EVALUATION OF THE COVID-19 CRISIS MANAGEMENT AT THE UNIVERSITY OF TWENTE: THE FIRST PHASE OF THE COVID-19 CRISIS

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Cover Picture: Campus of the University of Twente

Summary

At the request of the Executive Board of the University of Twente, a study was conducted to evaluate the management of the consequences of the first phase of COVID-19 at the University of Twente. It concerns the period from March 1, 2020 to September 1, 2020. The aim of the study is to learn lessons for the follow-up period of the COVID-19 crisis but also for other possible crisis situations that may occur in the near future at the University of Twente.

The following activities were undertaken in the process of evaluating the first phase of the COVID-19 crisis at the University of Twente (UT):

- a. Document study of the minutes and decision lists made by the Central Crisis Team (CCT) and the COVID-19-CvB (C-CvB) as well as the recommendations issued by the UCB-C, the CCOZ, the CCOW and the 1.5-metre Steering Group and 1.5-metre Working Group;
- b. Interviews with members of the COVID-19 crisis organisation that was set up by the UT;
- c. External interviews with the Twente Safety Region and TU Delft;
- d. Writing of the evaluation report on the management of the COVID-19 crisis.

After a short introduction in Chapter 1, Chapter 2 explains how the management of the COVID-19 crisis was organised at the UT. Chapter 3 provides details about five critical events that happened during the first phase of the COVID-19 crisis at the UT. Based on the results of a formal evaluation, the general conclusion that the University of Twente has been able to successfully survive and manage the first phase of the COVID-19 crisis is deemed justified. An explanation of this general conclusion can be found in Chapter 4. This report ends with Chapter 5, in which the main conclusions and recommendations are listed.

With respect to the management of the COVID-19 crisis several positive observations can be made:

- Early recognition
 - As early as January 2020, an HR-CES COVID-19 project group was set up to assess the possible consequences for the UT if the COVID-19 crisis reached the Netherlands. Based on the signals that the project group was able to collect, the Executive Board decided to initiate the Central Crisis Team. The first official CCT meeting took place on February 27, 2020.
- Sensemaking

education.

- Through active participation in the VSNU, the UT was well informed about national developments and imminent COVID-19 measures by the national Government, the RIVM and the Ministry of Education, Culture and Science. The UT was also well aligned with the Twente Safety Region organisation.
- Making critical decisions
 - The CCT (and later also the C-CvB) were very decisive in taking a lot of effective COVID-19-related crisis measures. Particularly the decision to halt education activities for one week to prepare for the transfer towards online education worked very well. The decision to maintain various software applications (like Teams, Bluejeans, Canvas etc.) in parallel, was a wise decision in terms of creating and maintaining safety redundancy and diversity conditions.
- Orchestrating vertical and horizontal coordination
 The decision to delegate operational activities by transforming the existing consultation forums
 UCOW, UCOZ, UCB into COVID-19-focused consultation forums CCOW, CCOZ, C-UCB appeared effective.
- Reliance on critical systems
 The lockdown of the UT necessitated a switch to working from home. This made the availability of a safe working IT infrastructure a very critical system. The UT realised a successful transfer to a completely online work process and a successful transition from in person education to online

With the partial reopening of the UT buildings (in accordance with the RIVM guidelines by keeping 1.5 metres distance and consequently utilising only 40% of the available capacity) the UT has positively distinguished itself from the other universities in the Netherlands.

- Meaning making

The CCT (and later the C-CvB) took a clear position and a strong line by following the RIVM guidelines. This made decisions recognisable for UT employees and students. The UT community was kept informed about necessary steps being taken via regular COVID-19 briefings. The involvement of the SU in the COVID-19 briefing preparations worked very well to ensure that the briefings also provided answers that were relevant to the student community.

- Communication

The UT community was regularly informed through communication briefings. All critical decisions that were taken by CCT (and later C-CvB) were explained in the communication briefings that were sent out to employees and students. The briefings predominantly combined a factual and empathetic communication style. Reporting on education-related issues was done in close cooperation with the CCOW and SU. Employees and students were reached via email, twitter, facebook and by setting up a permanent "Coronavirus" site on the website of the UT with Frequently Asked Questions (FAQs).

Of course, as in any crisis that has to be managed, there are always areas for improvement. The most important suggestions for improvement are:

- The internationalisation of the UT

In the past 6-8 years the UT has undergone enormous internationalisation. As a result, cultural differences have widened. Although attention has been paid to this in the past few years, the COVID-19 crisis has demonstrated that for successful crisis management it is important to take into account an international frame of reference and the cultural differences within the UT community.

For example, international students and international staff members took WHO guidelines and the guidelines within their own country as their primary frame of reference and were often astonished by the RIVM guidelines that were followed and expected more severe measures.

- Follow up and implementing critical decisions
 - What appears somewhat remarkable, is the lack of a track and trace system to follow up the progress of decisions that were made by the CCT and later C-CvB. Implementation of such a system may prevent losing sight of the follow up and implementation of important decisions.
- Vertical and horizontal coordination

What has been missed is the involvement of the deans in the management of the first phase of the COVID-19 crisis.

A too stringent vertical approach in disseminating information risks information not being forwarded (e.g. because a programme director is on vacation). Then the target group will not be informed and will consequently be deprived of sometimes vital information.

When implementing the 1.5-metre university at the UT, a lack of horizontal coordination between faculties was observed. In meetings with the C-UCB and with deans, the Executive Board could focus on the importance of better aligning the implications of decisions taken by CCT and C-CvB. It would also be helpful if faculties share their best practices in these meetings.

Meaning making

Too little attention was paid to alternative scenarios that could have happened and the use of external expert analyses. For example, with respect to the possible duration of the crisis and related options for action. And alternative options for UT to secure continuity of education and operations in case a serious cyberattack occurred were missing.

- Communication

Prior to the official release of important communication briefings, it is advisable to check the message with the target group regarding reasoning and clarity of the message. This will increase the support base of the message in the target group.

A reflective attitude on decisions made
 With respect to the accountability of decisions that are made or need to be made, it is also important to consider and reflect on the ethical, economic, legal, administrative and ecological consequences, not only in the short term, but also for the longer term. Reflecting and communicating on these aspects will help to better underpin and justify these decisions and will strengthen the support base within the UT community for the decisions that are made.

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Chapter 1. Introduction

This report describes the evaluation of the management of the first phase of the COVID-19 crisis at the University of Twente (UT). It concerns the period from March 1, 2020 to September 1, 2020.

The measures announced by the Government during the first phase of the COVID-19 crisis had a major impact on education, research and administrative processes at the University of Twente. For the management of this impact, the Executive Board decided to set up a Central Crisis Team (CCT). The CCT decided to organise the crisis management via the already existing consultation forums at the University of Twente. For example, the existing University Committee on Education (UCOW) was transformed into the COVID-19 Committee on Education (CCOW), the University Committee on Research (UCOZ) became the COVID-19 Committee on Research (CCOZ) and the University Committee on Operational Management (UCB) with the managing directors was renamed as UCB-COVID-19. In preparation for the transition from the complete lockdown of the university to a partial reopening of the university, a 1.5-metre Steering Group and a 1.5-metre Working Group were also established on May 20, 2020.

To learn from the way in which the University of Twente shaped and implemented the management of the COVID-19 crisis during the first phase of the COVID-19 crisis, the Executive Board decided to have an evaluation study carried out. The following activities were undertaken in the process of evaluating the first phase of the COVID-19 crisis at UT:

- a. Document study: reading, among other things, the minutes and decision lists made by the CCT and the C-CvB and the recommendations issued by the UCB-C, the CCOZ, the CCOW and the 1.5-metre Steering Group and 1.5-metre Working Group;
- b. Interviews with members of the COVID-19 crisis organisation that was set up by the UT;
- c. External interviews with the Twente Safety Region and TU Delft;
- d. Writing of the evaluation report on the management of the COVID-19 crisis.

Chapter 2 examines the way in which the management of the COVID-19 crisis was organised by the UT. This chapter describes the activities undertaken by the Central Crisis Team (CCT) and later the COVID-19 Executive Board (C-CvB), the CCOW, the CCOZ and the 1.5-metre Steering Group and 1.5-metre Working Group, respectively.

Chapter 3 explains a number of crucial moments that occurred during the first phase of the COVID-19 crisis at the UT. These are the Open Days that were planned to be held on 12, 13 and 14 March 2020; The lockdown of the buildings of the University of Twente; The partial opening of the laboratories at the UT; the partial reopening of the buildings at the University of Twente; and the organisation of the Kick-In.

In Chapter 4 overarching conclusions are drawn regarding the degree to which the University of Twente has been able to manage the first phase of COVID-19 crisis. A conceptual model is used to evaluate the crisis sustainability of the UT while the most important tasks of the management of the COVID-19 crisis are evaluated by using the evaluation assessment framework developed by Boin et al. (2014).

Chapter 5 ends with the main conclusions and recommendations of this evaluation study.

Chapter 2. The organisation of the crisis management at the UT

This chapter briefly describes the activities undertaken by the Central Crisis Team (CCT) and later the COVID-19 Executive Board (C-CvB), the CCOV, the 1.5-metre Steering Group and 1.5-metre Working Group, respectively.

