors do you consider when choosing which type of transport to choose?
4. How often do you consider sustainability when choosing means of transportation?
    a. Never
    b. Sometimes
    c. About half the time
    d. Most of the time
    e. Always
5. How much CO_2 do you think is emitted when travelling by train?

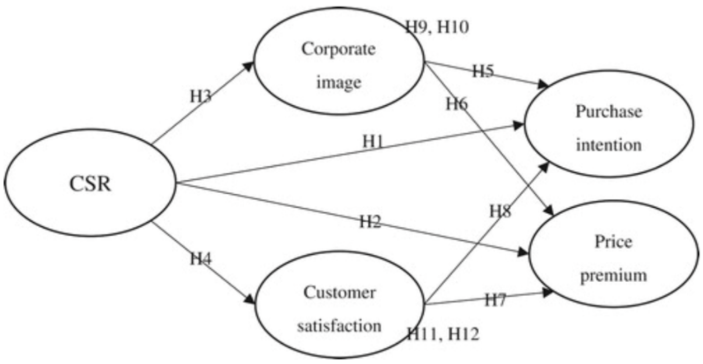
    a. None at all
    b. A little
    c. A moderate amount
    d. A lot
    e. A great deal
6. What power sources do you think NS trains run on?
    a. Coal
    b. Sun
    c. Crude oil
    d. Wind
    e. Gas
7. How sustainable do you think NS is on a scale of 1 to 10?
8. How likely are you to take a train when going on your next trip? (from 1 to 10)

Post-workshop survey questions:

1. How sustainable do you think NS is on a scale of 1 to 10?
2. How likely are you to take a train when going on your next trip? (from 1 to 10)
3. Why did you choose this number in the previous question?

Appendix H

Factors contributing to purchase intention of the customer:



(Wang, 2018)

“TWO MONOLOGUES DO NOT MAKE A DIALOGUE” PERSONALITY DIFFERENCES & COMMUNICATION AT THE WORKPLACE

Laureen Lhotak

Communication & Conflict Resolution in the Workplace

Introduction

"Two monologues do not make a dialogue" – This quote by Jeff Daly captures what becomes too often reality at many workplaces: People remaining in their own bubble of perception forming opinions without effectively communicating with each other and trying to understand other's perspectives out of their own reference frame. Unsurprisingly, the lack of effective communication is considered to be one of the leading causes of workplace failure causing deficits in the team performance, overall morale, motivation and general mental health of the employees (Gigol, 2019). Especially, due to personality differences within the working environment, the workplace is at higher risk for miscommunications and misunderstandings negatively affecting the team efficiency and team working environment, ultimately, leading to interpersonal conflicts (De Dreu & Gelfand, 2008).

However, studies have shown that effective communication may enhance group productivity by 25% by increasing trust and commitment of the employees while lowering the risk for interpersonal conflict (Alcala, 2015; Pumble, 2021). Additionally, raising awareness about personality differences and their impact on communication may help to overcome obstacles and generate a more understanding environment for employees (Bucăţa & Rizescu, 2017; Chui, M et al, 2012).

Considering these insights, this change project aims at raising awareness about personality differences and communication to lower the risk of interpersonal conflict at the workplace in the long-term. The target group is defined by employees aged 20 – 45 years working in teams at the Kleinen Brands GmbH (pseudonymous company name) in Germany.

Change goals

The change goals of this project are defined as following:

1. Increased awareness and understanding about personality differences including their strengths and weaknesses, preferred environment, and desired communication after the intervention.

By increasing awareness about personality differences and reflecting on their strengths, weaknesses, preferred environment, and desired communication, the change project intends to provide the target group with valuable knowledge helping them to understand their own and other's personality better. By learning about their behavioural tendencies and their desired communication, the participants are enabled to reflect on them and acknowledge them during future encounters of their opposite personality type. Ultimately, this helps them to communicate with their employees better and lower the risk of interpersonal conflicts. (Bergmann et al., 2016; De Dreu & Gelfand, 2008)

2. Increased awareness and understanding about different conflict management styles including their strengths and weaknesses after the intervention.

Since this change project aims to lower the risk for interpersonal conflict in the long-term, the second goal is increasing the employees' awareness about their own and others' general conflict management styles in specific situations. Conflict and confrontation are not necessarily bad things; rather they can work as opportunity to finding solutions and improving a situation if it is handled correctly (Antonioni, 1998; Saeed et al., 2014). By reflecting on strengths and weaknesses of each conflict management style, this helps the participants to consciously acknowledge their behavioural tendencies during conflict and potentially challenge them to act differently in future conflict situations (Saeed et al., 2014).

3. Increased awareness and understanding about nonviolent communication after the intervention.

Lastly, the change project aims at raising awareness about nonviolent communication. By learning about nonviolent communication strategies, the participants become better at identifying effects of violent communication and become more aware of their own way of communication and ideally, improve their own communication skills to decrease the risk for interpersonal conflict in the long-term (Bucăţa & Rizescu, 2017; Chui, M et al, 2012; Shannon, 2018).

My Change Approach

Thinking about possible ideas regarding a change project, I had great interest in decreasing the risk and/or solving interpersonal conflict. After discussing my initial idea about creating a "conflict guide" for couples to help them solve conflicts on their own with my supervisor, I decided to shift my focus on work environments as this would be easier to find participants for my change project. Considering my personal development plan, the change project needed to be challenging for me; therefore, I wanted to engage with the participants personally, instead of simply providing them with information through a website, for example, without having to actively engage with them.

Designing a Workshop as the Change Intervention

Consequently, I decided to develop and conduct a workshop to raise awareness about interpersonal conflict prevention and resolution. However, after further research, I decided to shift the focus of the workshop to educate about “personality differences & communication”, instead of “conflict resolution” to persuade more employees to participate because I did not want to scare them off by implying that they would have to deal with and talk about any conflicts they might encounter at the moment. Therefore, to meet the defined change goals, the content of the workshop intended to educate about three topics: personality differences and their impact on communication based on the DiSC model, conflict management styles based on Thomas-Kilmann and nonviolent communication strategies according the the Rosenberg-Model (Rosenberg & Chopra, 2015; Thomas, 2008; Sugermann, 2009). During the upcoming meetings with my supervisor, concerns arose regarding the workshop lasting 2 hours. Considering that participants could get exhausted over a time period of 2 hours, I decided to construct the workshop as interactive and light as possible to keep the participants active and attentive. Therefore, I prepared handouts with overviews instead of giving long lectures and implemented practical examples, self-tests, exercises, and discussions to reflect.

Implementing the Workshop as Change Project

The change project took place as an interactive workshop. To reach the target group, one of the CEOs of the company Kleinen Brands GmbH was contacted via Mail (Appendix A). In order to persuade the CEO into agreeing to conducting the workshop, some of the persuasion techniques of Cialdini (2006) were used, namely the principles of “Liking”, “Authority” and “Scarcity”. According to these principles, people tend to agree with a person who shares the same values, trust someone who is considered an “expert” and lastly, have a desire to want something that is exclusive (Cialdini, 2006). Therefore, the mail included paragraphs that implied that companies value harmony between their employees to increase their productivity which is generally, in line with the change goals of the workshop (liking). Furthermore, scientific sources were added to information that underpinned the need and urgency for raising awareness regarding personality differences and communication at the workplace (authority). Finally, it was stated that the information and exercises provided by the workshop would match material that was usually included by professional coaches in this area as well and that this would be a unique and exclusive opportunity to provide their employees with a zero-costs workshop to educate them in this field which would be usually way more expensive (scarcity).

Initially, the workshop was intended to take approximately 2 hours on two different dates, however, due to a busy period at the company, only one workshop session was scheduled later on the 22nd of June, 2022 at the company's main office in Germany. After receiving the final confirmation by the CEOs, I created a document in which employees could sign up for the workshop. Using the company's mail distributor and chat software, I send a message to every employee of Kleinen Brands GmbH with all the important information about the workshop and how they were able to sign up for it in case they were interested (Appendix B). *Participants*

Unfortunately, only 5 people of < 80 employees signed up the workshop of who 3 cancelled last minute due to illness or work meetings. Therefore, I went from office to office to talk to the employees right before the workshop to recruit some more participants. Luckily, 2 employees were able to make room for it spontaneously and agreed to participate. The total number of participants was 4 (4 female; age mean = 29; nationality: German = 3, Spanish = 1). All participants were part of the target group, meaning employees working in teams at the company Kleinen Brands GmbH, and gave their consent to participate with their data being used anonymously for further analysis and reports.

Questionnaires

Right before and after the workshop, the participants were asked to answer a questionnaire to collect demographic data (age, gender, nationality) as well as data to measure the effect of the workshop with regards to the outcome measures: awareness about personality differences, conflict management styles and nonviolent communication (Appendix C). Employees were asked to rate their knowledge regarding these topics on a self-developed scale from 1 (not at all) to 10 (extremely good). Additionally, both questionnaires asked about general attitudes towards the topics presented in the workshop. Employees were asked to indicate whether they agree or disagree regarding statements about these topics on a scale from 1 (not at all) to 10 (very much). Furthermore, the first questionnaire included a question asking about the participant's expectation for the workshop. The second questionnaire included a question asking them to describe their personal learning experience and provide feedback.

Procedure

The workshop was conducted in a conference room in calm and relaxing atmosphere in which the participants could sit on a sofa having drinks and snacks. Employees participated in the exercises and test taking and reflected on their experiences and results afterwards with the group. One break of 10 minutes was included. The workshop took 2,5 hours in total as the discussion sessions were very active.

Results

Change in Attitude

The results showed that before the workshop the participants already agreed strongly with the statements about how communication is influenced and what plays an important role in the workplace indicated by the average score of 9 (Fig.1). After the workshop, the score was even higher on average (9.65). Strong effects according to Cohen's d were observed regarding the role of personality differences in communication indicating that participants consider them more important for communication after the workshop. Strong effects were also seen regarding the statement "How I perceive others, influences how I communicate with them" implying that participants felt a stronger sense on the impact of their own perception on how they communicate after the workshop. Lastly, the workshop showed a strong effect on the importance of nonviolent communication in the workplace (0.8).

Fig. 1. *Results about the change in attitudes.*

	Before the Workshop	After the Workshop	Improvement (in %)	Effect (Cohen's d; <0.5 = small effect; 0.5 – 0.8 = middle-sized effect; >0.8 = strong effect)
Personality differences play an important role in communication.	8.75	9.75	+ 1	1.2
How I am perceived, influences how people	9.50	9.75	+ 0.25	0.5

communicate with me.				
How I perceive others, influences how I communicate with them.	8.25	9.00	+ 0.75	0.8
How I manage conflict, influences how I communicate.	9.50	9.75	+ 0.25	0.36
Nonviolent communication is important in the workplace.	9.50	10.00	+ 0.5	0.81

Change in Awareness

The results of the questionnaire show strong improvements for participants' awareness about personality differences, the DiSC model, conflict management styles and nonviolent communication (Fig.2). Regarding the intended change goals of raising awareness, all goals were exceeded. The highest effects were seen regarding the DiSC model (+47.5%) and conflict management styles (+52.5%). The average score before the workshop was 4.2 while participants scored 8.1 on average after the workshop implying strong effects of the workshop a raising awareness for personality differences, conflict management styles and nonviolent communication.

Fig. 2. *Results about the change in awareness.*

	Before the Workshop	After the Workshop	Improvement (in %)	Effect (Cohen's d; <0.5 = small effect; 0.5 – 0.8 = middle-sized effect; >0.8 = strong effect)
Personality Differences	5.25	8.00	+ 27.5	2.37
DiSC-Model	3.25	8.00	+ 47.5	3.49
Conflict Management Styles	3.00	8.25	+ 52.5	3.26
Nonviolent Communication	5.33	8.25	+ 29.2	2.28

The target group is advised reflect on situations and their behaviour in future situations and use the material of the workshop to help them prevent or solving conflict in the workplace. Employees who were not able to participate are advised to attend a similar workshop as the results of this project showed strong effects on increasing awareness and understanding about personality differences, conflict behaviour and communication in the workplace.

Additional information was generated regarding the participants' personal learning experience in which the employees indicated what stood out to them during the workshop. It was reported that non-violent communication techniques, self-reflective behaviour in conflict situations and knowledge about different personality types and their needs were considered as helpful and interesting (e.g., "*There are different personality types which differ in their needs which need to be considered when communicating with them*"). Further, the participants indicated that the workshop was perceived as "super helpful" providing "valuable and professional insights and instructions".

Discussion

Based on the results, it can be concluded that the conducted workshop had a nonsignificant positive effect on raising awareness about personality types, conflict management styles and non-violent communication in the workplace. In addition, these results indicate that providing educational interactive workshops for employees can increase levels of awareness and potentially positively affect the general communication and collaboration between teams at the workplace in the long-term. In light of the severe consequences of ineffective communication and interpersonal conflicts in the workplace on their overall productivity, group performance, motivation, and team health, workshops are an important option for companies to positively affect communication and resolve conflict between employees in a constructive way.

Since this change project only included a highly small number of participants (n=4) who were female, the power of the results are very limited. Therefore, further research should include, for example, a larger sample size as well as a balanced variety between male and female participants to results in significant and more powerful outcomes.

Considering studies in the past which highlighted the importance of effective communication at the workplace as well as developing sense for individual differences and their effects on communication to prevent conflict situations, the results of this change project suggest that further research in this area would be advisable to identify the most effective methods to not only raise awareness in employees but potentially lead to changing their behaviour at work as well. Since this intervention only measured levels of awareness and attitude right after the workshop, investigating long-term effects on these outcome measures would be interesting as well. Additionally, outcome measures such as the perceived effectiveness of communication at work could be studied further. Ultimately, future high quality research could lead to developing the most effective way to educate employees changing their attitude and behaviour in the long-term and create a more effective, respectful, motivating and productive working atmosphere in the company.

My Learning Experience

Executing this change project was challenging but highly insightful. Being used to work in teams, it made me appreciate group work more even if that can be challenging as well sometimes, it still facilitates making progress by dividing tasks and making use of the strong suits of each team member. What I really enjoyed was the interactive parts of the workshop because the participants were able to get active and share their personal experiences, thoughts and opinions which lead to a dynamic atmosphere. Despite my concern about the length of the workshop, we ended up exceeding the planned 2 hours because people were very engaged and did not notice how the time passed. Therefore, I would still include as many practical examples, exercises and tests as I did, if not more, because people seemed to show more interest and engagement. What I would do differently and definitely improve is my time management, organizational planning and my questionnaires to measure the effectiveness of the workshop. Since the dates of the workshop needed to be rescheduled on short notice, there were not many participants able to attend. However, when trying to recruit them minutes before the workshop because 3 people cancelled, I got the feedback that people were generally very interested and appreciative of the opportunity; however, due to their busy schedule they could not attend. In the future, I will need to plan way earlier to avoid these last-minute changes that negatively affected the total number of participants. Regarding the questionnaires, I noticed that the questions regarding the attitude could have been more powerful if they were phrased more specific. Based on the results, they were scored very high even before the workshop which indicates that they were not considered “hard” enough to answer, lacking variety and leading to less significance of the results.

In general, completing the PoC track was a huge learning experience for me. I learned a lot about in what ways change can be accomplished, how it can be initiated and what an effective change leader looks like. At the beginning of the course, I did not know what kind of change leader I would be if any. Now, I know that I do have valuable traits that enable me to lead change or be part of leading change. Based on my Insights Discovery Profile, I got the opportunity to get to know myself better and how I work together with teams. Especially, the recommendations about how to communicate with me and what I need to consider when communicating with my opposite personality type, I found extremely interesting. After all, what we consider as flaws in ourselves or others, has nothing to do with how we are but how we perceive ourselves. Our reality can be completely differently perceived from other’s perspectives which is obvious but too often overlooked and I acknowledge the need to remind myself of this fact. During my meetings with my personal coach, we talked about my challenges, for example, the anxiety I often feel when I need to talk in front of groups. After discussing what might cause these negative feelings, we concluded that I tend to be too self-critical and aspire to meet too high standards for myself in social interactions that I would not burden on anyone else but me.

Therefore, I need to remind myself constantly that negative judgement is not life threatening to me. If I fail, I will be okay – if I succeed, even better. In the future, these insights will help me to stay confident and trusting in my abilities and accepting of my limitations. In the end, I do not know if the "perfect" leader exists, but I know that many people can contribute in their own way to effective leadership, and everyone has it in them.

Reference list

Alcala, L. (2015). *4 Trends in Workplace Communication [Infographic].* CMSWire. Retrieved 24.06.2021, from https://www.cmswire.com/cms/social-business/4-trends-in-workplace-communication-infographic-027762.php

Antonioni, D. (1998). Relationship between the big five personality factors and conflict management styles. *International journal of conflict management*.

Bergman, C., Dellve, L., & Skagert, K. (2016). Exploring communication processes in workplace meetings: A mixed methods study in a Swedish healthcare organization. *Work*, 54(3), 533-541.

Chui, M., Manyika, J., Bughin, J., et al. (2012). *The Social Economy: Unlocking Value and Productivity through Social Technologies*. McKinsey Global Institute. Retrieved 24.06.2021, from https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/the-social-economy

Cialdini, R. B. (2006). Influence: the psychology of persuasion, revised edition. *New York: William Morrow*.

De Dreu C. K., Gelfand M. J. (2008), Conflict in the workplace: Sources, functions, and dynamics across multiple levels of analysis, in: De Dreu C.K., Gelfand M.J. (eds.), *The psychology of conflict and conflict management in organizations*, Lawrence Erlbaum

Associates, New York: 3–54.

Gigol, T. (2019). Approach to Interpersonal Conflicts in Workplace and Work Engagement. *Organizacja i Kierowanie*, 185(2), 25-41.

Pumble (2021). *Workplace Communication Statistics*. (2022, February 11). Retrieved June 17, 2022, from https://pumble.com/learn/communication/communication-statistics/

Rosenberg, M. B., & Chopra, D. (2015). *Nonviolent communication: A language of life: Life-changing tools for healthy relationships*. PuddleDancer Press.

Saeed, T., Almas, S., Anis-ul-Haq, M., & Niazi, G. S. K. (2014). Leadership styles: relationship with conflict management styles. *International journal of conflict management.*

Shannon, Dr. C.W. (2018). Effective management communication strategies.

Sugerman, J. (2009). Using the DiSC® model to improve communication effectiveness. *Industrial and Commercial Training*.

Thomas, K. W. (2008). Thomas-kilmann conflict mode. *TKI Profile and Interpretive Report*, *1*(11).

Appendices

Appendix A:

E-Mail to CEO to promote Workshop

Personal information has been censored or pseudonymized.

Hallo [redacted]!

Ich freue mich, dich heute mit wieder mit einem Anliegen belästigen zu dürfen.
Und zwar würde ich Dir, stellvertretend für Kleinen Brands GmbH, gerne ein Angebot unterbreiten; bitte lies die nächsten Zeilen so, als würde ich einen TED Talk halten:

Kaum eine andere Umgebung birgt so viel Risiko für zwischenmenschliche Konflikte wie der eigene Arbeitsplatz. Denn: Wir suchen uns nicht aus, mit wem wir zusammenarbeiten.

Ein wichtiger Faktor, der hierbei eine Rolle spielt: **Persönlichkeitsunterschiede**. Fehlkommunikation, Missverständnisse, verminderte Effizienz und demotivierte Teams – Wer nicht versteht, mit wem er oder sie zu tun hat, und sich infolgedessen wiederholt vor den Kopf gestoßen fühlt, findet sich als Angestellte*r schnell in einer Spirale des Unmuts wieder.

Wenn man dazu bedenkt, dass das Fehlen effektiver Kommunikation und Kollaborationsmechanismen als Hauptgründe für Missstände am Arbeitsplatz gelten (berichten 86% aller befragter Mitarbeiter*innen einer Studie) und zunehmend die Team Leistung, Moral und Motivation sowie die generelle mentale Gesundheit der Angestellten negativ beeinflussen, muss man sich unweigerlich fragen:

Wie beeinflussen Persönlichkeitsunterschiede mein eigenes Arbeitsumfeld? Welchen Effekt haben aktuelle Kommunikationsweisen auf mich und meine Kolleg*innen? Wie kann ich mein Unternehmen vor den Tücken von aufeinandertreffenden gegensätzlichen Persönlichkeiten und toxischer Kommunikation schützen?

Auf der anderen Seite der Medaille sieht es weit aus rosiger aus:

Effektive Kommunikationsmethoden steigern die Produktivität eines Teams um bis zu 25%, verbessern das gegenseitige Vertrauen und die Einsatzbereitschaft – und reduzieren letztendlich das Risiko für interpersonellen Konflikt deutlich. Höchste Zeit also, sich mit den

Themen Persönlichkeit und Kommunikation auseinanderzusetzen und gemeinsam durchzustarten!

Mit diesem Thema befasse ich mich derzeit im Rahmen eines Kurses an meiner Uni, in dem es hauptsächlich darum geht, wie man als „Change Leader“ **positive Veränderungen** in seinem Umfeld bewirken kann. Als meine Abschlussarbeit würde ich gerne einen **kostenlosen Workshop** anbieten mit dem Ziel das Bewusstsein, den Kenntnisstand und das Verständnis von Persönlichkeitsunterschieden und wie diese unsere Wahrnehmung und Kommunikation beeinflussen zu verbessern. Natürlich habe ich dieses Thema unabhängig davon gewählt, wo ich letztendlich diesen Workshop halten darf; allerdings dachte ich, es würde sich schon anbieten, zuerst bei Kleinen Brands nachzufragen :) Sämtliche Informationen basieren auf Materialen renommierter Team Coaches für Unternehmen, die üblicherweise eine horrende Summe dafür einfordern. Glücklicherweise, kann ich euch mit diesem Workshop die gleichen Vorteile für 0€ anbieten!

Was will ich überhaupt konkret?
Am **Donnerstag, den 16.06.** würde ich gerne einen **ca. 2-stündigen interaktiven Workshop** zum Thema Persönlichkeit & Kommunikation am Arbeitsplatz anbieten, für mindestens **6 bis maximal 16 Personen**. Idealerweise **von 11 - 13 Uhr**, um anschließend in der Mittagspause alles verdauen zu können. Selbstverständlich würde ich mich um die gesamte Orga kümmern.

Was meinste? Für Fragen und mehr Infos stehe ich natürlich sehr bereit!

Appendix B:

Message to Employees of the Company

Werte Kolleginnen und Kollegen!

Überraschung! Heute frage ich mal nicht nach irgendwelchen Produktdetails, sondern möchte euer Interesse für einen **interaktiven Workshop** zum Thema **Persönlichkeit & Kommunikation** wecken, den ich nächste Woche Dienstag (21.06.) für interessierte [redacted]-Menschen leiten darf.

Hier eine kleine Sneak Peak von Fragen, die ich im Workshop beantworten werde:

- Welche Persönlichkeitstypen gibt es? Welche Eigenschaften machen sie aus und welche bevorzugten Kommunikationsweisen gehen damit einher?
- Wie verhalten wir uns im Konflikt?
- Was bedeutet eigentlich „gewaltfreie Kommunikation“ und wie geht das?

Interaktiver Workshop heißt, dass wir selbst ein-zwei Tests machen, kleine Übungen meistern und gemeinsam reflektieren. Ziel ist es, euch neue Perspektiven auf euch und eure Bedürfnisse sowie die eures Umfeldes zu öffnen. Mein Wunsch ist es, dass sich die ein oder andere Erkenntnis positiv auf euch und das Miteinander mit anderen Persönlichkeiten auswirkt und euch idealerweise auf professioneller sowie privater Ebene bereichern kann. Das wär total geil.

