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The role of the education quality assurance system  
in shaping relationships among university education  
quality, academic citizenship behaviour and academic  
performance

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## Abstract

The thesis of Miss Mengyu Cao entitled “The role of the education quality assurance system in shaping relationships among university education quality, academic citizenship behaviour and academic performance” was prepared under the supervision of Prof. Rafal Haffer and co-supervision of Prof. Oivind Strand. The purpose of the thesis was to investigate how does the design of the educational quality assurance system and its implemented activities affect the variables university education quality (UEQ), student loyalty (SL), academic citizenship behaviour (ACB), and academic performance (AP), as well as the relationships among them in different cultural context.

This study employed a mixed-methods-case study approach, combining qualitative case study techniques with quantitative survey methodology. The research was conducted at two European universities: Nicolaus Copernicus University (NCU) in Poland and the Norwegian University of Science and Technology (NTNU) in Norway. These institutions were selected due to their contrasting cultural profiles based on Hofstede’s cultural dimensions theory. Besides, both universities have established mature QAS frameworks committed to enhancing educational quality and operate within the European Bologna Process system, providing a strong foundation for cross-cultural comparison while maintaining structural comparability.

The following case study research questions were posed. Six case study research questions are:

1. What measurements are implemented in the educational quality assurance system of this university?
2. What procedures for improving educational quality, student satisfaction, and the educational quality assurance system are used at this university?
3. To what extent does the educational quality assurance system contribute to improving educational quality and student satisfaction in this university?
4. How does this university handle educational quality assurance system?

5. How the student perceived the quality assurance system?

6. What are the similarities and differences between the QAS of the two universities?

Eleven hypotheses are:

H1: There is a positive relationship between University Education Quality and Academic Citizenship Behaviour.

H2: There is a positive relationship between University Education Quality and Student Loyalty.

H3: There is a positive relationship between Student Loyalty and Academic Citizenship Behaviour.

H4: Student Loyalty mediates the relationship between University Education Quality and Academic Citizenship Behaviour.

H5: There is a positive relationship between University Education Quality and Academic Performance.

H6: There is a positive relationship between Academic Citizenship Behaviour and Academic Performance.

H7: Academic Citizenship Behaviour mediates the relationship between University Education Quality and Academic performance.

H8: Power distance moderates the relationship between UEQ and SL.

H9: Masculinity vs. Femininity moderates the relationship between ACB and AP.

H10: Masculinity vs. Femininity moderates the relationship between UEQ and AP.

H11: Collectivism moderates the relationship between student loyalty (SL) and academic citizenship behaviour (ACB).

The quantitative component involved collecting survey data from 242 business students (165 from Poland and 77 from Norway) using validated scales for measuring UEQ, SL, ACB, AP, and cultural dimensions. Data analysis was conducted using Partial Least Squares Structural Equation Modelling (PLS-SEM) with WarpPLS 8.0 software. The qualitative component consisted of semi-structured interviews with 15

stakeholders (6 in NCU and 9 in NTNU) across both universities, including quality assurance chairs, faculty members, and students. Interview data were analyzed using thematic analysis and cross-case synthesis to identify similarities and differences between the two quality assurance systems.

Chapter 1 established the theoretical foundation by exploring the multifaceted definition of quality in higher education, tracing the evolution from basic inspection methods to comprehensive quality management systems. It examined university education quality assessment frameworks, quality management system components, and the role of external accreditation in higher education quality assurance. Chapter 2 developed the theoretical framework and research hypotheses by systematically analyzing relationships between UEQ, SL, ACB, and AP as well as cultural dimension as moderators. Drawing on social exchange theory, cognitive consistency theory, and Hofstede's cultural dimensions theory, the chapter also examined how cultural factors moderate these relationships and identified significant research gaps in cross-cultural higher education contexts. Chapter 3 outlined the comprehensive mixed-methods approach, detailing data collection procedures, sample characteristics, measurement instruments, and analytical methods. The chapter described both the quantitative survey methodology and qualitative case study protocols, ensuring methodological rigor through data triangulation. Chapter 4 presented integrated findings from both quantitative and qualitative components, including detailed questionnaire results, moderation analysis, case study findings from both universities, and a comprehensive comparative analysis highlighting institutional similarities and differences.