In January 2020, when it was still uncertain whether the COVID-19 virus would reach the Netherlands, a working group was set up on the initiative of the Human Resources department (HR) and the Centre for Educational Support department (CES) to assess the possible consequences for the UT if COVID-19 did reach the Netherlands. In that initial period, attention was mainly focused on UT students and staff who had been in areas contaminated with COVID-19 such as Wuhan in China. In January 2020 there were all kinds of questions about how to get students and employees who were in China and other Asian countries back to Twente. Within the COVID-19 working group, there was a focus on keeping track of all COVID-19-related developments and an environmental analysis was made based on this. Based on the signals that the working group was able to collect, the Executive Board was advised to set up a Central Crisis Team. At the time, much was still unclear about COVID-19.

2.1. The initiation and organisation of the Central Crisis Team (CCT)

The first official meeting of the Central Crisis Team (CCT) of the UT took place on February 27, 2020. The central item on the agenda during this first CCT meeting was the question: "What steps should be taken if the coronavirus reaches the Netherlands and the Government decides to partially or completely shut down Government institutions?" During this first consultation, the decision was made that the UT would follow the policy of the national Government or the RIVM. The expectation was also expressed that in the event of a pandemic, the Safety Region of Twente would quickly adopt the policy to be pursued by the UT. The minutes of this first official crisis meeting show that various actions were decided:

- Asking additional questions of the Twente Safety Region regarding campus accommodation since self-quarantine would be difficult to achieve in student housing clusters;
- Checking with other universities about how they would deal with student housing;
- Making contact with the housing association De Veste;
- Being able to reach students quickly by means of communication by email, twitter, facebook and setting up a permanent "Coronavirus" site on the website of the UT;
- Drawing up a manual for lecturers on how to give digital lectures, have material posted online, use LMS / Canvas to share study material with students;
- Asking students who had been in China and / or Hong Kong during the lockdown there, about their experiences when no more lectures were given there;
- Initiating coordination consultations with the ROC and Saxion;
- Blocking all personnel access cards in the event of a UT lockdown;
- Finding out what it would mean if laboratory research was stopped for a long time;
- Compiling a list of third parties in order to inform them, such as the UPark hotel, the Gallery, the Supermarket, the Hairdresser and the Employment Agency;
- Providing instructions so that during a possible lockdown, the UT was able to continue to function via conference calls and working from home;
- Purchasing special clothing for Security and Emergency Services (Company Aid Assistance), such as face masks, disinfectants, glasses, gloves and aprons: a COVID-19 kit;
- Discussing with the VSNU what to do if Open Days cannot take place;
- Offering leniency regarding the application deadline of May 1, 2020 for international students because a number of the international test institutes were closed and applying for a travel visa was no longer possible everywhere;
- Registering infections among students via the faculties;

Drawing up a hygiene protocol and increasing awareness among employees and students.

2.2. The switch towards an online-driven university

The lockdown of the university necessitated a switch to working from home. All work and meetings of staff and lecturers had to be done online from home. The UT turned out to be well prepared in terms of digitisation. However, there were some problems caused by dependencies outside the university: the transition to a digital society caused capacity problems at Microsoft and hardware delivery problems also arose. To avoid a one-sided dependence, the UT chose to keep various applications for work consultation running in parallel (Teams, Bluejeans, Canvas conferences, etc.).

During the first phase of the COVID-19 crisis, the number of cyberattacks was higher than in the pre-COVID-19 phase. However, digital security was not endangered as long as the UT servers were used. For all software purchased from Citrix, the UT software was up to date. This made the UT less vulnerable to a security breach. The UT was able to quickly use backups and had learned from the cyberattack that took place at Maastricht University in December 2019. One potential point of concern was that employees started working from home for a longer period of time. This created an extra risk in the event that an employee would not update the existing software on their laptop in time. However, the damage sustained during the first phase of the COVID-19 crisis was limited.

2.3. The communication from the crisis organisation setting

All central communication messages of the CCT were drawn up in close consultation with the chairman of the CCT. All messages released were signed by the CCT chairman, who took ultimate responsibility for this. With all central communication messages, there was a conscious consideration of combining factual information and empathetic communication. After all, the closing of the university had a major impact on both staff and students.

Reporting on education was drawn up in close consultation with the CCOW. When reporting, the aim was to avoid redundant information as much as possible and to tailor the information to the target group. Examples of this differentiation are the reporting on the bachelor's-before master's rule (harde/zachte knip) that was of great importance to students and the reporting to workplace supervisors about their specific leadership role in the COVID-19 period. There appeared to be a great need among teachers to know what was being communicated to students.

A delaying factor in the reporting was the bilingual information provision. Due to the necessary speed in decision-making during the COVID-19 crisis, the required checks & balances were occasionally missing (for example: has a legal check been performed?). As a result, decisions in implementation sometimes had to be adjusted. Within the Marketing & Communication (M&C) department, the central back office communication team ensured that the CCT was informed with environmental analyses and relevant information that could be found on social media. In addition, the M&C department also compiled a COVID-19-related overview with frequently asked questions (FAQs) and answers to these questions. These FAQs were regularly updated and posted on the UT website.

Information was shared with the University Council (UC), but in the opinion of the chairman of the Executive Board, this could have been done at an earlier stage. However, the chairman of the Executive Board and CCT regularly called the chairman of the UC to keep him informed. From March 19, 2020, the CCT decided to summarise and formalise all decisions taken so that this would be easier for the UC to follow. It was also decided on March 19, 2020 to properly record all documents, communication and WhatsApp messages in connection with possible future Hotspot and Wob requests (Wet openbaarheid van bestuur). The last meeting of the CCT took place on April 24, 2020. The COVID-19 crisis meeting then took place weekly in an extra scheduled meeting of the Executive Board, the C(orona)-Executive Board. The UC was also normally involved in the process again.

2.4. From CCT to C-CvB

The starting point for the termination of the CCT and the establishment of a C-Executive Board (C-CvB) was to return to the usual working method of meetings of the Executive Board as much as possible. The first meeting of the C-CvB took place on April 28, 2020. A summary of the decisions taken by the C-CvB was posted weekly by means of a short message on the website of the Executive Board. The focus in the deliberations of the C-CvB shifted from taking measures resulting from the complete lockdown of the university to making provisions to enable a partial reopening of the university. Important topics during the C-CvB deliberations in this regard were:

- The conversion of the "hard cut" between the bachelor's and master's programmes into a "soft cut" for the 2020-2021 academic year for third-year bachelor students.
- The conditional admission of pre-master students to the master's programme in the academic year 2020-2021.
- Allowing small-scale education-related activities on campus from June 15, 2020.
- Allowing evening classes at the UT.
- An adapted arrangement for the PhD sessions to be held (choice between a fully online PhD meeting or a hybrid PhD meeting).
- Arrangements for international non-EU students related to COVID-19-related delays.
- Conducting a well-being survey among employees and students.
- The establishment of the 1.5-metre Steering Group and the 1.5-metre Working Group in order to make the aisles, offices, lecture halls and other facilities on campus "COVID-19 proof".
- Approving the protocols and procedures proposed by the 1.5-metre Steering Group and the 1.5-metre Working Group to allow the various teaching and research activities to take place in the new academic year 2020-2021.
- Appointing a COVID-19 coordinator at the faculties and service departments of the UT.
- Granting permission to U-Diagnostics to open a COVID-19 test location on the campus of the UT.
- The partial reopening (40% capacity) of university offices to university employees.
- The partial reopening (40% capacity) of buildings on campus for education in the new academic year 2020-2021.
- The partial reopening (40% capacity) of laboratories for the purpose of research.
- The organisation of the Kick-In, the introduction for prospective students, which lasted from Wednesday, August 19, 2020 to Sunday, August 26, 2020. Due to the prevailing COVID-19 measures, an adjusted organisational structure was necessary.
- Facilitating the purchase of workplace supplies intended for UT employees to allow employees to work from home in an ergonomically responsible manner for a longer period of time.
- Mandatory wearing of face masks in the buildings on the campus of the University of Twente.

2.5. Consultation with the Safety Region Twente

There were already many informal contacts between the UT and the Twente Safety Region, so it was easy to switch during the first wave of the COVID-19 crisis. The UT was in regular contact with the core team of the municipality of Enschede. Primary safety-related questions were taken up by the municipality of Enschede and, where necessary, diverted to the Twente Safety Region. In the external communication provision, good coordination took place between the UT and the Twente Safety Region. After a cluster of six COVID-19 infections occurred in the Hogekamp building on the UT campus at the beginning of July 2020, the GGD carried out a source and contact investigation. In the case of the COVID-19 outbreak in the Hogekamp building at the UT, in the opinion of the Safety Region of Twente, the UT took the necessary proactive actions. Measures were also taken regarding isolation and quarantine. It was therefore not necessary to close the campus.

The permits from the Safety Region of Twente for the Kick-In (the introduction week for first-year students at the UT that was to take place from August 19, 2020 to August 26, 2020) were only issued at a very late stage. At the municipality of Enschede there was reasonable concern that the "Kick-In"

could get out of hand. This concern was partly prompted by the threat of additional Government measures regarding introductions to universities and colleges. The permission request was then scaled up to consultation at a higher level. During this consultation with the Safety Region of Twente, the Executive Board asked a member of the SU to explain how the SU wanted the introduction period to run in a responsible manner. In the opinion of the Safety Region of Twente, the scenarios drawn up by the Kick-In Committee were well developed with well secured protocols per activity. It was decided that the Kick-In could go ahead and the UT was given a lot of space and confidence to organise the Kick-In.