Das klingt interessant und ihr hättet Lust, mitzumachen? Dann tragt euch bitte und gerne in folgende **Teilnehmer*innen Liste** ein:

[redacted]

Hier nochmal alle Infos auf einen Blick:

Was? Interaktiver Workshop zum Thema Persönlichkeit & Kommunikation

Wo? Kleinen Brands GmbH

Wann? Dienstag, 21.06., ab 11 Uhr bis ca. 13 Uhr

Was tun? Idealerweise bis Ende der Woche in die Liste eintragen, damit ich besser planen kann :)

„Äh Laureen, bist du nicht Texterin bei [redacted]?“

Faire Frage! Kurz zum Hintergrund der ganzen Angelegenheit: Im Rahmen meines Studiums wird dieser Workshop meine Abschlussarbeit im Programm „Change Leaders“ sein, in dem es grob darum geht, aktiv positive Veränderungen zu initiieren. Die Inhalte des Workshops standen also schon vorher fest und auf Anfrage wurde mir dankbarerweise von [redacted] das Vertrauen entgegengebracht, diesen Workshop unter meiner Leitung auf euch loszulassen :)

Ich würde mich wirklich sehr freuen, wenn sich ein paar Personen finden würden, die darauf Bock haben. Solltet ihr noch Fragen zu irgendwelchen Abläufen oder Inhalten haben, meldet euch bitte gerne bei mir!

Mit einigen lieben Grüßen

Laureen

Appendix C:

Questionnaires & Results

Questionnaire 1

Standardbericht

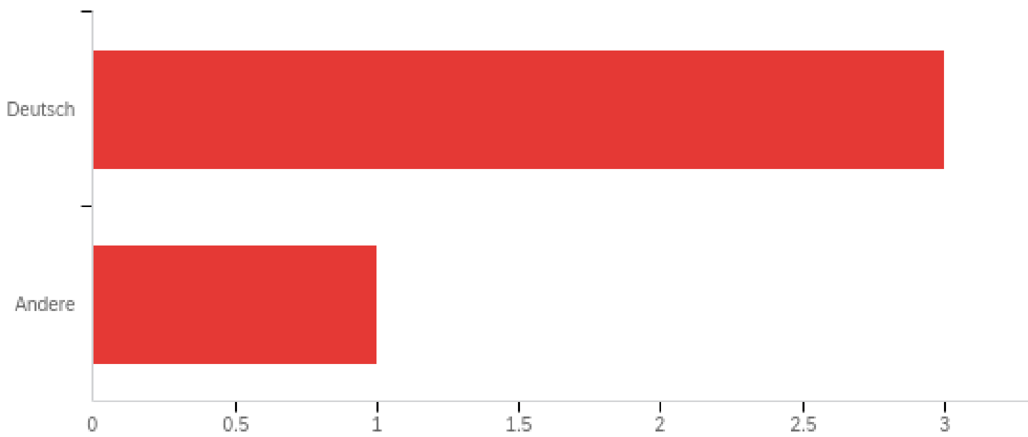
Fragebogen_Workshop

June 22nd 2022, 3:48 am MDT

Q1 - Alter

Alter
39
29
22
26

Q2 - Nationalität



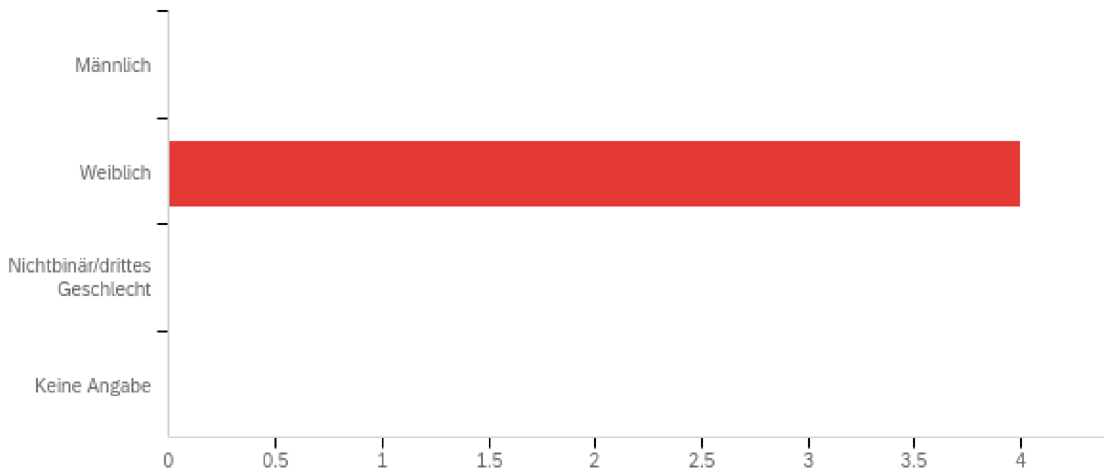
#	Field	Minimum	Maximum	Mittelwert	Standardabweichung	Abweichung	Anzahl
1	Nationalität - Selected Choice	1.00	2.00	1.25	0.43	0.19	4

#	Antwort	%	Anzahl
1	Deutsch	75.00%	3
2	Andere	25.00%	1
	Gesamt	100%	4

Q2_2_TEXT - Andere

Andere – Text
Spanische

Q7 - Geschlecht



#	Field	Minimum	Maximum	Mittelwert	Standardabweichung	Abweichung	Anzahl
1	Geschlecht	2.00	2.00	2.00	0.00	0.00	4

#	Antwort	%	Anzahl
1	Männlich	0.00%	0
2	Weiblich	100.00%	4
3	Nichtbinär/drittes Geschlecht	0.00%	0
4	Keine Angabe	0.00%	0
	Gesamt	100%	4

Q7 - Was hältst du von den folgenden Statements? 1 (stimme überhaupt nicht zu) - 10 (stimme voll und ganz zu).

#	Field	Minimum	Maximum	Mittelwert	Standardabweichung	Abweichung	Anzahl
1	Persönlichkeit spielt eine wichtige Rolle in der Kommunikation.	7.00	10.00	8.75	1.09	1.19	4
2	Wie ich wahrgenommen werde, beeinflusst	9.00	10.00	9.50	0.50	0.25	4

	andere in ihrer Kommunikation.						
3	Wie ich andere wahrnehme, beeinflusst meine Kommunikation.	7.00	9.00	8.25	0.83	0.69	4
4	Wie ich Konfliktsituationen begegne, beeinflusst meine Kommunikation.	8.00	10.00	9.50	0.87	0.75	4
5	Gewaltfreie Kommunikation ist wichtig am Arbeitsplatz.	8.00	10.00	9.50	0.87	0.75	4

Q6 - Von einer Skala von 1 (gar nicht) bis 10 (extrem gut), wie gut kennst du dich aus mit...

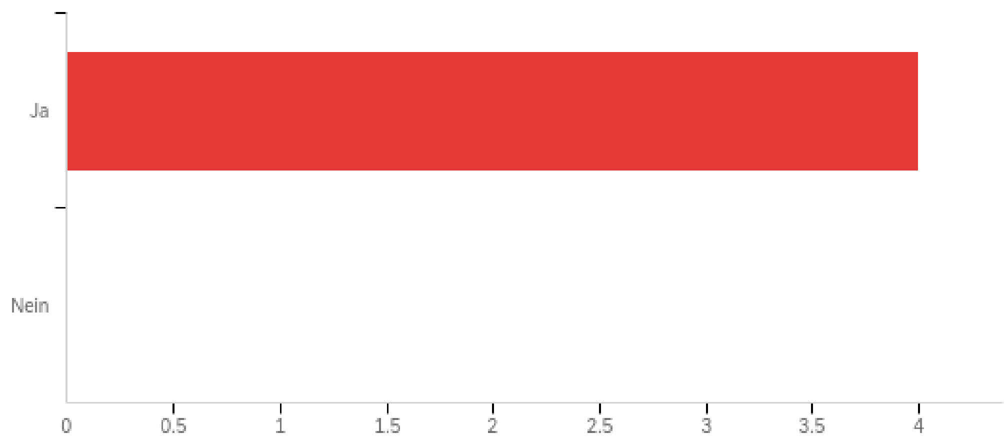
#	Field	Minimum	Maximum	Mittelwert	Standardabweichung	Abweichung	Anzahl
1	Persönlichkeitstypen	3.00	7.00	5.25	1.48	2.19	4
2	dem 4-Farben-Modell	1.00	5.00	3.25	1.79	3.19	4

3	Konflikt Management Typen	0.00	5.00	3.00	2.12	4.50	4
4	Gewaltfreier Kommunikation	5.00	6.00	5.33	0.47	0.22	4

Q8 - Was sind deine Erwartungen an den Workshop?

Was sind deine Erwartungen an den Workshop?
Ich möchte mehr über das wie in Konfliktsituation lernen
Neue Strategien entwickeln und bewusstere Kommunikation
Mehr über die eigene und die Kommunikation anderer (am Arbeitsplatz) zu lernen und (Konflikt-) situationen besser einschätzen zu können
Persönlichkeitstypen kennenzulernen, Input zur Verbesserung der Kommunikation am Arbeitsplatz

Q9 - Ich willige ein, an diesem Workshop teilzunehmen und dass meine Daten anonymisiert zur Analyse bereitgestellt werden.



#	Field	Minimum	Maximum	Mittelwert	Standardabweichung	Abweichung	Anzahl
1	Ich willige ein, an diesem Workshop teilzunehmen und dass meine Daten anonymisiert zur Analyse bereitgestellt werden.	1.00	1.00	1.00	0.00	0.00	4

#	Antwort	%	Anzahl
1	Ja	100.00%	4
2	Nein	0.00%	0
	Gesamt	100%	4

Questionnaire 2

Standardbericht

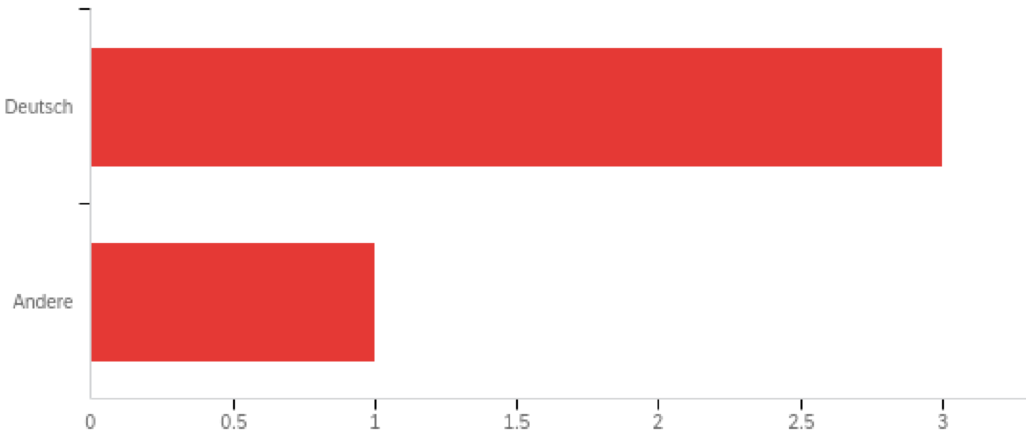
Fragebogen_Workshop - Kopieren

June 22nd 2022, 5:52 am MDT

Q1 - Alter

Alter
29
26
3@
22

Q2 - Nationalität



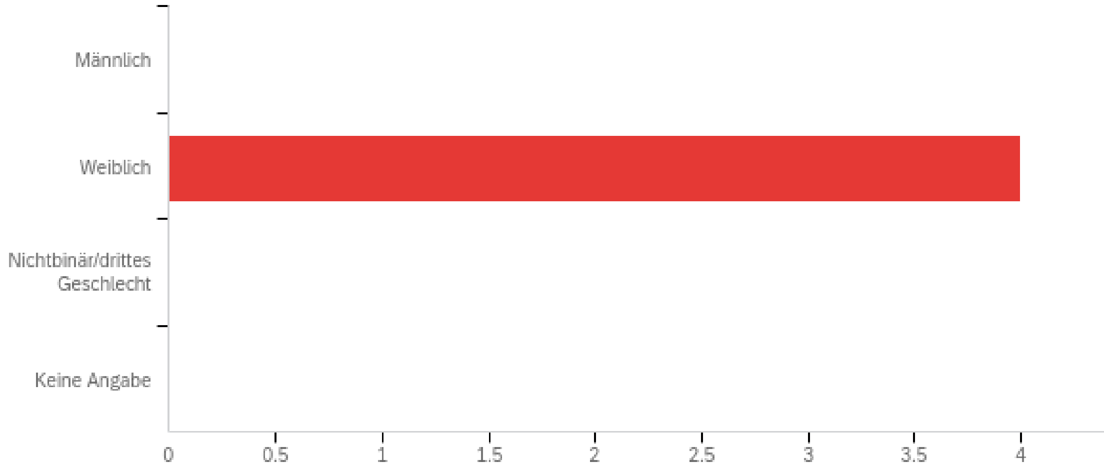
#	Field	Minimum	Maximum	Mittelwert	Standardabweichung	Abweichung	Anzahl
1	Nationalität - Selected Choice	1.00	2.00	1.25	0.43	0.19	4

#	Antwort	%	Anzahl
1	Deutsch	75.00%	3
2	Andere	25.00%	1
	Gesamt	100%	4

Q2_2_TEXT - Andere

Andere – Text
Spanisch

Q7 - Geschlecht



#	Field	Minimum	Maximum	Mittelwert	Standardabweichung	Abweichung	Anzahl
1	Geschlecht	2.00	2.00	2.00	0.00	0.00	4

#	Antwort	%	Anzahl
1	Männlich	0.00%	0
2	Weiblich	100.00%	4
3	Nichtbinär/drittes Geschlecht	0.00%	0
4	Keine Angabe	0.00%	0
	Gesamt	100%	4

Q7 - Was hältst du von den folgenden Statements? 1 (stimme überhaupt nicht zu) - 10 (stimme voll und ganz zu).

#	Field	Minimum	Maximum	Mittelwert	Standardabweichung	Abweichung	Anzahl
1	1	0.00	0.00	0.00	0.00	0.00	1
2	Persönlichkeit spielt eine wichtige Rolle in der Kommunikation.	9.00	10.00	9.75	0.43	0.19	4
3	Wie ich wahrgenommen werde, beeinflusst andere in ihrer Kommunikation.	9.00	10.00	9.75	0.43	0.19	4
4	Wie ich andere wahrnehme, beeinflusst meine Kommunikation.	8.00	10.00	9.00	1.00	1.00	4
5	Wie ich Konfliktsituationen begegne, beeinflusst meine Kommunikation.	9.00	10.00	9.75	0.43	0.19	4
6	Gewaltfreie Kommunikatio	10.00	10.00	10.00	0.00	0.00	4

	n ist wichtig am Arbeitsplatz.						

Q6 - Von einer Skala von 1 (gar nicht) bis 10 (extrem gut), wie gut kennst du dich aus mit...

#	Field	Minimum	Maximum	Mittelwert	Standardabweichung	Abweichung	Anzahl
1	Persönlichkeitstypen	7.00	9.00	8.00	0.71	0.50	4
2	dem 4-Farben-Modell	7.00	9.00	8.00	0.71	0.50	4
3	Konflikt Management Typen	7.00	9.00	8.25	0.83	0.69	4
4	Gewaltfreier Kommunikation	8.00	9.00	8.25	0.43	0.19	4

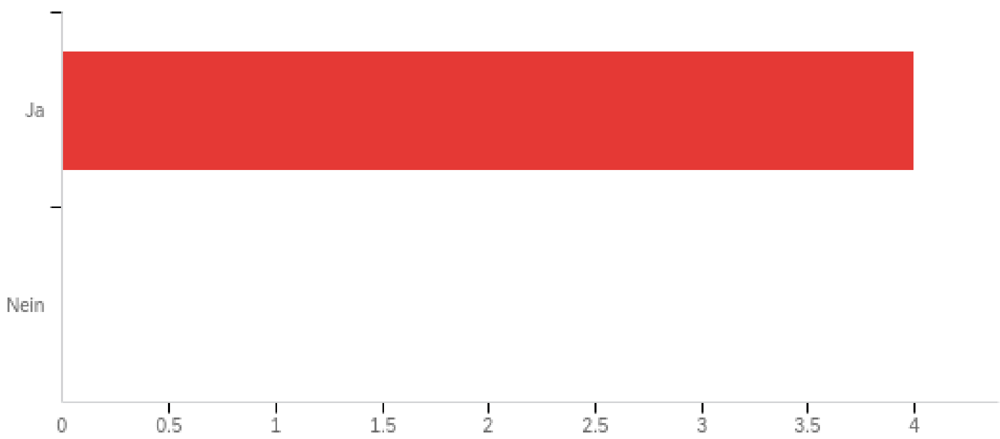
Q8 - Das habe ich vom Workshop mitgenommen:

Das habe ich vom Workshop mitgenommen:
Erinnerung an Gewaltfreie Kommunikation und Selbstreflexion in Konfliktsituationen, Team noch besser kennengelernt
Wie ich gewaltfrei kommunizieren kann und welcher Typ ich bin
4 Wege GFK, das ich ein anderer Typ bin als ich dachte.
Es gibt verschiedene Persönlichkeitstypen, die unterschiedliche Bedürfnisse haben, die man in der Kommunikation untereinander beachten muss

Q10 - Feedback, Anmerkungen

Feedback, Anmerkungen
Ein toller Workshop mit wertvoller und fachlich wertvoller Anleitung in einem wertvollen Ambiente
Es war super hilfreich :)
Der Input hat mir geholfen für den Moment und hoffentlich auch zukünftig. Danke dafür.
Es war ein absoluter Schmaus, nicht zuletzt wegen der Schokolade. Wir haben viel gelernt heute

Q9 - Ich willige ein, an diesem Workshop teilzunehmen und dass meine Daten anonymisiert zur Analyse bereitgestellt werden.



#	Field	Minimum	Maximum	Mittelwert	Standardabweichung	Abweichung	Anzahl
1	Ich willige ein, an diesem Workshop teilzunehmen und dass meine	1.00	1.00	1.00	0.00	0.00	4

	Daten anonymisiert zur Analyse bereitgestellt werden.						

#	Antwort	%	Anzahl
1	Ja	100.00%	4
2	Nein	0.00%	0
	Gesamt	100%	4

ICT PROJECT MANAGEMENT – A GUIDE FOR MAKING IT HAPPEN: HELPING UT STUDENTS ACHIEVE MORE TOGETHER

Alexander Mihoci

1. Introduction

Technology, complexity, study and stress. Those were exactly my thoughts when I first joined my study program and was placed in a group project. I found myself in a situation where I did not know my group well nor the task at hand and in a sheer state of concern. I was not alone, after initiating a discussion with my group we all found ourselves in the same situation. How can we best get this project done together? Nevertheless, every module the stress came back and the possibility for failure came closer.

Despite project management skills being taught in a computer science curriculum, students often do not see its applicability right away. I later did an internship at a software development company and found myself in the same situation, lack of communication and group collaboration lead to deadlines being pushed back and results under delivered. This to me is a problem that should be addressed early on and experimented with in a constructive way. Finding the best way to approach group work in the programming field and hence, the inspiration for conducting the workshop.

In the technologically complex world we live in today, the need for effective ICT project managers has never been greater. The topic of project management in ICT came to mind after the many experiences I had in both professional and academic settings. I have seen and been part of ICT projects that have both thrived as well as failed and have always wondered what one can do to increase the chances of project success.

One of the main reasons ICT projects fail is due to poor management practices, with over 50% of projects underperforming in this regard (Alami, 2016). Theoretical courses in programming and development often lack the complementary project management courses that are key for successful implementation (Reif & Mitri, 2005). Likewise, students at university level are often novel to programming as a team and have not yet worked out how to best manage and divide tasks both at a group and an individual level. As a result university students are most likely to benefit from an ICT project management workshop as they can quickly apply the skills learned into practice and figure out the best way that works for them.

Nevertheless, this topic is especially important to me, and I aim to link this workshop with the objectives of the 'Effective Leadership in Organisations' and 'Change at an Individual Level' modules, as becoming a self-aware leader in a group setting and inducing change has strong correlations with the materials taught in both modules.

2. Goals and Objectives

In order for the workshop to make an impact, goals and objectives will be defined and explained with the intention of clarifying the purpose and intended results of this change project. The goals are formulated in a way that will be measurable via a survey before and after the workshop. In order to quantify and measure the goals a scale ranging from 'strongly disagree' to 'strongly agree' will be used in the survey. Likewise, the objectives are present as an aim/direction for the change project as a whole. In terms of objectives, the prominent aim of this project is to have a measurable increase in the perceived ICT project management abilities among students. Emphasis is placed on perceived as the intent is to make students feel more conscious and aware of their abilities and dynamics.

Moreover, the goals for this change project cater to the surveys that are sent out before and after the workshop in order to establish a baseline and measure change. The goals are also targeted around the four main sections of the workshop. For each of the sections there is an associated measurable goal. For the 'know yourself' section, the goal is that after the workshop, students feel more conscious of their own work abilities. For the 'know your group' section, the goal is that after the workshop, students feel more conscious of their project group. For the 'know your task' section, the goal is that after the workshop students feel more conscious of the project tasks and deliverables. Lastly, for the 'getting things done' section, the goal is for students to feel more inspired to take charge as a conscious leader.

Focus is placed on being 'conscious' as consciousness and being a conscious leader means to be aware of your position, perceive information and constantly reflect on events (Marincic & Maric, 2018). These are skills students could benefit from both in the academic and professional world and assist in thorough decision making through constant reflection and communication. Consciousness is a concept that is difficult to measure through surveys, however the interactive workshop aims to inspire fellow students to take charge and be more aware.

- After the workshop, students feel more conscious of their own work abilities (measured by increase in perceived awareness through survey score)
- After the worksop, students feel more conscious of their project group (measured by increase in perceived awareness through survey score)
- After the workshop, students feel more conscious of their project task and deliverables (measured by increase in perceived awareness through survey score)
- After the worksop, students feel more inspired to take charge as a conscious leader (measured by increase in perceived awareness through survey score)

3. Target Group

In order to make the most impact, the chosen target group for this change project are students in their Bachelor’s phase of education that are either enrolled in Technical Computer Science or Business Information Technology at the University of Twente. Knowing the study curriculum, almost every module contains an ICT project where communication among project members is key for a successful delivery. Students at this moment in their careers have the possibility to explore different ways of working and different group dynamics without job related consequences. Nevertheless, it is important that work is still complete and the projects are being done to the best standard possible.

I myself have been in the situation where I was part of both good and bad groups when it comes to ICT projects at university and knowing how to deal with each situation could have avoided many implications, that is why students are encouraged to take part in an interactive workshop as such. The topics covered throughout the workshop equip students with skills and knowledge centred around the topics of self-awareness and group-awareness, both skills being exceptionally valid when conducting a group project (Carden et al., 2021). These concepts will be elaborated further and explained in more depth in section 4.

Part of having a successful group dynamic has to do with knowing when to lead and when to follow, as well as cultivating transformational leadership (Ali et al., 2021); all of which are skills that are essential for achieving more in terms of project objectives (Ali et al., 2021). I know from personal experience, some students might not feel comfortable speaking up or taking the lead, whilst others might broadcast ideas and take a leading role without understanding the task well enough. Emphasis must be placed on communication and strategic decision making, both of which are elements of effective project management.

Channels such as social media and messaging platforms have been used to approach students as well as word-of-mouth. The intention is to get rid of the potential negative feelings associated with project work and to enable students to take charge and be more aware of all aspects associated with group work.

4. Change Approach

In this section, a detailed overview of the change project will be provided as well as the specifics regarding the workshop and associated activities. Firstly, a workshop was chosen due to its interactive nature and balance between theory and practice. The workshop aims to encompass findings from the Process of Change course, specifically content and objectives from modules 'Changes at an Individual Level 'Effective Leadership in Organisations'. A survey is then used to measure changes in perceived levels of consciousness regarding the points from the workshop. The overall objective is to have a measurable increase in perceived levels of consciousness.