Supported Hypotheses: H1, H2, H3, and H4 were significant in both countries. H6 was significant only in Poland, while H5 was significant only in Norway. Cultural moderation was confirmed for H9 in Poland, H10 in Norway, and H11 in Poland. Unsupported Hypotheses: H7 and H8 showed no significance in either country.

The qualitative analysis revealed that both universities implemented comprehensive QAS frameworks following European Bologna Process requirements,

but with distinct implementation approaches. NCU employed a more hierarchical, survey-based system with formal improvement processes, while NTNU utilized a dual approach combining surveys with participatory “reference groups” allowing real-time feedback throughout the semester. Both institutions faced common challenges with student engagement and communication transparency, though cultural contexts shaped their specific manifestations and solutions.

This research demonstrates that while standardized procedures provide a foundation, effective quality assurance depends primarily on institutional design, communication transparency, and authentic stakeholder engagement, with cultural factors serving as important moderating influences. While certain relationships operate consistently across cultures, performance pathways and cultural moderation effects create distinct operational environments. Universities should implement transparent feedback systems, work effectively with student representatives within the QAS structures, adopt timely feedback mechanisms, transform from documentation-focused to learning-centred approaches, and develop culturally aligned recognition systems. The study contributes to resolving the “quality paradox” by showing that QAS effectiveness depends on cultural intelligence, communication transparency, and authentic engagement with students’ dual roles as service recipients and active community members.



## Streszczenie

Praca doktorska mgr Mengyu Cao zatytułowana “Rola systemu zapewnienia jakości kształcenia w kształtowaniu relacji między jakością kształcenia uniwersyteckiego, akademickimi zachowaniami obywatelskimi i wynikami akademickimi” została przygotowana pod kierunkiem prof. Rafała Haffera z Uniwersytetu Mikołaja Kopernika (UMK) w Toruniu oraz promotora pomocniczego prof. Øivinda Stranda z Norweskiego Uniwersytetu Naukowo-Technicznego (NUNT) w Ålesund. Celem pracy było zbadanie, w jaki sposób projekt systemu zapewnienia jakości kształcenia oraz realizowane w jego ramach działania wpływają na zmienne: jakość kształcenia uniwersyteckiego (JKU), lojalność studentów (LS), akademickie zachowania obywatelskie (AZO) i wyniki akademickie (WA), a także na relacje między nimi w różnych kontekstach kulturowych.

W badaniu zastosowano podejście oparte na metodach mieszanych, łączące jakościową technikę studium przypadku z ilościową techniką ankiety. Badania przeprowadzono na dwóch uniwersytetach europejskich: Uniwersytecie Mikołaja Kopernika (UMK) w Polsce oraz Norweskim Uniwersytecie Nauki i Technologii (NTNU) w Norwegii. Instytucje te zostały wybrane ze względu na ich kontrastujące profile kulturowe oparte na teorii wymiarów kulturowych Hofstede. Ponadto, oba uniwersytety posiadają ugruntowane systemy zapewniania jakości (SZJ) kształcenia ukierunkowane na poprawę jakości kształcenia i działają w ramach europejskiego systemu Procesu Bolońskiego, zapewniając solidne podstawy do porównań międzykulturowych przy zachowaniu porównywalności strukturalnej.

Sformułowano następujące pytania badawcze dla studium przypadku.

1. Jakie pomiary są realizowane w systemie zapewnienia jakości kształcenia na uczelni?
2. Jakie procedury doskonalenia jakości kształcenia, satysfakcji

studentów oraz systemu zapewnienia jakości kształcenia są stosowane na uczelni?

