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Value adding FM in practice: Using importance analysis at the Technical University of Denmark

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ABSTRACT

Purpose: In 2018 Technical University of Denmark (DTU) conducted its third study environment investigation since 2012 to gain insights into the students' experiences at the university. This investigation aimed to give important feedback to the facility management (FM) organisation, DTU Campus Service and others involved in creating an attractive study environment at DTU. The investigation was is to answer the question: What matters the most for the general satisfaction of students and how will FM contribute to maintain and improve the general satisfaction in coming years? These are important insights for an organisation that constantly needs to justify that the value creation is higher than or at least the same as the associated costs.

Methodology: The methodology consists of a mix of methods in a three-step process. The first step was the quantitative survey with 65 statements about the social, physical and aesthetic study environment in the spring 2018 sent to 10.535 students of which 3837 (36%) answered in full. Each statement was assigned a score from 1 (totally disagree) to 6 (totally agree). The second step was a quantitative investigation of the most important aspects in relation with the general satisfaction of the students through a so-called importance analysis. This analysis showed that not all aspects were equally important for the general satisfaction. The third step was the creation of a study environment investment plan based on the strategic direction given by the current student investigation and other relevant information like a similar staff satisfaction.

Key findings: The importance analysis, based on the questionnaire survey conducted, identified the following 10 factors as the most important focus points in value adding management for the university as a whole: absence of loneliness, good contact with fellow

students, availability of lecturers also outside of normal teaching time, easy access to information about one's study lines and the courses followed, tidy and well-kept outdoor areas, tidy and well-kept premises, easy way finding, selection of social events, well-functioning informal learning environments and absence of stress symptoms in everyday life.

Intended impact of the study on research and practice: Of the 10 most important aspects there are aspects, which FM has a direct or indirect influence on. This is reflected in the new action plan, developed by DTU. The DTU approach can give inspiration to others who are conducting user feedback via surveys, in particular the set of questions and the “importance analysis”. The case study adds to the growing literature on added value in FM, university FM and FM value creation. The study environment investigation focused only on students, not the researchers and other staff at DTU. Other investigations cover their views; and the FM-organisation might need to balance conflicting views with the results of the student environment survey.

Paper type: Case study

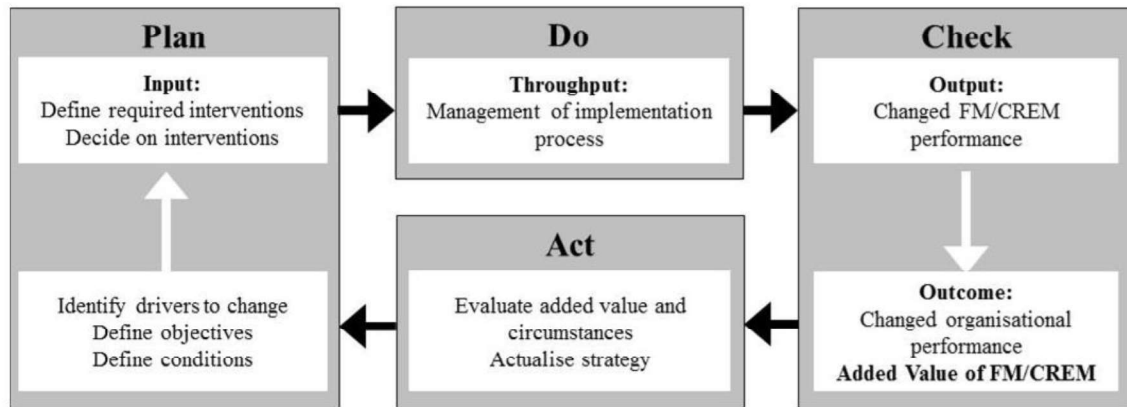
Keywords: action plans, facilities management, study environment, survey, university, campus services

1 INTRODUCTION

In 2018 the Technical University of Denmark (DTU) conducted its third study environment investigation since 2012 to gain insights into the students' experiences at the university. This investigation gives important feedback to the university including the facility management (FM) organisation, DTU Campus Service (CAS). What matters the most for the general satisfaction of students and how will FM contribute to maintain and improve the general satisfaction in coming years? These are important insights for a support organisation that constantly needs to justify that the value creation is higher than or at least the same as the associated costs.

