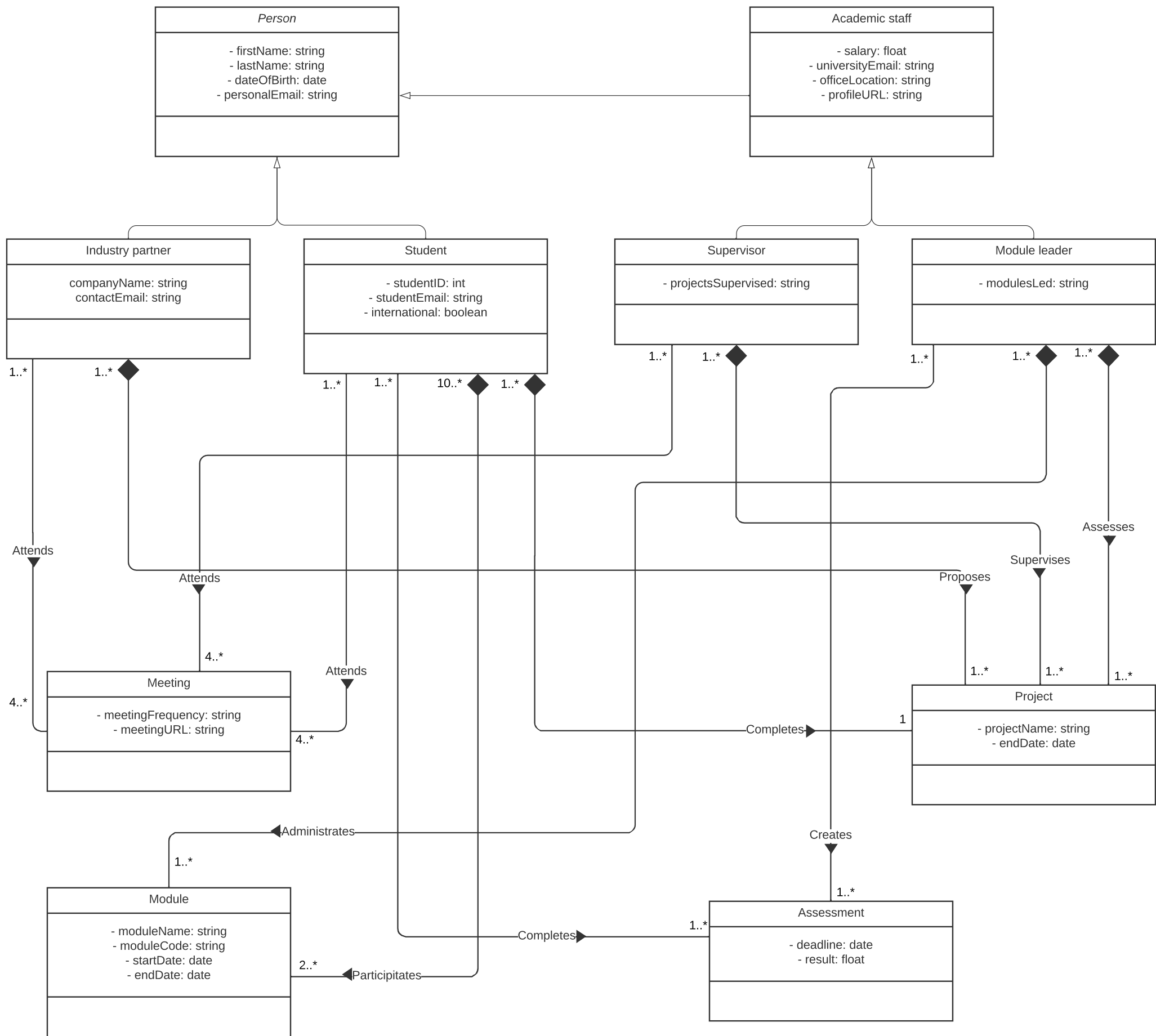


Activity	Evaluation of Current Situation	Recommendations for Future Situation
Arrange a Call for Project Proposals and starting a project. Change status to: Open for Proposals	Currently, there is no centralised system to advertise the 'Call for Project Proposals'. This is conducted by the Industry and External Manager, where they put out a call for expressions of interest to the industry partners for project proposals by email. The partners will be informed if the proposal has been allocated or not, furthermore, the partners will come to an arrangement on suitable dates and times. If the project is large scale, the academic project supervisor will find middle ground appointments with the team members.	For the new centralised platform, I recommend educators have the ability to update their status to "Open for projects" which will give every partner a notification and announce that on the educator's page. This is a clear indication to all parties interested when they can submit proposals and how often they are conducted. This could also automate the process more while saving time efficiently. Inside the platform, there could also be milestones such as "Project accepted", this would also release the student's information that are taking the project. This results in less time spent emailing repetitive information to every partner that could easily be automated. In regards to booking dates for the regular meetings, this could be assisted via integrating various calendar services to book time slots with the partners or supervisors.
Posting projects to the marketplace for potential students	There is no digital marketplace currently for proposals to be uploaded to. Depending on the type of project, the advertising of projects can differ. For MSc dissertations, these would be posted on PATS (Project Allocation & Tracking System) for project allocation. For short team-based projects at the National Software Academy, module leaders will allocate projects small teams. Regarding larger team projects, these would be delegated to interested students from year 3 undergraduate and MSc software engineering. Students get to express an interest in around a third of the projects, then the module leader creates the most viable teams based off capabilities and preferences.	