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Investigating Service Quality Issues in Higher Educational Context *

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Abstract: *Recently, quality issues have been widely addressed in the higher education sector as a result of which the identification and the role of stakeholders have come to the forefront. When evaluating service quality in higher education, three distinct levels of operation could be taken into account, namely, institutional level, program or faculty level and course level, on which the relevant stakeholders perceive service quality by focusing on different attributes. Besides students considered as primary stakeholders, the academic staff is paid considerable attention as they have a direct influence on how students perceive educational service quality. The establishment of a course level service quality framework of a special course is presented in this paper by demonstrating not only the students' but also the supervisors' aspects through a student questionnaire, focus group discussions and personal interviews. These approaches resulted in a new, more sophisticated understanding of service quality on course level.*

Keywords: higher education; service quality; operational levels; focus group; survey

JEL Classification: I21, I23

Introduction

Higher education (HE) is one of the fast-expanding sectors worldwide to which increasing attention has been paid recently due to its significantly strengthening eco-

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nomic impacts and growing business-like features (Depken *et al*., 2019). As a result of this trend, the number of enrolled students, the diversity of programs and courses also increase, forcing institutions to implement customer-focused approaches (Kara & DeShields, 2004, Veršić, 2018). The maturing of the HE market goes hand in hand with an increasing and widening interest in quality issues focusing on meeting the needs and expectations of the various stakeholders by addressing and balancing these requirements on different institutional levels of operation (Bernhard, 2012). 'The concept of quality has been one of the most dominating and influential 'meta-ideas''(Stensaker, 2007, 99) resulting in a growing diversity of various approaches and models in the HE literature on defining, measuring and evaluating service quality (SQ). These models address different levels of institutional operation including the macro institutional, faculty and program, and module or course level as well (Harvey, 2003).

According to Stensaker (2007) and Cameron & Whetten (1996), 'quality has begun to replace effectiveness as a central organisation-level variable in higher education. With a few noticeable exceptions, effectiveness has largely been abandoned and quality has become the pre-eminent construct' (Stensaker, 2007). Both the interpretation and the evaluation of HE quality is quite complex since the different stakeholders addressed to the aforementioned operational levels of HE are increasingly aware and conscious when setting expectations towards institutions (HEIs) and when evaluating the perceived performance and quality (Veršić, 2018). This degree of complexity is also formed by the special characteristics of HE services and the lack of agreement of the customer concept.

Taking the directly interacting role of students and lecturers as primary stakeholders into consideration when measuring and evaluating HE service quality, this paper focuses on the dominant quality attributes at the different operational levels of HEIs and on the establishment of a service quality framework on course level at the largest Hungarian university of technology. The project work courses under investigation play a significant role in the curriculum, therefore, the perception of students and supervisors related to these courses could provide important aspects in the light of total student experience as well. Initially, a pilot questionnaire based primarily on the SERVQUAL methodology has been developed to measure and evaluate service quality issues associated with the supervision of these courses. After the pilot implementation period, focus group sessions and personal interviews have been conducted with students and lecturers to analyse the viewpoints of the two directly interacting stakeholder groups.

The primary aim of this paper is to summarize the most important quality attributes of course level in the case of a special type of course and, to introduce the combined results of quantitative and qualitative analyses of two academic years in order to close the PDCA loop, that is, to apply the continuous improvement philosophy both when considering the improvement of the applied methodology and when feeding back students' perceptions to the related processes.

Stakeholders of higher education institutions

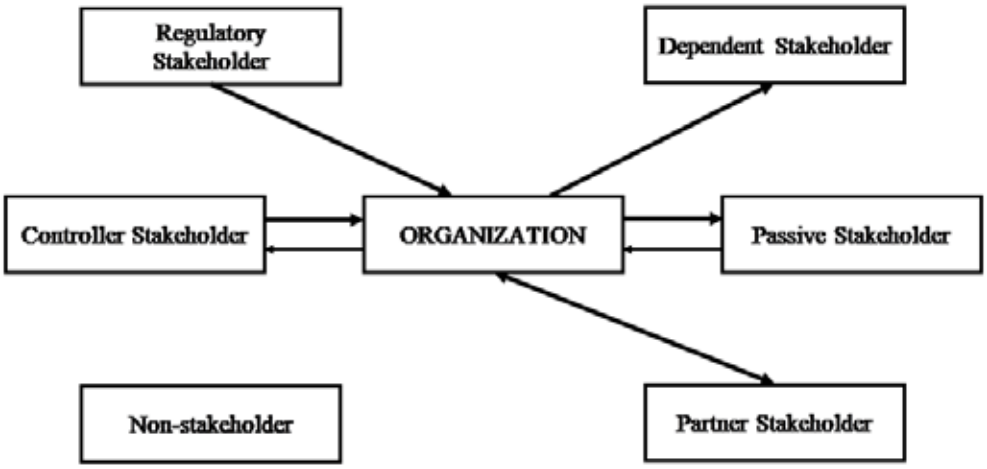
In order to gain competitive advantage in the fierce competition for students, HEIs are required to pay growing attention to provide the best possible service. In order to serve that need, they are forced to develop and manage a SQ assessment system (Gupta & Kaushik, 2018; Ansary *et al*., 2014; Chung & McLarney, 2000; Zell, 2001) utilizing institutional strengths.

The distinct characteristics of HE services (known also as HIPI characteristics, H standing for heterogeneity, I for intangibility, P for perishability, and I for inseparability) make this assessment process even more difficult on every institutional level, since higher education processes are heterogeneous. On course level, this heterogeneity is due to e.g. the variety of courses, examples, notes, handouts, assessment methods, exercises, practices and its participants, etc. The feature of intangibility expresses that the knowledge received during courses is not tangible, this knowledge could only be understood and experienced, even if teaching has tangible parts including e.g. the educational environment, applied course materials, etc. Perishability is strongly connected to intangibility by emphasizing that the educational service cannot be stored. Inseparability might be the biggest challenge for the staff since some students will always find some lecturers better than the others and what is more, student inconsistency may also be diagnosable in that sense (see e.g. Tóth *et al*., 2017). According to Gupta and Kaushik (2018), other key features should be highlighted as well; that is, higher education provides a unique service to each and every student, it has multiple stakeholders, it cannot be standardized and for most of the time HE does not aim at profit making. Stakeholders of the HE sector include undergraduate students, graduates, parents, university employees, labor market participants, funding bodies and foundations, scientific societies, government, society, etc. (Guolla, 1999; Clayson & Haley, 2005; Bennett & AliChoudhury, 2009; Mark, 2013; Nell & Cant, 2014; Fosu & Owusu, 2015; Guilbault, 2016; Bhuian, 2016; Nasim *et al*., 2019; Ruben *et al*., 2018; Mattah *et al*., 2018). Regardless the level of HE operation in focus, the following questions naturally arises: Whose satisfaction should be measured? Whose expectations and perceptions are to be identified and understood when dealing with quality issues? In order to answer these questions, stakeholders and customers have to be defined on each operational level, and their needs should be collected and thoroughly analysed.