3. W jakim stopniu system zapewnienia jakości kształcenia przyczynia się do poprawy jakości kształcenia i satysfakcji studentów na uczelni?

4. W jaki sposób uczelnia posługuje się systemem zapewnienia jakości kształcenia?

5. Jak studenci postrzegają system zapewnienia jakości?

6. Jakie są podobieństwa i różnice między systemami zapewnienia jakości obu uniwersytetów?

Jedenaście hipotez brzmi: H1: Istnieje pozytywna relacja między jakością kształcenia uniwersyteckiego a akademickimi zachowaniami obywatelskimi; H2: Istnieje pozytywna relacja między jakością kształcenia uniwersyteckiego a lojalnością studentów; H3: Istnieje pozytywna relacja między lojalnością studentów a akademickimi zachowaniami obywatelskimi. H4: Lojalność studentów mediuje w relacji między jakością kształcenia uniwersyteckiego a akademickimi zachowaniami obywatelskimi. H5: Istnieje pozytywna relacja między jakością kształcenia uniwersyteckiego a wynikami akademickimi. H6: Istnieje pozytywna relacja między akademickimi zachowaniami obywatelskimi a wynikami akademickimi. H7: Akademickie zachowania obywatelskie mediuje w relacji między jakością kształcenia uniwersyteckiego a wynikami akademickimi. H8: Dystans władzy moderuje relację między JKU a LS. H9: Męskość vs. Kobiecość moderuje relację między AZO a WA. H10: Męskość vs. Kobiecość moderuje relację między JKU a WA. H11: Kolektywizm moderuje relację między LS a AZO.

Komponent ilościowy badania obejmował zbieranie danych ankietowych od 242 studentów kierunków biznesowych (165 z Polski i 77 z Norwegii) przy użyciu zwalidowanych skal do pomiaru JKU, LS, AZO, WA oraz wymiarów kulturowych. Analiza danych została przeprowadzona przy użyciu modelowania równań

strukturalnych metodą najmniejszych kwadratów częściowych (PLS-SEM) z oprogramowaniem WarpPLS 8.0. Komponent jakościowy badania składał się z częściowo ustrukturyzowanych wywiadów z 15 interesariuszami (6 w UMK i 9 w NUNT) z obu uniwersytetów, w tym przewodniczącymi uczelnianej rady ds. jakości kształcenia, członkami kadry oraz studentami. Dane z wywiadów zostały przeanalizowane przy użyciu analizy tematycznej i syntezy międzyprzypadkowej w celu identyfikacji podobieństw i różnic między dwoma systemami zapewnienia jakości.

W rozdziale 1 ustanowiono podstawy teoretyczne poprzez eksplorację wieloaspektowej definicji jakości w szkolnictwie wyższym, śledząc ewolucję od podstawowych metod inspekcji do kompleksowych systemów zarządzania jakością. Nakreślono w nim ramy oceny jakości kształcenia uniwersyteckiego, komponenty systemów zarządzania jakością oraz rolę zewnętrznej akredytacji w zapewnianiu jakości kształcenia w szkolnictwie wyższym. W rozdziale 2 opracowano ramy teoretyczne i postawiono hipotezy badawcze poprzez systematyczną analizę relacji między JKU, LS, AZO i WA, a także wymiarami kulturowymi jako moderatorami. Opierając się na teorii wymiany społecznej, teorii spójności poznawczej oraz teorii wymiarów kulturowych Hofstede, w rozdziale wskazano również, w jaki sposób czynniki kulturowe moderują te relacje i zidentyfikowano znaczące luki badawcze w międzykulturowych kontekstach szkolnictwa wyższego. W rozdziale 3 przedstawiono kompleksowe podejście badawcze oparte na metodach mieszanych, szczegółowo opisując procedury zbierania danych, charakterystyki próby, instrumenty pomiarowe oraz metody analityczne. W rozdziale opisano zarówno ilościową technikę ankiety, jak i jakościowe protokoły studium przypadku, zapewniając rygor metodyczny poprzez triangulację danych. W rozdziale 4 przedstawiono zintegrowane wyniki zarówno z ilościowych, jak i jakościowych komponentów badania, w tym szczegółowe wyniki badania ankietowego, analizy moderacji i studium przypadku z obu uniwersytetów oraz kompleksową analizę porównawczą podkreślającą podobieństwa i różnice instytucjonalne.