I recommend on the new platform, there would be a marketplace available to all students that the projects apply to. PATS already has a basic principle of viewing projects and setting 'Interested' on the project to let supervisors know that they are interested. This could be built and improved by having an integrated message system to communicate directly inside the service. Very often supervisors will not respond to students just clicking 'Interested', this results in students emailing the supervisors manually. Students would be able to freely see the projects offered to them with a clear description what the project will involve, this would result in students being more aware and prepared for the projects. Students would be more satisfied with the projects and enjoy the process more.
Students applying for projects they are interested in	For MSc dissertations, the interested students would need to click 'Interested' on PATS, then conduct a meeting to discuss the project. If there are multiple students interested, they might have to submit a proposal of interest. For short team-based projects at the National Software Academy, module leaders allocate students into teams based off previous experience and module performance. The teams are comprised of mixed capabilities which consist of an average of 3 projects with 4-5 teams on each project.	For MSc students, PATS has a lot that can be improved. The new platform would offer better descriptions on the projects and an easy way to submit or view application, this could result in an interview stage to choose the best candidates for the task. In regards to National Software Academy, year 3 undergraduates and MSc software engineering students, they could also use this streamlined service to contact module leaders their interests and written applications as to why they would like to take this project. If applicable, there could be interviews if the module leaders felt it necessary and have the time. This could result in better performance and student satisfaction on all projects.
Selecting and allocating suitable	Currently there is no formal interview process, when using PATS, depending on the supervisor the process will be different. If a project has	In the future, I recommend the platform implements a clear application process to help students and educators receive the best experience finding a