The partial reopening of the University of Twente on September 1, 2020 at the start of the new academic year was not discussed at the crisis table of the Twente Safety Region. It all happened in accordance with national rules.

2.6. Consultation in the VSNU setting (Association of Universities in the Netherlands)

During the first phase of the COVID-19 crisis, the CCT (and later the C-CvB) made use of the input it received from the VSNU. The VSNU had direct (mainly online but also in person) consultation with the Minister of Education, Culture and Science. The chairman of the Executive Board maintained contact with the chairs of the other universities within the VSNU. And the vice-chairman of the Executive Board, also vice-chairman of the VSNU's Operational Management and Finance Steering group, maintained contact with her colleagues. As a participant in the national platform Integrated Security of the VSNU, ir. Jan Evers of the UT was able to exchange relevant information and experiences with colleagues from the national platform. In this way, the UT was well informed about national developments and imminent COVID-19 measures by the Government, the RIVM and the Ministry of Education, Culture and Science. This offered the UT the opportunity to act quickly as soon as a measure was announced. The mutual cooperation between the Dutch universities during the COVID-19 period was not only important to share the COVID-19-related policies that took place at the different universities, but it also offered the opportunity to stand together. This made negotiating between the VSNU and the Ministry of Education, Culture and Science (OCW) easier.

The RIVM guidelines have been important for all universities as a reference and as a guideline. In addition, the Ministry of Education, Culture and Science and the VSNU issued service documents (OCW) and protocols (VSNU). The service documents contain nationally agreed measures, such as the national agreement regarding the Binding Study Advice, which was postponed by one year to the second year of study. This included minimum requirements that the students had to meet in the first year. Other examples of nationally agreed measures were the possibilities for resuming research activities and for resuming small-scale in person educational activities and in person examinations taken on location. The UT was one of the few universities that committed itself to having in person education again as soon as the possibilities emerged.

2.7. The CCOW

The CCOW was fully focused on the COVID-19 crisis and the consequences of the lockdown for education. The CCOW met for the first time on March 17, 2020. It was agreed within the CCOW to set up five working groups to jointly organise the transition to digital education. It concerned the following working groups:

- 1. The transition to online provision of education;
- 2. Administering tests and exams online;
- 3. Student welfare;
- 4. The central education regulations;
- 5. Dealing with the learning outcomes of the programmes.

The proposals from the working groups were discussed within the CCOW and, after approval, passed on for approval and adoption by the CCT (and later the C-CvB). It also happened that the C-CvB asked for advice from the CCOW on education-related matters.

2.7.1. The transition to online education

For the purpose of the transition from in person education to online education, education was completely shut down in the week of 16 to 20 March 2020. This was done to enable a good preparation for the switch from in person to online education. For this switch, many new solutions had to be devised or learned and actually implemented. Not only has this required a lot of extra work from lecturers, the service organisations LISA, CELT and the TELT team also made an enormous effort to make the transformation a success.

For the new academic year, the aim was to make a transition to a so-called hybrid form of education in which some of the students are in person present at the UT and other students attend a lecture from home or another location. Hybrid education presented the UT with a number of new challenges. Firstly, it is important that the lecture halls are equipped with the required audiovisual facilities to enable hybrid education. In working to provide all lecture halls with audiovisual resources to enable hybrid education, delivery delays were caused due to the large run on this type of equipment. The delivery and installation problem of the audiovisual aids in the lecture halls at the UT was partly solved before the start of the second quartile of the 2020-2021 academic year. In addition, providing high-quality hybrid education also requires a further professionalisation of the lecturers in the use of these audiovisual resources. They need to build the skills to engage and inspire both the students in the lecture hall and the students connected online during the lecture, using the new audiovisual tools.

2.7.2. Taking tests online (remote assessment)

Online examinations have been used in some situations since the start of the COVID-19 crisis. A tricky aspect of taking exams online is the susceptibility to fraud. This is a potential problem, especially with large-scale mathematics exams in the bachelor's degree. Lecturers discovered forms of fraud after a retrospective statistical check during an online mathematics exam in the computer science programme. Aside from the fraud that occurred in the maths exam, online testing has generally gone quite well. Proctoring (online monitoring during a test) could be a possible solution to combat fraud. Because the proctoring tool was perceived as not 100% reliable to prevent fraud and because of the possible violation of privacy rules, the UT decided not to use proctoring. The UT was the only Dutch university that did not use proctoring during the first phase of the COVID-19 crisis. Instead of proctoring, the UT chose to have students sign an integrity statement in writing that they would not commit fraud. The UT has now decided to apply proctoring in a controlled manner and thus build up experience with it.

2.7.3. The Student Welfare Working Group

The already existing "Student Welfare Project Group" was essentially transformed into the Student Welfare Working Group mainly had a signalling function, but was also used to get things done in practice. For example, the working group raised problems related to the precarious financial situation in which many international students ended up and contributed to the development and implementation of a financial emergency scheme for students and the organisation of the preventive quarantine in the summer period. In addition, various contributions were written for the FAQs that were placed on the UT website. A well-being website was set up by the student psychologists. The working group also took care of internal communication with study counsellors and also retrieved relevant information. Members of the working group were involved in the organisation of the Kick-In and the preventive quarantine in the summer.

A survey among students conducted by the Student Welfare Working Group showed that there were major differences between the different groups of students in terms of safety perception. In general, Dutch students appeared to feel safe, in contrast to international students. Members of the latter group also often had concerns about money, concerns about their own family and about existing travel restrictions. Some of the international students even had to get food stamps after their

scholarships ended and they ran out of money. The Executive Board decided to set up an emergency fund for students whose scholarships had suddenly been discontinued. Information about the financial arrangements was shared with the study counsellors. The SU took responsibility for issuing the food stamps. In addition, the SU committed itself to help students who unexpectedly had to be quarantined by means of a buddy system with shopping etc.

2.7.4. The working group central schemes

This working group has focused on two important regulations in education: the Binding Study Advice (BSA) and the existing hard cut between the bachelor and master programmes. Due to the COVID-19 crisis, there was a chance that students could be unintentionally delayed. Universities and colleges have taken into account the special situation in which students followed their studies. Within the VSNU it was decided that all Dutch universities would apply leniency measures for the BSA. The UT opted to postpone the BSA completely until the end of the second academic year and to adjust the hard cut between the bachelor's and master's programmes for the 2019-2020 academic year. In addition, the working group on central education regulations has drawn up a scheme for non-European students who could not graduate nominally due to the consequences of the COVID-19 crisis and therefore ran into financial difficulties (institutional tuition fees and end of grant).

2.7.5. The working group dealing with final attainment levels of educational programmes

The working group "Final attainment levels of the educational programmes" was set up to analyse the extent to which achieving the intended attainment targets of the various bachelor and master programmes of the UT would be jeopardised by the necessary adjustments in education during the first phase of the COVID-19 crisis. This could potentially also jeopardise the quality of the diploma to be awarded. The working group, in collaboration with the various examination committees, determined that a number of the learning objectives in some of the subjects could not be achieved during the first phase of the COVID-19 crisis, but that, in principle, this did not have to have any consequences for the learning outcomes of the respective programmes. One of the solutions chosen was to shift some learning activities over time. For first-year students who have to follow practicals in one of the laboratories at the UT, it was decided to adjust the existing prioritisation of the use of the laboratories in the new academic year 2020-2021 so that students would be able to carry out practicals on a conforming basis to follow the RIVM guidelines safely.

2.8. The CCOZ

The main task of the CCOZ was to issue advice on the partial reopening and occupation of the laboratories at the University of Twente. Not all laboratories were closed during lockdown, some had to remain "on sleep mode". For example, in a few laboratories there were also cells in culture that had to be fed. The cleanroom of the NanoLab was already closed before the Executive Board had decided on the complete lockdown. The closure of the cleanroom was soon followed by responses from companies that use the cleanroom. The cleanroom is essential for these companies because their survival depends on the production that takes place in the cleanroom. These companies indicated that it could potentially lead to bankruptcy with possible damage claims by companies as a result.

Besides NanoLab related businesses, start-up companies that were using laboratory facilities were also confronted with the closure of the laboratories. The start-up companies were not informed about the closure of the laboratories and thus ended up in front of a closed door. Through inquiries via professors with whom these start-ups maintain contact, they found out about the closure of the laboratories due to the lockdown. Access to the laboratories from their business continuity was also crucial for these start-up companies.

The companies have exerted considerable pressure to reopen the cleanroom and the other laboratories. A request for limited opening of the cleanroom was rejected by the CCT on March 19,

2020. However, on March 23, 2020, the CCT decided to open up strategic lab facilities if safety was guaranteed and the guidelines of the RIVM were followed. The decision that companies were given priority over the UT research in the laboratories was difficult to explain internally within the UT. Researchers foresaw that this would lead to delays in those PhD projects for which research in one of the laboratories at the UT was essential. There was also a discussion in the CCOZ about the deployment of emergency response officers (BHV). In order to open up the laboratories, the presence of emergency response officers is necessary. Overall, the dispute over the gradual reopening of the laboratories has lasted about three weeks.