In addition to that, both the groups of stakeholders who should be considered when evaluating SQ and their weighting may vary according to the level of operation examined in a particular HE situation. Fassin (2009) and Mainardes *et al*. (2012) introduced analytical models defining different stakeholder groups. Fassin (2009) divided the groups of potential stakeholders into three subgroups: stakeholders (internal constituents), stakewatchers (pressure group) and stakekeepers (regulators). True

stakeholders can be characterized by having a real, direct claim on the institution, while a pressure group only has an indirect one. Regulators have no real claims at all. On the other hand, Mainardes *et al*. (2012) identified six groups of stakeholders depending on the degree and direction of influence between them and the HEI (shown on Figure 1). The author also emphasized the complexity of defining the borders among the groups, that is, regulatory, controller, partner, passive, dependent and non-stakeholders.

Figure 1: The degree and direction of the influence between stakeholders and HEIs



Source: Mainardes et al., 2012, 1874

Table 1 implies that the borders could not be sharply defined among the various stakeholder groups. Depending on the level of operation, on the exact HE situation and on the investigated HE process, the participants involved in HEI processes may have different roles, provide different inputs and receive different outputs. As presented in Table 1, students can be partners, passive or dependent stakeholders depending on the force of their influence on the HEI. University staff could be present in almost every role depending on the position of the staff member and the process. The society is present in various roles (controller, partner or passive stakeholder) as well as the parents of students (partner, passive, dependent stakeholder). Except for the evaluation and assessment bodies, all previously defined participants could contribute in more stakeholder groups according to the classification of Mainardes *et al*. (2012).

Table 1: Groups of stakeholders

Participants of HEI processes	Stakeholder	Stakewatcher	Stakekeeper	Regulatory stakeholder	Controller stakeholder	Partner stakeholder	Passive stakeholder	Dependent stakeholder
Students	x					x	x	x
Graduates	x				x	x		
Parents (through students)	x					x	x	x
University employees (lecturers, management, administrative staff)	x				x	x	x	x
Society		x			x	x	x	
Media		x			x	x		
Competitors		x			x	x		
Labor market		x			x	x		
Evaluation/assessment bodies			x	x				
Domestic and offshore partners			x	x	x	x		
Government			x	x				

There are several studies that aim to map the process of HE service provision in order to define quality and the relevant stakeholders (e.g. Pereira & Da Silva, 2003; Labanauskis & Ginevicius, 2017). Jain *et al*. (2011) considered the students, the faculty management and staff and the infrastructure (funds – parents and families, industry collaboration, funding bodies) as the suppliers of inputs, pointing out that only the first two could have any means of control. According to the authors, the output's 'customers' are the society and the industry by viewing graduates as the outputs of HE. Based on Jain *et al*.'s (2011) model and on the stakeholder groups demonstrated in Table 1, Figure 2 differentiates the roles of suppliers and partners, the work group and customers.

Figure 2: Educational services as processes

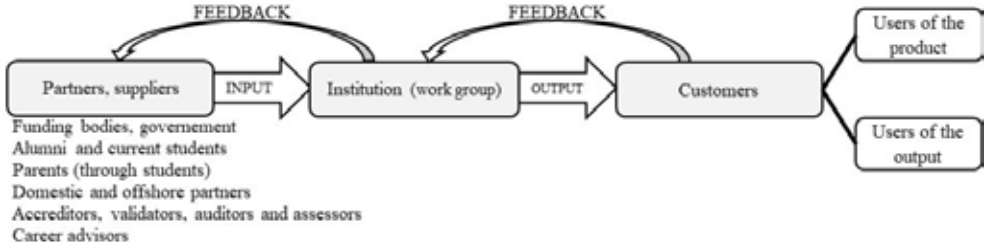


Figure 2 demonstrates the HE process in the context of the total quality management (TQM) philosophy emphasizing the position of students as input resources (Nasim *et al*., 2019) and outputs at the same time. The inputs could appear in different

forms including money from the funding bodies and the government, parents, domestic and offshore partners; feedbacks from graduates and career advisors; laws, regulations and principles to follow mainly set by funding bodies and the government; certifications, accreditation requirements from the accreditation, validation bodies, auditors and assessors. The outputs of the process may be viewed as knowledge (embodying finally in a degree) where students are viewed as customers (output users). On the other hand, educated students could also be considered as outputs in the case of which the labour market acts as a customer (outcome users).

The quality of institutional operation may also be investigated at different levels (Harvey, 2003), namely at institutional/campus (e.g. Teeroovengadum *et al*., 2016), faculty/program (e.g. Mizikaci, 2006), and module/course level (e.g. Kincsesné *et al*., 2015; Surman & Tóth, 2019a). The process demonstrated by Figure 2 reflects the macro level of institutional operation. Viewing quality on the other two levels, institutional goals are broken down and only a part of the above shown partners and suppliers may be relevant and the role of labour market as outcome user is getting out of the core direct focus as shifting towards course level. However, an institution could fulfil labour market requirements efficiently and effectively by following a bottom-up approach. This means if lecturers are conscious of labour market trends and expectations, then this approach might diffuse up to higher level of institutional operation.

Measuring and evaluating HE service quality from the students' perspective is a hot topic in the literature, but the lecturers' points of view are also highlighted in several studies. The great number of empirically proposed dimensions of HE service quality has led to various SQ models in this sector. These models differ not only in their specific dimensions, but also in their aspects addressed by the applied statements, questionnaires as well. However, quality could be measured in different ways (Nasim *et al*., 2019) by utilizing different approaches at each operational level, since SQ is interpreted through different dimensions viewed from the aspects of different (primary) stakeholders. To investigate this issue including both the voice of students and academics as primary stakeholders (having considerable influence in each level), questionnaires were applied and focus group discussions were conducted which are to be discussed in the next section.

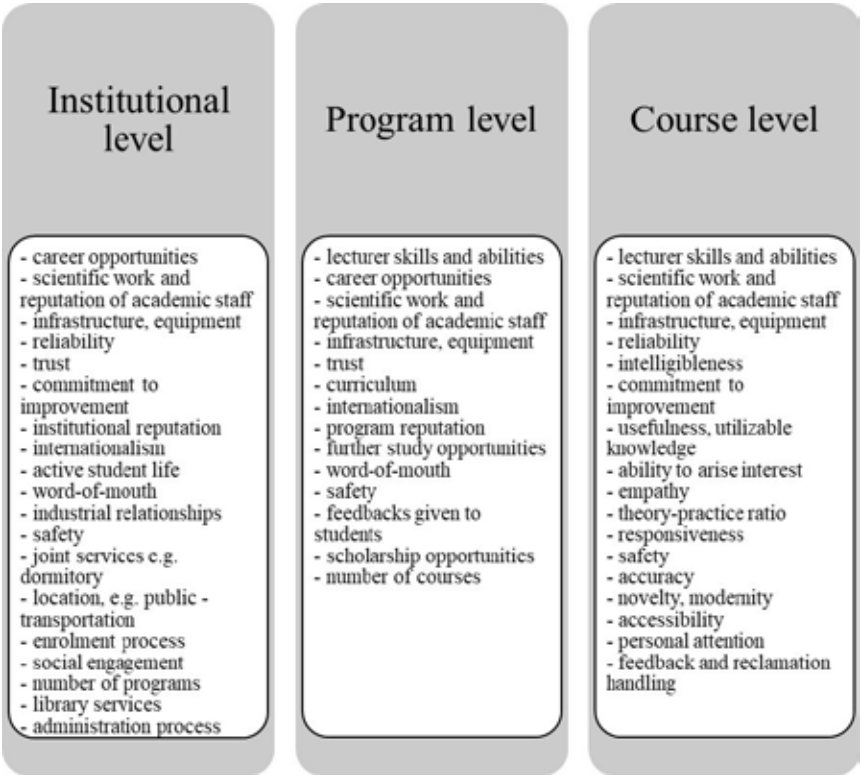
Differences between HE operational levels