students for the project	<p>enough scope, multiple students can work on variations of the project. In these circumstances, there may be a lot of interest, resulting in students conducting proposals of interest to select the best candidate.</p> <p>Alternatively, supervisors may prefer to have an initial discussion with the students to preview their ideas, interests, and experience. For other projects based directly into Undergraduate or postgraduate studies, these projects would be allocated based off experience and preferences set by the students. This may result in students not getting their first choice based on module performance or past experience.</p>	<p>project. This could be different for each type of project but a process all students could follow and be briefed on could consist of a written application for their preferred projects and a short interview phase for the shortlisted candidates. From experience with PATS, many students were confused over what was required to show interest and gain a relevant supervisor as each supervisor had different methods to allocating the project slots. When the process is streamlined, the candidates and project will be of a higher quality. The same concept can be used for module assessment projects for third year and MSc Software Engineering,</p>
Providing feedback during the project meetings with partners and supervisors	<p>Currently, the client meetings on average every 2 weeks. Meetings are based on show and tell, teams show their progress with the projects, then receive constructive feedback and gather additional requirements. The supervisor meetings consist of formative feedback with support and a formal review of progress of the team members. Depending on the size of the project, the amount of team members and purpose of the project, differences in meeting frequency and methods can occur.</p>	<p>For the future, I recommend the new platform will have the ability to leave formulative feedback at each milestone stage, this could be after every checkpoint meeting, the feedback would be posted privately to the students inside the platform. The written feedback and aims of the project will help students reflect on each stage to improve project quality. Each review would have written feedback from supervisors and partners alongside recorded verbal feedback if consented to by all parties.</p>
Communicating between partners, students, and supervisors during the project through chat interface/email and meetings	<p>Students are recommended to communicate on Microsoft Teams as the supervisors and moderators have access to this form of communication. The supervisors and moderators also have access to the teams shared Gitlab repository to see contribution and progress. Often, there will be a dedicated chat to client channel, particularly if there are multiple teams working on the same project. Other communications would be conducted through emails between students, supervisors and partners.</p>	<p>To improve the communication between all parties, the new system should have a centralised live chat or messaging system integrated into the Industry and Student Engagement System. This would improve communications and efficiency by keeping everything in one place. This could be further integrated to send email reminders when there are messages received. Better communication between partners, students and supervisors will improve project quality and partner satisfaction by providing more feedback and accurate deliverables. Altogether, this would improve user experience for everyone.</p>
Giving feedback after the project has finished and accredit the students with accolades to be shown on the platform	<p>Students are given consistent feedback in the regular meetings from supervisors and client, this continues after the project is complete also. Students will also be assessed on their projects based on their respective assessments, the project deliverables and reflective report will differ based on MSc or undergraduate assessments. For smaller projects, module leaders will assess this. For larger projects, the supervisors and moderators will assess the students. The assessments will also receive formulative feedback for each student.</p>	<p>I recommend that students would have the ability to use post-review feedback as part of their portfolio and profile on the platform. With integration with events, placements, jobs, this would significantly improve the student's ability to stand out and increase chances of being accepted for these schemes. The assessment results and project could also be shown to future employers if the students could apply for a 'Consent to share' from the partners. The system could also create a badge system with hidden ratings for students' performance, teamwork, dedication which optionally could be displayed if the student chooses. All accreditation from the assessment and experience can be useful on the platform.</p>



Threat of New Entry

- Low threat of entry as there is little brand loyalty in the private opportunities tracking industry. The partnership with Cardiff University will increase our brand loyalty and improve our unique position in the marketplace.
- Cardiff universities expertise, experience and reputation would be a massive advantage over competitors. With an influential and reputable name, Cardiff university is a trusted brand nationwide.
- There are little companies that combine all the services that Cardiff university would provide, backed by the university's economies of scale and access to the best technologies, there is little competition for this niche.
- Ultimately, there is a high barrier to entry for competitors, this service requires expertise in many areas (Projects, job fairs, placements etc). Alongside a requirement for large-scale investment, access to high skilled workers and the best technologies.

Threat of New Entry

Competitive Rivalry

- Competitive rivalry is relatively low in this industry as there are few competitors in the same space that can compete with the expertise and economies of power. There are many universities who use multiple services and adapt them for private purposes. This would be a unique package to efficiently manage all outlets in a centralised system.
- Market size is low to medium with a potential for huge market growth and space to increase our market share.
- Our product has high differentiation, with little to no services that provide this commercially as a whole centralised package.
- Brand loyalty is also a huge strength for Cardiff university, the only competition would be other universities with high brand loyalty trying to compete by creating a similar product.
- Established companies expanding into other areas could also be a threat such as Riipen and LinkedIn, but as these are currently public, open options, this is a relatively low risk.

Supplier Power

Competitive Rivalry

Buyer Power

Supplier Power

- In our case, the suppliers we rely on will be server hosting companies and potentially agencies for hiring skilled workers.
- There are a large amount of suppliers for our purpose, the cost of switching is low besides migration time. There is little variety and differentiation between the suppliers. With a vast market of suppliers, the supplier power is low and competitive, resulting in stable and reliable profits.