Potwierdzone hipotezy: H1, H2, H3 i H4 były istotne w obu krajach. H6 była istotna tylko w Polsce, podczas gdy H5 była istotna tylko w Norwegii. Moderacja kulturowa została potwierdzona dla H9 w Polsce, H10 w Norwegii oraz H11 w Polsce. Niepotwierdzone hipotezy: H7 i H8 nie wykazały istotności w żadnym z krajów.

Analiza jakościowa ujawniła, że oba uniwersytety wdrożyły kompleksowe SZJ, zgodnie z wymaganiami europejskiego Procesu Bolońskiego, ale z odmiennymi podejściami implementacyjnymi. UMK zastosował bardziej hierarchiczny system oparty na ankietach z formalnymi procesami doskonalenia, podczas gdy NUNT wykorzystał podejście dualne łączące ankiety z partycypacyjnymi „grupami referencyjnymi” umożliwiającymi przekazywanie opinii w czasie rzeczywistym przez cały semestr. Obie instytucje borykały się ze wspólnymi wyzwaniami dotyczącymi zaangażowania studentów i przejrzystości komunikacji, choć konteksty kulturowe kształtowały ich specyficzne manifestacje i rozwiązania.

Niniejsze badanie demonstruje, że podczas gdy ustandaryzowane procedury zapewniają fundament, skuteczne zapewnienie jakości zależy przede wszystkim od projektu instytucjonalnego, przejrzystości komunikacji oraz autentycznego zaangażowania interesariuszy, przy czym czynniki kulturowe służą jako ważne wpływy moderujące. Podczas gdy pewne relacje działają konsekwentnie w różnych kulturach, ścieżki wydajności i efekty moderacji kulturowej tworzą odrębne środowiska operacyjne. Uniwersytety powinny wdrażać przejrzyste systemy informacji zwrotnej, skutecznie współpracować z przedstawicielami studentów w ramach struktur SZJ, przyjmować mechanizmy terminowej informacji zwrotnej, przekształcać się z podejść skupionych na dokumentacji na podejścia skoncentrowane na uczeniu się oraz rozwijać kulturowo dopasowane systemy uznania. Badanie przyczynia się do rozwiązania „paradoksu jakości” poprzez pokazanie, że skuteczność SZJ zależy od inteligencji kulturowej, przejrzystości komunikacji oraz autentycznego zaangażowania z podwójnymi rolami studentów jako odbiorców usług i aktywnych członków

społeczności akademickiej.

## Introduction

The pursuit of excellence in higher education has emerged as a top priority for institutions across the world. In today's more competitive global environment, stakeholders, government agencies, and market forces have raised the expectations of institutions (Bloch et al., 2024). As a result, quality assurance has progressed from a desirable feature to a necessary institutional need. Quality assurance systems (QAS) have become fundamental to strategic planning, institutional growth, and competitive differentiation in the global education environment. Rather than simply serving as regulatory compliance tools, comprehensive QAS have a direct impact on a university's reputation, student enrolment, faculty retention, and financing availability (Hemsley-Brown et al., 2016; Lafuente-Ruiz-de-Sabando et al., 2018; Sánchez-Chaparro et al., 2020). Thus, quality assurance is now an essential component of institutional sustainability (Manarbek & Kondybayeva, 2024). However, as Cheng and Tam (1997) point out, educational quality is still a "vague" and "controversial" term that needs to be investigated from several perspectives. Among these, the student perspective is crucial. Students, as important stakeholders, give unique and timely input based on their own academic experiences. Their input highlights nuance that formal measures frequently overlook, and it directly contributes to improvements in institutions cycles.