In the spring semester of 2019, a survey has been developed to examine the differences of interpreting and perceiving quality at the three operational levels at one of the biggest and most prestigious universities of Hungary with the contribution of the Department of Management and Corporate Economics (Surman & Tóth, 2019b). The primary aim of the student survey was to identify the differences between these

levels through detecting the dominant attributes when perceiving quality by focusing on the students' point of view. The questionnaire was filled in by 258 Hungarian and 78 foreign students who were invited to respond during the courses of Quality Management and Management and Business Economics (average response rate is around 49 %). The survey consisted of two parts: a first free thinking session and a second ranking session. In the free thinking stage, students were asked to define individually the 3 most important quality characteristics associated with the different operational levels. Each respondent was asked to give three ideas related to quality at each level. Hungarian students listed altogether 774, while foreign students provided 234 ideas.

The second phase included the most frequently referenced quality attributes according to the state of the art differentiated by the operational levels by listing 19 features on institutional, 14 characteristics on program and 17 attributes on course level (see Figure 3) (e.g. Stewart & Walsh, 1989; Owlia & Aspinwall, 1996; Navarro *et al*., 2005; Douglas *et al*., 2008; Butt & Rehman, 2010; Jain *et al*., 2011; Ibrahim *et al*., 2012; Seesy *et al*., 2018; etc.). In this part, respondents were required to rank the 3 most important attributes from the lists related to the distinct levels.

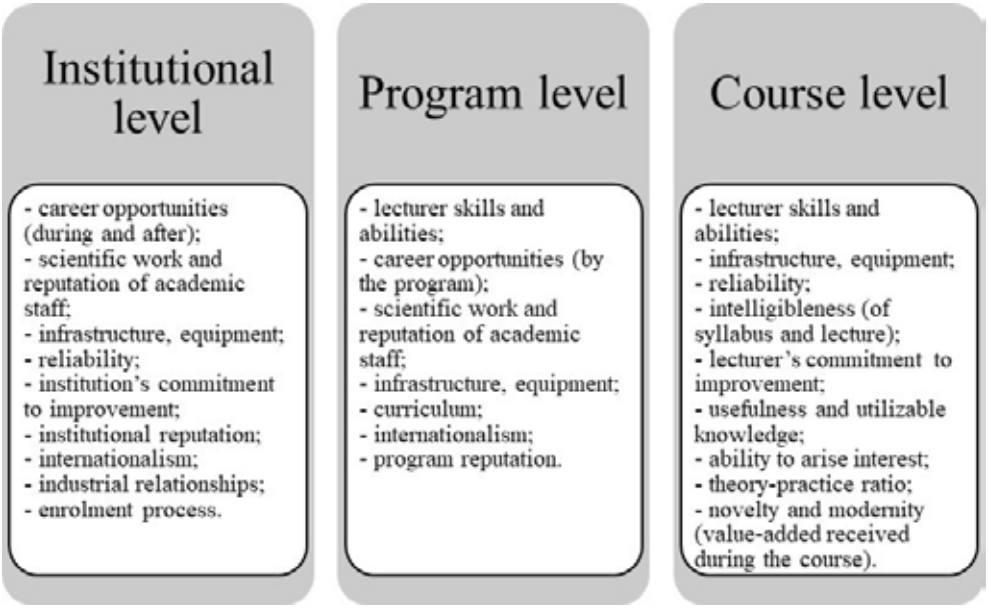
Figure 3: State of the art quality attributes



The results of the questionnaire implied that the evaluation of quality at institutional level should not be dominated solely by the students' view. Due to the existence of information asymmetry, students do not have a full comprehension of institutional operation. To further explore this issue, focus group discussions were organized including PhD students and lecturers (with various level of experience) from the same Department resulting in affinity diagrams which were compared to the survey results.

The comparison of the attributes highlighted by the focus groups, the free thinking session and the state of the art (included also in the second part of the student survey) delivered similar results (Surman & Tóth, 2019b). Based on the results of the applied survey and the three focus group discussions, it could be concluded that the focus of each level includes primarily the quality features listed in Figure 4. These features highlight the quality attributes at each level of operation to which institutions should pay attention when managing quality.

Figure 4: Quality attribute differences between operational levels



The importance of quality attributes of HEI operational levels

In the second part of surveying, students of the same courses of a different semester were asked to rank the importance of the quality attributes resulted in the list depicted in Figure 4. These courses are obligatory courses for business and engineering students as well, therefore, a more balanced picture could be taken of student preferences (the response rate is 44.8%).

Table 2: Demographic characteristics (second part of surveying)

Faculty	Students	Respondents
Faculty of Civil Engineering	156	11
Faculty of Mechanical Engineering	355	95
Faculty of Economic and Social Sciences	442	359
Faculty of Chemical Technology and Biotechnology	212	31
Faculty of Electrical Engineering and Informatics	314	167
SUM	1479	663

Only 7% of the responding students had any experience from other universities. 64% of them were male and 36% were female. 89% of the respondents were 19-22 years old and 78% gives regular feedbacks on HE experiences (e.g. through the Student Evaluation of Education (SEE) system).

The respondents were asked to rate the importance of the listed quality attributes at all levels on a 7-point Likert scale. We had not expected that any of the listed attributes was going to be given really low importance scores since these attributes were chosen as the most important by the previous survey respondents and the focus groups participants (Surman & Tóth, 2019b). Table 4 shows the results of the questionnaire including the mean and the sum of the ranking points of each quality attribute. These points suggest a slight difference between the three operational levels. The mean scores are 5.3608 at institutional level, 5.4751 at program level, and 5.7771 at course level. This difference might partly suggest that students are more familiar with the course level and in the quality evaluation process of the upper levels, other stakeholders' opinion should be included as well. As further analyses, Wilcoxon signed-rank tests confirmed the difference among the operational levels (institutional-program: t-value=-6.641 (p-value=0.000), institutional-course: t-value=-15.628 (p-value=0.000), program-course: t-value=-12.947 (p-value=0.000)). We also examined the quality attributes that are present at more operational levels. The Friedman and Wilcoxon signed-rank tests showed that 'infrastructure, equipment' is ranked differently at the three levels except between institutional and program levels (Chi-Square: t-value=14.519, p-value=0.001; institutional-program: t-value=-0.675, p-value=0.500; institutional-course: t-value=-4.099, p-value=0.000; program-course: t-value=-3.431, p-value=0.001). The Wilcoxon signed-rank test also presented that 'the scientific work and the reputation of academic staff' shows no significant difference between the institutional and program levels (t-value=-0.569, p-value=0.570) as well as in the case of 'internationalism' (t-value=-1.667, p-value=0.096) and 'lecturer skills and abilities' (t-value=-0.215, p-value=0.830), while 'reliability' is significantly differently ranked on institutional and course levels (t-value=-5.256, p-value=0.000).