4.1 Background Preparation

Inviting and getting students to join was the main priority. An invitation message was drafted (see Appendix. 1) and sent out to close contacts and friends who study Computer Science or Business Information Technology. The aim of the invitation was to establish familiarity and need for the workshop, by referring to personal experience of projects that did not go as planned as well as the potential identification of a gap within the curriculums in terms of project management. The invitation aims to catch students' attention with a personal anecdote at the beginning as well as a call to action. Likewise, the invitation contains all the logistical information regarding the workshop and information on how to proceed if one's interested. Once interested and a response was received from the invitation, a link to the initial survey (labelled 'Before') was sent out in order to establish a baseline in terms of perceived levels of awareness throughout several aspects of project management. The exact same survey (labelled 'After') was sent to workshop participants one week after the workshop in aim to have higher scores in the categories associated with consciousness and awareness. A handout (see Appendix. 3) was also prepared in advance that included interactive sections for participants to fill in during the workshop, as well as the key take-home points.

4.2 Workshop Structure and Activities

The workshop is structured around the 4 main identified themes regarding project management, communication and leadership; these are, 'knowing yourself', knowing your team', 'knowing your task', and 'getting things done'. These topics were chosen from inspiration of various courses and key takeaways from the Processes of Change program as well as my personal experiences. Throughout the workshop students were asked to fill in the handout mentioned in the section above and were encouraged to do so with as much detail as possible.

The workshop began with an introduction of the change project as well as information structured in a 'who, what, why and how' manner touching all the necessary points. A slide showing the goals and objectives was displayed as well as preliminary information regarding how the concepts are linked together.

4.21 Know Yourself

This section of the workshop was focused on identifying individuals strengths and weaknesses as well as discovering your own self. Being able to self-manage is an essential managerial skill (Sajeevanie, 2020) and serves as a good starting base for the workshop. Theory regarding key project management skills were introduced, providing a general overview of topics such as communication, leadership, problem solving and time management (Indeed Editorial Team, 2022). The participants were asked questions regarding the specific skills and what they think it encompasses. Afterwards, an interactive section introducing the 'Big 5' personality test was done and participants were asked to complete a test and rank their results. The 'Big 5' personality test is the most known model for personality (Shi et al., 2018) with results highlighting one's different personality profiles in the categories of openness, conscientiousness, extroversion, agreeableness, and neuroticism. The aim of this exercise was to make students more aware of their personality profile and increase their personal consciousness in this regard. Likewise, the topics of internal and external self-awareness were discussed in order to provide a perspective on what it means to be present in a project group. Internal self-awareness focuses on understanding your own words, story and beliefs, whereas external self-awareness looks at understanding how your words and actions impact others (J.Porter, 2019). Lastly, discussion was held regarding what a self-aware leader is and theory was introduced on how to become more self-aware in terms of leadership. The combination of topics and activities described in the 'Know Yourself' section aims to help students achieve the goal of feeling more conscious of their own work abilities. This section also aims to cover the aims/objectives of the modules 'Change at an Individual Level' and 'Effective Leadership in Organisations'.

4.2.2 Know Your Team

When working in a group, understanding the power of your team and its dynamics are vital to achieve project success. This section contains activities that focus on knowing your place within the group and asking the right questions to get to know your team as well as lead the project. Firstly, a general discussion was held about emotions and opinions regarding teamwork. From that discussion, interesting answers came up providing a very balanced mix of feelings and opinions. In order to know your team well, one needs to understand where they stand in that team and how they generally approach communication and conflicts. For this, an exercise using the 'Rose of Leary' was chosen so that participants could have a model in place regarding group hierarchical positions (A.Susilo et al., 2012). This model looks into different behaviours/personalities individuals can adopt within a group. Participants were invited up to an interactive white board to fill in on the model where they are now in and where they would like to be regarding their role in the group. The model is based on the idea of being together or against your team and presents the different stages of togetherness and against in forms of actions. Regardless of the team or project, individuals generally adopt the same roles within a group and therefore participants were asked to fill in the handout with the newly found information. Moreover, in this section of the workshop, theory regarding key project management questions were introduced. Bringing up questions regarding project planning, execution, and monitoring can help in team building as well as lead on to the next point of task clarity. Through completion of activities and theory, the aim is to address the goal of feeling more conscious about your project group.

4.2.3 Know Your Task

The task at hand is a vital aspect of a project. From discussions during the workshop, most participants felt that they never truly understood what was being asked. Task ambiguity often leads to poor performance and is a known cause for burnout (V. Faundez et al., 2014). An interactive Mentimeter activity was set up in order to gather opinions on the problems associated with not understanding the task well and the feelings that go along with it. Afterwards, emphasis was placed on personal clarity (making sure you understand the task) and group clarity (making sure the group understands the task). In terms of personal clarity methods were introduced in order to help establish personal task clarity. Asking questions, carefully reading materials, being confident, and previous experiences were among some of the suggested ways personal task clarity can be increased. Likewise, in terms of group clarity, theory was introduced showing ways a can get to know the task better as well as an interactive part focussing on how to communicate better in groups. Tips such as overcommunication, having a clear agenda and celebrating milestones were among the ideas to help the group grasp the task at hand and to improve group dynamics. This section of the workshop aims to address the goal of feeling more conscious of the project tasks and deliverables.

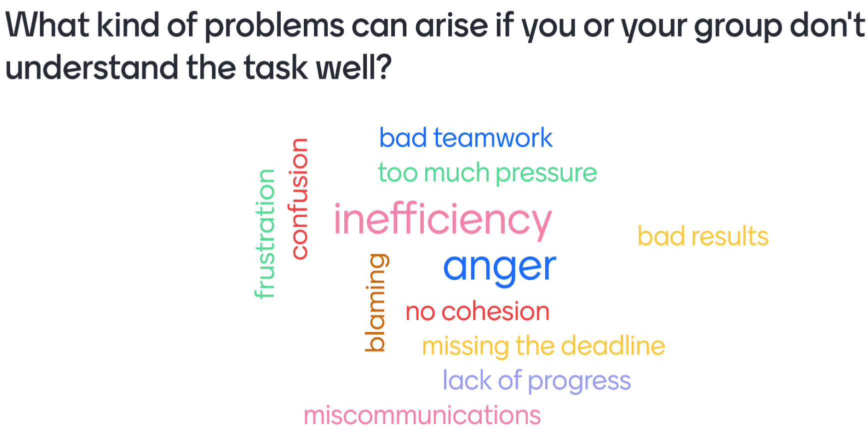


Figure 1. Mentimeter Results

4.2.4 Getting Things Done

As this workshop is targeted towards students who work on ICT based projects frequently, it concluded with discussing various methodologies of collaboration and working together. Throughout the ICT courses, emphasis is placed on Scrum as the central methodology for working on an ICT project. However, perhaps another method may be better suited to the task, team, and personal abilities. This section of the workshop aims to provide a theoretical overview of other work methodology to equip students with options in terms of what is best. A description of the 'Waterfall' work methodology was provided and parallels were made between how it is generally a dated method of doing work but is still the most logical one in terms of linking it to how our minds perceive the order of tasks (like a logical flow). Afterwards, Scrum methodology was introduced and its objectives were described; it focussed on being iterative and progress oriented. Then, a new methodology which the participants have reported not yet using was DevOps. It was introduced as a process oriented methodology with the aim of deploying a product (Wiedemann et al., 2020). Participants were now equipped with new knowledge and the intention was that they can now experiment with different work methodology types depending on the project group and complexity of the task. One participant asked whether a combination of the methodologies would be best and I thought that to be an interesting point for perhaps further investigation. This section of the workshop addresses the goal of feeling more inspired to take charge as a conscious leader as now novel theories regarding work methodologies can be deployed.

4.3 Workshop Execution

As all the participants were familiar with each other, being all from the same study, question and answer sessions were very detailed and a lot of information was shared. Participants were very open and I think that was the most effective way to get as much as possible out of it. An overarching objective of mine was for the workshop to be fun. When participants are enjoying themselves and feel really involved in the content, they tend to remember more of what was being said. At the end of the workshop, a slide was shown as a call to action to invite participants to go out there and do it and not not be afraid to make mistables.

One of the most memorable moments was when a participant said "I don't ever remember celebrating achievements as a group", this really made me think about group dynamics and the importance of having fun together and positively concluding projects. Moreover, participants were thanked and I asked for feedback or potential points I could improve on. The feedback was overwhelmingly positive considering this was the first time I hosted a workshop and received compliments on how smooth and interactive it went. Nevertheless, one area of improvement was the slides regarding content. It was said that despite the slides looking very catchy, some had too much text and it could have been overwhelming trying to read and extract the most important points.

5. Results

As previously mentioned, the first survey was conducted one week before the workshop in order to establish a baseline and the final survey was conducted one week after the workshop in an attempt to measure change and the impact it had. Average scores were calculated for each question and the percentage difference was calculated from the before and after survey. The bar chart below shows a positive increase for every question, meaning that the workshop worked as intended and the goals of being more conscious were achieved. Introducing and discussing different work methodologies seemed to have the largest difference (Q8 with 65%) in terms of students being able to effectively use various work methodologies. Likewise for Q3, more students were now 10% less likely to adopt the same roles within their project groups and would be willing to try different things out.

The specific demographics of the students such as age and gender were not collected in the survey however a demographic estimate would be average age of 22 years old and all students from business information technology in their second and third years (no students from technical computer science were present despite the invitation). The survey (both before and after) was sent out exclusively to students who raised interest in participating and 5 students participated in the workshop who have all completed the before and after surveys. More students would have created a greater impact however, due to the short time frame of this change project and it being towards the end of the academic year, fewer than expected participants joined.

I feel that the goals and objectives of the workshop and change project were achieved as a measurable change was present. Nevertheless, upon discussion with fellow participants I feel the changes in their attitudes and perception on group projects has also changed for the better. Despite having a relatively small participant size, an impact was made in a positive direction.

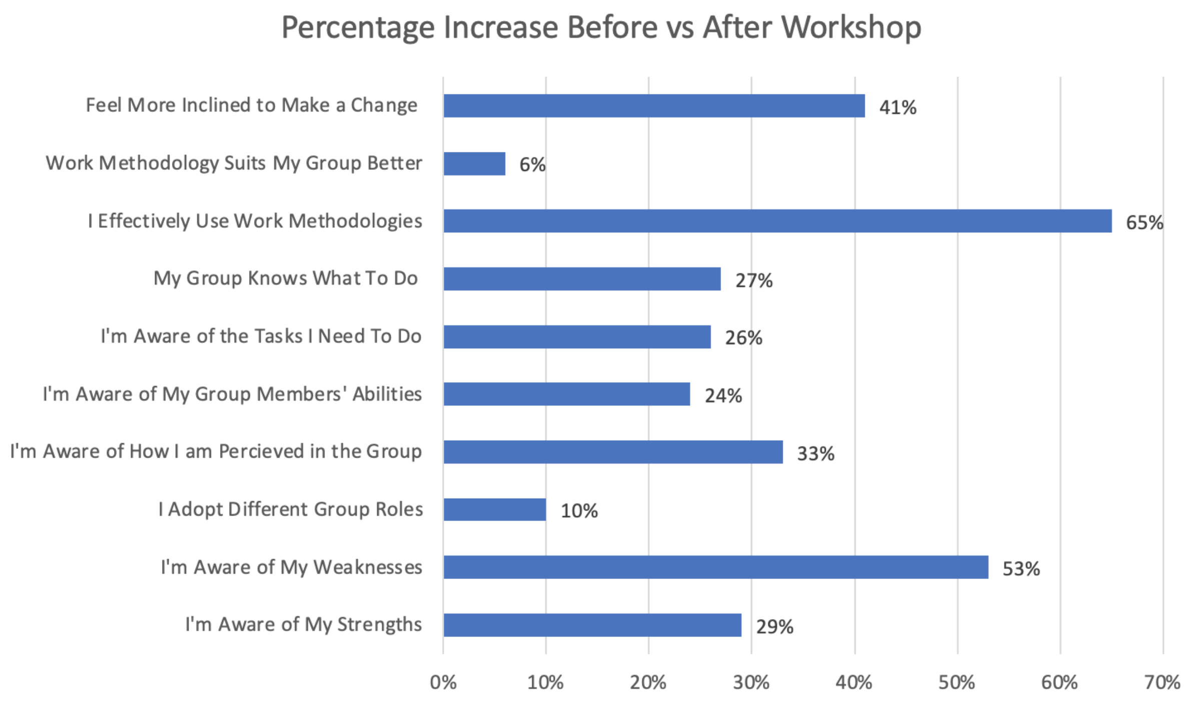


Figure 2. Percentage Differences Chart

6. Advice and Future Expansions

This workshop was a first for me and a first for most of the participants. The atmosphere was very inspiring and I feel the participants were very engaged in the content being discussed. I was pleasantly surprised to see that the workshop had an effect on the participants' responses up to a week after the workshop took place. The general advice is to go out and try, especially to not be afraid to make mistakes. Being an effective project manager takes time and experience and the only way to learn is to try. The advice is to experiment with different roles in the group. Using the Insights Discovery Profile sections, students should experiment with all the different roles as only then can they find what suits them best. It is important to mention that this workshop and its findings may have identified a gap within current curriculums of the technical studies. Perhaps a workshop or more detailed courses on effective project management can be a useful and helpful addition to the curriculum and could serve as a stepping stone for students to achieve more in an individual and a group setting.

Moreover, emphasis was made throughout the workshop that it is really important to have fun and enjoy the task as well as working in a group. This way, even challenging activities seem more appealing and more can be learned in a positive way. Participants are encouraged to look back through the workshop slides as well as the handout in order to reflect on some of the points covered. Being reflective is part of being conscious.

7. Learning Through Coaching and PoC: A Personal Reflection

This project and course as a whole has been quite the eye opening experience for me. It definitely included a lot of 'firsts' for me in terms of hosting a workshop and receiving personal coaching. All of which have helped in my developmental journey towards defining leadership and clarifying its terms. The change of approach made me aware of how many students are experiencing the same issue in terms of project management and leadership and how perhaps management courses often miss the personal touch needed to push people to take charge and make a change.

The workshop itself went very well and it helped that I knew the participants on a personal level and they were all very engaged the entire time. Nevertheless, it would have been very nice to have more participants take part in order to amplify the change. Next time I would start advertising the workshop many weeks in advance and talk to as many people as possible in order to raise interest in the workshop. Due to the short nature of the change project, only around 6 weeks were available for designing and advertising the workshop. otherwise, I would have taken advantage of more time to get more students to take part.

Another valuable lesson I learned from carrying out the change project was to just stop and listen. Everybody has their own story and personal experiences when it comes to life and their perspective on things and despite being in charge of the workshop persay, I was very moved by the level of detail and passion some students had in their stories regarding previous experiences.

The coaching sessions really expanded my horizons in terms of being aware and present. During the sessions, I together with my coach have worked on ways to communicate better and to work on dealing with criticism. I was introduced to many key concepts and techniques to help me be more present and understand the environment around me in a given situation, as I would often tend to shut down and look past it. My biggest takeaway was to see things as a collaboration instead of a competition and to be generally more conscious. This really left its mark on me and inspired a few sections of my change approach in terms of the workshop and also shaped my view of a future leader.

At the beginning of the PoC course, the highly informative workshop regarding the Insights Discovery Profile surprised me by how well it fit my way of working. Looking back, I can definitely say it has changed. I moved from a director profile to a motivator profile. I find inspiration from helping others in the group and showing through example as well as both following and taking charge. I learned the importance of being reflective and really putting myself in others' shoes in order to get the most out of every situation. All the skills above will help me in my career in entrepreneurship as change and leadership are the only way forward in this industry.

8. Conclusion

The Processes of Change honours course has been nothing short of an experience that has changed my perspective on many aspects of life. I learned how to define change in my own way, as well as define my own leadership styles and methods. I would like to sincerely thank all the professors and teachers as well as my personal coach for helping me on this journey and chapter in my life.

REFERENCES

Ali, H., Chuanmin, S., Ahmed, M., Mahmood, A., Khayyam, M., & Tikhomirova, A. (2021). Transformational Leadership and Project Success: Serial Mediation of Team-Building and Teamwork. Frontiers in psychology, 12, 689311. https://doi.org/10.3389/fpsyg.2021.689311

Alami.A (2016). Why Do Information Technology Projects Fail?, Procedia Computer Science, 100, 62-71.https://doi.org/10.1016/j.procs.2016.09.124

Carden, J., Jones, R. J., & Passmore, J. (2022). Defining Self-Awareness in the Context of Adult Development: A Systematic Literature Review. *Journal of Management Education, 46(1)*, 140–177. https://doi.org/10.1177/1052562921990065

Faundez.V, Gil-Monte.P, Miranda.L and Ferraz.H (2014). Relationships between burnout and role ambiguity, role conflict and employee absenteeism among health workers. *Terapia Psicologica 32(2)*, 111-120. DOI: 10.4067/S0718-48082014000200004

Indeed Editorial Team (2022, April 27) *What Does an ICT Project Manager Do? (And How to Become One)* https://au.indeed.com/career-advice/finding-a-job/what-does-an-ict-project-manager-do. *(Accessed 19 June 2022)*

Jenifer Porter (2019, January 29). *To Improve Your Team, First Work on Yourself. Managing Conflicts* https://hbr.org/2019/01/to-improve-your-team-first-work-on-yourself *(Accessed 19 June 2022)*

Marincic.D & Maric.M (2018). Conceptualisation of Conscious Leadership, *Skola Biznisa 2018(1)*, 175-186. DOI: 10.5937/skolbiz1-20350

Reif.H & Mitri.M (2005). How University Professors Teach Project Management for Information Systems, *Communication of the ACM, 48(8)*, 134-136. DOI: 10.1145/1076211.1076249

Sajeevanie.T.L (2020). IMPORTANCE OF SELF-MANAGEMENT AND FUTURE RESEARCH THOUGHTS: A CRITICAL REVIEW PERSPECTIVE. 8. 4122-4127. https://www.researchgate.net/publication/343384450_IMPORTANCE_OF_SELF-MANAGEMENT_AND_FUTURE_RESEARCH_THOUGHTS_A_CRITICAL_REVIEW_PERSPECTIVE

Shi, J., Yao, Y., Zhan, C., Mao, Z., Yin, F., & Zhao, X. (2018). The Relationship Between Big Five Personality Traits and Psychotic Experience in a Large Non-clinical Youth Sample: The Mediating Role of Emotion Regulation. *Frontiers in psychiatry, 9, 648*. https://doi.org/10.3389/fpsyt.2018.00648

Susilo.A, Eertwegh.V, van Dalen.J, and Scherpbier.A (2012). Leary's Rose to Improve Negotiation Skills Among Health Professionals: *Experiences from Southeast Asian Culture. Education for Health Change in Learning & Practices 26(1)*, 54-59. DOI: 10.4103/1357-6283.112803

Wiedemann.A, Wiesche.M, Gewald.H & Krcmar.H (2020) Understanding how DevOps aligns development and operations: a tripartite model of intra-IT alignment, *European Journal of Information Systems, 29:5*, 458-473, DOI: 10.1080/0960085X.2020.1782277

APPENDIX

1. Invitation

Hi everyone 👋

Did you know that more than 50% of ICT projects fail due to lack of project management?

I definitely confirm this statement from experience… 😑

I wanted to do something about that so as part of the honours change project, I am hosting a workshop on the topic of ICT project management and communication. If you have worked on an ICT project within your study and want some fresh insight, this might be the workshop for you! 😎

When: The workshop is on Wednesday 8th June beginning at 14:00 and will be around 45 minutes long.

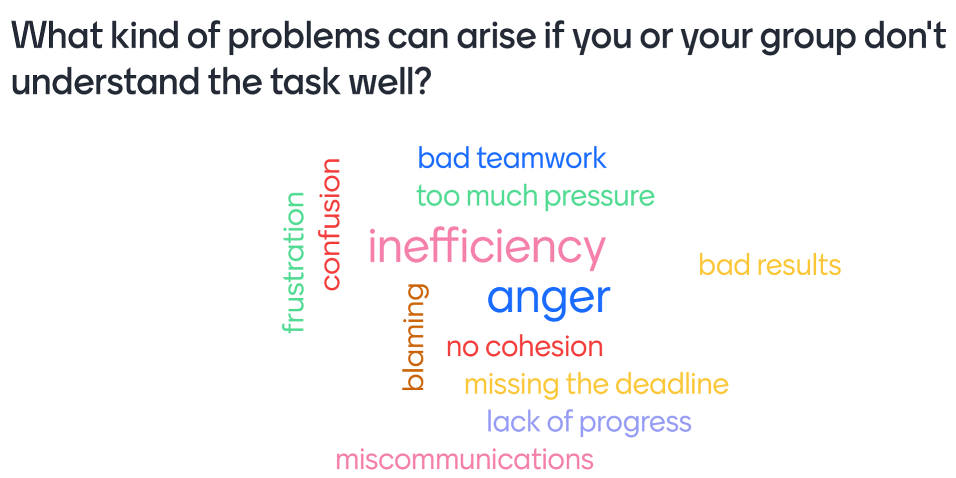
Location: Incubase Bastille (Pitch Deck at the back) 📍

The workshops are of course free and you will receive a handout afterwards with the key takeaways!

If you want to attend, send me a message or drop one of these "👍" and I'd be more than happy for you to take part! ☺

Also, If you have any questions or anything don't hesitate to contact me!

2. Menti-Meter Activity



3. Workshop Handout

Your 5 Personalities

1.
2.
3.
4.
5.

Your Group Work Strengths

1.
2.

Your Group Work Weaknesses

1.
2.

Key PM Skills

- Communication
- Problem solving
- Leadership
- Time Management
- Organizational

Key Structure

- Know yourself
- Know your task
- Know your group
- Choose methodology
- Lead the change

Communication Tips

- Clear agenda
- Regular task updates
- In person meetings
- Identify goals early
- Celebrate milestones

Where do you see yourself?

Your 3 Main Takeaways

1.
2.
3.

4. ICT Project Management Survey Questions

Q1) I am aware of my strengths in an ICT group project
Q2) I am aware of my weaknesses in an ICT group project
Q3) I generally adopt the same role in every ICT group project
Q4) I am aware of how group members perceive me when working on an ICT group project
Q5) I am aware of each group member's abilities throughout my ICT group projects
Q6) I am aware of the tasks I need to complete in an ICT group project
Q7) I feel my group generally knows what to do in an ICT group project
Q8) I effectively use work methodologies (Waterfall/Scrum/DevOps) in ICT group projects
Q9) I feel the work methodologies used suit my group's way of working
Q10) I feel inclined to make change happen whilst working on an ICT group project

5. Results Raw Data

Before (Average Score Per Question)

- Q1 = 3.4
- Q2 = 3
- Q3 = 4.2
- Q4 = 3
- Q5 = 3.4
- Q6 = 3.4
- Q7 = 3
- Q8 = 2.6
- Q9 = 3.4
- Q10 = 3.2

After (Average Score Per Question)

- Q1 = 4.4
- Q2 = 4.6
- Q3 = 3.8
- Q4 = 4
- Q5 = 4.2
- Q6 = 4.3
- Q7 = 3.8
- Q8 = 4.3
- Q9 = 3.6
- Q10 = 4.5

Percentage Change

- Q1 = 29%
- Q2 = 53%
- Q3 = 10%
- Q4 = 33%
- Q5 = 24%
- Q6 = 26%
- Q7 = 27%

  Q8 = 65%
- Q9 = 6%
- Q10 = 41%

TRANSGENDER INCLUSION AND SUPPORT AT THE UNIVERSITY OF TWENTE

Elia Nerlich

Transgender Inclusion and Support at the University of Twente

Worldwide, transgender people have slowly gained more acceptance and recognition in the general population. Since 2014, transgender people in the Netherlands are now allowed to change their legal gender without sex reassignment surgery and sterilisation (Nichols, 2013). Further, in 2021, it was ruled that non-binary individuals are able to use the gender "X" in birth certificates and passports ("Court rules", 2021; "Non-binaire personen", 2021). This shows the positive development of transgender rights as well as changes in attitude; a majority of people in Europe believe the government should protect trans people from discrimination (70%) and would like them to do more to support and protect trans people (60%) (Clark et al., 2018).