The comprehensive studies of FM and Corporate Real Estate Management (CREM) as Value Drivers by 23 European researchers Jensen and van der Voordt (2016) presents twelve value parameters as most essential in FM value creation. These are satisfaction, image, culture, health & safety, productivity, adaptability, innovation and creativity, risk, cost, value of assets, sustainability and corporate social responsibility. The added value methodology for real estate and FM organizations is summarized in van der Voordt et al (2016) and shown in Figure 1. The management model begins with “Plan” interventions on basis on the given condition and objectives for a future situation. The following phase is “Do”, meaning implementing the planned interventions. Next step in the management process is to “Check” if the FM/CREM performance has changed as intended with the intended outcome for the organization. Based on this evaluation the next phase is to “Act” if there is a need for updating the strategy to ensure the planned objectives will be met. This paper focus on this process in the context of the study environment at DTU and in particular the sub process of “Check”, “Act” and “Plan” again. The reason for this focus is the novel results of the 2018 study environment survey and the following action plan at DTU and its potential inspiration for other FM organizations.

Figure 1: The Adding Value management model
in Jensen and van der Voordt (2016) and van der Voordt et al (2016).



FM in a university context is a specific context within the general FM theory, and several researchers has studied learning environments and processes of aligning FM practices with current user needs and preferences (Den Heijer, 2011), (Beckers, 2016,) while also embracing scenarios of future learning environments e.g (Nørgård and Bengtsen, 2016) and (Rytkönen, 2016).

After this introduction the following sections present the Case of DTU, the research methodology and the results from the study environment survey as well as the new action plan for further improvements of the study environment at DTU. The discussion focuses on the differences and similarities between the theoretical value adding management model suggested by van der Voort, Jensen et al. The conclusion summaries the findings “what matters the most to DTU students” and DTU learnings from the survey.

2 LEARNING ENVIRONMENTS AT DTU

The Technical University of Denmark is a polytechnic single faculty university in the Capital Region of Denmark with 11.000 students, almost 6000 staff members and an expectation of growth. The FM organization, DTU Campus Service, has an important strategic role as providers of facilities and services. According to the University strategy 2014-2019 “DTU must prioritize beautiful and functional campuses with a visible and versatile social life, including engaging study environments. More specifically, DTU must strengthen and develop formal and informal learning environments for students who support and promote presence and an active study environment on campus”. It is thus important for DTU to carry out a thorough mapping of student motivation in order to create a qualified knowledge base for the further development and strengthening of the university's study environment (DTU, 2018) (authors’ translation).

The Strategic campus plan (DTU Campus Service, 2018) is the master plan for the physical planning of the main campus DTU Lyngby Campus and the general values regarding campus development. The vision is that DTU’s campuses contribute to DTU value creation by being sustainable, integrating and at elite level. In the meaning that:

- A sustainable campus is resource-conscious, healthy and good for people and the environment. It ensures long-term freedom of action for DTU with the world goals for sustainability in mind.

- An integral campus connects professionals, people, universities and the surrounding community - internationally, nationally and locally.
- An elite-level campus attracts and inspires the best, and creates the best results for society by expanding unique research and learning facilities.

According to the national law of pupil and students learning environments (Undervisningsministeriet, 2017), all Danish universities are obliged to develop the study environments in dialogue with students and to evaluate the study environments at least every three years. However, at the universities there is a methodological flexibility in the focus and phrasing of questions. This is done at DTU by establishing the Board of Learning Environments to ensure a continuous debate about issues relating to the study environment and the more rare study environment surveys. This board is chaired by the dean of bachelor educations and has representatives of students, teachers, study administration and Campus Service. The board can suggest projects to improve the study environment but they do not administer a specific budget, as the university board controls the university investment plan.

DTU Campus Service benefit from the ongoing qualitative dialogue in the study board, and make use of this community to define interventions, plan implementation, and to check new performance of facilities and services. The qualitative dialogue is important for adding value management in DTU Campus Service activities, but the qualitative dialogue also has its limitations. This paper focuses on the quantitative feedback from the study environment survey, which provides feedback from many students about their experiences of the study environment at DTU.

This paper represents a new phase of a longitudinal research-in-practice relationship for almost 10 years. Previous research and information about DTU and the FM organisation Campus Service is available at www.dtu.dk and in the research papers (Nielsen et al, 2012), (Rasmussen et al, 2014) and (Eriksson et al, 2014) (Eriksson et al, 2015), and (Nenonen et al, 2016).