Cronbach's alpha coefficient was used to measure the accuracy and consistency in connection with the questionnaire. The overall reliability was α=0.890 which ex-

ceeded the usual recommendation of α=0.70 (and is below α=0.95) for establishing internal consistency of the scale (Black, 1999). Besides reliability, validity is also a major issue when evaluating questionnaires which focuses on whether the instrument provides a measure of what it intends to. There is a number of validity approaches, we chose to measure discriminant (divergent) validity (Engellant *et al*., 2016). In this case, the mean scores for each operational level were calculated and correlated with the mean of scores given for a single item measure of the respondents' satisfaction with the examined university.

Table 3: Spearman's rho results

	Spearman's rho (satisfaction with the examined university)	p-value
Institutional level	0.130	0.001
Program level	0.128	0.001
Course level	0.098	0.012
All quality attributes	0.131	0.001

The Spearman's rho correlation coefficients for each level show very weak correlations. The same analysis instead was performed in case of each quality attribute leading to similar results. Spearman's rho correlation was calculated by comparing the mean scores of all quality attributes (together from all levels) to the same single item's scores which resulted in the correlation value of 0.131 indicating very weak correlation. These results support the validity of our questionnaire.

Table 4: Differences in the importance of quality attributes between operational levels

Level	Quality attribute	Mean	Sum
Institutional level	reliability	6.02	3991
	career opportunities (during and after)	6.01	3987
	infrastructure, equipment	5.57	3691
	institution's commitment to improvement	5.53	3667
	industrial relationships	5.53	3666
	institutional reputation	5.42	3596
	scientific work and reputation of academic staff	4.92	3262
	internationalism	4.83	3199
	enrolment process	4.42	2929
Program level	career opportunities (by the program)	6.23	4129
	lecturer skills and abilities	6.17	4093
	infrastructure, equipment	5.54	3675
	curriculum	5.53	3668
	program reputation	5.19	3439
	scientific work and reputation of academic staff	4.89	3245
	internationalism	4.77	3161

Table 4. Continued

Level	Quality attribute	Mean	Sum
Course level	intelligibleness (of syllabus and lecture)	6.45	4275
	lecturer skills and abilities	6.18	4095
	usefulness and utilizable knowledge	6.10	4042
	ability to arise interest	5.91	3921
	reliability	5.82	3859
	novelty and modernity (value-added received during the course)	5.71	3788
	lecturer's commitment to improvement	5.57	3692
	infrastructure, equipment	5.39	3571
	theory-practice ratio	4.87	3229

As a conclusion, the voice of students could mainly be utilized when evaluating SQ on course level. The intelligibleness, the usefulness and the utilizable knowledge and the lecturers' skills and abilities were ranked first on this level. It is worth pointing out that the theory-practice ratio was back ranked by the respondents which could mean that students seem to be less concerned with the degree of practicality of the received knowledge that could help their future work.

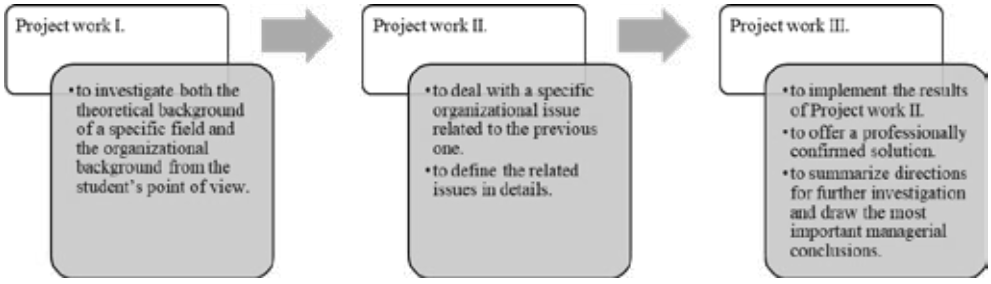
Project work courses

The Student Evaluation of Education framework has been applied at the examined university for almost 20 years assessing different elements of the semester-long education quality on course level. The project work courses under investigation are not part of the SEE framework owing to their special features compared to traditional courses. These courses have always been paid special attention, since students can earn high ECTL points by fulfilling them. On the other hand, these courses are obligatory for students both on bachelor and master level at the different business programs offered by the Faculty of Economic and Social Sciences at the investigated university.

In the project work semesters, supervisors are assigned to each student with the purpose of providing professional support. Depending on the type of the business program, the obligatory number of these courses may differ. BA students usually complete three, BSc students fulfil two consecutive project work courses. On MA level, students are required to execute a single project work course due to the shorter lengths of master programs. The output of each project work is a written paper. After the students have completed and uploaded their written report to the official website, they prepare an oral presentation where both the content of their papers and their presentation skills are evaluated. Students are given a final grade only after successful oral presentation. The project work courses are to prepare students to write a thesis

and foster their successful entry to the labour market (Surman & Tóth, 2019a), their aims are shown in Figure 5 in the case of a program where three project works are to be accomplished.

Figure 5: The aims of project works



This type of course is strongly related to the quality attributes at course level (Table 4).

- Students have to present what they have acquired from the previous courses in a complex and coherent way (related quality attribute: intelligibleness of the syllabus and lectures).
- The lecturers', in this special case the supervisors' skills and abilities and the reliability of their relationship with the students are of utmost importance as they mentor the whole process of creating and presenting this piece of work in the given semesters (related quality attributes: lecturer skills and abilities, reliability).
- These project works serve the aim to get students acquainted with the practical benefits of the acquired theoretical concepts with which the supervisor is highly familiar (related quality attributes: usefulness and utilizable knowledge, novelty and modernity (value-added received during the courses), lecturer's commitment to improvement).
- When choosing project work topics, students' special professional interests are taken into consideration (related quality attribute: ability to arise interest).
- Supervisors should be familiar with the supporting infrastructure (related quality attribute: infrastructure, equipment).
- Project work courses are dedicated to serve as a path from theories to practices applied in business context (related quality attribute: theory-practice ratio).

Survey development and the first quantitative results

Taking the aforementioned features of these courses into consideration, a SERVQUAL-based course evaluation questionnaire was developed. The questionnaire including

26 statements (see Table 5) is based on a 7-point Likert scale, where score 1 stands for the lowest, and score 7 for the highest value evaluating SQ issues by judging both importance and performance viewpoints (Surman & Tóth, 2019a). An additional question related to the overall SQ perception is included, and specific demographic questions as well as a place for narrative comments are also provided. The statements were developed by utilizing the models and results proposed by Parasuraman *et al*. (1988), Oldfield and Baron (2000), Yousapronpaiboon (2014) and Kincsesné *et al*. (2015). The importance aspect reflects the expectations and requirements of students, while performance scores denote how satisfied students are with the various components of the supervising process. The survey was filled out by both bachelor and master students, the response rates in the applied segmentations were around 70% on average in the two pilot semesters.