However, trans people still face many challenges and hardships for their identity. Despite a positive progression of transgender laws, the Netherlands and all of Europe is still missing policies needed to guarantee the free expression and safety of trans individuals (Transgender Europe, 2022). Even among the LGBTQ+ community, trans people tend to face higher rates of prejudice, bias, and discrimination in everyday life (Drabish & Theeke, 2022; Su et al., 2016; White Hughto et al., 2015). These negative experiences and fear of living as an openly trans person can lead to severe mental health consequences such as substance abuse, eating disorders, depression, low self-esteem and poor coping capabilities (Drabish & Theeke, 2022; Su et al., 2016). Additionally, stigmatization can negatively affect treatment in housing, health care and employment (White Hughto et al., 2015). Due to this, the trans community struggles with high rates of suicidal behaviour, suicidal ideation and suicide attempts (Testa et al., 2017; White Hughto et al., 2015). Promoting awareness and support of trans people is important to counteract this stigma and discrimination. This could already start at university level, as at the UT.

Gender Diversity at the University of Twente

For my change project, my goal is to create a more welcoming and supportive environment for trans people at the University of Twente (UT). Overall, the university has a welcoming and supportive environment towards transgender and other LGBTQ+ individuals, actively working for inclusion with groups such as the Diversity, Equity and Inclusion (DE&I) Team and Th!nk with Pride (University of Twente, n.d.). However, there are still issues and lack of knowledge among the university community. Among them, for instance, there is the lack of available bathrooms for trans people at campus, specifically those that are non-binary, lack of lessons for students and teachers about gender diversity and gender-neutral language, such as in research, and lack of information among those supposed to provide support, such as study advisors. In conversations I had with other transgender students at the UT, many expressed they often feel frustrated with other students and teachers due to them being insensitive or ignorant about their identity and issues.

Of all members of the University of Twente, I have chosen to focus on staff members, such as teachers, tutors, and study advisors, for this change project for several reasons. Firstly, staff members have an important relationship to the students, both transgender and not, at the university. They should be aware of issues students may face due to their background as a minority and to be accepting and understanding to act as educators and advisors. Teachers and professors, in particular, are also able to influence groups of students through leading by example and showing their support and calling out discrimination. Study advisors and counsellors are in need of information of issues transgender students may face and how they can help them in order to properly fulfil their position.

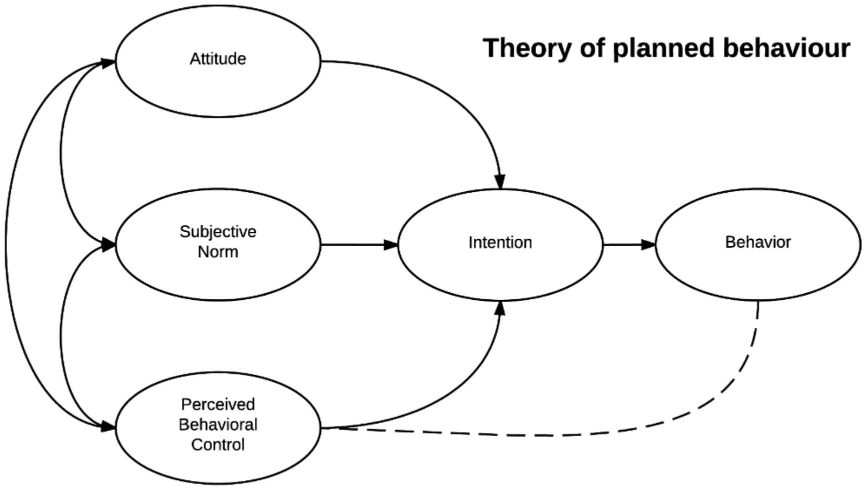
Further, staff members have more relative influence on the decision making and structure of the university in general. While support from individuals is important, systematic and organisational aspects influence the experiences of trans students at the UT, which are difficult to change by the students themselves. Staff members may be capable of petitioning for changes at the university to promote inclusion, such as gender-neutral bathrooms, syllabus changes, and support structures, and be more successful in implementing them. Even as an individual teacher, they could use knowledge gained through this project to add sections about gender-diversity to their lessons.

Change Goals

The theory of planned behaviour (TPB) is a psychological theory based on the theory of reasoned action, which placed behavioural intention as the most important determinant of actual behaviour (Ajzen, 1991). Intention is theorized to be influenced by three main determinants: attitudes, social norms, and perceived behavioural control (see Figure 1). Perceived behavioural control refers to the belief that a person can perform a given behaviour, as an intention to act will not be carried out unless an individual believes they are able to do so (Ajzen, 1991). In addition to the three main determinants, knowledge is often added to interventions using the TPB, as being informed is a requirement for changes in intention and for a behaviour to be carried out (Ajzen et al, 2011).

Figure 1

Theory of Planned Behaviour



Note. By Orzanna, R. (n.d.)

In line with this theory, I conducted a workshop to change the attitudes and the perceived behavioural control of staff members in order to incite them to show more support and encourage inclusion on the UT campus. Additionally, the workshop focused on providing knowledge, as knowledge of the trans community is linked with positive attitudes of allies as well as the ability to provide support and care (Bolding et al., 2022; Gorrotxategi et al., 2020; Marshall et al., 2022).

These aims were formulated as five change goals:

1. After the workshop, staff members feel more informed about trans topics and issues (Knowledge)
2. After the workshop, staff members are more comfortable with trans topics (Attitude)
3. After the workshop, staff members realise the importance of trans issues (Attitude)
4. After the workshop, staff members know how to be inclusive of trans and gender-diverse people (Knowledge)
5. After the workshop, staff members feel more capable to support trans students (Perceived Behavioural Control)

Change Approach

Participants

Participants were recruited through email invitations towards staff members at the UT. Email addresses were collected through public information available on the University website, as well as suggestions from respondents and snowball-sampling. The invitation led to a sign-up form to confirm participation and gather information about the current stand knowledge of the participant. In total, four staff members from different faculties of the university and in different job positions signed up.

Workshop

To reach the described change goals, a workshop was planned for staff members at the UT in the first weeks of June. Due to time constraints in both conducting the workshop as well as availability of staff members themselves, the workshop was set to take place on one day and in the span of 1-1.5 hours. The date I finally decided on was Friday June 10th, at 5pm, which may have contributed to the low attendance.

The main goal was to encourage group discussions and exchange, in contrast to a one-sided lecture. Group discussions were shown to not only generate more arguments and creativity, but members of a group discussion were more likely to remember information about the discussion and have higher attitude changes than those that were not (Echabe & Castro, 1999; Werner et al., 2008). Additionally, interaction is helpful to make the workshop more engaging and increase attention. To support this, I further invited two trans students to join the workshop as guest speakers, both ended up not being available on the day of the workshop.

To achieve all of the five change goals, the workshop consisted of four main segments: (1) *What does trans mean?*, (2) *Discrimination and Struggles*, (3) *Inclusion and Support,* and (4) *Resources*. No strict time limits were assigned to each segment, though the first three were estimated to be around 20 minutes each with the last segment being the shortest and only taking a few minutes. When the workshop was conducted, all three of the first segments were stretched beyond their expected length as the participants were very open to discussions and asking questions.

(1) What does trans mean?

The first segment aimed at informing the participants about trans topics as well as introducing an environment in which they could freely discuss them and be comfortable. Participants were first encouraged to give their own definitions of what it means to be transgender and their experiences with trans people. This began a conversation between participants in which they exchanged and adjusted their definitions, as well as coming up with further questions they had which others tried to answer with their current knowledge. Their definition of what “trans” means ended being very similar: someone who identifies with a different gender than they were born as.

After the discussions came to a close, the participants were given a short overview of the transgender spectrum and different trans identities. First, it was explained that there is a difference between gender identity, gender expression, biological sex, and pronouns, using the “Genderbread Person” (Killermann, 2017). Further, the existence of non-binary identities under the transgender spectrum, as well as the existence third gender identities in several societies was elaborated on (Herdt, 1993). During the explanations, the participants asked further questions and further discussions arose, such as about the existence of third-gender people in indigenous cultures and whether transgender issues would exist in a world without gender roles.

(2) Discrimination and struggles

Following, main issues and struggles of transgender people in the Netherlands and Europe in general were presented. Included were laws or a lack of laws that prevent trans people from living with their gender identity, visualized using the rainbow map by ILGA Europe (ILGA Europe, 2022). Additionally, main aspects of discrimination, as well as day to day struggles of trans people were mentioned. Beyond giving facts, I gave a short narrative from my experiences at the UT, as well as from trans friends and acquaintances I had talked to. On their own, participants remarked on their perspectives on these matters and how they could make a positive impact, which naturally lead to the next segment of the workshop.

(3) Inclusion and Support

Instead of immediately giving advice on what to do in order to be more inclusive and supportive of trans people, the participants were once again encouraged to give their own ideas as well as insights about their behaviour based on the workshop so far. All participants had similar ideas, also focusing on the education system itself, and when the conversations came to an end, they were given a short list of "dos and don'ts" concerning trans topics, as seen in Table 1. The list was explained, and participants asked clarifying questions, sparking further discussions.

Table 1

A list of dos and don'ts concerning trans topics

Do's	Don'ts
Advocate for gender inclusivity	Be dismissive or insulting
Use gender-neutral language	Make assumptions
Correct yourself and others	Make a big deal out of it
Speak up and call out	Ask invasive questions
Ask (privately)	Out someone publicly
Educate yourself	Expect to always be educated

(4) Resources

Lastly, the participants were given a short list of different resources for both allies and transgender people/students for further reading and to share with others. The resources were shared through a PDF via email and included two pages of different informational resources, and one page of transgender organisations at the UT, in the Netherlands, and in Europe. Information ranged from general information about gender identity, to resources for educators to support trans students and guides for trans or questioning students. The participants were shortly given an overview and explanation of the resources before ending the workshop.

Change Measurement

The effect of the workshop was measured with a pre-post design including five newly developed items to measure knowledge, attitudes, and self-efficacy measured on a 7-point

Likert scale from "*strongly disagree*" to "*strongly agree*" (see Appendix A). Additionally, the post-survey included the question whether the participants felt the workshop was valuable to them. In the event that participants felt that they learnt something, but realized they had less knowledge than previously assumed and indicated such in the post-survey, this question would add another facet to evaluate the workshop.

In order to assess how familiar the participants were with trans people, the pre-survey further asked whether they had spoken to a trans person before and whether they have any close acquaintance who is trans.

Results & Discussion

The four attending participants turned out to have very different experiences with transgender topics and people at the current moment. While all of them indicated that they had spoken to someone who is trans before, only half of them know someone who is trans beyond a casual meeting.

Of the five items included in both the pre- and post-survey, four show an increase in agreement apart from belief about struggles of trans people in the Netherlands. However, with mean of 5.5 the agreement with this item remains the highest. Of all items, the greatest change appears in the belief that they can support trans students (d=1.5) followed by knowledge about trans topics and issues (d=1.25). Lastly, there was a high belief in the value of the workshop with a mean of 6.5. Despite the small sample size, a Wilcoxon rank test showed a significant difference for *Inclusivity* and an almost significant value for *Support.*

Table 2

Means pre- and post-workshop and mean differences

	Pre-Workshop		Post-Workshop		Difference	Significance
	M	*SD*	*M*	*SD*	*d*	*p*
Knowledge	3.25	2.06	4.5	1.73	**1.25**	.102
Comfort	4.5	3.00	5	2.16	0.5	.854
Struggles	5.5	1.73	5.5	1.73	0	1
Inclusivity	3.75	1.26	4.75	1.26	1	**.046**
Support	3.75	1.5	5.25	1.5	**1.5**	**.059**
Value	-		6.5	0.53	-	-

Overall, the workshop seems to have made a positive impact and fulfilled the change goals set for this project. As shown by the theory of planned behaviour, through the changes in knowledge, attitude and perceived behavioural control in the participants, it is more likely that the participants will attempt to make positive changes for trans people at the UT. While there was no increase in the belief of how much trans people struggle in the Netherlands, the nevertheless high score shows the attendees were already aware of the discrimination trans people face. Beyond the effect shown by the surveys, feedback immediately after the workshop additionally showed that the attendees enjoyed the experience and were engaged to act on the information they gained, mentioning that they enjoyed the experience and learnt a lot.

Recommendations for the Future

This workshop has shown that staff members are interested in learning more about the trans community and that such a workshop is possible. While only four people attended on this occasion, more of those I contacted replied that they were interested in the opportunity but had other obligations. Due to this, running more workshops like this would be possible and an opportunity to raise awareness among staff members to improve the inclusion of and support given to trans people at the UT. It may even be an option to run workshops not only for staff members, but students as well. While they were not the focus of this project, many would also benefit from and be interested in information about the trans community. Additionally, it can be useful to simply share resources about topics such as transgender inclusion with staff members (especially study advisors). The resources compiled for this workshop were open for circulation and a number of staff members in addition to the participants have requested them, showing interest in such materials.

Should the workshop be carried out in the future, it would be recommended to have a trans person themself run it or at least be present to be able to speak from experience and as they are most likely to be informed of trans topics. In addition to this, changes could be made in the section about struggles and discrimination, as it was difficult for me as a German to find information and speak from a Dutch perspective. This change could highlight issues more immediate to the participants and their environment and highlight the importance of addressing them. As for aspects that were shown to be helpful during this project, the use of open discussions was very positive and productive and should not be replaced by simply lecturing. Especially in small groups such as in this case, it is easier to create a welcoming and psychological safe climate among participants that encourages openness and interaction.

My Learning Experience

I learned a lot by conducting this workshop, as well as from the personal coaching sessions as part of the last module. What stands out the most to me is breaking outside of my comfort zone: It was an important topic during coaching sessions, as something I want to be working more towards. I would like to be more social, to try more things and be more confident in myself and my decisions. I feel that the workshop was another step towards this. During the project, I had to take initiative, contact a variety of people – both designing the workshop and inviting the staff members, and finally present in front of strangers who were normally more likely to stand in front of me to teach. All of these are things that I would not have dared a few years ago, due to anxiety and lack of confidence.

More than stepping outside of my comfort zone, the workshop was a very positive experience for me. It has shown me that I am able to plan events like this and they can lead to positive interactions for me and for others. This has given me more confidence and made me more aware of my strengths, something which I also have talked about in my coaching. I am good organisation and creating designs, such as for presentation, and, despite my anxieties, I also enjoy talking to people. Overall, the project has shown me that I am interested in creating change and being a person pushing for change.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I., Joyce, N., Sheikh, S., & Cote, N.G. (2011). Knowledge and the Prediction of Behavior: The Role of Information Accuracy in the Theory of Planned Behavior. *Basic and Applied Social Psychology, 33*(2), 101-117, https://doi.org/10.1080/01973533.2011.568834

Bolding, D.J., Acosta, A., Butler, B., Chau, A., Craig, B., & Dunbar, F. (2022). Working With Lesbian, Gay, Bisexual, and Transgender Clients: Occupational Therapy Practitioners' Knowledge, Skills, and Attitudes. *American Journal of Occupational Therapy, 76*(3), 7603205130. https://doi.org/10.5014/ajot.2022.049065

Court rules non-binary person can be X, without providing expert opinion. (2021, December 23). *DutchNews.nl*. https://www.dutchnews.nl/news/2021/12/court-rules-non-binary-person-can-be-x-without-providing-expert-opinion/

Clark, J., Boyon, N., & Jackson, C. (2018, January 29). Global Attitudes Towards Transgender People. *Ipsos*. https://www.ipsos.com/en/global-attitudes-toward-transgender-people

Drabish, K., & Theeke, L. A. (2022). Health Impact of Stigma, Discrimination, Prejudice, and Bias Experienced by Transgender People: A Systematic Review of Quantitative Studies. *Issues in mental health nursing, 43*(2), 111–118. https://doi.org/10.1080/01612840.2021.1961330

Echabe, A. E., & Castro, J. L. G. (1999). Group Discussion and Changes in Attitudes and Representations. *The Journal of Social Psychology, 139*(1), 29-43. https://doi.org/10.1080/00224549909598359

Gorrotxategi, M.P., Ozamiz-Etxebarria, N., Jiménez-Etxebarria, E., & Cornelius-White, J.H.D. (2020). Improvement in Gender and Transgender Knowledge in University Students Through the Creative Factory Methodology. *Frontiers in Psychology, 11*. .https://doi.org/10.3389/fpsyg.2020.00367

Herdt, G. (Ed.). (1993). *Third Sex, Third Gender: Beyond Sexual Dimorphism in Culture and History.* Zone Books. https://doi.org/10.2307/j.ctv16t6n2p

ILGA Europe (2022, May 12). *Rainbow Europe Map and Index 2022.* https://www.ilga-europe.org/report/rainbow-europe-2022/

Killermann, S. (2017) *The Genderbread Person version 4.* https://www.itspronouncedmetrosexual.com/2018/10/the-genderbread-person-v4/

Marshall, S.A., Stewart, M.K., Barham, C., Ounpraseuth, S., & Curran, G. (2022). Facilitators and barriers to providing affirming care for transgender patients in primary care practices in Arkansas. *Journal or Rural Health.* Advance online publication. https://doi.org/10.1111/jrh.12683

Nichols, J.M. (2013, December 13). Dutch Transgender Rights Bill Approved By Senate. *HuffPost.* https://www.huffpost.com/entry/dutch-transgender-rights-bill_n_4475212

Non-binaire personen mogen X als geslachtsaanduiding op geboorteakte. (2021, July 21). NU.nl. https://www.nu.nl/binnenland/6146942/non-binaire-personen-mogen-x-als-geslachtsaanduiding-op-geboorteakte.html

Su, D., Irwin, J.A., Fisher, C., Ramos, A., Kelley, M., Mendoza, D. A. R., & Coleman, J.D. (2016). Mental Health Disparities Within the LGBT Population: A Comparison Between Transgender and Nontransgender Individuals. *Transgender Health, 1*(1), 12–20. https://doi.org/10.1089/trgh.2015.0001

Testa, R. J., Michaels, M. S., Bliss, W., Rogers, M. L., Balsam, K. F., & Joiner, T. (2017). Suicidal ideation in transgender people: Gender minority stress and interpersonal theory factors. *Journal of Abnormal Psychology, 126*(1), 125–136. https://doi.org/10.1037/abn0000234

Transgender Europe (2022, May 12). *Trans Rights Map 2022 reveals slow comeback of progress on trans rights.* https://tgeu.org/trans-rights-map-2022/

University of Twente (n.d.). *Diversity, Equity and Inclusion: Meet us and let's talk!* Retrieved June 22, 2022, from https://www.utwente.nl/en/organisation/about/diversity/contact-us/

White Hughto, Ja.M.; Reisner, S.L.; Pachankis, J.E. (2015). Transgender stigma and health: A critical review of stigma determinants, mechanisms, and interventions. *Social Science & Medicine, 147,* 222–231. https://doi.org/10.1016/j.socscimed.2015.11.010

Werner, C. M., Sansone, C., & Brown, B. B. (2008). Guided group discussion and attitude change: The roles of normative and informational influence. *Journal of Environmental Psychology, 28*(1), 27-41. https://doi.org/10.1016/j.jenvp.2007.10.002

Appendix A

Workshop Pre-Survey and Post- Survey

Sign-Up Questions

1. I know a lot about the transgender community
    a. 1=strongly disagree – 7=strongly agree
2. I feel comfortable talking about topics related to the transgender community
    a. 1=strongly disagree – 7=strongly agree
3. I think transgender people still struggle in this country
    a. 1=strongly disagree – 7=strongly agree
4. I know how to be inclusive of trans and gender-diverse people
    a. 1=strongly disagree – 7=strongly agree
5. I feel capable of supporting transgender students
    a. 1=strongly disagree – 7=strongly agree
6. Have you talked to someone who was trans before?
    a. Yes; No; Unsure
7. Do you have a friend or close acquaintance who is trans?
    a. Yes; No; Unsure

Post-Survey

1. I know a lot about the transgender community
    a. 1=strongly disagree – 7=strongly agree
2. I feel comfortable talking about topics related to the transgender community
    a. 1=strongly disagree – 7=strongly agree
3. I think transgender people still struggle in this country
    a. 1=strongly disagree – 7=strongly agree
4. I know how to be inclusive of trans and gender-diverse people
    a. 1=strongly disagree – 7=strongly agree
5. I feel capable of supporting transgender students
    a. 1=strongly disagree – 7=strongly agree
6. I feel that this workshop was valuable to me
    a. 1=strongly disagree – 7=strongly agree

DEVELOPING A STRUCTURED APPROACH TO OPTIMISE RECRUITMENT OF NEW HONOURS STUDENTS

Tom Nyhoff

Developing a Structured Approach to Optimise Recruitment of New Honours Students

When I started my studies in Psychology, I realised quickly that the University of Twente was the perfect environment for me to strive and learn as much as possible. I realised really quickly that I could perform in this new environment way better than I could in school before. This motivated me to learn more and more and take on higher challenges. Therefore, I also joined the Honours programme to challenge myself and gather more insights also outside of psychology. Now I am nearly finished with my Honours journey, and I can say that it was a great decision to follow this course. Based on this enthusiasm, I also wanted to encourage everyone for whom it is possible to also join the Honours programme.

In addition to this, I am really interested in following a career path in recruiting and employer branding. Because of this interest, I am already working in a recruitment consultancy next to my studies. During my time there, I was able to gather some experiences on how to display certain jobs in the perfect way so that potential applicant sees what specific positions have to offer. My goal for this final Honours project was to combine my enthusiasm for the Honours programme with my interest in recruiting. Because of this, I approached the Honours office, which functions as the executive management of the Honours educational programmes and asked them about a possible collaboration in this area. The Honours office was enthusiastic about the idea that I try to work on a structured approach to optimise the promotion of Honours to potential new Honours students.

But why is it even important to promote honours? Is it not everyone's own responsibility to get the best education and career opportunities for themselves? Participation in extracurricular activities is directly related to higher long-term achievement in the academic area and the career maturity (Gerber, 1996; Carns et al. 1995). However, the strength of the relationship depends on the type of extracurricular activity. Therefore, it is important that students choose those activities that feel the most enriching to them. To allow this, it is important that students know of all the opportunities they have to be able to make the best decision for themselves. Experiences of the Honours office show that not all students across all faculties and studies are equally aware of the Honours programme.

One of the best ways to increase awareness of specific programmes or products is by conveying information to the students in the form of promotion (Bagwell, 2007). This promotion can take a multitude of forms. To reach maximum efficiency, it is important to use the right method of promotion. Therefore, my goal in this project will be to find these goals together with the Honours office.

Change Goals

The exact change goals were formulated during a first meeting with the target group, consisting of the Honours office and other stakeholders like for example representatives of the Honours association Ockham, to make sure that they were in line with their expectations. During this meeting, there were two goals defined. The first goal was to increase the number of applications for the honours programme in the next application period. However, this goal can be seen more as a side goal as the number of applicants was growing in a satisfactory way anyways. The second and more important goal for the honour's office was to reach an even distribution of honours students throughout all faculties relative to the total amount of students in each faculty. Currently, mainly students from the BMS and EEMCS faculties are part of the honours programme with those two faculties together representing around 70% of all Honours students. Based on this, the number of applications from all other faculties should be increased by 5 % during the next application period.

However, one problem with these goals is that even though they are the main goals of the honour's office, and they are also what I am working towards, they are set too long-term for the timescale of this project. Therefore, the primary goal of this project is set more on a knowledge level. This means the goal of the project will be to increase the knowledge of possible actions in terms of promotion for the Honours office. To be more exact, I want to have five different worked-out ideas that the honours office can directly execute by the end of this project in two weeks. It is important to choose multiple ideas in order to increase the chance of promotion to reach all relevant students (Bagwell, 2007). Additionally, this also increases the chance that students see the advertisement multiple times. Similarly, to retargeting, where users are shown the same advertisement multiple times, this also increases the chance that the students pay more attention to the content (Keil, 2021). Five as a number was mainly chosen because it seemed to be the highest feasible amount.