2.9. The organisation and design of the 1.5-metre university

On May 20, 2020, the C-CvB established the 1.5-metre Steering Group and the 1.5-metre Working Group. The aim of the 1.5-metre Steering Group and the 1.5-metre Working Group was to make the necessary preparations so that for the new academic year 2020-2021, starting September 1, 2020, the UT could start as a "1.5-metre university". The focus of both the 1.5-metre Steering Group and the 1.5-metre Working Group was on a partial reopening (40% capacity) of the university and the transition to a "new normal". The guiding principles in developing the proposals for the partial reopening were:

- The "old" way of working would not return until September 2021;
- The UT's "Shaping2030" strategy would remain in effect;
- Maximum interaction between all members of the UT organisation had to be made possible with optimal use of the physical possibilities offered by the UT campus, based on the 1.5-metre rule;
- The development and use of state-of-the-art online facilities would be continued;
- In person education could take place on campus from September 1, 2020 in priority order;
- Graduation projects carried out in the laboratories on campus;
- Work groups in a 1.5-metre setup;
- Gradually reviewing whether, when and where exams could take place on campus with due observance of the Government's COVID-19 measures;
- Work in small project groups;
- Lectures and large-scale tutorials would take place online at least until February 2021, creating face-to-face meetings for first-year students;
- Enable the restart of (student) activities such as sports, culture, conferences, recruitment and selection procedures within current COVID-19 guidelines;
- Where necessary, an extension would be allowed in the opening hours;
- The support staff would work on campus to a limited extent;
- Special attention would be given to (international) mobility and public transport.

Chapter 3. Critical moments during the first phase of the COVID-19 crisis

Important events that have occurred during the management of the first phase of the COVID-19 crisis at the UT are shown in a timeline in Figure 1. Of these events, five critical events will be described in this chapter in more detail. These are:

- The planned Open Days of 12, 13 and 14 March 2020 (Section 3.1.)
- The lockdown of the buildings of the University of Twente (Section 3.2.)
- The partial reopening of the laboratories (Section 3.3.)
- The partial reopening of the buildings in accordance with the 1.5-metre directive (Section 3.4.)
- The organisation of the Kick-In, the introduction week for new students (Section 3.5.)

3.1. The Open Days planned on 12, 13 and 14 March 2020

An important decision taken by the CCT was to ultimately cancel the Open Days that were planned to take place at the UT from 12 to 14 March 2020. The purpose of the Open Days is to provide prospective bachelor's and master's students and their parents with information about the various options offered by the UT. On March 3, 2020, the CCT decided that the Open Days could take place as usual, unless a guideline was issued by RIVM recommending cancelling large meetings. The M&C department, with support from the rest of the organisation, had already done a lot of work to organise the Open Days. However, there were also voices within the UT community that suggested it would be better not to allow the Open Days to take place. For example, there were lecturers and researchers who did not consider the risk of allowing the Open Days to take place justified. They urged for caution. However, the CCT wanted to stick to the guidelines of the RIVM, which at that time did not yet provide restrictions for meetings with more than 100 people. The chairman of the Executive Board and the rector magnificus came to the faculties in person and tried to convince the programme directors to allow the Open Days to take place. However, The Executive Board did leave the possibility open to the programme directors to make the final decision themselves. As a result:

- The Faculty of Applied Sciences decided not to participate in the Open Days;
- The Electrical Engineering programme of the EEMCS faculty decided not to participate;
- At the BMS faculty, education programmes of Business Administration, Philosophy of Science,
 Technology & Society, Environmental & Energy Management; and Educational Science and
 Technology decided not to participate in the information market and to only provide the training
 sessions. The Psychology programme decided not to participate, but this was partly for a
 different reason: just before the Open Days they had to deal with a suicide by one of their
 students. Given the COVID-19 situation, it did not seem appropriate for them to participate;
- The Civil Engineering & Management, Mechanical Engineering and Industrial Design & Engineering education programmes of the ET faculty indicated that they had doubts about taking part. On several occasions they expressed their concern as to whether it was wise to have the Open Days taking place in person, but in the end they agreed to follow the national guidelines as known from the RIVM at that time.

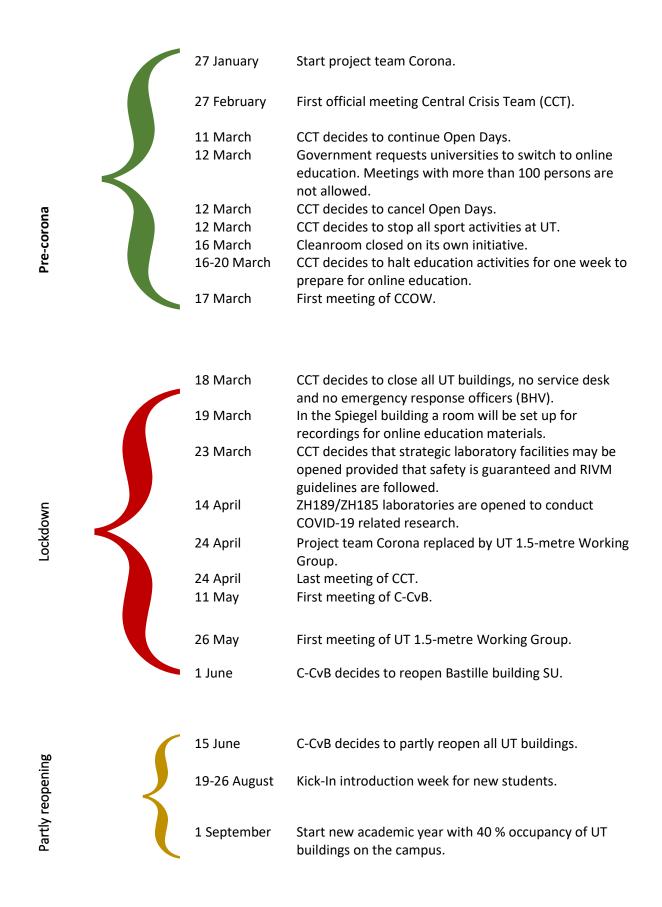


Figure 1. A timeline with important events at the UT during the first phase of the COVID-19 crisis.

After the Dutch Government announced on March 12, 2020 cancelling meetings with more than 100 people throughout the Netherlands as one of the COVID-19 measures, the CCT decided to cancel the Open Days. The guides in the buildings were asked to cancel the Open Day and to explain the reason for this to the visitors. People who had travelled to the UT and had incurred travel expenses were offered the option to submit an expense allowance. On March 12, all persons who registered for the Open Days of March 13 and 14, 2020, were also sent an email explaining the reason for the cancellation of the Open Days. A small number of international students who flew to the Netherlands especially for the UT Open Days did still receive individual information and a tour of the campus.

It is particularly unfortunate that the stricter guidelines that were issued by the national Government on 12 March 2020 with regard to meetings with more than 100 people, coincided with the Open Days. In retrospect, the Executive Board is satisfied that it waited until the central Government announced stricter guidelines before the closure. This is due to the decision that was taken by the CCT on February 27 to consistently use the guidelines of the RIVM as a reference throughout the whole COVID-19 crisis period. It did mean that a large number of visitors came to the university in vain.

3.2. The lockdown of the buildings on the UT campus

On March 12, 2020, the national Government requested universities and colleges to offer education online instead of in large-scale lecture halls. In response to this request, the CCT decided to:

- Ask employees to work from home as much as possible;
- Cancel all events with more than 100 people on campus;
- Keep the library open for the time being, but with extra care for cleaning;
- Cancel all exams on campus;
- Cancel all sports activities with the exception of the physiotherapist in the Sports Centre until further notice;
- Keep the restaurants in the ITC, the Horst building, the Educafé and the Techmed Centre open;
- Inform the Student Union about the decisions taken by the CCT.

CCT mandated the director of CFM to make decisions about the possible events to be held and to subsequently feed this back to the CCT. This mandate was also given for the security protocols to be developed by the various student associations.

In addition to the decisions taken on March 12, 2020, CCT made the following decisions on March 13, 2020:

- CvB, UCB, CvB-D, SB, UCOW and UCOZ would still continue live;
- In the week of 16 to 20 March, education would be shut down completely. This was to enable good preparation for the switch from in person to online education;
- Opening hours of the UT buildings would generally be maintained. The impression should not arise that the UT was completely closed;
- The UT would adhere to the guidelines of the Ministry of Foreign Affairs for travel;
- New employees would not enter before April 1, 2020;
- Faculties were asked to contact their students residing abroad;
- TELT was to take the lead in working with the LISA service desk for digital support;
- Contact the VU (in connection with the joint Mechanical engineering course).

The deliberations of the CCT of 16 March 2020 further show that the:

- NanoLab had meanwhile decided on a "total lockdown". This was an independent decision
 without consultation with the CCT or M&C. And the UPark hotel also independently decided to
 close without further consultation;
- Douwe Egberts machines and Xerox machines would continue to be serviced and Asito would continue its cleaning activities. But Subway and Appel were closed. Physical mail would continue as usual and UT flex would continue to pay student assistants.