3 THE STUDY ENVIRONMENT SURVEY - METHODOLOGY

The methodology consists of a mixed quantitative and qualitative method conducted in a three-step process on a single case, Technical University of Denmark in 2018-19.

3.1 The Study environment survey

65 statements about the social, physical and aesthetic study environment were sent to 10.536 students at the Technical University of Denmark in spring 2018. This is the third study environment survey (in Danish: Studiemiljøundersøgelse (SMU), the first was conducted in 2013, and the second in 2015. The survey was sent as an electronic survey.

3,837 students (39%) out of the 10.535 students answered the survey in full. 276 students (3%) completed only parts of the survey. Table 1 provides information about the full responses and their representation of the 3 main educations in focus. There was a slight overrepresentation of students on the BSc in general engineering and a slight underrepresentation of the bachelor in engineering. This is considered as minor deviations at an acceptable level. The questions are formulated as positive statements and the students had to answer with a score from 1 (totally disagree) to 6 (totally agree) or “not relevant as I am not using it”. This implies a scale where 1 is the most negative 6 the most positive and the average (neutral) is 3.5. In the analysis 3.0-

3.9 is considered neutral, whereas higher than 3.9 is a good result and lower than 3 is a bad and unacceptable result.

The number of questions has changed slightly over time. Some of the original questions have been reformulated to stay relevant, and the list of questions has been expanded to reflect contemporary study environment debates. The 2018 survey included e.g. four questions addressing bullying and sexual harassment to provide data to document alignment with a non-tolerance policy. Appendix 1 provides all 65 statements/questions in the 2018 survey of which some are primary statements in the evaluation of the study environment and other statements are to provide information about the student or additional specific information if relevant.

Table 1: Responses by main educational direction and total student population (22.02.2018)

Education	Number of responses	Number of responses in %	Number of students	Number of Students in %
BSc in general engineering	1.355	35%	2.772	26%
MSc in general engineering	1.371	36%	3.967	38%
Bachelor of engineering	1.111	29%	3.796	36%
Total	3.837	100%	10.535	100%

3.2 The “Importance analysis”

The second step in the process was an investigation of the survey replies to identify the most important aspects to maintain or improve the general satisfaction of each student. This step is referred to as the “Importance analysis” (Clemmensen & Brockhoff, 2012). This was an additional process to determine if all statements had equal importance for student general satisfaction. A general satisfaction factor was defined by the study environment board as the average of the four key questions:

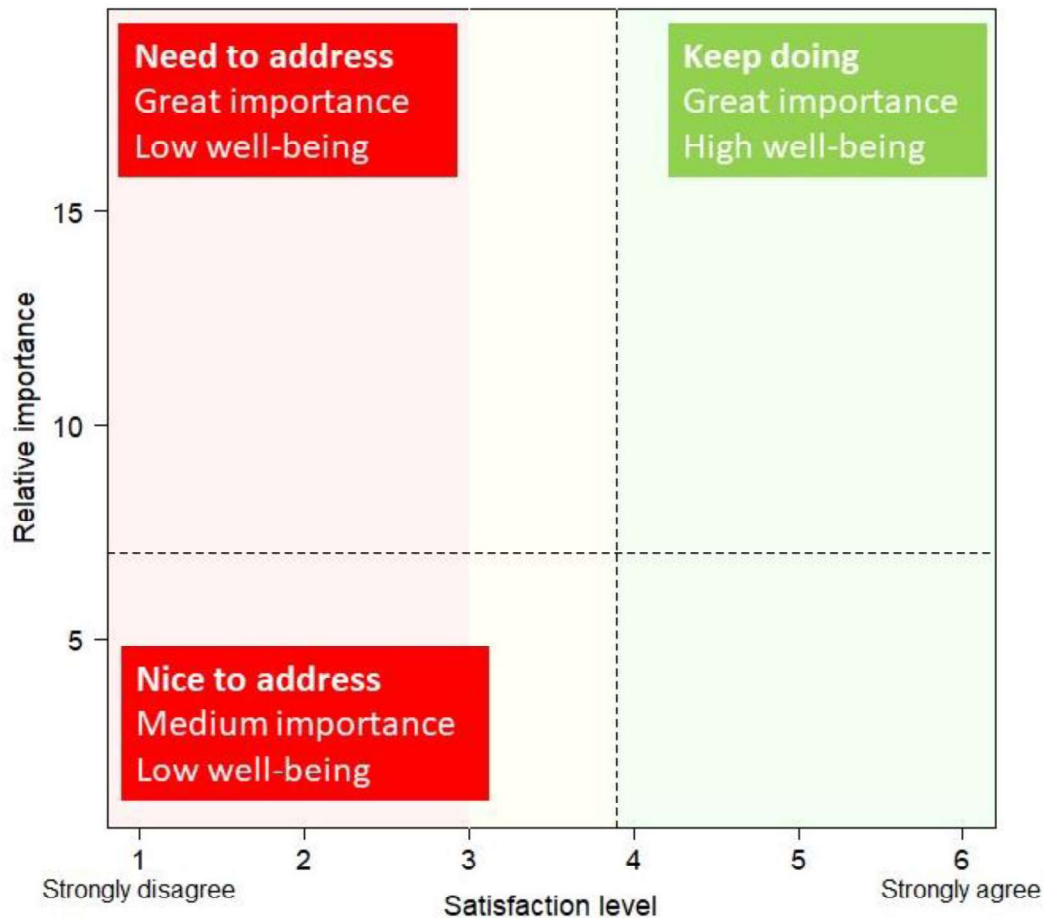
- I consider myself to be generally well informed regarding my studies (statement svg6)
- I generally feel at ease and comfortable at DTU (statement tot5)
- I am overall satisfied with the physical surroundings at DTU (statement lmc21)
- The atmosphere at DTU is generally good (statement amo1)