Change Approach

When planning this project, it was decided that it would entail three workshops that were estimated to take around one hour each. For these workshops part of the Honours office and other stakeholders of the problem were invited. The content of these workshops will be based mainly on the Kaizen approach which consists of six steps that will be explained later (Imai, 1997; Franken et al., 2021). The workshops were planned to have a length of each one hour.

When planning how I could optimally behave during the workshops, I took into account several things I learned during Processes of Change. The first thing I applied was how to tell exciting stories by focusing first on the heart, meaning the emotions of the listener, then focusing on the head, meaning the cognition of the listener and lastly on the hands, meaning how everything that was told before can be applied in the real world. This method of telling stories is something we learned during the class of Victor DeConinck during the second module of Processes of Change. I used this technique at the beginning of each workshop to grab the attention of the participants and tell what we found out until now. Additionally, I also other sources with the goal to improve my presentation skills (Anderson, 2013).

Next to this, I also tried to facilitate a group flow in the group I was working with. Group flow describes a feeling of intergroup connection, which allows efficient group work in combination with a positive experience and is something we learned about during the third module dealing with effective leadership in organisations (Pels et al., 2018). During that module, we performed our own small study in which we analysed what type of leadership is needed to optimally enforce group flow. Our results suggested that a group in which decisions are made by everyone together and not one distinct leader shows more group flow (Hoto et al., 2022). Because of this, I planned to not make any decisions for the group while leading them. This means I only really intervened in the thought process of the group when they were getting off track and explained what I would like to do in the different steps.

Pels (2018) also suggests that group flow leads to a greater feeling of ownership by the group members. This ownership was, in turn, assumed to lead to more commitment to solving the problem, which is an important factor associated with positive outcomes of the Kaizen workshops (Franken et al., 2022). These factors together should lead to an optimal process during the Kaizen events.

Kaizen Model

The Kaizen approach to complex problem solving exists in six distinct stages. It is important to mention here that some minor changes were made to the original Kaizen model to better fit the current situation. These changes were mainly made in the first stage by excluding some of the question that did not fit the current situation.

Stage One: Problem Definition. In this stage, several questions need to be answered. Those questions are:

- What is the problem?
- Why is this a problem?
- Who/ what is needed to solve the problem?
- Which barriers need to be overcome to succeed?

Stage Two: Measuring Facts. In this step, several measures will be defined in combination with why it is important and how they will be measured. Those measures will be figured out while meeting with the stakeholders of this problem. As a null measurement the current situation will be assessed by using the application statistics of the last year.

Stage Three: Analysing Causes. To analyse and understand the causes of the problem, the Kaizen approach uses a series of seven steps:

1. *Individual brainstorming for causes*

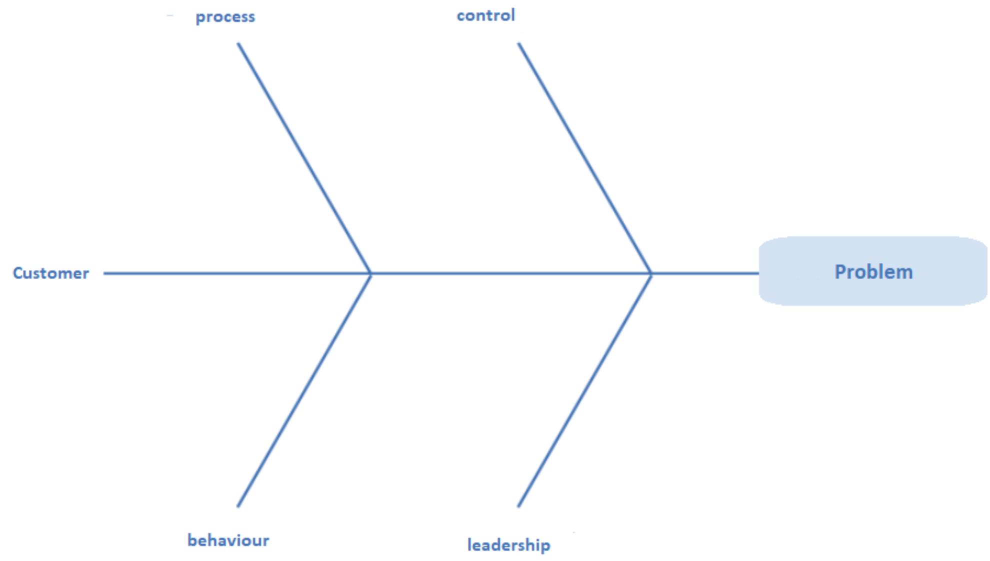
   This step is intended to take around five minutes, in which each participant gets the chance to write causes on post-its. This is done without communication between the participants.

2. *Ordering found causes*

   In the next step, the Ishikawa diagram (see Figure 1) is presented to the participants, and they are asked to stick their posts to one of the points: customer, process, control, behaviour and leadership.

Figure 1

Ishikawa diagram



3. *Taking a break with a big group*
4. *Grouping similar post-its*
5. *Finding the root cause*

   The group goes through each of the five points by comparing all of the fitted post-its and coming up with a root cause in relation to the determined problem in stage one of the Kaizen
6. *Repetition*

   If the root cause was found, it would be written down on another post-it, and the step will be repeated for each of the five points.
7. Ranking the root causes based on frequency and impact.

Stage Four: Generating Ideas. Based on the root causes, the group then starts to brainstorm ideas on how to solve these causes. Each of these ideas will be mapped on a graph between the impact of the idea and its feasibility of the idea. The goal of this is to find out which ideas are most effective and, therefore, should be used.

Stage Five: Implement Solutions. The created ideas to solve the problem will be summarised into an implementation plan in this step. The implementation plan describes the exact action that needs to be done based on one or more of the ideas, who will perform this action and when this action needs to be performed.

It was decided that the development of an concrete implementation plan will be left for the Honours office as this allows them to set their own priorities based on the information that was provided to them.

Stage Six: Evaluations. In this last step, the results can be analysed and evaluated. This can be done by using the measurable facts determined during stage two. Based on how good this circle went, future steps will be planned. This could entail repeating the Kaizen stages or other interventions which fit the current need.

Stage six of the Kaizen approach will not be applied via a workshop in this case. This decision was made mainly because of time reasons. The implementation of the developed ideas will most likely take some months. This means a feasible time for evaluation seems to be the end of this year. At that point, this project is, however, already over.

Other Important Factors

While planning on how to execute these workshops, many other factors became apparent that might also be important next to these workshops. One thing was that I realised that it could be very helpful to have the perspective of those students who are the target group of honours promotion, namely high-performing students who are also very ambitious. To get this perspective, I decided to hold some interviews. Overall, I interviewed three of these potential Honours students.

Before asking them questions, I made sure that all of them knew what honours is. This was the case. The main question I asked them was why they did not apply for honours even though they were really good students. The first and main answer of all three of them was that they do not want to have less free time than they already have. When digging a little deeper and getting more into detail, two of these people also explained that they had only heard of honours once or twice and were never really aware of any benefits that participating in Honours would have for them. This is an important insight considering the promotion of honours as this suggests that it might be possible that the benefits of honours need to be better communicated. I then used this information during stage three of the kaizen approach to ask the participants if they do agree with this.

Next to the interviews and the Kaizen workshops themselves, I also spend a lot of my time during this module organising the workshops and inviting as many people as possible.

To make sure these invitations were effective, I tried to make use of persuasion techniques I learned during my Processes of Change courses. One technique I especially tried to use was reciprocity, which means the other is more likely to agree to your request if you gave them something before (Cialdini, 2017). Because of this, I tried to compliment the work of those I invited before asking them if they would like to join the meeting I was planning.

Overall, my project ended up being a combination of these workshops, interviews and the organisational work needed to bring all of this together.

Results

Workshop 1

The first workshop was mainly aimed at defining the problem and finding measurable facts, as described in stages one and two of the Kaizen approach. I started this meeting by asking everyone individually what they think the current problem in terms of promotion is and then tried to combine the different opinions into one. The result of this was that, in contrast to what I had expected, the problem is not that Honours is not growing in the number of students they have. However, the problem is more that the Honours students are very unequally distributed throughout all faculties. More precisely, this means that most Honours students are from the BMS and EEMCS (Exact numbers of students per faculties were discussed during those meetings but are not allowed to be disclosed).

When asked why this is a problem, we came to the conclusion that it is a goal of the Honours office that Honours is a reflection of the UT society, which is not given currently. At the same time, Honours education also strives to allow Honours students to have interdisciplinary contacts, which might be in danger if the variation reduces even further. These interdisciplinary contacts are very important as they increase the quality of courses in multiple dimensions (Ducoffe, 2006)

In the next step, we talked about who is needed to solve this problem. I also added to this that I would like to invite some more people to the second meeting. Therefore, we discussed whom I could invite to the next workshop that could help us more to identify the causes of the problem and generate new ideas on how we could solve the problem. Already present at this first meeting were members of the Honours office and a member of the board of the Honours association, Ockham. Together we decided that to the following meeting, we want to invite a member of the future board of Ockham as they will take part in executing some of the measures that will be planned. Next to this, it was also planned to invite an Honours teacher, a student ambassador of one of the Honours tracks, a board member of the student union and someone from the marketing and communication department at the UT.

The last question I asked during this first Kaizen stage was which potential barriers the present persons were expecting in the process. We talked about multiple barriers we need to overcome and also elaborated on how likely the participants think it will be to overcome these barriers in the course of this project. We did this to make sure that I the focus of this project would not be laid on something that might not be solvable in a short time. Overall, these barriers included laws that have to be considered like for example those that are regulating the protection of personal data and internal conflicts of interest between different parties of the university.

After stage one of the Kaizen model was finished, we started talking about stage two. This means we tried to find factors that can be used to measure its development of the situation across time. These measures are also directly related to the change goals described above. Based on this we came up with two main measures:

1. The most important measure we defined was the distribution of students throughout the different faculties. This can be easily analysed after the students are part of the honours programme.
2. Another measure that was found which could be interesting but does not directly relate to the problem is to measure the number of applications in relation to the last two years. This measure seems relevant as every action that is aimed at increasing the number of students from underrepresented faculties should ultimately also lead to an increase in overall applications for honours.

Workshop 2

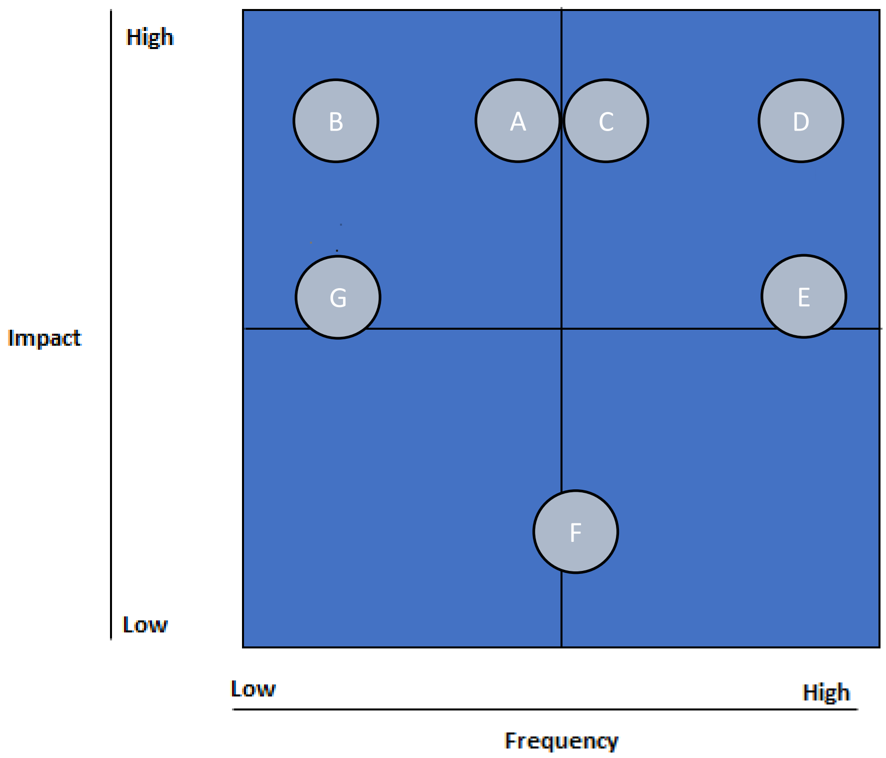
The second workshop focussed completely on analysing the causes of the problem we identified, described by stage three of the Kaizen model. During this meeting, most of the parties which were invited based on Workshop one were present leading to a workshop with 7 participants.

I started the meeting with a very short presentation explaining the problem we had defined in the prior meeting. Additionally, I also presented some extra information that showed that the distribution of honours students was not only uneven across faculties but even more uneven across different studies. Because of this, we started a short discussion about the definition and came to the conclusion that we had to change the problem definition to Honours students are not equally distributed across different studies in relation to the number of students per study.

Based on this new definition, we then started to analyse the causes of this problem as described in stage three of the Kaizen approach. While doing this, I tried to encourage the others to dig even deeper in order to find the real root causes by asking them again and again why they think specific things are the case. After we defined some root causes, we tried to rank them based on the perceived frequency in which they are happening and the impact. The results of this can be found in Figure 2.

Figure 2

Root Causes Ranked by Frequency and Impact



A: The coordinators of the main studies fear that students who participate in honours do not participate in their own excellence programme or are less active in their association.

B: The honours office has no access to grades because of the GDPR and, therefore, cannot approach potential students.

C: The coordinators of the main studies fear that students who participate in honours might fail in their normal studies as they are investing too much time into honours.

D: It is not clearly communicated what each Honours course really teaches and how much time needs to be invested.

E: The benefits of joining honours are not clearly communicated.

F: The frequency and diversity of channels in which Honours is promoted is too low

G: The coordinators of the main studies do not see any benefit for themselves if their students join honours.

On further revision it might be possible that the identified causes were still not completely to the root. It was decided to leave them in the way they are as they still give a great basis for approaching the problem and changing them would have needed an extra meeting which was not feasible because of time constraints.

Workshop 3

The last meeting was planned in the last week of this module. This meeting was aimed at generating ideas on how to change the current situation as described in stage four of the Kaizen Model. The ideas will be directly based on the causes that were identified during the second workshop and the frequency as well as impact that was identified for these causes. To this workshop, all stakeholders, so also those that were not able to join the first and the second meeting were invited again as their experiences and knowledge was still very valuable. Five people were able to attend this workshop.

This meeting led to several ideas which could be used to tackle the identified root causes. These ideas were then also ranked based on perceived feasibility and impact. It was found that several of these ideas could be used to tackle the same problem. The generated ideas can be found in the table 1.

Table 1

Ideas Generated in Workshop 3

Idea	Based on Root cause	Impact/Feasibility
Strategic communications with study advisors, coordinators etc.	A, C, G	High/Medium

Organise a meeting with track coordinators to work out a plan on what information should be portrait on the website about the different tracks	D, E	Medium/High
Include more different social media channels to the promotion of Honours (possibly utilising the UT Instagram, the UT TikTok, Utoday, Utwente Newsletter, joining the campus experience festival and planning promotion events together with Ockham)	F	Medium/High
Other parts of the UT who have access to more student Data then the Honours office could send out promotion for the Honours office.	B	High/Low

Advice

After performing all of these steps, I think I got a very good insight into the current situation. One thing that still hast to be done by me in the next week is that will summarise all important findings we got during the process in this module in a white paper of a few pages and give it to the Honours office as a summary of what we already achieved and where more could be beneficial. Some points could, however, also be mentioned: 1. Be strategic in who you are approaching and how you approach them. 2. Be creative: In terms of promotion, it is always important to come up with new ideas and change the way you are doing it. 3. Utilise your fellow students more. There are so many students in Honours who love what Honours stands for and what it teaches you. No one is better at promoting something than those who are enthusiastically using it.

One personal piece of advice I also want to give is to stay ambitious as this will really help you to overcome the barriers that they will face when trying to solve this problem. The Honours office is already doing amazing work in so many areas and I think that they have incredible potential to advance this even further. I also want to thank the Honours office for giving me some insights into what they are doing and collaborating with me for my project.

My Learning Experience

From my change project, I learned how fascinating it is to lead a group and facilitate change. During my Processes of Change journey over the last one and a half years we got many interesting insights into how change happens and how we can be a part of it. We learned a lot about change on different levels, like, for example, in individuals or in whole organisations. What I, however, did not completely grasp before starting this project was how everything fits together to create the bigger picture. This is what I really learned when working on this project. I realised that to achieve change, everything needs to work together, and I also think I got a little bit better at facilitating this.

While working on this change project during the last module, I also met regularly with a coach to also reflect on my personal development and change. These coaching sessions were very interesting to me. I am a person that is very goal focussed. I will set goals for myself that are very high and far away. Aiming for these goals then allows me to motivate myself to work hard and make progress. With the help of my coach, I realised that even though this is beneficial for me as it helps me to progress further, it might not only have positive sides. When focussing on these goals, I tend to forget to think about the current moment and to enjoy the situation. This is also something I realised during my change project. In the beginning, I just set the goal to improve promotion on honours. After some weeks, I realised that in thinking about promotion and how to lead workshops, I had no fun doing this. Because of that, I decided to focus more on the here and now of the project, and this is also how I started in the first workshop. The two workshops I did till now were very fun, and I think a big reason for that was the mental change I made together with my coach. I will try to improve on this further in the future by constantly reflecting on it.

As a change leader, I realised that I am a very direct person. I will tell someone directly if I disagree with their opinion or if I think that change might be necessary. This also fits very well with my results on the Insight Discovery profile, as that categorises me as a director. Directors are persons who want to make the process a pragmatic way and try to lead the group by directly telling them that decisions need to be made. The problem with a leading style like this can be that I start to be too direct, which might make working with me uncomfortable for my group members and, therefore, might also hinder change. I think during this module, with the help of my coach, my experiences in the change project and also some courses in my regular study, I have learned to be more aware of this risk, and it will allow me to improve even more in the future.

Overall, this project that started as something I pretty much did because I had to is now something I feel invested in. I will curiously follow the process of this in the future and maybe even help out further if needed.

References

Anderson, C. (2013). How to Give a Killer Presentation. https://hbr.org/2013/06/how-to-give-a-killer-presentation

Bagwell, K. (2007). The economic analysis of advertising. Handbook of industrial organisation, 3, 1701-1844.

Carns, A. W., Carns, M. R., Wooten, H. R., Jones, L., Raffield, P., & Heitkamp, J. (1995). Extracurricular activities: Are they beneficial?. TCA Journal, 23(2), 37-45.

Cialdini, R. (2017). Pre-suation: A Revolutionary Way to Infleunce and Persuade. ISBN: 1847941427

Ducoffe, S. J. S., Tromley, C. L., & Tucker, M. (2006). Interdisciplinary, team-taught, undergraduate business courses: The impact of integration. Journal of Management Education, 30(2), 276-294.

Franken, J. C. M., van Dun, D. H. Wilderom, C. P. M. (2021). Kaizen event process quality: towards a phase-based understanding of high-quality group problem-solving. https://www-emerald-com.ezproxy2.utwente.nl/insight/publication/issn/0144-3577

Franken, J. C. M., van Dun, D. H., Wolderom, C. P. M. (2022). Kaizen Event Process Factors for Positive Technical Outcomes: An Archival Study. [Unpublished manuscript].

Gerber, S. B. (1996). Extracurricular activities and academic achievement. Journal of Research & Development in Education.

Hoto, R., Kruschka, R., Mihoci, A., Nyhoff, T., & Ruijne. F., (2022). The Effect of Power Structures on Group Flow. [Unpublished manuscript].

Imai, M. (1997), Gemba Kaizen: A Commonsense, Low-Cost Approach to Management, The Kaizen Institute, Seattle.

Keil, M. (2021). Retargeting: Erklärung & Best Practices [Retargeting: Explanation & Best Practices]. Retrieved from https://blog.hubspot.de/marketing/retargeting-beispiele

Pels, F., Kleinert, J., & Mennigen, F. (2018). Group flow: A scoping review of definitions, theoretical approaches, measures and findings. PLOS ONE, 13(12). https://doi.org/10.1371/journal.pone.0210117

THE ROLE OF PRACTITIONERS IN COMPLIANCE WITH CPAP TREATMENT

Faisane Ruijne

1 Introduction

In this last module of the Processes of Change track, I have executed a change project connected to my final Bachelor's project. During the module I was working on this final project for my Technical Medicine studies, which is called a 'Technisch Geneeskundige Opdracht' (TGO) or Technical Medicine Assignment. In this TGO, I was working on a case, which was about 3D printing patient specific Continuous Positive Airway Pressure (CPAP) masks for the treatment of Obstructive Sleep apnea (OSA). The problem we were tackling there is the fact that leakage occurs when the mask does not fit well, which we tried to handle by making those masks patient specific. However, another problem in this area is the fact that patients sometimes refuse to wear the mask. In order for this treatment to work, it is of course of high importance that they keep using the CPAP. My idea was to try to change the behaviour of those patients.

1.1 Background

1.1.1 OSA

According to the Wisconsin Sleep Cohort Study, Obstructive Sleep apnea (OSA) occurs in 10% of 30 to 49 year old men, 17% of 50 to 70 year old men, 3% of 30 to 49 year old women and 9% of 50 to 70 year old women (Peppard et al., 2013). OSA is a syndrome where breathing interruptions (apnea) occur during sleep (Patel, 2019). These interruptions are caused by an obstruction of the upper airway (Caples et al., 2005; Richtlijnendatabase, 2018). Patients with OSA experience excessive daytime sleepiness, neurological problems, disruptions in their social life, and increased risk of cardiovascular events and traffic accidents (Stepnowsky et al., 2002).

1.1.2 CPAP

Continuous Positive Airway Pressure (CPAP) is currently the go-to treatment for OSA. It creates an overpressure, which keeps the airways open and will prevent the patient from experiencing apnea (Het Groene Hart Ziekenhuis, n.d.). The treatment is effective and reduces the aforementioned consequences of OSA, provided that the patient wears the mask at night. However, the compliance rate can be rather low: 40 to 85% depending on how compliance is defined (Virk and Kotecha, 2016). On top of that, 50% of patients starting CPAP do not use the CPAP anymore 1 year later. The patients that do still use CPAP after a year are using it for less time per night that prescribed (Stepnowsky et al., 2002). In a conversation with Dr. Timon Fabius from Medisch Spectrum Twente (MST) it was also said that about 30% of the patients with OSA do not use the CPAP mask sufficiently after two to three months.

1.1.3 Reasons for non-compliance

There are multiple possible reasons for patients to refuse using their CPAP. Dr. Fabius mentioned for example that these patients found that the masks were too uncomfortable to sleep with. There is also a connection to be found between the severity of one's OSA and their compliance: the less severe the complications of one's OSA, the less likely they are to comply to their CPAP treatment. These patients seem to not understand the consequences their OSA could have if they do not use CPAP (Yetkin et al., 2008). Other reasons are the lack of subjective effectiveness of their treatment and the side-effects they experience from the nose or pharynx. These side-effects occur in 15 to 45% of CPAP-patiënts, which include nasal dripping, congestion and dry mouth. It is seen that the higher a patient's age, the more likely they are to discontinue the CPAP due to these side-effects. However, for some of those patients, these side-effects could be cared for by implementing a heated humidifier (Janson et al., 2000).

2 Change goals

2.1 Research question

The research question that arises from the problem described in the introduction is: *How can the behaviour of patients with OSA in the Netherlands be changed so that they will keep wearing their CPAP masks?* An important thing to note when tackling this research question is that it would be difficult if not impossible for me to work with patients directly. When working with patients, my project would have to comply with the 'Wet medisch-wetenschappelijk onderzoek met mensen' (WMO), which is the Dutch law that regulates medical and scientific research with people. I would have to create a protocol and make a request before I could start, which is not doable in one module.