On March 17, 2020, the CCT made the final decision to impose a lockdown for all UT buildings at the campus of the university starting from Wednesday March 18, 2020. They also decided that there would no longer be a service desk available or emergency response officers (BHV) in the buildings. Furthermore, in the meeting of March 17, 2020 it was decided that:

- Students without a home workplace could use the facilities in the wing on the ground floor of the Spiegel building;
- The CFM would make an inventory of which labs had to be continued;
- Refund of Tuition fee was not allowed. The UT would not stop providing education;
- The 117 UT students who were still abroad would be called upon to return. The extra costs to be incurred by them could be claimed by the students;
- The possibility of relinquishing the Binding Study Advice would be discussed in the UCOW;
- Business trips for employees abroad were no longer permitted from 17 March.

3.3. The partial reopening of the UT labs

In order to achieve a step-by-step reopening of the laboratories, chair holders who conduct research in the laboratories were asked to indicate, in accordance with central guidelines, which research from their own group should be given priority as being "Critical" and / or "Strategic" and how they would guarantee safety. Because the central guidelines turned out to be difficult for them to apply, the portfolio holders Research gave their own interpretation of what they regarded as "Critical" and / or "Strategic" research. These proposals were subsequently discussed in a Research subcommittee and an Operational management subcommittee. The final decision then took place in the C-CvB. The partial reopening of the laboratories first started on the basis of a 20% opening. In order to facilitate further opening up, the various research groups drew up safety protocols and senior researchers were deployed to guide the younger employees in this.

A protocol was developed to ensure safety in the cleanroom of the NanoLab. The use of face masks in laboratories where hazardous chemical substances are used was rejected, partly on the basis of the advice of the UT's senior adviser Occupational Hygiene and Biological Safety. In such a laboratory, this would actually pose an additional risk to safety in the lab. The existing mandatory outfit and adherence to the 1.5-metre guideline provided adequate safety. After the reopening of the cleanroom, a maximum of 10 people were allowed in the cleanroom and a maximum of one person in the changing room. It was good to get some experience working with a small number of people first. As time progressed, the number of people allowed to be present at the same time gradually increased. It should be noted that the cleanroom is the best ventilated space on the UT campus. Due to the excellent extraction, all aerosols are captured and filtered here.

From mid-summer, the cleanroom and the analysis facilities of the NanoLab were operational again and the chairs could also use the cleanroom for their research. Occupancy has since reached precrisis levels. In terms of financial impact, the COVID-19 crisis had consequences for the NanoLab. The users rent the cleanroom by the hour. Due to the limited opening after the lockdown, the revenue from operating the cleanroom consequently decreased.

The BHV (Emergency response organisation)

Under the ARBO legislation, the UT is obliged to maintain an emergency response organisation. The central HR department has a coordinating role with regard to the emergency response team. The HR service department facilitates proper performance of the emergency response functions and provides education and training for the employees in the emergency response teams as well as for the students who are part of one of the emergency response teams. The UT has a building-related organisational structure for the emergency response teams. There is one head of emergency response team per building.

Laboratories in the Carré and Horst building work with hazardous chemicals and gases. The emergency response officers deployed in these laboratories are trained in and familiar with the potential dangers associated with the use of hazardous chemicals and gases. In order to guarantee a safe production environment, these emergency response officers have had an additional ABD certificate (Breath Protector Wearer) and appropriate training and education based on the possible risks. It is also important to know that the emergency response position is a voluntary position, an emergency response officer does the work in addition to their own job. During the first phase of the COVID-19 crisis, emergency response officers had to be willing to come to the UT and work in the laboratories at a time when the Government urgently advised everyone to work from home. Within the teams of emergency response officers there were a number of people with care duties and there were also a number of emergency response officers who themselves fell into the risk profile group. It was irresponsible for these people to run the risk of being infected with COVID-19. Despite these limitations, it was possible to always have enough emergency response officers present, without their health being put at risk excessively.

From the beginning of June 2020, the laboratories could be opened to 40% capacity. To enable a further increase in research productivity in the laboratories, the possibility was suggested to open the laboratories in the evenings as well. However, this would have resulted in a shortage of emergency response staff due to the necessary expansion with an evening shift. Ultimately, it was decided to provide a conditioned evening and weekend opening, as was already the case in pre-COVID-19 times.

3.4. The partial reopening of the buildings on the UT campus

Due to the spacious layout of the campus and the relatively low number and scattered nature of the buildings, the UT had, in comparison with many other universities in the Netherlands, more possibilities that it could offer both students and employees with respect to the 40% opening of the buildings and the laboratories. In order to enforce compliance with the COVID-19 measures on campus and in the buildings, it was decided to deploy extra security in addition to appointing COVID-19 coordinators.

Due to the 1.5-metre guideline, when designing the lecture halls, a smaller group size per available space had to be assumed when scheduling. The halls with movable chairs were adapted to this requirement. Most timetables were set up in such a way that the first-year and second-year students could be on campus almost every week. In practice, it even turned out to be possible to have the first-year students of some programmes be on campus several times a week for practicals and tutorials. With regard to offering evening classes, it was decided, after consultation with the SU and the UC, to offer evening classes at a maximum of one evening per week.

During large educational activities (such as exams with more than 100 participants) it often turned out to be difficult to observe 1.5 metres distance. Where, for example, in normal circumstances 1250 students can easily be accommodated in the Sports Centre to take their exams, this capacity had to be temporarily scaled down to a maximum of 300 students due to the ventilation standard. Partly due to the use of the Grolsch Veste as an extra exam location, the UT succeeded in solving this exam capacity location problem.

After complaints from students about ensuring safety during the exams, it was decided to place the tables further apart (from 1.5 metres to 1.75 metres). Another problem arose with the entry before and the exit after an exam. It turns out to be difficult to keep enough distance at these moments, because it is a natural social contact moment for students.

In the crisis mode, the C-CvB was in the lead. On the way to "the new normal" this was abandoned by the C-CvB and delegation took place to faculties and services. A consequence of the delegation to

faculties and services was a divergent interpretation by the faculties and services of the decisions taken by the C-CvB. This led to differences in the explanation of whether or not to wear masks and to granting employees authorisation to enter the building. An app group of the operational management portfolio holders then contributed to achieving better mutual coordination with regard to the COVID-19 policy to be pursued by the faculties and services. A consequence of the delegation to the faculties also led to one faculty deciding to only conduct online exams, while other faculties also held in person exams. There was a lack of understanding about this among students. Another consequence of the delegation to the faculties was that programme information to lecturers was once again routed from programme directors to lecturers. But this change took place in the summer period, when many programme directors were already on vacation. The result was that many lecturers were not aware of all the efforts being made at the UT to realise a 1.5-metre university.

3.5. The organisation of the Kick-In

When in March 2020 the outbreak of COVID-19 also started to impact the Netherlands, the idea was: "that will be over in four months". Later, the Kick-In team realised they had to seriously consider the possibility that the COVID-19 crisis would not be over by August 2020. The Kick-In Committee then decided to change course and work out four possible scenarios:

- Organise a Kick-In with a full Lockdown;
- Organise a Kick-In with groups of maximum 10 students;
- A Kick-In organised for groups of up to 100 students;
- A Kick-In where 500 students were allowed to come together.

An adapted programme was considered for each scenario. An online "platform" of organisational units was established that could be offered in all four scenarios. In addition there were various components which could be added depending on the degrees of freedom permitted by RIVM.

The Executive Board decided to offer the Kick-In Committee support in the preparation of the Kick-In. This included the efforts of two employees of the UT events office and three employees of the Sports Centre (including the head of the Sports Centre). These employees helped, among other things, with the development of the protocols and scenarios required for the permit application. The UT employees received a mandate from the Executive Board to approve the plans drawn up by the Kick-In Committee. This ensured short lines in the organisation for progress in decision-making.

PR for the Kick-In was relatively difficult in 2020 because it remained unclear for a long time which of the four elaborated scenarios could be chosen. This is because it was uncertain which measures the Government would take. It was therefore uncertain what could or could not continue. This made it more difficult to communicate about this externally. The questions from international students whether they could participate in the Kick-In were sometimes difficult to answer (did these students have to be quarantined prior to the Kick-In and therefore arrive earlier in the Netherlands?).

The Kick-In, which lasted from August 19, 2020 to August 26, 2020, could not be set up as big as in previous years, due to the COVID-19 measures. But the Kick-In 2020 was nevertheless experienced as positive by the participants. Students were enthusiastic because a lot was possible in person. They experienced this as more fun than the activities that were organised online. What was organised in person by the Kick-In was safe, even more safe than was the case in many stores. Unfortunately, like other years, nothing could be organised in the UT buildings in 2020 (they were busy setting out the 1.5-metre routing in the buildings). Although a "bad weather plan" was missing, fortunately August 2020 was a warm month and it turned out that renting expensive tents was unnecessary.

Chapter 4. Assessment of the management of the COVID-19 crisis

This chapter provides an evaluation of the management of the COVID-19 crisis and makes recommendations to further improve the crisis management at UT. In Section 4.1 a conceptual model is used to evaluate the extent that the UT successfully survived the first phase of the COVID-19 crisis. In Section 4.2 the most important tasks in the management of the COVID-19 crisis are discussed and evaluated. This is done by assessing the management performance issues included in the comprehensive crisis assessment framework developed by Boin et al. (2014).