Table 5: Questionnaire applied for the project work supervising process

Statements
S1 - The guidelines related to the content requirements of the project work are clear and useful.
S2 - The guidelines related to the formatting requirements are clear and useful.
S3 – Supervisor feedbacks at the different phases of the project work are interpretable.
S4 - Appropriate, suitable consultation opportunities are provided.
S5 - The supervisor applies up-to-date tools and methods during the consultation process.
S6 - Consultations take place in an undisturbed environment and under the right circumstances.
S7 - The supervisor keeps the jointly agreed deadlines supporting the continuous progress of the project work.
S8 - The supervisor is ready to help with the difficulties arising during their cooperation.
S9 - During consultations the supervisor expresses his/her willingness to share his knowledge in an understandable way.
S10 - The supervisor pays attention to the student's specific interest when determining the exact topic of the project work.
S11 - The supervisor is available at the scheduled time.
S12 - The supervisor is willing to answer the emerging questions and requests.
S13 - The number and the frequency of consultations during the semester are sufficient.
S14 - The supervisor's response time to requests is satisfactory.
S15 - The supervisor's recommendations and expectations are consistent with the guidelines related to the content of the project work.
S16 - The student is given enough help when doing research on the relevant literature.
S17 - The student is given enough help related to the appropriateness of the form and content of references.
S18 - The student is given enough help related to the style and terminology.
S19 - The supervisor supports the student when preparing the oral presentation of student results.
S20 - The supervisor is polite, responsive, attentive.
S21 - The supervisor is familiar with the supporting processes of project work courses.
S22 - The student relies on the supervisor's professional knowledge.
S23 - The content requirements of the project work are fulfilled as a result of continuous cooperation between the student and the supervisor.
S24 - There is a clear communication between the supervisor and the student.
S25 - There is a partnership between the student and the supervisor.
S26 - During the semester the student is given personal attention.

Figure 6: Overview of the conducted statistical tests

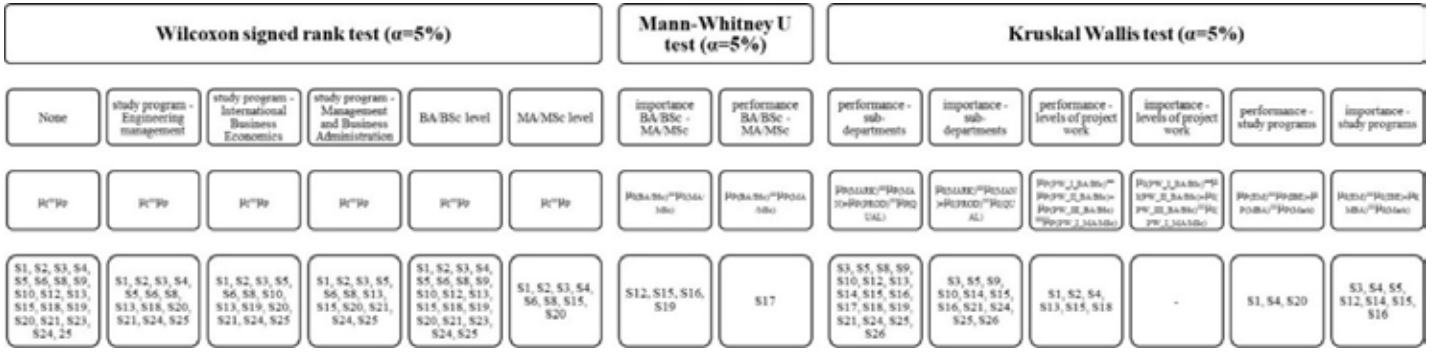
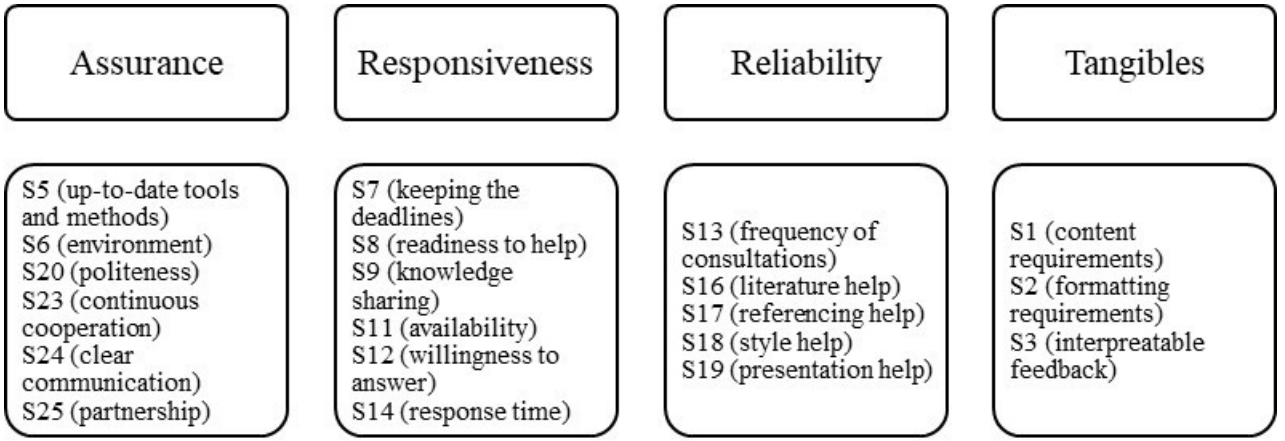


Figure 7: PCA results



The main conclusions based upon the first quantitative results are detailed in Surman & Tóth (2019a). Students' responses were segmented according to the business program they attend the level of their study, the level of project work course and the management field to which the specific project work topic belongs to. Various statistical tests based on these segmentations were conducted (see the summary of conducted tests in Figure 6). In case of S7, S11 and S22, all null hypotheses were accepted. Taking all segmentations into account, about half of the statements required deeper analysis, as in these cases significant differences have been caught either between importance scores, between perceived performance level or between the coherent importance and performance evaluations.

These statements are the followings:

- S1 (content requirements),
- S2 (formatting requirements),
- S3 (interpretable feedbacks from the supervisor),
- S4 (the appropriateness and suitability of consultation opportunities),
- S5 (up-to-dateness),
- S8 (supervisor's readiness to help),
- S13 (frequency of consultations),
- S15 (consistency with guidelines),
- S20 (politeness, responsiveness),
- S21 (familiarity with supporting processes),
- S24 (clear communication),
- S25 (partnership).

A Principal Component Analysis (PCA) with varimax rotation was also carried out based upon importance scores reflecting students' expectations. Six statements were left out (S4, S10, S15, S21, S22, S26) in order to come to a clearer component structure. The total variance explained by the components was 58.809%.