However, what I can do is work with the doctors and practitioners advising those patients. If I can change their ways of convincing patients to use the CPAP through a change intervention, maybe then I can change the behaviour of the patients. That is why I have adjusted my research question, since I cannot directly measure the behaviour of the patients, only that of the practitioners: *How can the behaviour of practitioners in the Netherlands be changed so that they can convince patients with OSA better to keep using their CPAP?*

2.1.1 Goals

The concrete goal of this project is as follows: change the perception of practitioners in the Netherlands who work with patients using CPAP about their behaviour when trying to convince their patients to use CPAP in such a way that they learn about what else they could do and want to implement that.

3 Change approach

My change approach is to set a theoretical framework about the current situation regarding convincing patients to use CPAP and about theories and techniques that can be used when convincing those patients or when trying to convince practitioners. Using this theoretical framework, I will set up a change intervention.

3.1 Theoretical framework

For the theoretical framework, I will conduct literature research and a survey. This theoretical framework I will use in my change intervention.

3.1.1 Current situation

It is important to be aware of what the current guidelines on convincing patients are and what practitioners are currently doing to persuade patients into using their CPAP.

3.1.1.1 Current guidelines

The 'Federatie van Medisch Specialisten' or the Federation for Medical Specialists has a database with medical guidelines called the 'Richtlijnendatabase'. On here evidence-based recommendations for the daily medical practice can be found (Federatie Medisch Specialisten, n.d.). There is a guideline for OSA in adults, which also includes a module about compliance. In here, the importance of educating the patient and their family on their diagnosis and the treatment is stressed. The patient has to understand and accept the situation they are in. To achieve this, the practitioner has to make sure to communicate well with the patient and to implement shared decision making. It is also mentioned that frequent contact with the patient in the first two to six weeks after starting CPAP is crucial in preventing non-adherence. This can include home monitoring, video consultations and/or apps to stimulate self-management (Federatie Medisch Specialisten, 2022). Self-management groups have also been proven to be effective (Stepnowsky et al., 2002). If non-adherence occurs, it is important to be able to distinguish the types of failure in order to help a patient in the right way. There are four types of CPAP-failure: CPAP non-compliance (the patient does not use the CPAP correctly or insufficiently), CPAP intolerence (the patient experiences side-effects or psychological aversion), CPAP efficacy failure (the CPAP has an insufficient physiological effect, meaning that the apnea-hypopnea index (AHI) is not reduced enough) and CPAP symptom failure (the CPAP has sufficient physiological effect, but insufficient symptomatic effect). In case of non-compliance, the practitioner should reconsider the choice of mask or the pressure settings of the CPAP machine. A different or an extra diagnosis could also be considered, for example co-morbid insomnia (Federatie Medisch Specialisten, 2022).

3.1.1.2 Current role of practitioners

For this project I conducted a survey in Qualtrics to research the current role that practitioners play or try to play in the adherence of patientes to their CPAP. The survey was in Dutch, since in my research question I refer to practitioners in the Netherlands. The first few questions were asked to establish whether the respondent was indeed a practitioner in the Netherlands and whether they worked with OSA patients with CPAP. Then I asked what their estimation on compliance was, which was an average of around 64%. Reasons for non-compliance were that the mask was too uncomfortable during sleep, that the symptoms of the patient were too mild, that the treatment does not work for the patient, that the patients were not motivated enough, that the CPAP disturbs the bed partner, that the place where the patients sleeps differs much and/or that the patient is scared of CPAP due to the safety warnings of the Philips CPAP machines in June 2021. 17% of the respondents thought the practitioner does not play a small or large role in compliance, because the patient has to want it themselves, but 83% was of the opinion that the practitioner does play a large role in that. They said that the practitioner should provide enough explanation about the treatment and the expected results, check whether they understood the information well and make sure the threshold for contacting is low. If patients do not use CPAP, the practitioner should discuss solutions with the patients. This should be a time investment. The next question was about what role they think they play in their patients' compliance and whether they use certain techniques for that. They try to use motivating conversation techniques and a positive approach. They also try to manage the expectations of the patients: what advantages the treatment could bring, but also obstacles the patient could encounter. What is most important is to give the patient time to process their diagnosis and their treatment and to make sure to contact the patient later on, but also to provide the patient the space and opportunity to contact the practitioner.

3.1.2 Behavioural change

Knowing what the current situation is, I have looked into theories and techniques that could help institute changes in behaviour. These include the Principles of Persuasion, Coaching, the Theory of Planned Behaviour and the Technology Acceptance Model.

3.1.3 Principles of Persuasion

According to Robert Cialdini, there are six principles of persuasion. Using these principles, it should be possible to persuade a person into something. The first principle is reciprocation. A person is more likely to be persuaded if they get something in return. The second principle is consistency. People want to appear consistent, so when they have to make a public commitment by saying out loud and confirming they will do something, they are more likely to do so. The third principle is social validation. People are more willing to do something when they know others do it as well. The fourth principle is liking. If the persuader is liked by the people they are trying to convince, those people are more likely to be persuaded. The fifth principle is authority. People are more likely to be convinced by an authoritative person, whether they have real authority or only seem to have it. The sixth and final principle is scarcity. When a product or information is scarce, people are more likely to use it (Cialdini, 2001). These six principles I can incorporate in the change intervention, to help doctors convince their patients, but also to help me convince the doctors.

3.1.4 Coaching by Siegfried Greif

In April of 2021 Prof. Dr. Siegfried Greiff gave a guest lecture about coaching. According to Greiff, there are four steps of coaching to change one's habits:

1. Goal clarification

First of all, it is important to clarify a theme of a goal of the target person or target group. A goal should adhere to the SMART criteria; it should be Specific, Measurable, Accepted, Realistic and Time framed. There are four steps in goal clarification. The first step is to ask what the motives are, and if they are extrinsic or intrinsic. Are there more goals behind the main goal? Does the goal fit them? The second step is to define what the target person or group exactly wants to achieve. What will be different once they achieve their goal? How concrete is their goal? After this, it is important to evaluate how important the goal is. Finally, if the goal is not self-congruent and unimportant, one should find another goal.

2. Planning and contrasting

The second step of coaching is planning and mental contrasting. The target group should imagine the positive consequences of attaining their goal and let their fantasies go. Then, they should contrast this fantasy with the current situation, which is probably a negative situation, because otherwise a change habit would not be necessary. Finally, they should think about the obstacles they have to overcome to go from the current situation to their ideal situation. Focusing on the obstacles will prepare one for reaching their goal and will give them more energy in overcoming them.

3. Implementation intention

In the third step the target person or group should formulate a firm implementation intention. This can be done in the format of ”If/when..., then I will...”. The implementation intention can contain new cues or habits and should stimulate positive emotions.

4. Support implementation

Finally, the target person or group needs support in order to achieve their goal. This can be done face-to-face, but also by for example telephone-shadowing and sending reminders. In time, the support should become less, which stimulates future self-regulated implementations.

3.1.5 Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) is a well-known model of attitude-behaviour relationships (see figure 1). It states that behaviour is influenced by two factors: intentions and perceived behavioural control (PBC). This means that a person is more likely to perform a certain behaviour when they have the intention to do it and when they perceive that they have control over this behaviour. Furthermore, not only does PBC influence behaviour, it also influences the intentions. Additionally, intentions depend on attitudes toward the behaviour and on subjective norms, which includes social pressures from the close environment of a person. The three factors influencing intentions do also influence each other (Conner and Armitage, 1998). Using this model, I can assess which factors I can influence during the change intervention.

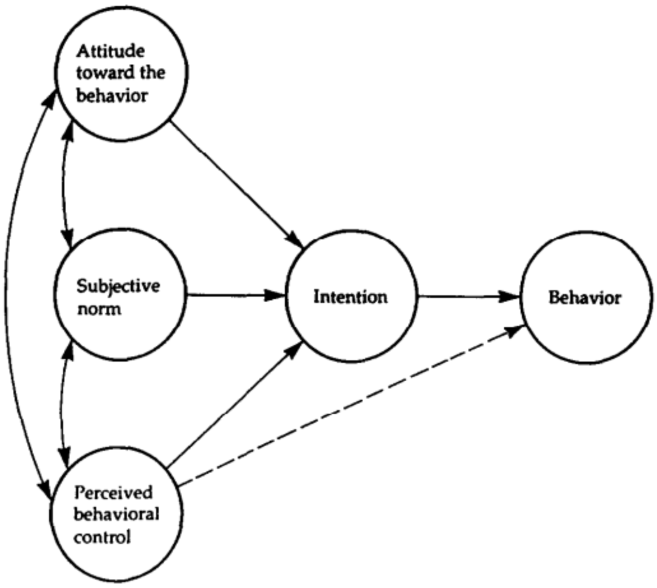


FIGURE 1: Theory of Planned Behaviour (Conner and Armitage, 1998)

3.1.6 Technology Acceptance Model

The Technology Acceptance Model (TAM) was created to model the adoption and use of information technology (IT). There are multiple versions, as can be seen in figure 2 and 3. They describe the factors that are in play when predicting the behaviour of employees who have to use new IT (Venkatesh and Bala, 2008). I cannot use this exact model, since employees and patients are not the same, but I can find the similarities and apply it in this situation. Just like the employees, the patients have to get used to a new kind of technique, only it is CPAP in their case and not new IT. Instead of 'Job Relevance', which is mentioned in 3, it is 'Health Relevance': how relevant would CPAP and the results be for the total health of the patients? And instead of anxiety for computers, patients could experience anxiety for the CPAP machine, or for the masks. By making these comparisons, practitioners could see what influences the patient and how they can help.

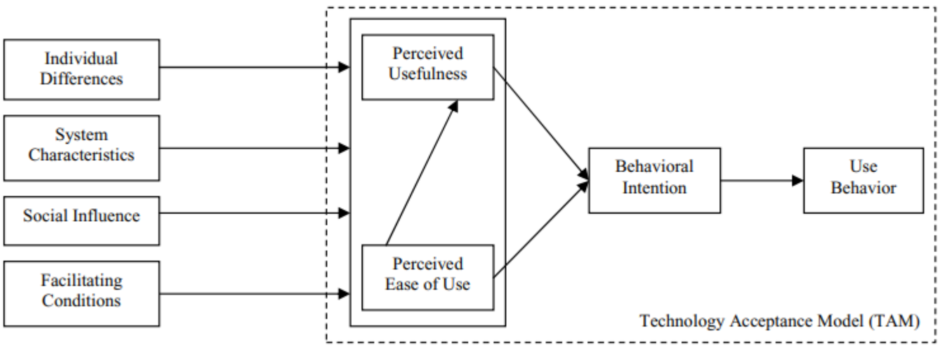


FIGURE 2: TAM2 (Venkatesh and Bala, 2008)

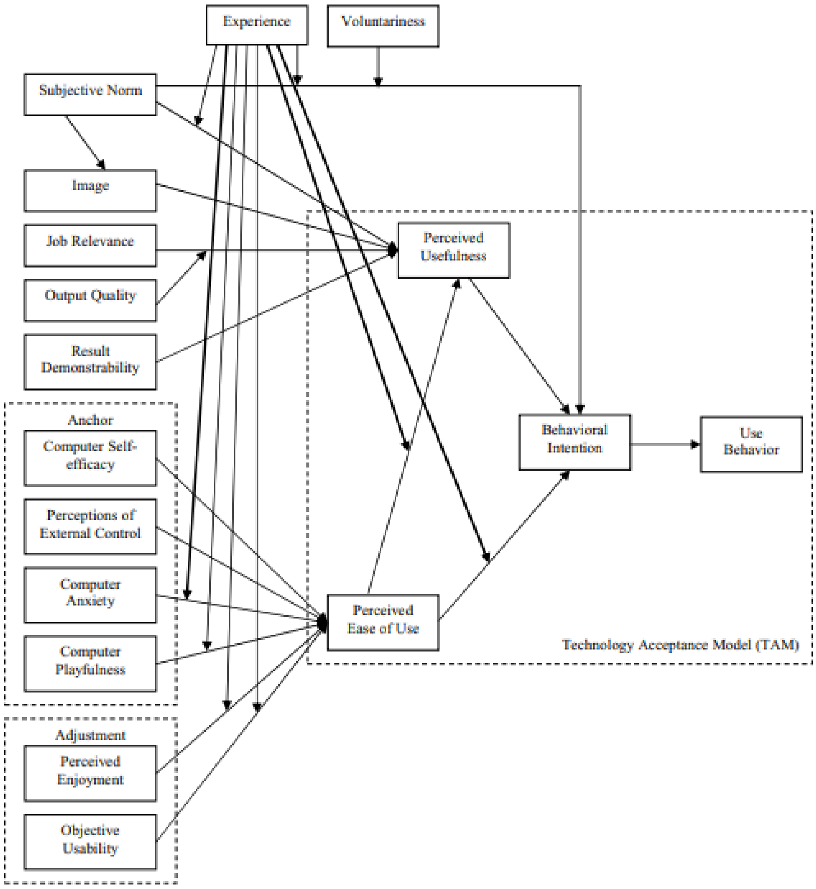


FIGURE 3: TAM3 (Venkatesh and Bala, 2008)

3.1.7 Presentation

In order to give a strong presentation to the participants of the change intervention, I have looked into how I can do that best.

3.1.7.1 Presenting by Victor Deconinck

In May 2021, journalist and presenter Victor Deconinck gave a lecture about presenting. A presentation is held in front of an audience, which can be divided into three types: heart types, head types and hand types. Heart types perceive the world through their heart and are focused on emotion and experience. Head types perceive the world through their brains and are very abstract. Hand types are people who want to have action and want to know what they can do with the information they receive. It is important to appeal to all three of those groups.

A presentation should start by appealing to the heart types. This can be done by telling a story, showing pictures and/or asking some questions. This part of the presentation should be spent on landing into the hearts of the audience. After this, the presenter should try to appeal to the head types. The presenter should tell what the aforementioned story means and what its relevance is to the presentation. Then, the presenter should focus on the hand types and tell what people can do with this knowledge. Afterwards, the cycle starts anew by appealing to the heart types again. This way, the presentation is interesting for the whole audience.

3.1.7.2 Presenting by Chris Anderson

In the Harvard Business Review, Chris Anderson shares how to give the best presentation (Anderson, 2013). First, one has to frame their story. They have to know explicitly what they are talking about and what they want to say. In a presentation, it is impossible to tell everything you know or everything you want to say even, so it is important to know what the key message of your presentation is and to get that message across. After the framing, one should think about how to deliver the message. The best way would be to memorize your presentation. To prevent it from sounding too cited, one should rehearse it often enough, until it becomes almost natural to do the presentation. However, this takes time, so if one does not have the time to memorize the whole presentation, they could use bullet points on note cards during the presentation. Besides just the words, a presenter should work on their stage presence and how they behave on stage. Making sure your body language does not give away that you are nervous and maintaining eye contact are important aspects of this. The next step is to plan the multimedia, such as a PowerPoint slide presentation. A slide presentation should support the story you are telling, so it should be simple and should not be the same as what you are saying. Other visuals could also be an option, such as Prezi, or just photographs or illustrations. Most speakers choose to present without visuals, because their talks do not need them. The last step in preparing a presentation is putting everything together. Practicing is key in this final stage.

3.2 Change intervention

The aforementioned theories and techniques I want to implement and explain in my change intervention. The change intervention I want to execute would be in the format of a workshop. By calling it a ’workshop’ instead of a ’change intervention’, I hope to give practitioners less of an impression that I am trying to ’fix’ them, which I do not want to do, I merely want to help them. Furthermore, through a workshop, the participants can also help each other and can actively work with the information they are giving. This workshop will be in Dutch, since my target group is Dutch. However, my target group is quite specific and hard to reach. Of the 6 people that responded to my survey, 5 were interested in a workshop, but only 1 person responded that they were available. The rest did not respond or was not available at the time of the workshop. That is why the workshop could not go through, but I did think of a back-up plan.

3.2.1 Workshop

The change intervention would have been a workshop of about 1 to 1,5 hours. It would have taken place on June 28th at 4pm. Due to logistic reasons, which are that I invited practitioners from all over the Netherlands, it would have taken place via Microsoft Teams. I would have asked everyone to turn on their cameras, since I would not be recording them and it would be more personal if we can see each other. During the workshop, I would have been in a room with a large screen, which I can attach my laptop to. In this room there would be enough room for me to stand and walk about. This I would do to seem more confident and authoritative, since authority is one of the principles of persuasion. Now I will describe how I saw the workshop going.

The workshop will start with me thanking the attendees for their presence and their cooperation. I will then introduce and tell a bit about myself. Then I will ask them to introduce themselves to each other by telling their name, their job and workplace and a fun fact about themselves. This way, they will have a better idea of who the rest is and they might feel more comfortable sharing information with each other. Sharing information is important, because how confident I may seem, in the end the experienced practitioner have more authority than I have. After this introduction, the workshop can really begin.

To appeal to the hearts of the audience, I will tell a story about how I came onto the idea of doing this change intervention. This story will include the aforementioned TGO and my wanting to link both of the end projects. I will try to be enthusiastic and make my story as interesting as possible in order to be liked. Then I will focus on the head types and talk about this project. I will mention but not explain OSA and CPAP to them, since my audience is already and even more experienced than I am on that subject. I will give the numbers regarding and reasons for non-compliance that I described in section 1.1.2 and 1.1.3. Then I will pique the interest of the hand types by asking the participants to share their experience with non-compliance with each other. Depending on the amount of participants I will make break-out rooms for this, but preferably I would do this with the whole group, so the information can be shared with everyone.

After this information sharing session, I will appeal to the hearts of people again by telling about how I have experienced the PoC track and what I have learned. Then I will continue by focusing on the head types and talk about the theories I have looked into. I will talk shortly about the current guidelines from Richtlijnendatabase, but not too much, since 83% of the respondents of my survey indicated that they already use these guidelines. Then I will proceed to talk about the other theories.

TPB and TAM: I will shortly explain the Theory of Planned Behaviour and the different Technology Acceptance Models to the audience. Then I will compare these models to the situation about compliance with CPAP. The (use) behaviour should be the usage of CPAP. The (behavioral) intention should therefore be to use CPAP. The PBC, Perceived Ease of Use and/or the Perceived Usefulness can be influenced by the practitioner. They can explain how it is used and what the outcome would be. This is also in line with the expectation management that is mentioned in section 3.1.1.2. The practitioner could also ask about and address other factors that are in play, such as subjective norms and anxiety.

Principles of Persuasion: Some of the principles of persuasion could be used when trying to persuade patients into using their CPAP. For example, the principle of authority. By being confident and showing that they know what they are talking about, a patient is more likely to be convinced. Of course I am not questioning the expertise of these practitioners, but it is about the appearance and behaviour of the practitioner. Furthermore, the practitioner could try to make a connection with the patient and try to be liked, since liking is also one of the principles. Moreover, according to the principle of consistency, the practitioner could try to get the patient to say out loud that they will do the CPAP treatment.

Coaching: The role of practitioner could be seen a bit as the role of a coach when it comes to trying to get patients to use their CPAP. The practitioner could first clarify the goal with the patient. As said before, this goal should be concrete, but could also exist of multiple small steps, if that works better for the patient. Then the practitioner could ask the patient to imagine their life if they do not experience the hinder of OSA and to compare that with the current situation. They should talk about the obstacles the patient has to overcome to achieve that, which is getting used to CPAP. Then together they could formulate an implementation intention. This could be in the form of ”When I sleep at home, then I will use my CPAP”, or something similar. The last step could be the time investment one of the respondents mentioned earlier. Shortly after introducing the treatment, the practitioner should check in with the patient to see how it is going. These check-ups should happen more frequently in the beginning, but less frequently as time passes.

After each one of the theories, I will ask for input from the participants. What do they think of the theories? Do they think they can be useful for them? Do they have additions, questions or other remarks? I will do this to stimulate information sharing and to appeal to the hand types.

After this, I will be approaching the end of the intervention. I will ask them if they have learned something in this workshop. Then I will ask them whether they are going to use what they have learned, in the hopes of using the principle of consistency. If multiple participants say they will use it, this will also stimulate the principle of social validation. Finally, I will ask them to fill out the survey about how they experienced the workshop.

If they are interested, they can stay a bit longer to hear about my TGO about patient-specific masks, since one of them indicated in my survey that they would be interested in that. This does depend on how much time the participants have.

3.2.2 E-workshop

Unfortunately, I did not have enough sign-ups for the workshop, so I needed a back-up plan. I wanted to create a change intervention that everyone could do in their own time, so I made an E-workshop in Google Forms. In this workshop I recorded so-called micro-lectures, where I said the things I wanted to say during the live workshop. To make sure the participants could still share information with each other, I created a Google Jamboard. The participants could put post-its on the Jamboard with their thoughts and remarks. The E-workshop can be found here: https://forms.gle/ZHPDNujgugp91r8H8.

4 Results

There was one person who responded to the E-workshop. They made good use of the Google Jamboard. They did have some practical questions, which is why it would have been useful to have other participants who could answer those questions. Unfortunately, this was not the case.

To measure the goal of this project, I have conducted a survey right after the change intervention. In this survey I have asked how interesting and educational they found the E-workshop, what they learned during the workshop, what their perception is of their role in the compliance of patients with CPAP and if that has changed and if they will use what they have learned during the workshop. Furthermore, I asked if they had any feedback or other questions or remarks. In the results it said that they found the E-workshop to be fairly interesting and educational. Their vision on the role of a practitioner has not changed, but it is the same as I tried to convince them of. They said that the theories were very interesting and could be useful in practice.

5 Advice

Looking at the results, my change intervention has some interesting theories, which could be used in practice. However, more discussion and brainstorming is needed before that is possible. My E-workshop was an adequate alternative, but would be more effective offline. That is why I advice practitioners to do my E-workshop, since it provides a good basis for discussions, and to get together and brainstorm about how it can be implemented in practice.

6 Learning experience

6.1 Project

In this project, I had the chance to develop myself in multiple ways. First of all, this was the first time I had to do a large project on my own. During my regular studies and during the PoC track, all the projects I had to do were in groups. Even my Bachelor thesis I had to do in a group. To have a project of my own gave me the opportunity to be free and creative with what I wanted to do and how I wanted to do it. The end product could be really something of my own, which was special. At first, it seemed a bit scary, because it was a new kind of responsibility, but now I have proven to myself that I can do it, and the evidence is this report, but also the e-workshop. I am proud of myself that when my change intervention seemed to go wrong, because I had only one applicant, I could come up with a back-up plan. This is why this project really stimulated me to get creative.

However, it was also hard. In a group, I can brainstorm more, bounce of ideas of the rest, take a critical look at someone else's work and also have others take a critical look at mine, so our work would be in the best shape possible. Now I had to do that all myself, which I found difficult at times. In my Insights Discovery report it also says for example: "A lack of confidence in her own judgement, although that judgement is often correct". I see this when I work in a group: I am prone to ask for validation for all my work, because I do not always trust my judgement. Yet this is something I have to get familiar with, because in the future, there will not always be someone to check my work. I will have to have faith in myself, which is what this project taught me to do.

Furthermore, I had driven myself a bit into a corner because of this topic. My target group is very specific, very busy and quite hard to reach. This is why I could did not have many responses to my survey and not that many participants in the workshop. It is also why I had to create an E-workshop, because of their schedule it is hard to find a time when everyone is available. Due to this, I could not work as closely with the target group as I wanted and was maybe needed for this project. For example, maybe I could have gotten more information out of focus groups instead of a survey, but a survey suited my target group more. Moreover, a physical workshop would have allowed the participants to communicate and share more and to get more out of the intervention. If I could redo this project, I would have maybe chosen a topic with a target group that is easier to reach, such as students or teachers, since they are in my vicinity.

However, in the end I am content with what I have done. I have researched a lot and put together a whole online workshop, which is neat to look back on. I also liked that I succeeded in combining this project with my Bachelor thesis, so I could see the relevance of what I was doing even more. It was a great opportunity to look back on the track and collect the knowledge that I have gathered during the track to use in this module.