4.1. An evaluation of the COVID-19 crisis survival

To successfully survive a crisis, it is necessary that an organisation has a sufficient level of resistance, adaptability and resilience. In addition, in times of crisis, an organisation should not only possess executives with excellent steering qualities, but also be able to rely on professionally driven, motivated and versatile employees who can be deployed to withstand and overcome the crisis (see also Figure 2). Based on the results of the conducted research, the general conclusion is justified that the University of Twente has managed to successfully withstand and overcome the first phase of the COVID-19 crisis. This general conclusion will be explained in more detail on the basis of the five characteristics just mentioned.

4.1.1. A sufficient level of resistance

An organisation needs to be able to resist the potential damage from a long-drawn-out crisis such as that of the COVID-19 pandemic. A long-lasting crisis can have major consequences for the financial and operational continuity of an organisation. During the first phase of the COVID-19 crisis, expenditure increased, but this was offset by savings. On balance, the financial result for 2020 is expected to be about 4 million more favourable than initially budgeted. If it is possible to catch up in February 2021 or in the academic year 2021/2022, the expectation is that the financial impact of the COVID-19 crisis in the longer term is limited.

The availability of a robust IT infrastructure and the cyber resistance of the IT infrastructure are (as explained in Section 2.2) extremely important for the operational continuity of an organisation. The UT was already well prepared in terms of digitisation. However, there were problems due to dependencies outside the university: the transition to a digital society caused capacity problems at Microsoft. Hardware delivery problems also arose. To avoid unilateral dependence on the supplier, the UT consciously chose to keep various applications running in parallel (Microsoft Teams, Bluejeans, etc.). The number of cyberattacks was also higher at the UT during the first phase of the COVID-19 crisis. However, the UT was well prepared and not seriously vulnerable to a security hole.

4.1.2. A sufficient level of adaptability

When stormy weather approaches, it is important that a ship has sufficient manoeuvrability to change its course in time. Likewise, organisations need to have a sufficient degree of adaptability to survive unexpected changes in the external environment. Due to the measures announced by the Government, in person education was no longer possible at the UT. It was decided to make a transition to digital education and to also continue operational activities online. The transition from in person education to online education was a gigantic operation that was completed in a very short time. For this switch (as explained in Sections 2.2 and 2.7) many new solutions had to be devised or learned and actually implemented. Not only teachers, but also the service organisations LISA, CELT and the TELT team, have made a huge effort to make the transformation a success. For the continuity of the other activities, all employees switched to online consultation. Efforts like this indicate the adaptability of the organisation, which was possible thanks to the excellent IT infrastructure and the commitment of all employees associated with the University of Twente.

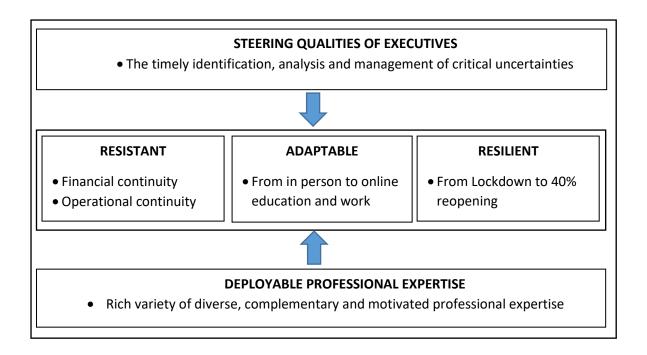


Figure 2. A conceptual crisis survival assessment model

4.1.3. A sufficient level of resiliency

Resiliency is the ability to recover from a major personal setback or tragedy. For a country, this is the ability to recover from damage after a major disaster such as a war, natural disaster or pandemic has occurred. The outbreak of COVID-19 in 2020 had, and still has, an enormous worldwide impact. It confronts many organisations with the question of whether they will be able to pick up the old thread again after the COVID-19 crisis.

After the central Government relaxed the rules regarding the "Intelligent lockdown", the UT decided to reopen buildings and facilities on the campus. The preparatory work for this was carried out by the 1.5-metre Steering Group and the 1.5-metre Working Group, the CCOZ and numerous employees working within the faculties and services of the UT. The RIVM guideline, which prescribed and still prescribes that the distance between people must be at least 1.5 metres, made it possible to reopen buildings and laboratories at 40% of the available capacity. Having to take this RIVM guideline into account made the preparation and implementation of this partial reopening a lot more complex.

It can therefore be stated with confidence that the UT organisation is expected to be able to restore the original situation with 100% capacity utilisation in the end. Moreover, the experience gained during the COVID-19 crisis in the field of providing online education and hybrid forms of education can be used to further improve the quality of education. This also applies to the experience gained from online meetings and organising and following online conferences.

4.1.4. A sufficient level of steering capabilities

It is essential for an organisation to have a good overview and insight into what is happening in its immediate external environment. Steerability is essentially about management's ability to identify, analyse and manage critical uncertainties in a timely manner. Milliken (1987) distinguishes three types of uncertainty: environmental uncertainty, effect uncertainty and action uncertainty.

Environmental uncertainty is a lack of knowledge about how certain elements in the external environment can change and what relationship exists between the various elements. In the case of the spread of COVID-19, there was a lack of global knowledge about the virus and how this virus would spread. Gradually, the WHO and later the RIVM developed rules of thumb such as keeping a distance of at least 1.5 metres, washing hands and wearing face masks. In December 2019 and January 2020, the lack of knowledge and understanding at the UT about COVID-19 and its spread is illustrative because people were already aware of the existence of the novel coronavirus, but the focus was mainly on students and employees who were in China and could possibly be infected and / or were affected by the measures taken in China.

Effect uncertainty is a lack of knowledge about how the changing external environment will affect one's own organisation.

In February 2020, COVID-19 reached Europe and people became aware of the fact that problems could arise after visiting winter sports areas in Northern Italy and Austria. Knowledge about the consequences of the virus and the chance of spreading was still limited. The existing environmental uncertainty and effect uncertainty about the spread and effects of COVID-19 contributed to the CvB taking the initiative to set up the Central Crisis Team (CCT) on 27 February in preparation for the possible actions to be taken. Given the lack of sufficient substantive knowledge about COVID-19, the possible spread of the virus and the consequences of infection, the CCT decided to consistently follow the expert advice of the RIVM. At country level, a speech by Prime Minister Rutte followed on 12 March with the now well-known statement: "In a crisis like this, you have to take 100 percent of the decisions with 50 percent of the knowledge." The decision-making by the Government and the guidelines issued by the RIVM led to CCT's decision on March 12, 2020 to cancel the Open Days that were planned to take place from March 12-14, 2020. On March 18, the decision to close the buildings at the UT followed.

Action uncertainty refers to a lack of knowledge about the options available to an organisation to respond to a changing environment and / or the inability to predict the consequences of choosing these options.

The Government's request on March 12, 2020, to Colleges and Universities to offer education online instead of large-scale lectures, meant that the only alternative option for the UT was to opt for the transition from in person education to online. To realise this transition smoothly, the CCT decided to suspend education from March 16-20, 2020. In retrospect, it can be said that this was a wise decision.

For the management of the COVID-19 crisis, there was a clear division of tasks between the chair and the vice-chair within the CCT, whereby the chair was ultimately responsible and also took responsibility for communication about the decisions taken. The chairman also maintained contacts with the Twente Safety Region and with the chairmen of the board of the other Dutch universities. The vice-chair was primarily responsible for internal organisation. It is striking that when compiling the CCT, it was decided not to represent the primary process in the CCT. This is understandable in the event of an acute crisis such as a terror attack, a fire or a large-scale hack. But after the acute step to close the UT, the question immediately arose of how to organise education and research. Overall, it can be concluded that the CCT and later the C-CvB professionally steered the first phase of the COVID-19 crisis.

4.1.5. A sufficient level of deployable professional expertise

The availability of a professional crew is essential for the agile manoeuvring of a ship in severe storms. As a knowledge organisation, the UT has a large number of professionals, with diverse, complementary expertise who, during the first phase of the COVID-19 crisis, unconditionally committed themselves to the continuation of education and operational processes. Also striking was the great commitment of student organisations such as the SU and the Kick-In Committee. Thanks to this involvement and the diversity of complementary expertise, it became possible to successfully

realise the transition from in person to online education and to realise the transition from a complete lockdown to a partial reopening.

4.2. An evaluation of important tasks during the management of the COVID-19 crisis

In this section we will focus on the most important COVID-19 crisis management related tasks that have been performed during the first phase of the COVID-19 crisis. As a guideline for this evaluation, ten executive crisis tasks which have been described in detail by Boin et al. (2014) are used. These tasks were culled from extensive studies of crisis management in a variety of settings (Rosenthal et al., 1989; Quarantelli, 1997; Rosenthal et al., 2001; Boin et al., 2005; Donahue & Tuohy, 2006; Boin & 't Hart, 2010).

Task 1: Early recognition

"Effective crisis management begins with a shared recognition that a threat has emerged which requires immediate attention. Two factors identified in previous research may spur "foresight" (cf. Turner, 1978). The first is extensive experience with crisis and its dynamics. The second factor is organisational: some organisations have a culture in place that facilitates rapid collective awareness of impending threats (Weick & Sutcliffe, 2002). The common denominator appears to be continuous vigilance, a shared awareness that something can happen at any given moment, and a willingness to act on faint signals, plus a tolerance for false alarms or voluntary admissions of error" (Boin et al. 2014).

What to look for: Did conditions at the UT facilitate an early recognition?