A regression analysis, Partial Least Squares Regression (PLS), is used on the survey data, to identify the relation between the general satisfaction and each of 47 primary statements, if the statement has high importance for the general satisfaction or no importance. Thus, the PLS regression coefficients of the 47 statements reflect the degree of importance of the statements in relation to the general satisfaction. The PLS was conducted for all students and repeated for various subgroups of students (study, gender, exchange student or not), to see if there were additional lessons to learn in regard of each particular group. As this paper focuses on the overall process, the only results presented here is the results from the PLS for all students. However, the analysis was conducted also for specific groups according to gender, campus, exchange student or not, and study lines.

The importance analysis is used to conclude a range of recommendations to keep or improve the study environment at DTU. The principle is illustrated in figure 2 and further detailed in

Clemmensen & Brockhoff (2012). Statements with high importance and high satisfaction (green: top right corner) should have high attention as well as statements with high importance and low satisfaction (red: top left corner) or statements with medium importance and low satisfaction (red: bottom left corner).

Figure 2: The principle of the importance analysis of student satisfaction survey 2018. The vertical axis shows the importance of a survey statement relative to general satisfaction. The horizontal axis shows the satisfaction level or agreement with statement. The red (left), yellow (in the middle) and green (right) regions are defined as low, medium and high satisfaction levels and the horizontal broken line denotes the average relative importance of statements.



3.3 The follow up action plan

Following the study environment report completed in June 2018, the third step in the process was the creation of a study environment investment-plan. Idea generation and prioritization was a six months long process, starting with generation of ideas in the board of study environment and collection of further ideas from within DTU CAS and across the university study environment community. The study environment coordinator facilitated this process, which led to a suggested investment plan which was finally approved by the university board in March 2019.

4 ANALYSIS AND FINDINGS

4.1 Student satisfaction with the learning environment

To all questions, the students answered that their satisfaction was higher than 3, which was defined as the lowest acceptable satisfaction level. Compared to the SMU2015 the SMU2018 shows a positive development of the general satisfaction with the social, physical and aesthetic study environment. See table 2 for the student satisfaction level regarding the 4 statements used for calculating the general satisfaction and the FM specific questions, 25 statements in total. The first column is the average and the second and third are the shares of respondents who gave a positive score (4-6) in 2018 and 2015. See (DTU, 2018) for a full report on the SMU 2018.