6.2 Track

In the track of Processes of Change, I have gotten the chance to develop myself in a different way. I have learned more about who I am and what kind of role I play within a group, namely a supporter according to my Insights Discovery report. I have referred back to that multiple times, for example when I was applying for the board of HV Ockham and they asked my how I would behave in a team. However, looking back on that report, I see that I am different now. Now, I am much more comfortable with taking the lead instead of just supporting. I do think those two things are still connected, because when I take the lead, I try to do that to support the team. I want everyone to feel included and heard and I think that is the best way to institute change: with the participation of everyone. I think this track made me realise that and I will certainly use that in my future career, but also already next year, since I will become president of my student association. I can take the things I have learned about change, leadership and myself and I will use it to make the best out of it, I am sure.

References

Peppard, P. E., Young, T., Barnet, J. H., Palta, M., Hagen, E. W., & Hla, K. M. (2013). Increased prevalence of sleep-disordered breathing in adults. *American journal of epidemiology*, *177*(9), 1006–1014. https://doi.org/10.1093/AJE/KWS342

Patel, S. R. (2019). Obstructive Sleep Apnea. *Annals of internal medicine*, *171*(11), ITC81–ITC96. https://doi.org/10.7326/AITC201912030

Caples, S. M., Gami, A. S., & Somers, V. K. (2005). Obstructive Sleep Apnea. www.annals.org

Richtlijnendatabase. (2018). Het concept OSA: actuele inzichten - Richtlijn. https://richtlijnendatabase.nl/richtlijn/osa_bij_volwassenen/het_concept_osa_actuele_inzichten.html

Stepnowsky, C. J., Marler, M. R., & Ancoli-Israel, S. (2002). Determinants of nasal CPAP compliance. *Sleep Medicine*, *3*(3), 239–247. https://doi.org/10.1016/S1389-9457(01)00162-9

Het Groene Hart Ziekenhuis. (n.d.). OSAS (slaapapneu) met CPAP apparaat. https://www.ghz.nl/behandelingen-en-onderzoeken/osas-slaapapneu-met-cpap-apparaat/

Virk, J. S., & Kotecha, B. (2016). When continuous positive airway pressure (CPAP) fails. *Journal of Thoracic Disease*, *8*(10), E1112. https://doi.org/10.21037/JTD.2016.09.67

Yetkin, O., Kunter, E., & Gunen, H. (2008). CPAP compliance in patients with obstructive sleep apnea syndrome. *Sleep and Breathing*, *12*(4), 365–367. https://doi.org/10.1007/S11325-008-0188-4/TABLES/2

Janson, C., Nöges, E., Svedberg-Brandt, S., & Lindberg, E. (2000). What characterizes patients who are unable to tolerate continuous positive airway pressure (CPAP) treatment? *Respiratory Medicine*, *94*(2), 145–149. https://doi.org/10.1053/RMED.1999.0703

Federatie Medisch Specialisten. (n.d.). Over deze site - Richtlijnendatabase. https://richtlijnendatabase.nl/over_deze_site.html

Federatie Medisch Specialisten. (2022). *Obstructief slaapapneu (OSA) bij volwassenen* (tech. rep.).

Cialdini, R. (2001). The Science of Persuasion. *Scientific American*, *284*(2), 76–81.

Conner, M., & Armitage, C. J. (1998). Extending the Theory of Planned Behavior: A Review and Avenues for Further Research. *Journal of Applied Social Psychology*, *28*(15), 1429–1464. https://doi.org/10.1111/j.1559-1816.1998.tb01685.x

Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences*, *39*(2), 273–315. https://doi.org/10.1111/j.1540-5915.2008.00192.x

Anderson, C. (2013). How to give a killer presentation. *Harvard Business Review*, *91*(6), 1–6. https://doi.org/10.2469/dig.v43.n4.49

A STRUCTURED APPROACH TO THE CHANGE OF BOARDS: THE LOSS OF EXPERIENCE, PRODUCTIVITY, AND TRADITIONS

Mette Weisfelt

1 Introduction

Volunteering activities and experiences over the years as a university student has proven to be correlated with personal development and finding purpose and satisfaction with life (Bowman et al., 2011). The University of Twente is internationally known for one of its slogans 'More Than A Degree' (More Than A Degree, 2022). In this, the university wants to support activism from students. Students can excel in different areas of interest outside of their regular curriculum, for example academically with the Honours Programme or STAR and PLUS programmes, or technically by joining a student team such as Electric Super Bike, Solar Team Twente, or Solar Boat Twente. Additionally, each and every year students are joining and running sports, cultural or study associations, either part-time or full-time. In this paper I am going to discuss the period in which a selected group of students prepare and learn to keep an association running, to get to know the association on a deeper level, and to practice their functions and responsibilities together with the current board members, also known as the candidate board period. In this discussion I will highlight certain problems in this candidate period and try and increase effectiveness, knowledge, and overall confidence of the candidate board before they start their actual board year.

I have chosen this project because I, myself, am currently part of the board of our very own Honours association H.V. Ockham, and I have seen problems that associations experience when changing their board. I have chosen to use H.V. Ockham as a practical example and my proof of concept because I have extensive experience in the processes going on in this association, and the power to make actual change and thus the ability to directly measure a positive difference in this process. In this paper I am first going to discuss the problems occurring in this time period and my goals in helping those disappear or making then more manageable, after which I am going to state my approach to the problem, discuss the change project itself and finally the results. After the results there will be a discussion of the process and my results, and possible further applications of the insights this change project has given. At the end I am going to reflect on the practical learning experience this project has given me as an Honours student following the Processes of Change Track and how following this track has helped me and will help me in future projects of this nature.

2 The Problem

Every association has general problems or hiccups their candidate board runs into while they are preparing their board year, that is what this period is for: to learn how to handle these things. For example dealing with (new) membership, problems with defining a new mission and goal, recruitment of new members, or communication (Effective Student Organization/Problems That Student Organizations Face - Wikibooks, Open Books for an Open World, 2021). Often, however, these problems are unnecessarily complicated by lack of tools to handle it. These problems can differ per association and the way these associations are set up and ran. What it, most of the time, comes down to is a problem in communication. Knowledge in all of its forms gained by former boards is not sufficiently passed on to the new board. Because these problems will differ per association, the way to find out exactly what is happening and consequently the way to approach that problem will also differ. From here on out, I will focus on H.V. Ockham as a practical example and therefore also use and discuss its specific problems.

The main problem that I have noticed with H.V. Ockham is that the candidate period has not been standardized to a sufficient extent. There are a few things that have been happening via a specific procedure for years, such as choosing the candidate board members, and these have had great success. The real issue begins after the candidates are chosen. Every board has been doing what they felt was right, and with this unregulated mouth-to-mouth information sharing practice lots of little things have been forgotten. Traditions, for example, are getting lost over the years. Rules that have been made by former boards are not being followed by others, resulting in bad outcomes simply because the rules are not written down.

Not only that, but all the valuable experiences that former boards have had are not recorded, even though there is so much to learn from others that have come before you. There has been a loss of knowledge, but also long-term projects have been forgotten. There is nothing written down that the next candidate board should, for sure no matter what, know or do.

This was not the case a few years ago. Back then, H.V. Ockham had something the association called the Sequence of Operations. In this document, boards wrote down per function of the board members exactly what you could expect that year and what skills, people, and information you might need. Former boards wrote down stories or situations they felt taught a lesson the next board could use. But as time passed, this document of text became too vague, sometimes with contradicting information, and too large to grasp, resulting in next generations of boards not reading it and consequently not updating this document. It has been forgotten over the years.

3 The Goal

In order to set goals I first need to specify my target group. My target group is people who have already been selected for the candidate board and are willing to learn the in's and out's of an association to let it function as good as possible. My goal is to reduce the loss of information and skill during the candidate board period by standardizing it in some way. More concretely, this means that I want to prepare the next generations of boards of the association with all the tools and information they need in a structured manner that can be reproduced and added to. This big goal can be split into several smaller sub goals.

1. To see what information has been structurally missing and what information is vital to pass along to the next board.
2. To find a method to pass that information along
3. To create a lasting positive impact on this process by also making it useful for future boards to come

This project will be seen as successful if I can achieve all three of these goals.

4 Approaching the Problem

Before being able to achieve my goals, I need information from people who have had experience with the situation before. That way, I can combine multiple perspectives on the situation to create something not only useful for this year, but something that can also be fruitful for generations of boards to come. I have chosen to do so by the means of several focus groups. A focus group can be defined as *'a research technique that collects data through group interaction on a topic determined by the researcher'* (Handbook of Interview Research, 2001). I believe that a focus group allows for better and more insightful perspectives on the topic, as participants are stimulated by comments others have made. Focus groups have a potential to be rich in information and are well manageable in smaller groups of people (McLafferty, 2004).

4.1 Focus Groups

I have held these focus groups with multiple groups of people with different perspectives, such as former boards, the Board Of Advisors who advise the board when they need help, the Honours Office whom H.V. Ockham has contracts with, and people who have not been in either of those groups but have just in general been very active in the association and thus seen traditions, rules, and code of conduct rise and fall. These groups are all people who are heavily involved with the candidate board, and each require a different set of skills and knowledge from the candidates. All these people have seen board changes and their respective issues.

From the focus groups, I aim to get an understanding of what has been going right and what I can change to be better. I have also talked to board members of other both full-time and part-time boards of the university. In these groups we talked about their experiences in or with H.V. Ockham. Things they felt previous boards have missed or they themselves missed in their own candidate period, if applicable. We also talked about things previous boards tried to improve the candidate period, and why that worked or not.

In the next section, I will briefly discuss the results of these group interviews and a couple underlying root causes of the problems. What has been going wrong? What have we been communicating ineffectively? How can we start communicating this in the future?

4.2 Interview Results and Underlying Root Causes

In this next section I will discuss the results of the focus groups and what the interviewees thought were possible underlying root causes of the problem. Knowing these root causes gives me insights into possible solutions. I will discuss some points that were highlighted during the interview process.

- Mouth-to-mouth information sharing;

  One of the top priorities of the focus group was of course to figure out how we have been communicating information thus far. Most interviewees agreed that it has mostly been mouth-to-mouth information sharing from one board to the next, with no specific structure or written down guide as to what is important. This is a big reason why there has been so much loss of information.

- Making mistakes once;

  If information is not shared correctly, the next board will not be able to do their function correctly or efficiently. This, however, does not only impact the next board. If information goes missing, it does not get passed along anymore. This also impacts future generations of boards yet to come. In H.V. Ockham, this became incredibly clear after not having an external role in the board for a year, and consequently companies stopping to sponsor the association. No one was able to keep in contact with these companies, and thus contracts were not renewed.

- Role of the pandemic;

  The pandemic has been detrimental to passing along traditions and active members. Because people were unable to enjoy everything the association had to offer, a lot of them started to spend their spare time somewhere else. Consequently, old members became less active and stopped 'enforcing' traditions. Covid-19 did not only have an impact on the members but also on the boards. Boards during the pandemic were often formed by new students who had never seen the association before the pandemic hit. They had never seen an example of what a board should be like or how it should behave towards its members.

- Ineffective use of the Board of Advisors;

  H.V. Ockham has the Board of Advisors. This is a group of people doing exactly that; advising the board on matters they ask help for. According to the interviewees, this source of help has been underutilized since the pandemic, probably because the contact between people has been less personal. It is harder to ask for help when a board does not have a personal relationship with this board. Therefore, stressing the possibility of asking for help from this Board of Advisors is important.

The focus group each had their own perspectives on the situation, weighing the importance of one over the other. There were, however, also quite some points they all agreed upon. For example, they all agreed that a board year enriched a candidate in both personal as well as professional abilities. It should be informal and fun, but also professional and educational. Each of them stressed that the candidate period should be about the candidates and their respective visions. If the board that prepares the candidates gives enough support in order to set them up for success for next year, the candidates will be more motivated. In this support, it was important to keep from micromanaging. The candidates should be given the freedom to experiment in dynamics, both within the board and to the outside world. Lastly, each of them said that doing is better than reading. It was better to show the candidates what you were doing and why and let them form an opinion about it, than saying that they should do something because of specified reasons.

5 The Change Plan and Execution

In this section I will outline my plan in order to reach my goals and respective sub-goals.

Cialdini (2007) has the argument that we are drawn to be more conscious about certain things that happen when we have experienced something similar before. I believe an interactive workshop would thus be the best course of action. The candidate board members can practice and discuss real-life problems in a safe and controlled environment. Secondly, to make permanent positive change, this information must be recorded somewhere to be passed on in the future. I am going to revive the Sequence Of Operations and update it with both the information of the workshop and further details, experiences, and tips from previous boards. It should not be the prime source of information like it used to be, but a back-up to help whenever necessary during the year.

In the next sections I will give details regarding the workshops and their respective aims. I will also discuss the way I will measure my success.

5.1 Workshops

I am going to organise multiple workshops to facilitate the actual information change for this project. My aim with these workshops is to share and implement the knowledge I gained from the interviews and combined experiences. In these workshops, we will teach the new candidate board all the things that came out as vital information for a successful board year, traditions, rules, and the general code of conduct for a board.

Before the interviews, I planned on doing three workshops for the candidate board. The first workshop would be aimed at the inner board dynamics, the second workshop would be about the association itself, and the third workshop about responsibilities outside of the association itself. After the interviews, however, I decided to do only two workshops. The reason for this is that people said a board needs time and space to figure out their own way of doing things, and in retrospect feel like that is exactly what I needed as well. The goal is to find a balance between supporting, keeping traditions and giving information, and giving space to let them figure out a way to make it their own. Consequently, I decided against the workshop for board dynamics even though it is, arguably, the most important aspect of a board year. Instead, I will let them figure out their way of doing things during the other workshops.

Both workshops will take about two hours each, and will be prepared with the insights from the interviews in mind. This timeframe should be enough to cover what needs to be covered while still keeping things informal and fun, as that is the perfect environment to be able to make mistakes (What Teachers Need to Know about Teaching Methods, 2008).

5.1.1 Measuring Success

I am gonna measure the effectiveness and therefore the success of the workshops by assessing the candidate board members' knowledge and skills. Assessing their skill is more difficult as this will take some time to practice and will not be perfect the first time, so I will keep that in mind when assessing. This assessment will be done via a survey. They will rate the performance of their skills before and after the workshop. As for knowledge, they will be asked if they feel more prepared for the board year, what they learnt and how these workshops have helped them for next year. I will also ask for possible points of improvement to see what they still feel like they are missing regarding skills or information so next year they are able to improve the workshops themselves. The scale on which I will ask them to assess themselves will be a simple grade from one to ten, sometimes asking them to elaborate with a text option. I decided to do it this way because we are used to getting assessed on this particular scale and thus they might be able to assess their own knowledge best on that as well. The option to also give a textual answer is for the open-ended questions such as asking what they learnt. The precise surveys can be found in the appendix.

5.1.2 Inter-association Workshop

The inter-association workshop is for all things outside the association. For example, we will discuss the working relationship the association has with the Honours Office or other study associations at the university. We will not keep it only within this university, but also talk about the national mother association Dutch Honours Community. We will also cover sponsorships and H.V. Ockham's history with companies. This will be a more technical workshop, where it is more about the information given than about any soft or hard skills.

5.1.3 Intra-association Workshop

The intra-association workshop is about everything that goes on within the association. Practically a how-to on running the association, from the beginning until the end. We will cover certain traditions of the association and rules that candidate boards have to adhere to. We will also talk about the candidate period itself, what the new board can expect. Furthermore, we will talk about how General Members Meetings work and what to prepare for them, running committees, organising meetings, and giving constructive feedback. We talk about what happens with an association if it runs well, but also to prepare for the times things will not go as smoothly as planned.

5.2 During the Workshops

For the actual workshops itself, we used the personal meeting room of H.V. Ockham. This type of setting was a deliberate choice, as people already know the space and thus felt more comfortable. I thought that if people are comfortable, they feel free to voice their opinion and give or take feedback. I made a PowerPoint to support my story and to keep track of what we had already discussed. In the workshop itself I tried to use a mix of the head, hands, heart method that was taught during our programme by Victor DeConinck. By using this structure, I hoped to get through to different types of people that might process emotional, practical or analytical information differently. For example, for the head part I gave pure information in a presenting style; the hands part was a practical discussion and assignment about how they would approach a certain board task; and the heart part was a discussion about their own views, mission and goal for the association.

I started the first workshop by stating what we were going to cover and if people wanted to fill in the survey I had prepared beforehand. After that, we started with the actual contents of the workshop. I was not alone in presenting as I had my fellow board members present as well. I felt like it would be beneficial if they also provided their experience and talked about their respective functions in the association.

After the first workshop, I asked for feedback about the way the presentation was held. The candidate board said it was a practical but still very informal way of conveying this information. This positive feedback gave me the confidence in this method of information sharing and thus the second workshop was also organized in the same manner, with the head, heart and hands principle. As the first and second workshop were inextricably connected, I asked the participating candidate board to fill in the last survey assessing their newly gained knowledge after this second workshop.

I felt that the atmosphere was very great during the workshop. The candidate board was not afraid to ask deepening questions or ask for any clarifications. They were also open for learning about me and my fellow board member's experiences gained the previous year. It was informal enough that everyone felt comfortable making small jokes, but not too informal that it was not taken as seriously as it should be taken.

6 Results

Before doing these workshops, I set a few goals for myself. In this section I will discuss these goals and if I achieved them.

The first goal was to see what information has been structurally missing and what information is vital to pass along to the next board.

I believe my approach with the focus groups worked well. I have gotten information from people that, during the workshops, proved to be of value. It also offered me another perspective on what a board year looks like and what other boards saw as important. It gave me the necessary stories about experiences that are important to keep sharing, as they all contain some sort of lesson to be learnt. Having done this, it also gave me the opportunity to make clear to the candidate board that other people are great sources of information and experiences and that they should not undervalue those conversations. Therefore, I declare this goal a success.

The second goal was to find a method to pass that information along

I chose to do workshops, because that gave me the opportunity to have a dynamic informal conversation and thus real-time question and answer 'rounds'. I think this was a wise decision because the atmosphere was great and the participants (candidate board) reacted very positively on the format. I also asked them to fill in a survey before and after. The results of those surveys were quite positive overall. After both workshops, 100% of the respondents reported a significant increase in knowledge to start their board year. They also gave positive results in their increase of confidence. After the first workshop, they gave the feedback that it was mostly common knowledge about the association thus far. But since they noticed some information that they missed that seemed very important, I adjusted the content and way of sharing a little towards more practical practice (discussions) instead of information. The overall experience showed that this target group is willing to improve personally and professionally.

It is of course possible to shorten (or extend) the presentation slides and add to them in the coming years, especially since there is now a structure with certain definitive topics to hold on to. The addition to the slides of new experiences and traditions is up to next generations of boards.

The third and last goal was to create a lasting positive impact on this process by also making it useful for future boards to come

This part was less stressed in the previous chapters, but as I organized the workshops my board and I were also writing this new and updated Sequence Of Operations. This contained the information gathered with the focus groups, the information put in the workshops and tips, tricks and experiences we thought were fruitful to share. In the future, the goal is that every generation of boards only structurally changes this document when the association structurally changes. They are, however, highly encouraged to concisely add to the document with their own experiences. As I cannot see if this new Sequence Of Operations will be successful in creating a lasting positive impact over the upcoming years, it is difficult to measure my achievement precisely. For this project, I will consider the new and updated document as the success needed to fulfill my goal.

Looking at these particular goals and my achievements, this information change project should be considered a success. But what is this success to me personally? Apart from all the information we gave, I also had the personal goal that they should feel more confident in next year and that they know that if anything goes wrong they have a whole network to fall back on and ask for help. Running an association might be the final responsibility of only the board, but in order to do it with success it takes a village of supportive people.

Of course, this workshop only targeted a single board. This might seem like it does not affect a whole lot of people, but I believe it is about the bigger picture. The goal was to provide a framework to continue the passing of knowledge and experience in general, not only to H.V. Ockham.

7 Discussion

In this section I will first discuss some general remarks on the situation, after which I will also cover possible further application of the newly provided framework for board transitions. I will also touch on a personal remark.

The first remark I noticed was that during these focus groups, people had very different views on a board year and what a board should do, sometimes somewhat contradicting. Some people found that the board must keep more of a formal approach to the association, while others saw it as the social heart and core of the association. It was more difficult than expected to combine all these different experiences in a sort of package of experiences to offer the new candidate board.

Something that confronted me at the end when trying to analyse my results was the fact that I had quite a small survey. For the goals I had set, the questions covered enough that I could make conclusions and it was thus not really a devastating problem. Looking back, I could have had a bigger survey and asked more in deep questions such as what they already knew beforehand, or how they found the workshop in text format.

Another thing I noticed is that the problems that candidate board members run into during their candidate board period will differ per association. Consequently, the way to find out exactly what is happening and thus the way to approach that problem will also be different. Of course, every candidate period has to incorporate things like team work and other soft skills, but traditions, rules, and how the association works, will differ. Due to this, it is very difficult to standardize the candidate period as a whole in general. It is therefore vital to tailor the approach I have discussed above to the specific association. That can, for example, mean that focus groups might not be the best possible way to start your information gathering but a survey can do the trick.

Personally, while taking this route of first conducting the interviews to finally having results, I found that the path from idea to result is far longer and more complicated than I had previously imagined. Not only because it was quite a lot of information to analyse every time after such a focus group, but also the administrative tasks such as scheduling meetings with so many groups of people took a lot of time. I also discovered that achieving real change in practice is not as straightforward as the literature makes it seem like. Despite having done extensive research on the information I wanted to convey, I observed that the change I aimed for was not necessarily progressing as I had planned. It was incredibly important to adapt to feedback halfway through, but difficult nonetheless.

8 Personal Reflection

Processes of Change is about analysing change in society, organizations, and other complex structures. We have touched on a lot of different aspects of change, including creating our own. The track has helped me in analysing its desirability and possibility. I have learned to always look for the bigger picture behind the stories, and form my own opinions.

I am grateful or the opportunity to have been able to make real impact and change, be it for a small group of people. I think doing such a practical project allowed me to learn from both my target group, and the people who helped me prepare. It reminded me that even though you can prepare very well, there might still be problems that will obstruct the path you had planned. It is thus important to be flexible and able to adapt to certain situations, something that I still sometimes find difficult and will try to improve upon in future projects of mine.

I want to thank the teachers and classmates that have made it all possible. Conversations I have had with both the teachers and students in my class have broadened my views and opened my eyes to perspectives in a way I could have never imagined.

9 Bibliography

Bowman, N. A., Brandenberger, J. W., Hill, P. L., Lapsley, D. K. (2011). The Long-Term Effects of College Diversity Experiences: Well-Being and Social Concerns 13 Years After Graduation. Journal of College Student Development, 52(6), 729–239. https://doi.org/10.1353/csd.2011.0075

More Than A Degree. (2022). Student Union. visited 7 july 2022, from https://su.utwente.nl/mtad/morethanadegree/more-than-a-degree/

Effective Student Organization/Problems that Student Organizations Face - Wikibooks, open books for an open world. (2021). WikiBooks. visited 7 july 2022, from https://en.wikibooks.org/wiki/Effective_Student_Organization/Problems_that_Student_Organizations_Face

Handbook of Interview Research. (2001). Google Books. visited 7 july 2022, from https://books.google.nl/books?hl=nllr=id=uQMUMQJZU4gCoi=fndpg=PA141dq=focus+group+versus+interview+resultsots=V-c36F-_5Isig=jTdGEyscPXrGIqogdMTQLpVKXEwredir_esc=y#v=onepageqf=false

McLafferty, I. (2004). Focus group interviews as a data collecting strategy. Journal of Advanced Nursing, 48(2), 187–194. https://doi.org/10.1111/j.1365-2648.2004.03186.x

Cialdini, R. B. (2007). Influence: The psychology of persuasion.