Focus group interviews and qualitative results

After analysing the statistical results of the pilot year, five focus group interviews were performed with the involvement of different 'mini-groups' (Krueger, 2002; Williamson, 2018; Krueger & Casey, 2009). To these focus group interviews, students and supervisors were invited to take part and were given the opportunity to provide narrative comments related to the supervising process. Personal interviews were also performed with supervisors with different professional backgrounds.

The focus group discussions had three consecutive parts. First, participants had the possibility to provide narrative comments related to the crucial points of the supervising process. In the second phase, they were asked to write down individually the five most important characteristics of the supervising process. Then, they created

affinity diagrams in group work utilizing the previously collected ideas. After introducing the diagram, the most and the least important statements of the questionnaire were highlighted through the application of Q sorting technique.

The first two focus groups included 3-3 students, their common and distinctive features are shown in Table 6. The next discussion was executed with two PhD students and an assistant lecturer. The reason for involving them was the fact that these colleagues had just finished their university studies and now being in a position of becoming a lecturer and as such they supervise a number of students. To the fourth group, middle-aged, middle-experienced supervisors were invited: two associate professors and a research fellow. The fifth focus group session was formed with the participation of senior supervisors: three associate professors and an assistant professor. The clarified affinity diagrams' main headings of the focus groups discussions are illustrated in Figure 8.

Table 6: Feature of the participated students

Common features	Distinctive features
They have already fulfilled at least one project work course during their studies. They have been studying at one of the business programs of the same faculty.	They have fulfilled project work course(s) at different departments. 3 of them study on BA/BSc level and 3 of them on MA level.

The ideas collected by the two student 'mini-groups' resulted in six main classes of ideas titled as *scheduling, responsiveness, supervisor's professional knowledge and soft skills, topic proposals* and *presentation*. The ideas appearing in the affinity diagram associated with 19 of the 26 original questionnaire statements.

The PhD focus group classified its ideas into 3 main groups titled as *communication, attitude* and *supervisor.* The ideas generated by these participants did not associate with 6 of the 26 original questionnaire statements, 4 of which were not mentioned by the students either.

In the fourth and fifth focus group interviews, ideas were grouped into 7 main groups, namely, the *availability of the supervisor*, the *appreciation of the project work* (both by students and supervisors), the way how the supervisor provides *feedbacks, the supervisor-student relationship*, the importance of some basic *standards*, the characteristics of the project work *topic* and finally, the features of *students*. The ideas proposed by the participating supervisors could be related directly or indirectly to 20 of the original statements. Two of the missing ones were not mentioned in the third focus group either and S21 (familiarity with supporting processes) was not pointed out either by the student-involved groups or the PhD group.

Figure 8: Relationships between affinity diagrams

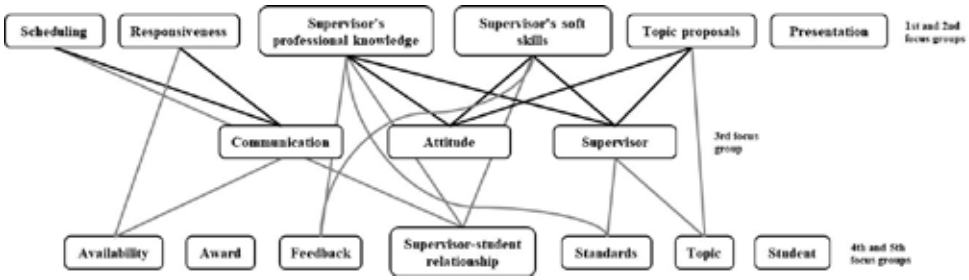
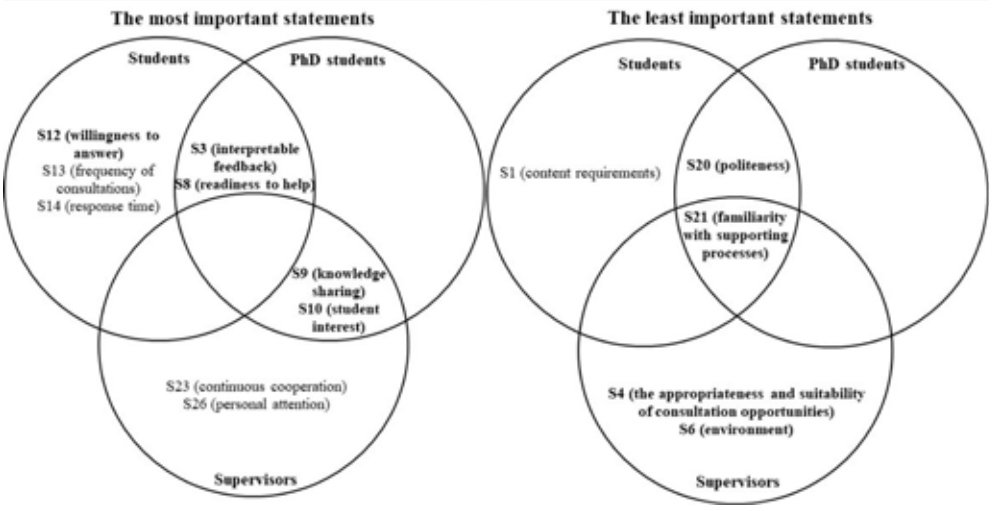


Figure 8 demonstrates the connection network between the groups of ideas addressed by the three affinity diagrams. *Communication* (PhD focus group) serves as a conjunction between *scheduling* and *responsiveness* from the students' affinity diagram, while *attitude* and *supervisor* titled groups of ideas relate both to the *supervisor's professional knowledge*, *supervisor's soft skills* and to *topic proposals*. *Availability* is related to *communication* and *responsiveness*, while *feedback* as well as *supervisor-student relationship* reflect also the *supervisor's professional knowledge* and their *soft skills*. *Supervisor-student relationship* may also be linked to *scheduling*. *Standards* are related both to the *supervisor* and to the *supervisor's professional knowledge*, while *topic* includes relations to the *supervisor* and the *topic proposal* headings.

During the focus group sessions, some exciting issues have emerged. In line with fulfilling project work courses, students may go on with their professional interest by improving their project work results in order to present them in student scientific conferences or to apply for specific student awards. These issues as a special aspect of a fruitful student-lecturer relationship were only highlighted and detailed by the fourth and the fifth focus groups. End-of-semester oral presentations acting as the final exam of a project work course were only mentioned by students which reflects that it is considered as an important part of the semester-long student work. What is surprising that students have not dealt with their own role when evaluating the success of the supervising processes, they have focused merely on supervisor-related attributes when listing ideas. PhD students, now in their role of supervisors, have called attention to the contribution of students for the sake of the successful accomplishment of requirements. The students' role was much more detailed in the fourth and fifth focus groups which consisted of experienced supervisors. The involved participants were really convinced about the role of students for the sake of successful accomplishment. This conclusion calls attention to the contrasting issue that despite the fact that students wish to be treated as partners in HE, they do not consider themselves as real partners when it comes to deeper qualitative analyses. Therefore, the consideration of partnership from the aspects of students and of lecturers seems to differ significantly, but this issue needs further investigation.