Threat of Substitution

- There are little to no popular substitute products that can offer the wide range of services that our product can deliver. This will lower the threat of substitution and keep profit streams high.
- Customer loyalty to Cardiff using pre-existing partnerships while being a well-known university will limit the extent of the threat.
- The lack of availability in the market will also limit the threat.
- As this is a technologically advanced strategy, we can easily adapt to the latest technological strategies to avoid being substituted.

Threat of Substitution

Buyer Power

- There are around 165 universities in the UK alone, the service could also be expanded to colleges or expanding in geographical area to attract a wide range of customers. This would lower buyer power and keep profits from being manipulated or unpredictable. In addition, this is an online service and can be accessed worldwide.
- Large scale reputable brands such as world renown universities would have influence and pressures to improve their contracts.
- Although there is a gap in the market for a service to excel at all the services we provide, the customer has options to switch providers or manipulate prices in their favour for other individual services.
- Contracts would be based on the buyers' interest in the service, when the contract terms are set, the profit margins will be stable from that buyer. The ideal customer base has less sensitivity to pricing, although access to existing pricing is very accessible to them.
- The collective bargaining power of buyers is low to medium.

Reflective report – CMT312

During preparation for the first assessment, we started group work with randomly selected students. Initially, I was nervous and hesitant regarding the level of my peer's background knowledge around these topics and worried if they were not eager to contribute or be outspoken. I was met with an array of emotional responses while working with this team, only two of the six students verbally contributed during our virtual meetings, while the others remained muted or absent. This was demoralising as I anticipated a collaborative approach, but the lack of engagement resulted in an additional responsibility, leading the team, and facilitating our tasks. Overall, the quality did not meet the potential that a cooperative group could achieve, but fortunately the assessment was individual, and I was confident in my capabilities to research and reflect on my learning.

The lean canvas was an effective and efficient way to plan business strengths and structure. I would use this tool in the future as I found it made me think analytically about the more important features regarding my business while answering the questions that we are trying to solve in the market. Furthermore, the risk assessment is a crucial part of any business planning venture, this made me enthusiastic to analyse all threats to a business and create a map of how likely the threats were to our company.

I learned to become more confident in unfamiliar teamwork exercises where there is limited leadership. I became experienced with involving members of the team, creating an environment of trust in order to increase engagement and collaboration. These skills are important to any teamwork environment to create a productive and inclusive team and will be used as a reflective experience to build on while I progress into the working market. In conclusion, I achieved 83% in this assessment and was extremely pleased with the feedback.

For the second assessment, we formed our own groups, which I believe was a positive influence on productivity. I realised that for students who were adjusting to the current cultural context that this could be daunting, especially with the ever-present language barriers. I wanted to create the most beneficial team for my learning. I was pleased with this team, everyone was respectful, honest, and hardworking. This was a great experience to share opinions, culture, and background knowledge.

As we started work on the Use Case Diagram, we found it difficult to include all the features, importantly, discussions remained polite and constructive despite the challenge. When we had to delegate a use case to each member, this was quite uncomfortable as multiple members desired to choose the same use case that they perceived to be easier. To resolve this, we discussed what each category would involve and let the members choose their second favourite option each, resulting in the members resolving it between themselves. Productive discussions and resolutions are a key part of any group work which I reflected on and added to my experience. During these tasks, I and another member would be the main driving force to create discussion, involvement, and curiosity in the tasks. Compared to the first team, this created a beneficial arrangement where the whole discussion wouldn't solely rely on myself.

The IT management strategies used in this assessment were all new to me, storyboards were a slight relief, where it felt more familiar. Through analysing the core important features in our user story, I created a story to include how they could help a user, showing emotion throughout. Finally, software product quality requirements were the most difficult for me, I was uncomfortable with how to write these initially. My team helped to create the structure and initiate the first software requirements, we then delegated each section to a team member and reviewed each other's work. The following constructive feedback resulted in me making positive changes to my work.