What Teachers Need to Know about Teaching Methods. (2008). Google Books. visited 7 july 2022, from https://books.google.nl/books?hl=nllr=id=vd7kjZd_M-ECoi=fndpg=PR3dq=teaching+methods&ots=x3TQyz_oJssig=VVkp06iCj9fQI3KfGBVu2M_Oajoredir_esc=y#v=onepageq=teaching%20methodsf=false

10 Appendix: surveys used

The first survey – before the workshops:

- how prepared do you feel for your next board year? (1-10)
- what do you want to learn in this candidate period? (text)
- do you feel like you possess the skills necessary to begin your board year? (1-10)
- do you feel like you have the knowledge to start the board year successfully? (1-10)
- what knowledge do you think you miss? (text)
- how well do you know the inner workings of the association? (1-10)

The second survey – after the workshops:

- do you feel like you have learned from this workshop? (1-10)
- what have you learned? (text)
- how prepared do you feel for your next board year? (1-10)
- do you feel like you have the knowledge to start the board year successfully? (1-10)
- do you think you are more prepared than before the workshop? (1-10 + text)
- do you feel more comfortable with the inner workings of the association as a whole? (text)

MOTIVATING TEENAGERS TO EXERCISE WITH THE HELP OF GAMIFICATION

Hannah Wessels

We are all aware of how important exercising is. It helps you to perform your everyday activities better and reduces your risk of several diseases, like cardiovascular diseases or diabetes type 2 (Centers for Disease Control and Prevention, 2020). Ever since the COVID pandemic taking care of your health has become even more important. However, there has been a drop in the number of teens, between the ages of 12 and 18, who exercise weekly since the start of the pandemic. In 2019, 78% of the Dutch youth exercised weakly however, this was only 65% in 2021 (van den Dungen, 2022). Exercising has become harder for children during the pandemic, due to sports clubs and gyms shutting down. However, there is still a drop in the number of children who exercise weakly, even though everything is open again. This has been very visible in the number of youth members at the local athletics club in Rijssen. There has been a decline in youth members over the last 5 years, from 273 youth members in 2017 to 156 in 2021 (AV Rijssen, 2022). This is why I became interested in this topic, to see if there is a way to increase the number of children exercising again.

The way in which this paper wants to change the exercising behaviour of children is with the help of gamification. Gamification is “the use of game design elements in non-game contexts” (Deterding et al., 2011, p.10). In the context of exercising, it is the idea that to change children exercising behaviour a game-like experience is used (Huotari & Hamari, 2012). In this way, exercising can be made more enjoyable and therefore motivate the user (Dixon et al., 2013). In today’s society, children spend more time on their phones and online. Teenagers spend more than seven hours a day on their phones (Jacobo, 2019). With the use of gamification this time, since the application is on their phone, can be used to motivate them to exercise. The target group for this application is teenagers, between the ages of 12 and 18. As stated before, these children tend to exercise less and spend more time on their phones. This age group also has other priorities, like school, which leaves them with less time to exercise (MarketResponse, 2020). Therefore, they are the main focus of this application.

There are children who have an intrinsic motivation to exercise, meaning that they enjoy exercising itself and see this as fun (Ryan et al., 1997). It is easier for these children to adhere to exercising because of their intrinsic motivation. However, there are also children who do not have this kind of motivation and have extrinsic motivation, where behaviours are done to obtain a reward or an outcome different from the exercise itself (Ryan et al., 1997). The application wants to help children who do not have this intrinsic motivation to adhere to exercise.

Research shows that an application can increase this extrinsic motivation and help them adhere to their exercise routine (Kari et al., 2016). However, if the focus is too much on the game and less on the behaviour itself, it can reduce the intrinsic motivation of the user (Manso-Pinto, 2011). But, if there is no or little intrinsic motivation to begin with gamification can bring about extrinsic motivation, since the user might feel autonomy and competence (Knaving & Björk, 2013). Hence, the application can gamify the exercising behaviour, but it still has to take into account that it does not do this too much. The ultimate goal of the application is that due to the use of the application the users see that exercising itself can be fun and therefore increase their time spent exercising.

The application

In the past few years, gamification has become more and more popular, also in the fitness industry. However, there has not been an application targeted to teens specifically. However, this is the age group for which exercising weakly has decreased a lot. This application wants to make exercising fun and a social activity for teens, with the use of gamification. In this application, the user can register their exercising behaviour, with for example a step-counter or by registering their time spent at football practice. Users can set goals for themselves and can win badges for their time exercising, being able to obtain their goals or being physically active more than several times a week. Their activity can be shared with others with pictures or videos. The application also includes challenges to motivate users to achieve a new goal due to these challenges.

Goal-setting has been used to motivate individuals to exercise. The goals have to be realistic, thus not too difficult and have to be important to the user (Locke & Latham, 2002). Research shows that having a specific goal helps with adherence to a certain behaviour (Wilson & Brookfield, 2009). With these goals, it is also important to focus on the behaviour itself and not on the outcomes (Biddle, 1995). In this way, the intrinsic motivation can be increased and therefore it is easier to adhere to. Therefore, the application has an option for the users to determine their own personal goals. It should help the users with examples of goals and probe questions for them to have a specific and realistic goal. For example, to make sure that the goal is realistic, the application should ask about the user's current exercising behaviour. With this knowledge, the application can help suggest goals that are realistic and in line with their current behaviour. Once the goal has been set the user can see their progress towards their goal in the application, in the form of a progression bar. Based on this, the applications can send reminders that help remind the users of their goals and progression (Munson & Consolvo, 2012).

Badges have been one of the most used ways in which gamification has been introduced in the fitness sector. A badge is an optional reward that someone can get by fulfilling conditions on how to gain this badge (Hamari & Eranti, 2011). Thus, an user can get a badge for behaviour that is done outside of the core activity of exercising itself. A description of a badge shows what needs to be done in order to gain the accomplishment. Research shows that badges can help users to move towards new goals (Hamari & Eranti, 2011). The badge and its description to gain it can increase the intrinsic motivation (Malone, 1981).

One of the things that the application wants to include is the social aspect of exercising. How it can be fun to exercise with friends or share and see what others are doing. The theory of planned behaviour model that there are three factors that influence someone's intention to behave in a certain way (Ajzen, 1991). These factors are attitude, subjective norm and perceived behavioural control. Research shows that someone's social environment, or the subjective norm, is one of the biggest predictors of their exercising behaviour (Ståhl et al., 2001). If people feel supported by their family or friends they are likely to exercise more. However, only 25% of Dutch teens feels supported by their social environment to exercise more (MarketResponse, 2020). Therefore, one of the main points that the application wants to include is the social aspect, to have the subjective norm play a bigger role in motivating teens to exercise. A reason why exercising in a group is so popular is due to the social support and the feeling of being part of the group (Laverie, 1998). Research shows that making applications social instead of fun is more effective to help the user be able to sustain their exercising behaviour (Tu et al., 2019).

Being able to share one's activity with others has been shown to increase physical activity (Anderson et al., 2007). This sharing also let to user's being more aware of their activity and for some user's it led to a feeling of competition, which can motivate others. However, this feeling of competition is not desirable for this age group. Research shows that teenager can get discouraged and hurt by the comparison with others (Toscos et al., 2009).

One way in which this can be avoided is by having smaller groups in which the users can share their activities. If the activity is shared with a small group of close friends, teenagers tend to feel less discouraged by seeing the activity of others but still feel social encouragement and positive peer pressure to exercise (Toscos et al., 2009).

One way in which teenagers can be encouraged to exercise due to their social environment, instead of competition, is through cooperation. In this way people can work together to exercise and gain badges in the game, to motivate them both to exercise more. Chen & Pu (2014) research shows that being able to cooperate with someone let users feel more motivated to exercise and that this was not the case for users who competed against each other. Thus, working together towards goals and badges has a positive effect on exercising motivation. Another way in which the social environment of the application can help motivate is through messages. Research shows that being able to exchange messages with users helps to increase someone's physical activity (Chen & Pu, 2014). It results in participants motivating and supporting others, as well as increasing the responsibility of users to adhere to their exercise due to the messages.

Another way in which the social environment can be encouraging is by having local sports associations represented in this application. In the application, local sports associations can promote their association and show the users what they can expect from being a member. In this way, the application also becomes interesting for associations to use. To motivate the users to be a part of the association, there should again be a focus on the social aspect and enjoyment of exercising. In the form of short videos, this can be promoted. This form of entertainment, mostly used by the social media platform TikTok, is the most used by teenagers (Proulx, 2021). In these short videos, sports associations can show their members enjoying the sport and having fun while playing it together since enjoyment was found an important factor for adhering to exercising (Ingledew et al., 1998). The aforementioned badges could also be linked to the associations. For example, a badge can be gained when an user participates in volleyball training, see Figure 1.

Figure 1.

Volleyball badge

Change approach

A brainstorming session was organized to improve and gather new and innovative ideas regarding the app. To set up this brainstorming session a high tea was organised for girls who are part of the target group of the application. This high tea was planned during the holiday break so that the children would have the time to participate. The participants were all in a WhatsApp group to which the invitation was sent.

Figure 2.

Invitation high tea

Note. Own invitation

The approach to this high tea and brainstorming session is based on the principles of persuasion by Cialdini (2006). Firstly, the principle used is that of reciprocity. Reciprocity is based on the idea that people do not like the feeling that they owe something to others (Cialdini, 2006). They feel obliged to return the favour. This principle was seen in the use of a high tea. I organised something and gave them gifts in the form of this activity. Due to this, the participants felt more obligated to help me with the brainstorming session in return for the high tea that I organised.

Secondly, the principle of consensus was used. This principle is also called social proof since it is based on the idea that individuals want to conform to the social norm (Cialdini, 2006). So, before making a decision people look at what others are doing and base their decision on that. When I invited the girls to the high tea I made sure that two girls were already sure that they were enthusiastic about the activity and that they were coming. When the invitation was sent in the group chat they were the first to respond that they were coming and that they were looking forward to it. By doing so, the others felt more persuaded to come as well since other friends were already going.

Lastly, the principle of liking was used. This principle means that people will be easier persuaded by others that they like (Cialdini, 2006). During the high tea, which took place before the start of the brainstorming, I tried to find similarities between the participants and me. I talked to them about how I went to the same high school, which teachers I liked, what sports I enjoy and what I like to do in my free time. Due to this, we found some similarities and tried to build a personal relationship with the participants. I also wanted the participants to feel more comfortable talking to me so that they did not feel embarrassed to suggest ideas during the brainstorming session. Of the eight girls invited six were able to participate that day. The participants were girls between the ages of 12 and 13. All of them did a sport, ranging from volleyball to dance to athletics. Thus, individual as well as team sports were included.

According to Baumgartner (2012), it is important that participants are able to relax their minds before brainstorming so that they are able to come up with creative ideas. This was done by starting the high tea before the brainstorming. The participants were able to discuss their vacations with their friends and have a fun conversation about what they had done while having some tea and chocolate or different cakes. In this way, the participants were able to relax before the session and also become more comfortable with me, the leader of the brainstorming session.

Baumgartner (2012) also came up with different steps that would improve the quality of the brainstorming session. These steps were followed during this session. Firstly, the challenge needs to be clearly defined. After an hour of “high-teaing” the challenge was explained. The participants were shortly introduced to the application and the goal of the app. Then I explained that I was still searching for “the idea” that could make this application a success. I still needed the idea that would make this application appealing to teenagers and I needed their personal help to come up with this idea. So, their personal relevance was made clear as well as that I felt confident in their ability to help me.

Secondly, Baumgartner (2012) suggests that there should be a time limit for the sessions to make sure that it stays productive. For this session, a time limit of an hour was set, since the group consisted of 6 participants. In this time limit, all participants should be able to suggest their ideas. The ideas that are suggested should be written down somewhere where everyone can see them. A whiteboard was used to include this step. All the ideas that were said would be written here. It was also made clear to the participants that no idea was too weird or too ambitious, since we were only in the thinking phase at this moment.

Lastly, at the end of the session, the group should decide on the best ideas that were brought forward. The group concluded that there were 2 main ideas which they thought were best and that other topics fell under these main ideas. These two main ideas will be discussed in detail in the results section.

Results

The results of this paper are the ideas brought up during the brainstorming session. During this session many ideas were brought up, also ideas that were already included but the participants stated that as a target group they also agreed with these ideas. These ideas included the option to make personal goals to work forward to since not everyone has the same goal while exercising. The participants also talked about how they would like to see their progress towards their goal and expressed that seeing their progress was motivating.

A new idea was introduced when the participants talked about how they did not like competition. They expressed that they would not be interested in being confronted with how well others are doing if they have no personal connection to that person. This might discourage them as others could be bragging or even lying about their exercising behaviour. As stated earlier by research, competition is not beneficial to this age group and the group seems to agree with this idea. The idea came forward that one should be able to form contacts with their close friends and only share certain information with certain friends. So, that they would be able to share certain things with their volleyball friends and other information with their friends from school. The idea that one should be able to cooperate on different goals with different people was also linked to this.

It was also suggested that due to this idea of not wanting to see how others are "doing better" without having a personal connection only sports associations should be able to post videos on the app. These videos could be used to promote a certain sport and show that it can be fun to try it with your friends. They also suggested that there should be videos on how you can exercise at home with your friends so that you can exercise at any given time. But with this the idea of whether videos should be checked by the application before uploading was brought up, to make sure that the videos are within the goal of the application. This is an interesting notion, but the technicality of this idea was not discussed further in this brainstorming session.

Lastly, the idea of a map was introduced. With this map, the user could see what sports associations are in their area and what sports they could try. The user would get a clear overview of when a user could try a sport at the association and at what day and time. The map could also include which friend has visited an association already or is a member of an association. The user would not have to do any effort to find this information and therefore making it easier to try something new. It was suggested that for this map different associations should introduce different "try-trainings". With this, the users could try a different sport for free with others who are also not familiar with the sport or association. The user would feel less intimidated to start since they will exercise with others who also have little experience. This is different than when you would just join a training where there are others with more experience. Thus, making it easier for users to start something new. The try-trainings should mostly focus on having fun with others while exercising and therefore focus on the goal that the application is trying to convey. These try-trainings should also be included in the map so that the users could see when the next training is that they could participate in. Another idea that could be included in these maps is that of walking or biking routes in the area, so exercising can be done at any time. The participants suggested that this could be a low-effort way in which friends could exercise together.

In conclusion, during the brainstorming session different new and already existing ideas were suggested by the participants. These concepts that were already stated in literature are that personal goal setting is important, that teenagers do not want to share exercising behaviours with everyone but their close friends, and that cooperation would be more motivating than competing. So these concepts were reinforced by the participants. New ideas were also introduced that could improve the quality of the application. Namely the map, whether videos should be monitored or not, exercising ideas that can be done at any time, and being able to have different groups in which you could share different information. Thus, the quality and what should be included in the application were improved due to the brainstorming session

Advice

This first intervention gave some more insight into teenagers' needs and what they think would motivate them to exercise. It also suggested new ideas which prior to the session were not considered. However, other sessions could still be organised with other, more diverse groups. In this session, all participants were girls who were already exercising weekly and therefore not part of the main target group, namely teenagers who do not exercise weekly. Even though the participants were talking about what they knew about why other people were not exercising and based their ideas on that, they themselves were not the main target group. So, for the next session, it would be advised to have a brainstorming session with teenagers who are part of the target group to see why they are not exercising and what would convince them to exercise.

My learning experience

Never did I encounter myself as much as I did during this project. I had to step out of my comfort zone with this intervention, by asking others for help and to really talk and convince others of my idea. This is also in line with my weaknesses that are shown in my insights discovery, how I have trouble with expressing my own ideas and how I over-rely on things that I know are correct. I enjoyed doing the theoretical part of the project and this went almost effortless, however when I had to organise a brainstorming session the project was a lot harder for me. This was also what I found most challenging during this project and this was also linked to what I wanted to change with my coach during this module. My coach helped me with how to be more accepting when trying something new and to not be so self-critical. We talked about trying something new is a journey, that you start somewhere and that you sometimes need to take a step back to move forward. This really changed how I viewed my ability to do this project. According to myself, I had to be able to finish this project perfectly and I should not run into any problems. This was also shown in my insights discovery, where was stated that I like everything to be clear and that I want to make sure that everything is done correctly. Of course, I did run into problems since it was my first time trying something this big. I felt like I failed the moment I ran into something I was not able to do perfectly. However, due to my conversations with my coach I learned that it was perfectly normal to not be able to do everything at once and that I already made so much progress by even starting what I was doing.

Another thing that my coach and I talked about, one of my main goals this module, was procrastination. I came to the conclusion that I tend to procrastinate about little things, but that these things can make me feel busier and less organized. As seen in my insight discovery, I like to be organized and this is something that I think is very important. So, when I notice that I myself am lacking in this, I feel like I am failing. Together with my coach, we talked about how this procrastination contributes to me feeling more stressed and how we can change my procrastination. I started writing the things down that I still had to do, so that I would not always be reminded at unfortunate times that I still had to do something. I put the tasks in my agenda when I would be likely to have time to work on them and if I did not have time at that moment I would then put it in my agenda again on another day. This really helped me feel less busy in my head since I did not have to remember every little thing I still had to do since it was already written down in my agenda. I could forget about them when I was working on something else and I could work on them when I was doing nothing. I am still doing this and not only for school tasks but also for household tasks, like that I still need to do my laundry or call someone. It really helped me feel less stressed in general and it gave me a clearer idea of all that I still had to do. When I write it down I come to the conclusion that all the tasks that I still have to do are less than I thought at first.

As stated earlier, the intervention part of this project was the hardest for me. As a leader, I saw myself more as someone who walks behind the scenes and I do not like to be the centre of attention. This was also stated in my insights discovery. However, with my intervention, I had to be the centre of attention and I had to convince others that my idea was a great idea so that they would be willing to help me. This was in the beginning really difficult for me, to see myself doing this. I thought of all the things that could go wrong and how I would not be able to do this. But, I had to do it for this project and I am happy I did. At the beginning of the intervention, I was extremely nervous, however at the end I really started to enjoy myself. I enjoyed seeing others become enthusiastic about an idea I came up with and being the expert in this situation. So, I think as a leader I did change a little into becoming more confident in my own abilities and ideas. I also learned that it is okay to be proud of your own work. Honours helped me become more confident in my own abilities and made me realize that things do not have to be perfect. As long as you try your best, you can be proud of your work.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Anderson, I., Maitland, J., Sherwood, S., Barkhuus, L., Chalmers, M., Hall, M., Brown, B., & Muller, H. (2007). Shakra: Tracking and sharing daily activity levels with unaugmented mobile phones. *Mobile Networks and Applications*, *12*(2–3), 185–199. https://doi.org/10.1007/s11036-007-0011-7

Baumgartner, J. (2012). *Step by step guide to brainstorming*. https://www.creativejeffrey.com/creative/brainstorming.php

Centers for Disease Control and Prevention. (2020). Benefits of Physical Activity | Physical Activity | CDC. In *U.S. Department of Health & Human Services*. https://www.cdc.gov/physicalactivity/basics/pa-health/index.htm

Chen, Y., & Pu, P. (2014). HealthyTogether: Exploring social incentives for mobile fitness applications. *ACM International Conference Proceeding Series*, 25–34. https://doi.org/10.1145/2592235.2592240

Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining "gamification." *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments, MindTrek 2011*, 9–15. https://doi.org/10.1145/2181037.2181040

Dixon, D., Lawley, E., Deterding, S., Björk, S., & Nacke, L. E. (2013). Designing Gamification: Creating Gameful and Playful Experiences. *Conference on Human Factors in Computing Systems - Proceedings*, *2013-April*, 3263–3266. https://doi.org/10.1145/2468356.2479662

Hamari, J., & Eranti, V. (2011). Framework for designing and evaluating game achievements. *Proceedings of DiGRA 2011 Conference: Think Design Play*.

Huotari, K., & Hamari, J. (2012). Defining gamification - A service marketing perspective. *Proceedings of the 16th International Academic MindTrek Conference 2012: "Envisioning Future Media Environments", MindTrek 2012*, 17–22. https://doi.org/10.1145/2393132.2393137

Ingledew, D. K., Markland, D., & Medley, A. R. (1998). Exercise motives and stages of change. *Journal of Health Psychology*, *3*(4), 477–489. https://doi.org/10.1177/135910539800300403

Jacobo, J. (2019). *Teens spend more than 7 hours on screens for entertainment a day: Report*. ABC News. https://abcnews.go.com/US/teens-spend-hours-screens-entertainment-day-report/story?id=66607555

Kari, T., Piippo, J., Frank, L., Makkonen, M., & Moilanen, P. (2016). To gamify or not to gamify? Gamification in exercise applications and its role in impacting exercise motivation. *29th Bled EConference: Digital Economy, BLED 2016*, 393–405. http://aisel.aisnet.org/bled2016

Knaving, K., & Björk, S. (2013). Designing for fun and play: Exploring possibilities in design for gamification. *ACM International Conference Proceeding Series*, 131–134. https://doi.org/10.1145/2583008.2583032

Laverie, D. A. (1998). Motivations for ongoing participation in a fitness activity. *Leisure Sciences*, *20*(4), 277–302. https://doi.org/10.1080/01490409809512287

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist*, *57*(9), 705–717. https://doi.org/10.1037/0003-066X.57.9.705

Malone, T. W. (1981). Toward a theory of intrinsically motivating instruction. *Cognitive Science*, *5*(4), 333–369. https://doi.org/10.1016/S0364-0213(81)80017-1

Manso-Pinto, J. (2011). The Rewards and Intrinsic Motivation: Resolving the Controversy. *Actualidades En Psicología*, *23*(110), 131. https://doi.org/10.15517/ap.v23i110.15

MarketResponse. (2020). *De Gezonde Generatie*.

Munson, S. A., & Consolvo, S. (2012). Exploring goal-setting, rewards, self-monitoring, and sharing to motivate physical activity. *2012 6th International Conference on Pervasive Computing Technologies for Healthcare and Workshops, PervasiveHealth 2012*, 25–32. https://doi.org/10.4108/icst.pervasivehealth.2012.248691

Proulx, M. (2021). *Weekly Usage Of TikTok Surpasses Instagram Among US Gen Z Youth*. Forbes. https://www.forrester.com/blogs/weekly-usage-of-tiktok-surpasses-instagram-among-us-gen-z-youth/

Ryan, R., Frederick, C., Lepes, D., Rubio, N., & Sheldon, K. (1997). Intrinsic Motivation and Exercise Adherence. *International Journal of Sport Pscyhology*, *28*, 335–354. https://www.cabdirect.org/cabdirect/abstract/19981811382

Ståhl, T., Rütten, A., Nutbeam, D., Bauman, A., Kannas, L., Abel, T., Lüschen, G., Rodriquez, D. J. A., Vinck, J., & Van Der Zee, J. (2001). The importance of the social environment for physically active lifestyle--results from an international study. *Social Science & Medicine (1982)*, *52*(1), 1–10. https://doi.org/10.1016/S0277-9536(00)00116-7

Toscos, T., Faber, A., Connelly, K., & Upoma, A. M. (2009). *Encouraging Physical Activity in Teens Can technology help reduce barriers to physical activity in adolescent girls?* https://doi.org/10.4108/icst.pervasivehealth2008.2782

Tu, R., Hsieh, P., & Feng, W. (2019). Walking for fun or for “likes”? The impacts of different gamification orientations of fitness apps on consumers’ physical activities. *Sport Management Review*, *22*(5), 682–693. https://doi.org/10.1016/J.SMR.2018.10.005

van den Dungen, L. (2022, May 20). *Minder mensen sporten na coronacrisis, vooral daling bij jeugd* . https://www.nrc.nl/nieuws/2022/05/20/minder-mensen-sporten-na-coronacrisis-vooral-daling-bij-jeugd-a4125038

Wilson, K., & Brookfield, D. (2009). Effect of goal setting on motivation and adherence in a six-week exercise program. *International Journal of Sport and Exercise Psychology*, *7*(1), 89–100. https://doi.org/10.1080/1612197X.2009.9671894