In the third phase of the focus group sessions, participants were asked to critically review the importance of the original survey statements with Q sorting technique. This qualitative method is generally utilized for studying human subjectivity and looking for similarities between viewpoints by filling the gap between quantitative and qualitative analyses. A structured and ready-made Q-sample was used since the choice of statements was not the result of the communication with these participants (Hofmeister-Tóth & Simon, 2006), but they were fix, part of the project work course survey. The participants classified the statements into 9 categories. Discrete values between -4 (least important) to +4 (most important) could be assigned to express the importance of the supervising issues in a forced quasi-normal distribution pattern.

Figure 9: The results of Q sorting technics: the most and the least important statements



As shown in Figure 9, S21 (familiarity with the supporting processes) was found as the least important by all groups. Politeness (S20) was also highlighted in this aspect, but only students and PhD students found it less important. Taking into consideration the Q values of the statements, S4 (the appropriateness and suitability of consultation opportunities), S6 (environment), S20 (politeness) and S21 (familiarity with supporting processes) are the least important ones. From the students' and PhD students' point of view, S3 (interpretable feedback) and S8 (readiness to help) are the most important, but PhD students highlighted S9 (knowledge sharing) and S10 (student interest) statements as well, as did supervisors also besides S23 (continuous cooperation) and S26 (personal attention). If the 16 Q sorting results are summarised, S3 (interpretable feedback), S8 (readiness to help), S9 (knowledge sharing), S10 (student interest) and S12 (willingness to answer) are considered to be the most important statements.

Besides the focus group sessions, three personal interviews were conducted with:

- the head of the department,
- the deputy head of the department, who is also the head of the quality management and business statistics subgroup and the primary administrator of the project work IT system,
- and a supervisor, who is also the head of the marketing management subgroup with a professional background in service marketing.

The raised questions mainly focused on the added value of the project works, feedbacks on the supervising process, the least and the most important statements of the questionnaire.

Based on the answers given to the raised questions, it has become clear that these project work courses help to keep balance the consequences of mass education since students are paid individual attention, they are to demonstrate the utilization of their professional knowledge in practical problems and how valuable their knowledge is in a real life situation. The interviewees highlighted that for most of the time students do not see the value and opportunity embedded in the successful completion of these courses until they come to the thesis or enter the labour market. Some companies know about these courses and seek for the opportunity to offer a project work topic on their specific problem or field. Three groups of problems were mentioned connected to the examined process:

- the usability of IT system which contains the final project work,
- the number of departments and subgroups since they do not treat either the students or their outputs in exactly the same way,
- the student attitudes also show great differences.

The head of the department mainly considered the same statements as the most important ones as the focus group participants without mentioning S13 (frequency of consultations) and S14 (response time). She chose S22 (professional knowledge) and S25 (partnership) as the most important attributes of the supervising performance. The most and least important statements from the deputy head's point of view were different compared to the Q sorting results except for S23 (continuous cooperation) which was highlighted by the supervisors' groups. He pointed out S5 (up-to-date tools and methods), S10 (student interest), S16 (literature help), S17 (referencing help), S18 (style help) and S24 (clear communication) as the least important statements, which is interesting because S10 (student interest) was regarded as one of the most important ones by all the other participants.

Table 7: The least and most important ideas by personal interviews

	Head of the department	Deputy head of the department	Supervisor and service marketing researcher
Most important	S3 (interpretable feedbacks)		
	S8 (readiness to help)		
	S9 (knowledge sharing)		
	S10 (student interest)		**S10 (student interest)**
	S12 (willingness to answer)		
		S19 (presentation help)	
	S22 (professional knowledge)	**S22 (professional knowledge)**	**S22 (professional knowledge)**
		S23 (continuous cooperation)	
	S25 (partnership)		**S25 (partnership)**
	S26 (personal attention)		
Least important			S1 (content requirements)
			S2 (formatting requirements)
		S5 (up-to-date tools and methods)	
		S10 (student interest)	
		S16 (literature help)	
		S17 (referencing help)	
		S18 (style help)	**S18 (style help)**
		S24 (clear communication)	

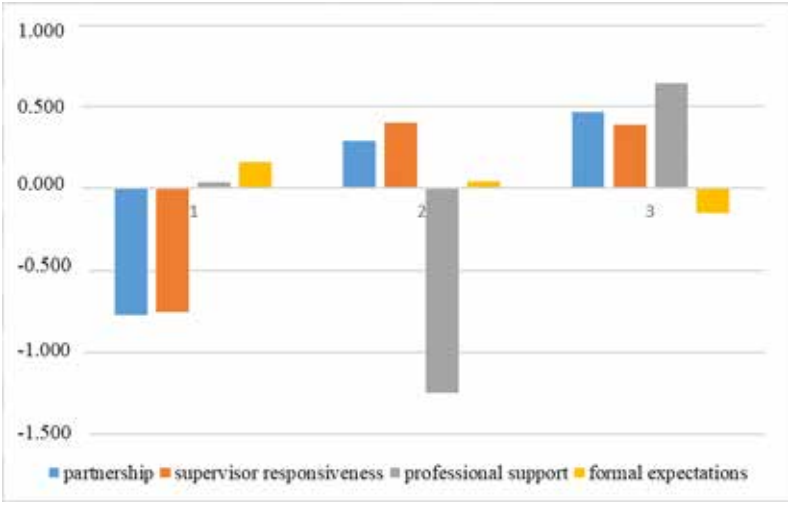
Summarizing the results of the qualitative research reveals that students find *partnership*, *the recognition of the value added by students* in the course, *professional knowledge sharing and support*, *supervisors' availability, trust, personal attention*, and *help in literature research* the most important. Focusing on treating students as partners, supervisors would like to provide professional support for students who have their own ideas, invest energy in accomplishing the project work courses, appreciate the professional help and feedback they are given, keep the deadlines and trust their supervisors.

According to the qualitative results, students may be categorized into different groups. 'Neglecters' are the students who do not really care about the completion of their project work. 'Independents' only need confirmation and feedback from their supervisors, since they are able to work individually and can be treated as real partners in the process. 'Energy eaters' can be further categorized into two sub-groups, namely, the 'helpless' requiring continuous attention and the 'overanxious' always looking for answers for special questions. These groups of students require regular consultations, more care and time from the supervisor. This also means that the supervisors may provide the 'kit' of individual attention by choosing the right way to handle the student by building on their professional experience and the first consultations.

In order to confirm this assumption with quantitative methods, a cluster analysis was performed based upon student expectations, showing the presence of three clusters. Figure 10 depicts the average values of each component per cluster based

on the component results of PCA of importance scores given by students. For the student segment marked as '1', formal expectations are the most important, while partnership and supervisor willingness are less important than average. They can be characterized as having the ability to progress independently with formal expectations ('Independents'). For the student group titled as '2', partnership and supervisor willingness are more important on average, but the expectation of professional support is neglected. They can be considered as students who expect the availability of the supervisor skills, but the professional support is less important ('Neglecters'). The student group labelled as '3' can be identified as the group of 'Energy eaters', who consider the presence of professional support the most important, while formal requirements as less important.