Table 2: Student satisfaction in the Study Environment Survey (SMU) 2018 compared to the previous SMU from 2015

General satisfaction	SMU 2018 average	SMU 2018 (4-6)*	SMU 2015 (4-6)*
I consider myself to be generally well informed regarding my studies	4,6	85%	82%
I generally feel at ease and comfortable at DTU	5,1	93%	91%
I am overall satisfied with the physical surroundings at DTU	5,0	93%	90%
The atmosphere at DTU is generally good	5,4	97%	96%
FM specific questions			
DTU's facilities generally appear neat and well-kept	5,1	95%	92%
DTU's outdoor areas generally appear neat and well-kept	5,3	98%	97%
DTU's outdoor areas invite both contemplation and active use	4,9	89%	86%
There is generally a good indoor climate in the classrooms	4,0	68%	64%
DTU's lecture halls are generally well-functioning	4,6	84%	76%
DTU's classrooms are generally well-functioning	4,7	85%	82%
DTU's databars (computer class rooms) are generally well-functioning	4,6	72%	71%
DTU's laboratories and workshops are generally well-functioning	4,6	72%	72%
DTU's informal learning environments are generally well-functioning	4,9	87%	83%
The lighting conditions in the classrooms are generally satisfactory	4,6	84%	80%
There are enough workspaces for students at DTU where I can work myself an undisturbed	4,3	61%	55%
There are enough workspaces for students at DTU where I can work with my group	4,3	72%	-
There is generally a good indoor climate in the classrooms	4,0	68%	64%

The lighting conditions in the classrooms are generally satisfactory	4,6	84%	80%
The classrooms have good acoustics	4,6	84%	80%
I am not bothered by noise	4,4	76%	73%
There is sufficient access to power outlets at campus	4,3	74%	70%
The interior design of S-huset and other bars is satisfactory (Student community house)	4,9	80%	86%
I am satisfied with the leisure activities offered at DTU	5,0	81%	81%
I am satisfied with the academic events offered at DTU (excl. lessons)	4,8	77%	75%
The facilities for sport and leisure activities at DTU are satisfactory	4,8	68%	69%
There are good bicycle parking conditions at DTU	5,1	77%	75%
Traffic safety is generally good at DTU	5,0	84%	-
The lavatories are hygienic and well-kept	4,5	79%	77%
It is easy finding your way around DTU	4,8	87%	84%

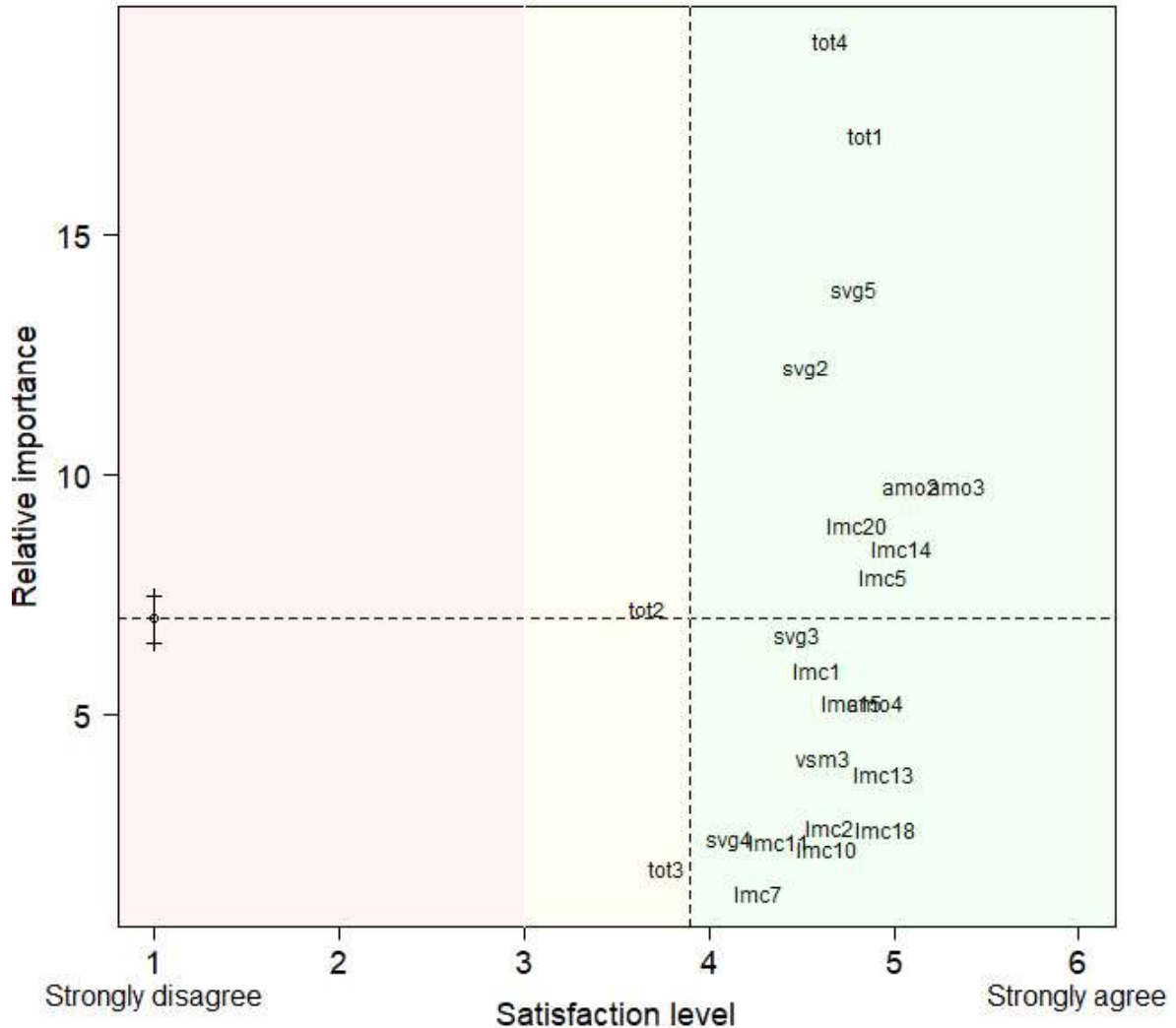
* Share of respondents who gave a positive score (4-6)