Under this quality assessment framework, student feedback is used to identify areas of improvement within educational institutions (Popli, 2005). Institutions are increasingly adopting a wide range of student-centred assessment methods that attempt to assess from this perspective. Feedback on teaching quality, administrative services, and infrastructure may be obtained through a variety of common methods, including course evaluations, satisfaction surveys, expectation assessments, suggestion platforms, and graduation careers (Brochado, 2009; Gee, 2017; Wiers-Jenssen et al., 2002). These methods are part of a broader movement that sees students as active contributors to the definition, assessment, and enhancement of quality rather than only as recipients of

education (Hill, 1995; Ratcliff, 1996). This transformation is in line with a broader shift in how educational quality is conceptualised: from objective outputs and product features to multidimensional service quality influenced by customer experience (Fisk et al., 1993; Garvin, 1984b; Parasuraman et al., 1988). This study emphasises the student experience as a strategy for institutional progress and a standard for educational excellence. Quality in higher education includes both concrete components like infrastructure and equipment, as well as intangible ones like educational efficacy and institutional image (Abdullah, 2006). In response to growing demands for accountability and excellence, universities have implemented quality management systems that incorporate widely recognised organisational performance concepts. These systems prioritise stakeholder participation, systematic process control, and continuous development (X. Cao & Prakash, 2011; Fonseca, 2016; Magd & Curry, 2003; Martínez-Costa et al., 2009)..

Quality assessment in higher education usually incorporates quantitative and qualitative assessments. Quantitative criteria include instructor qualities, student performance, graduate employability, and satisfaction levels (ESG, 2015). While these serve as standard criteria and allow for inter-institutional comparisons, they frequently ignore qualitative factors that are crucial to educational performance. Internal peer evaluations and external accreditations are examples of qualitative techniques that provide contextual insights based on expert judgement (Westerheijden et al., 2007). Institutional legitimacy and worldwide recognition are enhanced by national bodies like Norwegian Agency for Quality Assurance in Education (NOKUT) in Norway and the Polish Accreditation Committee (PKA), as well as global organisations like AACSB (Association to Advance Collegiate Schools of Business) for business major (Chmielecka & Dąbrowski, 2004; Engebretsen et al., 2012; Urgel, 2007), ENAEE (European Network for Accreditation of Engineering Education) for engineering major and ABET (Accreditation Board for Engineering and Technology) for computer science (Augusti, 2007; Shafi et al., 2019).

Despite widespread QAS adoption, questions remain about their influence on day-to-day teaching and learning. These systems frequently prioritise accountability above educational development (Stensaker, 2008; Stensaker & Harvey, 2010), leading to the “quality paradox” (Mårtensson et al., 2014). Although meant to increase teaching quality, QAS largely impact institutional governance and seldom result in better classroom practices. This study addresses this issue by conducting a comparative investigation of quality assurance systems at two European institutions operating under different cultural and policy contexts.

The research is based on two key observations: first, that QAS primarily affects governance rather than teaching (Stensaker, 2008; Stensaker & Harvey, 2010); second, that the disconnect between quality procedures and educational practice has driven interest in learning outcomes frameworks and qualification standards (Mårtensson et al., 2014). To address this gap, the research proposes redefining students’ roles as active participants in the academic community rather than passive users. The study takes a dual view on students as both service users and engaged academic citizens (Hennig-Thurau et al., 2001; Svensson & Wood, 2007). This viewpoint allows for a more thorough evaluation of educational quality by acknowledging student engagement with a variety of institutional services. However, a strictly transactional approach limits the relationship components of learning (Budd, 2017). Education necessitates cooperation between students and educators and restricting it to a customer-provider contact risks undermining the educational connection (Budd, 2017; Hanken, 2011). By combining both roles, this approach attempts to find the shortcomings of customer-centric frameworks. When students are considered just as consumers, quality systems prioritise satisfaction metrics and governance. Recognising students as community members with shared accountability, on the other hand, promotes participatory quality improvement in the classroom. This rethinking could solve the quality problem by connecting institutional processes with educational practice. This conceptual change creates new opportunities for quality efforts to actively engage with teaching and learning processes.