Although the third assessment was an individual portfolio, our group continued to meet consistently to decide on which business process we each wanted to cover. I decided to choose the activity diagram illustrating the job finding process of our system. After planning and completing it, I was given feedback from an academic explaining that this business process is not relevant enough to the scenario, which resulted in me starting over. This made me feel lost, after reflection I realised that I could use what I learned from the first diagram. Overall, it was a frustrating process, but I researched multiple processes and practiced my skills. I think the activity diagram is a valuable tool for planning out how a process will work while considering all possibilities that need to be covered.

For the data model, I choose UML class diagrams as I have encountered Entity-Relationship models during our database module. At first, I struggled to create a highly relevant diagram, during research I found many variations of the UML class diagram. I felt confused about which format was correct, but I learned that there were some core similarities and fundamentals, so I chose what I thought would create the best diagram for this scenario. I realised I read the brief incorrectly by adding functions to the model which did make the process more confusing for me, after academic review, I removed those.

Finally, I chose to complete my competitive analysis using Porter's five forces. I researched every method on the slides and in conclusion, I found that Porter's methods were the best for competitive analysis. Porter's four corners seemed to be the best for comparing to a direct company while Porter's five forces were comparing against the whole industry, honourable mention to Porter's Value Chain which is also very useful but required a lot of assumptions which made me less comfortable. Although no tool is the best in all situations, Porter's five forces seems more focused on more physical products with suppliers and buyers, I interpreted suppliers as online servers, therefore making the model fit my scenario better. Other models like the force field analysis looked very useful in comparing a start and endpoint but didn't look suitable for analysis against competitors.

Overall, the experience in this module has been enjoyable and useful for my character development. I have enjoyed learning about these business processes alongside the methodologies, and in the future, I will reflect on all the experience I have gained while adding new experiences to compare them with. I have learned when to use certain tools to answer business questions while also learning how to predict profitability in the industry I intend to work.

My first recommendation to promote teamwork would be to let students pick their teams earlier, this would hopefully avoid a student's sense of dread to work in a team as they could choose to work with at least one friend or colleague they have spoken to before. They would be more enthusiastic to work, this would also prepare them better for the group assessment. The negative consists of not getting realistic experiences such as a workplace, you would usually be put into a team of unknown people. In my experience, I met a couple of great friends and team members through the random teams but overall, most students' experiences were negative and made them lose motivation at the start of the module. As Thamhain and Wilemon (1979) discuss, team personnel selection can be a barrier to team building, alongside a lack of team definition and structure during the first meetings.

Secondly, I would recommend creating smaller teams on average for students to be able to focus on the module tasks more than managing people, preferably an equal number between 4-6 is the ideal group to delegate exact roles between them. Katherine Klein (2006) from Wharton University believes the widely accepted ideal size for a working team is five people. If you go beyond five people, the team starts to lose individual performance. "Above and beyond five, and you begin to see diminishing motivation," says Mueller (Klein, 2006).

Finally, I believe more time for ice-breaking activities based more on enjoyment and getting to know your peers would greatly benefit the morale and motivation of the teams. A simpler first icebreaker would get students to relax more and become more friendly before work starts. We were initially thrown into a team agreement exercise with the randomly assigned teammates, this was confusing for some of the students and reinforced that barrier of not speaking as it felt like a formal business meeting. Hopefully, in the future, the teams would have more chances to meet up in person and this could help some students become more engaged also. Icebreakers as simple as 'Find 10 things in common' could be a great teambuilding exercise using Miro sticky notes and invoking conversation between students, this would help break down the barrier between the formality and seriousness.

Overall, the group work experience I had was very pleasant and productive but that is ultimately down to choosing my team and I don't believe all teams were as productive or enthusiastic to work on these projects.

References

Klein, K. 2006. *Is Your Team Too Big? Too Small? What's the Right Number?* Available at: <https://knowledge.wharton.upenn.edu/article/is-your-team-too-big-too-small-whats-the-right-number-2/> [Accessed: 20 April 2022]

Thamhain Hans J. and David Wilemon, "Team Building in Project Management." in Proceedings of the Annual Seminar/Symposium of the Project Management Institute. Atlanta, Georgia. October 1979 .