With regard to the experience background with crisis and its dynamics, we assume that the accumulated experience of the Executive Board with crises in a crisis training setting, will have helped the decision to create the CCT in an early phase. The decision of the Executive Board to initiate the CCT was based on signals the Executive Board received from the Corona Project team, who assessed the possible consequences for the UT if COVID-19 reached the Netherlands.

With respect to the second factor, an organisation culture that facilitates awareness of impending threats, it is worth noting that the UT has taken several actions to increase awareness in the organisation about safety and security threats in the past few years.

Task 2: Sensemaking

"During a crisis, it is a real challenge to arrive at a collective understanding of the nature, characteristics, consequences, and potential scope and effects of an evolving threat. This sensemaking task is crucial if crisis managers are to make informed decisions. Effective sensemaking requires a well-rehearsed method to process information, share it with the right people and consider their feedback, create a dynamic picture that everybody understands, analyse possible "futures" and potential consequences, and formulate specific information needs (which somehow must be met)" (Boin et al. 2014).

What to look for: Did the UT create, facilitate, and rehearse a sensemaking method?

In essence this is about creating a common understanding and shared vision of the possible threats and their potential impact. Members of CCT (and later the C-CvB) exchanged relevant information and experiences with other universities via the VSNU. In this way, the UT was well informed on the national developments and the imminent COVID-19 measures by the Government, the RIVM and the Ministry of Education, Culture and Science. This offered the UT the opportunity to act quickly as soon as a measure was announced. The alignment with the Twente Safety Region worked well, for example, after a cluster of six COVID-19 infections occurred in the Hogekamp building on the UT

campus at the beginning of July 2020 and also when formal approval was needed from the Twente Safety Region to organise the Kick-In for first-year students in the summer of 2020.

Creating a similar collective understanding within the organisation appeared more difficult to achieve. For example, international students and international staff members took WHO guidelines and the guidelines within their own country as their primary reference. The WHO guidelines and COVID-19 measures as implemented in many other countries were more severe compared to the RIVM guidelines. Compared with other countries, the compulsory wearing of face masks, the proclaiming of a curfew and a more severe lockdown were implemented in the Netherlands in a much later phase of the COVID-19 crisis. A difference in perception was also noted during the organisation of the Open Days, where the CCT wanted to follow the RIVM guidelines, while many academics in the organisation considered the risk of contamination as being too high. Creating a dynamic picture that is understood by everyone often appears to be a challenge. This requires not only a top-down sharing of information, but it is also very important to retrieve relevant bottom-up information to arrive at supported solutions. An example of where this did not go that well is how the perceived capacity problems with the emergency response officers were handled.

Task 3: Making critical decisions

"There is widespread agreement among researchers that strategic crisis managers should only concern themselves with strategic issues; they must avoid becoming entangled in operational decision-making (Boin et al., 2005). This is harder than it looks, because strategic decisions do not come with labels indicating whether they are best made at the strategic or operational level. As strategic issues tend to be few and operational issues tend to be many, there is a clear temptation to become engaged with the operational level. This is known as "micro management," and it usually meets with little appreciation on the shop floor" (Boin et al. 2014).

What to look for: Did CCT (and later C-CvB) carefully deliberate which decisions they should make, and did they make the decision after some form of due process?

The CCT (and later also C-CvB), were very decisive in taking a lot of effective COVID-19-related measures. These measures were effective in terms of crisis management. The decision to transform the existing UCOW into a CCOW and the UCOZ into a CCOZ to handle COVID-19-related operational issues with respect to education and research were helpful to prevent operational decision-making on the strategic level. For the CCOW this worked out well. With respect to the CCOZ it would have been better if more confidence was given to the operational level to adequately solve the issues of reopening the laboratories. For the reopening of the buildings, the C-CvB installed a 1.5-metre Steering Group and a 1.5-metre Working Group. This has helped to also prevent becoming engaged with issues on the operational level.

What appears somewhat remarkable, is the lack of a track and trace system to follow up the progress of decisions that were made by the CCT and later C-CvB. This may explain the delay in organising adequate workplace supplies at home for UT employees and the late delivery and instalment of video equipment for hybrid education.

Task 4: Orchestrating vertical and horizontal coordination

"A crisis or disaster typically requires intense cooperation among a variety of organisations. Such cooperation across vertical and horizontal borders must be orchestrated to accomplish a state of coordinated behaviour. If self-organisation appears to be effective, central authorities should hold back. In those situations, effective leaders are "asking more than telling, requesting rather than ordering, delegating and decentralising rather than narrowing and centralising" (Quarantelli, 1988: 382)" (Boin et al. 2014).

What to look for: Did CCT (and later C-CvB) monitor and assess forms of vertical and horizontal cooperation? Did they facilitate effective cooperation and intervene where cooperation was lacking or dysfunctional?

With respect to the vertical coordination, the conclusion is justified that arranging the organisational structure with CCOW, CCOZ, the 1.5-metre Steering Group and the 1.5-metre Working Group has worked out very well. What has been missed in the first phase of the COVID-19 crisis is the involvement of the deans. In the CCOW the link with programme directors of education and with lecturers was only loosely coupled. Since June 15, 2020, this was improved by appointing prof. De Boer as a key linking pin.

With respect to the CCOZ, the discussion about the reopening of the laboratories limited itself to the laboratories in the Carré Building and the Horst building. The team composition of the CCOZ was also narrowed by excluding UCOZ members from BMS and ITC. In the process of restarting research activities, unverified assumptions were made about the potential availability of critical BHV resources. A more steering role by the CCOZ chairman might have prevented this occurring. A link between the 1.5-metre Working Group and lecturers and researchers was also lacking. Lecturers turned out to be unaware of the provisions that were taken towards a 1.5-metre university in the faculty buildings. As well as this, a lack of horizontal coordination between faculties was observed. This resulted in divergent interpretations by the faculties and services of the decisions taken by the C-CvB such as whether or not to wear masks in the buildings, grant employees authorisation to enter the building and conduct only oral or also in person exams.

Task 5: Reliance on critical systems

"Charles Perrow (1984) famously described how seemingly small incidents can spiral out of control in complex and tightly linked systems. Escalation poses the challenge of "decoupling": system managers must try to "island" the problem—allowing the system to "fail gracefully"—while protecting as many core functions as possible. Cyber threats and the volcanic ash crisis (2010) provide examples of crises where decoupling became necessary" (Boin et al. 2014).

What to look for: Did CCT (and later C-CvB) actively monitor the state of critical systems and the connections between them? Did they access expertise with regard to these critical systems?

The lockdown of the UT necessitated a switch to working from home. This made the availability of a safe working IT infrastructure a very critical system. As already explained in Sections 2.2 and 4.1, the UT turned out to be well prepared to make a successful transfer to a completely online work process. The decision to maintain various software applications (like Teams, Bluejeans, Canvas etc.) in parallel, was a wise decision in terms of creating and maintaining safety redundancy and diversity conditions. The successful transition from in person education to online education was a very critical element in the first phase of the COVID-19 crisis and one that was completed in a very short time. The decision made by the CCT to completely shut down education activities for one week to enable a good preparation for this transition can be considered as a wise decision. Unfortunately, in the move towards hybrid education, the required video equipment systems were not available on time in the lecture rooms. Some of the lecturers were insufficiently trained to make optimal use of the newly installed video facilities. The UT deliberately decided not to use proctoring and instead chose to have students sign an integrity statement in writing that they would not commit fraud. Given the perceived unreliability of the proctoring system, from a risk management point of view this was also been a wise decision at that time. The UT has now decided to apply proctoring in a controlled manner and thus build up experience with it.

Task 6: Meaning making

"When an organisation is hit by a crisis, members of that organisation will look to their leaders to hear how they interpret the situation and what they plan to do to restore a state of normalcy. Leaders are expected to provide "authentic hope and confidence" (Leonard and Howitt, 2009). An effective story relates the events to the core values of an organisation or a society. It explains how crisis management efforts will help to confirm or adapt these core values" (Boin et al. 2014). What to look for: Did crisis leaders offer a clear interpretation of the crisis and explain how they intended to lead their community out of it?

In the beginning, the CCT (and later C-CvB) took a clear position and a strong line by following the RIVM guidelines. This meant that the policy was recognisable and appeared unambiguous. The UT community was kept informed about necessary steps being taken via regular COVID-19 briefings. The CCT (and later C-CvB) also involved the SU in the COVID-19 briefing preparations to ensure that the briefings also provided answers that were relevant to the student community. A COVID-19-related overview with frequently asked questions (FAQs) and answers to these questions was made available and regularly updated and posted on the UT website. Later on in the development of the crisis, too little attention was paid to scenario thinking (for example, with respect to the duration of the crisis and related options to take) which could have been shared with the UT community.

Task 7: Communication

"During a crisis, communication is incredibly important. It is also one of the main sources of problems, as means of communication often break down or become overloaded in the midst of a crisis. There is an abundance of research explaining how mass communication in crises is best done (Drabek, 2001; Fearn-Banks, 2007). It should explain the crisis, its consequences, and what is being done to minimise the consequences. It should also offer "actionable advice", explaining what should be done, by whom, and why" (Boin et al. 2014).

What to look for: Did CCT (and later C-CvB) actively cooperate with their communications professionals to ensure they had timely and correct information for dissemination to the public?