This study employs a comparative mixed-method-case study design, combining a qualitative case study with quantitative survey data to examine the QAS of two universities as distinct but comparable cases within a broader comparative analysis framework. Cross-case comparisons (Yin, 2008) and thematic analysis (Braun & Clarke, 2006) provide the overarching analytical structure for the qualitative and comparative component. Structural Equation Modelling (SEM) is used to analyse the quantitative data (see Figure 1. for Quantitative research model). In the final stage, mixed-method interpretation (Creswell & Clark, 2018) integrates and compares qualitative and quantitative findings, generating explanatory insights that connect institutional structures to student-level outcomes.

Despite extensive research on service quality in higher education, particularly examining its relationship with student satisfaction and loyalty (Ali et al., 2016a; Alves & Raposo, 2007; Annamdevula & Bellamkonda, 2016; Y.-S. Hwang & Choi, 2019; Lazibat et al., 2014), several significant research gaps remain unaddressed. First, the relationship between university education quality (UEQ) and academic citizenship behaviour (ACB) remains largely unexplored, even though theories of social exchange (Blau, 2017) and cognitive consistency (Heider, 1946) suggest that high-quality educational services should encourage students to engage in voluntary, community-building behaviours. While empirical studies have observed this relationship in workplace and consumer settings (Aljarah & Alrawashdeh, 2021; Fu et al., 2014; Nguyen et al., 2014), in higher education it has received minimal attention, only one study has examined it, and that study conceptualised students solely as customers (Sharif & Sidi Lemine, 2021). Second, although a positive relationship between UEQ and student loyalty (SL) is well-established (Ali et al., 2016a; Annamdevula & Bellamkonda, 2016; Helgesen & Nettet, 2007), it has seldom been investigated across different cultural contexts. Given that national cultural characteristics can shape service perceptions and loyalty formation (Belanche Gracia et al., 2015; Furrer et al., 2000), comparative research is needed to determine whether the UEQ-SL link holds

consistently in diverse settings. Third, the direct link between SL and ACB in higher education remains underexplored. Loyalty often inspires voluntary, pro-social behaviours in consumer and organisational environments (Dai et al., 2022; Yi & Gong, 2013), and evidence from universities indicates that loyal students are more likely to engage in citizenship behaviours (Nagy & Marzouk, 2018). However, that study adopted a customer-centric view of students, leaving open the question of how loyalty influences citizenship behaviour when students are considered active members of the academic community. Fourth, the potential mediating role of student loyalty in the relationship between UEQ and ACB has yet to be examined. Scholars have posited that loyalty can act as a bridge linking perceived service quality to citizenship behaviours (Sharif & Sidi Lemine, 2021), but no study has tested this mechanism in a higher education setting. Fifth, the impact of UEQ on academic performance (AP) remains insufficiently understood beyond the confines of specific courses or programmes. Studies have found that poor educational quality can significantly undermine students' AP (Ibietan et al., 2016), whereas high-quality instruction generally enhances academic results (Ahmed et al., 2010; LEE & SEONG, 2020). Even so, these effects have mostly been documented in limited contexts, and comprehensive investigations across broader educational environments are scarce. Sixth, relatively little research has addressed how ACB contributes to students' academic performance, including whether ACB mediates the effect of UEQ on performance. In workplace settings, organisational citizenship behaviours are known to improve individual performance outcomes (Nielsen et al., 2009; N. P. Podsakoff et al., 2009), and in educational contexts, students who engage more in citizenship activities tend to achieve higher academically (Allison et al., 2001; Khaola, 2014). Nevertheless, this relationship has not been widely studied among university students, and no prior work has explored ACB as a pathway through which educational quality might translate into improved performance.