Figure 10: The three groups of students



Conclusions and managerial implications

On the one hand, the purpose of the paper is to describe the differences of quality attributes between HEI operational levels and to highlight a group of quality attributes for each level. Through two questionnaires and three focus group discussions, the voice of students and lecturers was collected as a result of which the differences between the operational levels were pointed out which has resulted in 9 institutional, 7 program and 9 course level quality attributes.

On the other hand, the paper presented the course level attributes in a special example, namely, in case of project work courses. Regarding the SQ measurement of the supervising process a questionnaire was developed and implemented for two pilot

semesters. The quantitative results of these semesters have brought 12 statements into the forefront for deeper analyses (Table 9). These results were complemented with qualitative data collected during 5 focus group interviews and 3 personal interviews. The results showed that S3 and S8 were the most important ones for the interview participants. These statements need more attention because the average importance scores exceed the average performance scores. In case of S3, this gap seemed to be more significant. There were no statements which were part of both the least and the most important groups of statements according to the qualitative analyses. However, it was interesting that S10 appeared in the grey group according to the student focus groups, in the most important group according to the PhD and supervisor focus group and two interviewees considered it as really important as well. On the contrary, the deputy head of the department marked it as the least important. All the other statements were more or less modified, some of them were merged and by adding one new (S15) statement, the improved questionnaire contains altogether 15 statements (see Table 8). With this step, the PDCA cycle for the development of the questionnaire considering both the voice of the students and that of supervisors applied for the project work courses has been closed.

Table 8: Statements of the new questionnaire

S1 - The student is given feedbacks by the supervisor in an appropriate and meaningful manner so as to assist the student's progress.
S2 - The supervisor is available both via email and personally with appropriate frequency under proper conditions (providing milestones during the semester).
S3 - The supervisor is up-to-date in terms of the tools and methods of the field and gets the students acquainted with their application.
S4 - The supervisor meets the mutually agreed deadlines and dates.
S5 - The supervisor expresses his/her willingness to help with any kinds of project work related issues the student addresses.
S6 - The supervisor considers the student's field of interest when designating the project work topic with which the supervisor is highly familiar with.
S7 - The supervisor's response time is appropriate.
S8 - The student is given enough help when doing research on the literature.
S9 - The supervisor professionally supports the student's preparation for the oral presentation highlighting its importance and relevance.
S10 - The supervisor is courteous, helpful and attentive.
S11 - The student relies on the skills and professional knowledge of the supervisor.
S12 - The project work's topic description is the result of the cooperation between the student and the consultant.
S13 - The communication is direct and clear with the supervisor.
S14 - The supervisor treats the student as a partner.
S15 - The supervisor reads through the project work from the beginning to the end and provides comprehensive feedback pinpointing both the strengths and the weaknesses.

In the case of project works, the concerned parties that need to contribute in order to reach a mutually beneficial situation are the supervisors and the students. However, until this moment the representatives of those companies where students accomplish these courses in order to work on real life problems have been neglected. According to the continuous improvement philosophy, it is time to start a new PDCA cycle associated with the labour market by collecting and utilizing the opinion and attitude related to project works. This contribution of the companies as third parties are extremely important not only on institutional but also on course level. If we take into account that project works are to be fulfilled in the last semesters of a given business program, right before graduation, the involvement of the labour market, that is, the identification and understanding of the expectations and perceptions of the external supervisors working at the different organizations reflecting the requirements of the labour market set new and interesting challenges for evaluating service quality issues on course level.

Table 9: The summary of quantitative and qualitative results

Statements	I-P map	P-I diagram	Statistics	Affinity diagram			Q technique				New statement:
				FG1 and FG2	FG3	FG4 and FG5	FG1 and FG2	FG3	FG4 and FG5	Personal interviews	
S1 (content requirements)	-	**I>>P**	**deeper analysis needed**	**no**	**no**	**yes**	**least**	**grey**	**grey**	**least - 1 interviewee**	-
S2 (formatting requirements)	-	**I>>P**	**deeper analysis needed**	**no**	**no**	**yes**	**grey**	**grey**	**grey**	**least - 1 interviewee**	-
S3 (interpreatable feedbacks)	better performance is needed	I>>P	deeper analysis needed	yes	yes	yes	most	most	grey	most - 1 interviewee	1
S4 (the appropriateness and suitatbility of consultation opportunities)	less performance is enough	-	deeper analysis needed	yes	yes	yes	grey	grey	least	grey	2
S5 (up-to-date tools and methods)	less performance is enough	-	deeper analysis needed	yes	no	no	grey	grey	grey	least - 1 interviewee	3
S6 (environment)	less performance is enough	I<<P	-	no	no	no	grey	grey	least	grey	2
S7 (keeping the deadlines)	-	-	-	yes	yes	yes	grey	grey	grey	grey	4
S8 (readiness to help)	-	-	deeper analysis needed	yes	yes	yes	most	most	grey	most - 1 interviewee	5
S9 (knowledge sharing)	better performance is needed	-	-	yes	yes	yes	grey	most	most	most - 1 interviewee	1
S10 (student interest)	-	-	-	yes	yes	yes	grey	most	most	least - 1 interviewee, most - 2 interviewee	6
S11 (availability)	-	-	-	yes	yes	yes	grey	grey	grey	grey	2,4
S12 (willingness to answer)	-	-	-	yes	yes	yes	most	grey	grey	most - 1 interviewee	5
S13 (frequency of consultations)	-	-	deeper analysis needed	yes	yes	yes	most	grey	grey	grey	2
S14 (response time)	-	-	-	yes	yes	no	most	grey	grey	grey	7
S15 (consistency with guidelines)	-	-	**deeper analysis needed**	**no**	**yes**	**yes**	**grey**	**grey**	**grey**	**grey**	-
S16 (literature help)	-	-	-	yes	yes	yes	grey	grey	grey	least - 1 interviewee	8
S17 (referencing help)	-	-	-	no	yes	yes	grey	grey	grey	least - 1 interviewee	8
S18 (style help)	-	-	-	no	yes	yes	grey	grey	grey	least - 2 interviewee	10
S19 (presentation help)	-	-	-	yes	yes	no	grey	grey	grey	most - 1 interviewee	9
S20 (politeness)	less performance is enough	I<<P	deeper analysis needed	yes	yes	yes	least	least	least	grey	12
S21 (familiarity with supporting processes)	-	-	**deeper analysis needed**	**no**	**no**	**no**	**least**	**least**	**least**	**grey**	-
S22 (profeesional knowledge)	-	-	-	yes	yes	yes	grey	grey	grey	most - 3 interviewee	11
S23 (continuous cooperation)	-	-	-	yes	yes	yes	grey	grey	most	most - 1 interviewee	12
S24 (clear communication)	less performance is enough	-	deeper analysis needed	yes	no	no	grey	grey	most	least - 1 interviewee	13
S25 (partnership)	-	-	deeper analysis needed	yes	yes	yes	grey	grey	grey	most - 2 interviewee	14
S26 (personal attention)	better performance is needed	-	-	yes	yes	yes	grey	grey	grey	most - 1 interviewee	6

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