Despite the fact that the general satisfaction is good and improving, the university knows that the study environment needs ongoing attention. The wishes from students keep coming and DTU Campus service/DTU needs to prioritize limited financial and human resources. If they only prioritize the issues with the lowest relative importance score, they risk investing in facilities and services that are of minor importance to the students.

4.2 This matters the most

22 statements were identified as having significant importance for the general satisfaction. Figure 3 shows the PLS result of all statements that have a significant importance and exclude those that do not. In principle, this means that improving these statements by one satisfaction score increases the general satisfaction level more than improving non-significant statements. The strategy was to focus on issues with high positive impact, as strategic goals that should be maintained or further improved in the future, and negative impacts, which should have a strategic focus as these were issues with high impact and relatively low satisfaction.

Figure 3: Importance plot with 22 statements having significant importance for the general satisfaction.



Top 3 statements with high satisfaction and high importance (*Keep doing*)

1. tot4: I rarely feel lonely or isolated at DTU
2. tot1: I have good social relations with my fellow students
3. svg5: My teachers are available if I have questions or need guidance outside scheduled lessons

Statements with medium satisfaction (average 3-3,9) and medium importance (*Need to address*)

1. tot2: I rarely experience stress symptoms in connection with my study in everyday life, which makes me uncomfortable. Stress symptoms may include stomach ache, headache, anxiety, depression, palpitations, insomnia, difficulty concentrating, etc.
2. tot3: I have knowledge of ways to prevent stress

The 5 statements with high satisfaction and the least importance (*Nice to address*)

1. svg 4: It is easy to find the information that I need regarding leisure activities at DTU

2. lmc2: DTU's classrooms are generally well-functioning
3. lmc10: The classrooms have good acoustics
4. lmc11: I am not bothered by noise
5. lmc18: Traffic safety is generally good at DTU

The importance analysis was done for the various student groups (gender, study line, exchange student or not, campus) to reveal eventual variations in satisfaction levels. This gave some indications for the focus points in the action plan to come.

The concluding result of the importance analysis identified the following 10 factors as the most important focus points in value adding management for the university as a whole.

For the students the most important is:

1. Absence of loneliness,
2. Good contact with fellow students,
3. Availability of lecturers also outside of normal teaching time,
4. Easy access to information about one's study lines and the courses followed,
5. Tidy and well-kept outdoor areas,
6. Tidy and well-kept premises,
7. Easy way finding,
8. Selection of social events,
9. Well-functioning informal learning environments and finally
10. Absence of stress symptoms in everyday life.

4.3 The follow up action plan

The agreed action plan is structured according to 6 themes and has 23 result goals each with 1-7 process and effort goals, 62 in total. See DTU (2019). The following is an extraction of the action plan with focus on actions where DTU Campus Service has the main responsibility for its realization.