M&C was represented in the CCT/ C-CvB organisation and prepared the COVID-19 briefings. Within the M&C department, the central back office ensured that CCT (and later C-CvB) was informed about environmental and relevant information that could be found on social media. All COVID-19 briefings were signed by the chairman of the Executive Board. Conscious consideration was given in the briefings in combining factual and empathetic communication. Reporting on education-related issues was done in close cooperation with the CCOW and SU. Students were reached by means of communication by email, twitter, facebook and by setting up a permanent "Coronavirus" site on the website of the UT. Since the briefings were written in both Dutch and English, it unfortunately took extra time for the translation. In the beginning of the COVID-19 crisis, the chairman of the CCT regularly called the chairman of the UC to inform him about decisions that were made. From 19 March the CCT decided to summarise and formalise all decisions taken so this would be easier for the UC to follow.

Task 8: Rendering accountability

"A crisis is a critical episode for an organisation. The outcome may have long-lasting effects on the future well-being of that organisation and its members. Therefore, crisis managers have a responsibility to explain what was done before and during the crisis, and why. They should explain what worked and what went wrong during a crisis. Rendering accountability does not only satisfy legal and moral requirements, it also allows for the restoration of trust in the functioning of institutions. In practice, crisis managers find it very hard to perform this task. All too often, the "blame game" begins before the operational or "hot" phase of the crisis has come to an end. Accountability, in short, is affected by the inherent politicisation of a crisis" (Boin et al. 2014).

What to look for: Did leaders make an effort to present a transparent and constructive account of their (in)actions before and during the crisis?

All the decisions that were taken were explained in the communication briefings that were sent out by the CCT (and later the C-CvB). The Executive Board and the UT in general can be characterised as an approachable and open organisation. However, with respect to the accountability of decisions that are taken or to be taken, it is also important to consider and include the ethical, economic, legal, administrative and ecological consequences. Reflecting and communicating on these aspects will help to better underpin and justify the decisions that are made.

Task 9: Learning

"As every crisis is unique, crisis management requires, by definition, the capacity to improvise, discover, and experiment. It is therefore important that crisis managers have the capacity to learn (Comfort, 1999). This capacity is important both during a crisis (what works?) and after a crisis (what worked?). Learning is a prerequisite for adaptation, which, in turn, should help to correct dysfunctional processes and facilitate freshly discovered solutions" (Boin et al. 2014).

What to look for: Did leaders allow for reflection on the effects of chosen courses of action, did they encourage and tolerate negative feedback, and did they record crisis management proceedings to facilitate learning by outsiders?

There is certainly a clear desire for learning in the organisation. The initiative taken by the Executive Board to formally evaluate the first phase of the COVID-19 crisis and to take this as an opportunity to learn, is a clear demonstration of the openness to reflect on the effects of the chosen courses of action. The lessons learned can not only be taken onboard in the next phases of the management of the COVID-19 crisis but also in the management of future crises. A point to consider with respect to learning, is the difficulty that many people in the organisation still feel around confronting colleagues, but also students on inappropriate behaviour.

Task 10: Enhancing resilience

"Few would disagree with the notion that a prepared organisation or network is likely to be more effective in the management of a crisis. It is impossible to prepare in detail for every crisis or disaster that may occur (Clarke, 1999). It is therefore crucial that organisations possess a degree of flexibility and a capacity to rapidly adapt in the face of negative feedback. One of the key factors in building well-prepared, resilient organisations is to constantly engage in preparatory practices, such as vulnerability analyses, drills, scenario exploration, and network exercises. These activities create a culture of awareness, a sense that things may go wrong, but also a shared belief that all involved stand ready to cope with whatever threat they may face (Weick and Sutcliffe, 2002). Resilience can thus be viewed as a result of hard work and wide involvement" (Boin et al. 2014).

What to look for: Did leaders actively involve themselves in crisis preparations?

The Executive Board of the UT has actively encouraged several crisis simulation trainings in the past few years in order to be better prepared for potential crises that may occur. The UT has also embraced the implementation of Integral Safety Management in the organisation. These initiatives have created a platform to be better prepared for safety and security issues and to survive a crisis. Since it is virtually impossible to be optimally prepared for every detail in a new crisis, it is important to create the necessary conditions to ensure that the organisation will also be able to survive other crises in the future. It is of great importance to remain open to further improvements, and that the executives continue to play a leading, as well as a supporting role, in this process.

Chapter 5. Conclusions and recommendations

To successfully survive a crisis, an organisation should have a sufficient level of resistance, of adaptability and of resilience. In addition, in times of crisis an organisation should not only possess executives with excellent steering qualities, but must also be able to rely on professionally, driven, motivated and versatile employees who can be deployed to withstand and survive the crisis. Based on the evaluation study conducted we conclude that the UT has been able to successfully survive the first phase of the COVID-19 crisis.

With respect to the management of the COVID-19 crisis several positive observations can be made. The most important are:

- Early recognition
 - As early as January 2020, an HR-CES COVID-19 project group was set up to assess the possible consequences for the UT if the COVID-19 crisis reached the Netherlands. Based on the signals that the project group was able to collect, the Executive Board decided to initiate the Central Crisis Team. The first official CCT meeting took place on February 27, 2020.
- Sensemaking
 Through the active participation in the VSNU, the UT was well informed about national developments and imminent COVID-19 measures by the national Government, the RIVM and the Ministry of Education, Culture and Science. The UT was also well aligned with the Twente Safety Region organisation.
- Making critical decisions
 - The CCT (and later also the C-CvB) were very decisive in taking a lot of effective COVID-19-related crisis measures. Particularly the decision to halt education activities for one week to prepare for the transfer towards online education worked very well. The decision to maintain various software applications (like Teams, Bluejeans, Canvas etc.) in parallel, was a wise decision in terms of creating and maintaining safety redundancy and diversity conditions.
- Orchestrating vertical and horizontal coordination
 The decision to delegate operational activities by transforming the existing consultation forums
 UCOW, UCOZ, UCB into COVID-19-focused consultation forums CCOW, CCOZ, C-UCB appeared effective.
- Reliance on critical systems
 - The lockdown of the UT necessitated a switch to working from home. This made the availability of a safe working IT infrastructure a very critical system. The UT realised a successful transfer to a completely online work process and a successful transition from in person education to online education.
 - With the partial reopening of the UT buildings (and in accordance with the RIVM guidelines by keeping 1.5 metres distance and consequently utilising only 40% of the available capacity) the UT has positively distinguished itself from the other universities in the Netherlands.
- Meaning making
 - The CCT (and later the C-CvB) took a clear position and a strong line by following the RIVM guidelines. This made decisions recognisable for UT employees and students. The UT community was kept informed about necessary steps being taken via regular COVID-19 briefings. The involvement of the SU in the COVID-19 briefing preparations worked very well to ensure that the briefings also provided answers that were relevant to the student community.
- Communication
 - The UT community was regularly informed through communication briefings. All critical decisions that were taken by CCT (and later C-CvB) were explained in the communication briefings that were sent out to employees and students. The briefings predominantly combined a factual and empathetic communication style. Reporting on education-related issues was done in close cooperation with the CCOW and SU. Employees and students were reached via email, twitter,

facebook and by setting up a permanent "Coronavirus" site on the website of the UT with Frequently Asked Questions (FAQs).

Of course, as in any crisis that has to be managed, there are always areas for improvement. The most important suggestions for improvement are:

- The internationalisation of the UT
 - In the past 6-8 years the UT has undergone enormous internationalisation. As a result, cultural differences have widened. Although attention has been paid to this in the past few years, the COVID-19 crisis has demonstrated that for successful crisis management it is important to take into account an international frame of reference and the cultural differences within the UT community.
 - For example, international students and international staff members took WHO guidelines and the guidelines within their own country as their primary frame of reference and were often astonished by the RIVM guidelines that were followed and expected more severe measures.
- Follow up and implementing critical decisions
 What appears somewhat remarkable, is the lack of a track and trace system to follow up the progress of decisions that were made by the CCT and later C-CvB. Implementation of such a system may prevent losing sight of the follow up and implementation of important decisions.
- Vertical and horizontal coordination
 - What has been missed is the involvement of the deans in the management of the first phase of the COVID-19 crisis.
 - A too stringent vertical approach in disseminating information risk information not being forwarded (e.g. because a programme director is on vacation). Then the target group will not be informed and will consequently be deprived of sometimes vital information.
 - When implementing the 1.5-metre university at the UT, a lack of horizontal coordination between faculties was observed. In meetings with the C-UCB and with deans, the Executive Board could focus on the importance of better aligning the implications of decisions taken by CCT and C-CvB. It would also helpful if faculties share their best practices in these meetings.
- Meaning making
 - Too little attention was paid to alternative scenarios that could have happened and the use of external expert analyses. For example, with respect to the possible duration of the crisis and related options for action. Alternative options for UT to secure continuity of education and operations in case a serious cyberattack occurred were missing.
- Communication
 - Prior to the official release of important communication briefings, it is advisable to check the message with the target group regarding reasoning and clearness of message. This will increase the support base of the message in the target group.
- Rendering accountability
 - With respect to the accountability of decisions that are made or need to be made, it is also important to consider and include the ethical, economic, legal, administrative and ecological consequences, not only in the short term, but also for the longer term. Reflecting and communicating on these aspects will help to better underpin and justify these decisions and will strengthen the support base within the UT community for the decisions that are made.

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