The format of this paper unfortunately does not allow further specification of the planned CAS actions which includes a variation of activities including coordination activities, space management, strategic planning, helpdesk, construction management, end-user dialogue, sports facilities, bike parking, signage, green areas, evacuation plans and safety communication.

Table 3: CAS relevant result goals, Study environment Action plan 2019-2021 (DTU 2019)

The six themes	Result goal (CAS has main responsibility)
Safety and well-being	<i>No CAS specific goal</i>
Study guide and general information	<i>No CAS specific goal</i>
Learning environment and campus life	<ul style="list-style-type: none"> • DTU meets the need for study places for concentrated work alone or in groups. • There is a good indoor climate in DTU's teaching rooms • Noise reduction (during construction and renovation activities) • Sufficient power outlet supply on the Ballerup Campus • S-Huset, cafés and Friday bars appear as DTU's students want it • The facilities for sports and leisure activities at Ballerup Campus have a satisfactory level • Covered and locked bicycle parking is available for DTU students • It is easy to orientate and find your way around DTU • DTU's outdoor space supports an attractive learning environment and is comfortable to stay in
Security	<ul style="list-style-type: none"> • All employees and students know what to do in connection with an emergency or accident at DTU • All students are instructed in relevant safety conditions before work in laboratories and workshops begins
Virtual study environment	<i>No CAS specific goal</i>
Blue dot projects etc.	<i>No CAS specific goal</i>

5 DISCUSSION OF VALUE CREATION IN FM

The added-value management model suggested by (Jensen and van der Voordt 2016) and (van der Voordt et al 2016) recommend “Check processes” to ensure Changed FM/CREM performance (output) leading to changed organizational performance (outcome) in this case an improved study environment for DTU students. The study environment survey showed a generally high satisfaction with the current situation where as many as 93% gave a positive evaluation. The development since the previous survey was also satisfactory as there was a positive development for all value dimensions. For further improving the study environment the importance analysis was an important process. The “importance analysis” showed that some value dimensions were more important for students’ general satisfaction than other and this information was used in the “Act process” where the several university stakeholders reflected on the result of the survey and the need for correcting actions.

Other universities and educational institutions can use the DTU survey as inspiration for their study environment evaluations as the survey contains value dimensions and statements that are relevant for similar learning environments. But the result of the importance analysis should be used with precautions. As the importance analysis reflects the current situation at DTU, and the matter of “high satisfaction and medium importance” like the classroom acoustics, could

have a higher importance, if the satisfaction was lower. The survey data and the importance analysis does not inform about a possibly critical satisfaction level. But in theory there could be a level, once reached, where the additional effort does not give added value.

Despite the focus of this paper being on the role of Campus Service there are many parties responsible for the quality of the study environment. The full action plan identifies as many as 18 various actors to be either main actor or supporting actor for specific actions. This demonstrates that collaboration and coordination is a significant task, when a university as DTU is taking an integrated approach to ensure formal and informal learning environments that support and promotes attendance and an active study environment at campus. The whole process which in the Value Adding Management model is illustrated as three steps, has in practice taken 1 year, from planning and conducting the survey in spring 2018, to the study environment report in June 2018 and the final action plan in March 2019. A long process that has encountered widespread dialogue, processes of idea generation, negotiations and reformulations before the final version was agreed on by the involved stakeholders and approved by the university board, the highest authority at the university.

6 CONCLUSION

The study environment survey provides feedback to the university and in particular to the Board of Study Environment and the FM organization about the students' experiences of the study environment at DTU. In general, the students evaluated the study environment to be a positive one as they gave a 4 or 5 on a scale on 1-6 where 6 is the best. This is in itself a major achievement, as the goal was to score a minimum of 3 in all questions.

As feedback on investments in the study environment made in the last few years, the evaluation shows that the study environment has improved since the last survey in 2015, but also that there are possibilities for further improvement. A new action plan for further improving the study environment at DTU was developed and decided in March 2019, consisting of 11 result goals with associated process and efforts goals.

As research in added value this is a case study that reveals what matters the most for DTU students and therefor pointing to what could give the most effective value creation in the future.

ACKNOWLEDGMENTS

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Appendix 1: Questions in the DTU study environment Survey 2018

Theme 1: Respondent and spatial context

- A. Student identification code inform about: study line, gender, Danish student or exchange student.
- B. Which campus do you study at during this semester? (Lyngby, Ballerup, Sisimiut)

Theme 2: General well-being:

- tot1: I have good social relations with my fellow students
- tot2: I rarely experience stress symptoms in connection with my study in everyday life, which makes me uncomfortable. Stress symptoms may include stomach ache, headache, anxiety, depression, palpitations, insomnia, difficulty concentrating, etc.
- tot3: I have knowledge of ways to prevent stress
- tot4: I rarely feel lonely or isolated at DTU
- tot5: I generally feel at ease and comfortable at DTU

Additional four Specific questions not included in the regression analysis:

- C. I am not exposed to bullying or harassment from other students
- D. I am not exposed to bullying or harassment from teachers or other DTU staff
- E. I have not been subjected to unpleasant sexual advances from other students
- F. I have not been subjected to unpleasant sexual advances from my teachers or other DTU staff

Theme 3: Study guidance and general information

- Svg1: The Study Guidance can help me with any questions I ask them
- Svg2: It is easy to find the information that I need regarding my study programme and courses
- Svg 3: It is easy to find the information that I need regarding examinations
- Svg 4: It is easy to find the information that I need regarding leisure activities at DTU
- Svg 5: My teachers are available if I have questions or need guidance outside scheduled lessons
- Svg 6: I consider myself to be generally well informed regarding my studies

Theme 4: Learning environments and campus life

- lmc1: DTU's lecture halls are generally well-functioning
- lmc2: DTU's classrooms are generally well-functioning
- lmc3: DTU's databars (computer class rooms) are generally well-functioning
- lmc4: DTU's laboratories and workshops are generally well-functioning
- lmc5: DTU's informal learning environments are generally well-functioning
- lmc6: There are enough workspaces for students at DTU where I can work myself an undisturbed
- lmc7: There are enough workspaces for students at DTU where I can work with my group
- lmc8: There is generally a good indoor climate in the classrooms
- lmc9: The lighting conditions in the classrooms are generally satisfactory
- lmc10: The classrooms have good acoustics
- lmc11: I am not bothered by noise
- lmc12: There is sufficient access to power outlets at campus
- lmc13: The interior design of S-huset and other bars is satisfactory (Student community house)
- lmc14: I am satisfied with the leisure activities offered at DTU
- lmc15: I am satisfied with the academic events offered at DTU (excl. lessons)
- lmc16: The facilities for sport and leisure activities at DTU are satisfactory
- lmc17: There are good bicycle parking conditions at DTU
- lmc18: Traffic safety is generally good at DTU
- lmc19: The lavatories are hygienic and well-kept
- lmc20: It is easy finding your way around DTU
- lmc21: I am overall satisfied with the physical surroundings at DTU

Theme 5: Atmosphere and surroundings

- amo1: The atmosphere at DTU is generally good
- amo2: DTU's facilities generally appear neat and well-kept
- amo3: DTU's outdoor areas generally appear neat and well-kept

amo4: DTU's outdoor areas invite both contemplation and active use

Theme 6: Safety

sik1: I know what to do in case of accidents

sik2: Do you use laboratories or workshops as part of your study programme? If yes

- a. I have learned to think through my experiments to understand where in can go wrong or become dangerous
- b. I have received instructions in how to take precautionary measures to avoid accidents when I work with....
- c. I find that there is a focus on safety in laboratories and workshops

Theme 7: Virtual study environment

vsm1: DTU's wireless network is satisfactory- both in regard to speed and coverage

vsm2: It is easy to find the information I need on DTU Inside

vsm3: The homepage of my study programme at dtu.dk is easily accessible and offers relevant information

vsm4: The databars' computers –including their software – work satisfactory and meet my requirements

vsm5: The virtual tools used in teaching situations work satisfactorily e.g. CodeJudge, PeerReview, PeerGrade etc,

vsm6: Lectures that are streamed to the internet work satisfactorily

Theme 8: Awareness of cross-study initiatives at DTU (not in regression analysis)

G. I am familiar with the following major project activities for students

- a. DTU Roadrunners
- b. DTU Robocop
- c. DTU Solar Decathlon
- d. DTU Ecotrophella
- e. DTU Biobuilders
- f. DTU SensUs

H. I am aware of the This-for-that foundations that funds student driven initiatives to improve the study environment at DTU

I. I am aware that it is possible to use workshop facilities and get feedback on ideas in DTU Skylab

J. Is your job study relevant? (if you do not have a job, please skip this question)

K. Are you active in a student organization?