Finally, the influence of national culture on these relationships remains largely unexamined. Hofstede's cultural dimensions particularly power distance, masculinity-

femininity, and individualism-collectivism vary markedly between countries and are likely to moderate how educational quality outcomes unfold (Hofstede, 2001a). For example, Poland scores high on power distance (68) and masculinity (64) but relatively low on individualism (47), whereas Norway's scores on these dimensions are 31, 8, and 81 respectively (Hofstede, 2001). Previous research indicates that such cultural factors significantly shape service quality perceptions and related outcomes: satisfaction and loyalty (Belanche Gracia et al., 2015; Furrer et al., 2000) and can influence citizenship behaviours and performance (Ameer, 2017; Taras et al., 2010). Yet, their moderating role in the specific links between UEQ, SL, ACB, and AP has not been investigated, representing a novel aspect of the present study.

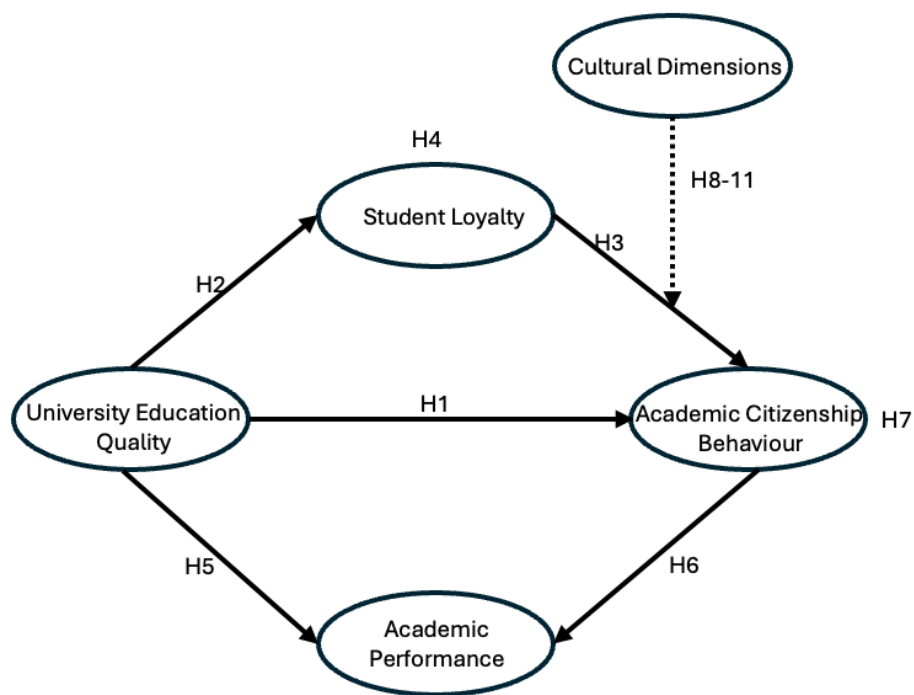


Figure 1. Quantitative research model

Using a mixed-methods-case study approach (see Figure 2. Mixed method research design), the study traces both the institutional implementation of QAS and their experiential effects on main stakeholders-students. As these two countries have

culture differences based on the Hofstede's culture theory, it explores how cultural factors interact with these dynamics, potentially explaining why similar systems yield divergent outcomes across contexts. Hofstede's cultural dimensions (power distance, masculinity-femininity, individualism-collectivism) may shape how quality assurance is perceived and enacted (Hofstede, 2001), influencing the relationships between these variables, such as SL, ACB, AP.

This study designed to capture multiple dimensions of QAS effectiveness and to capture both macro-level institutional practices and micro-level stakeholder perspectives: QAS structural analysis - how institutional QAS are structured, implemented, and improved; experiential dimensions - first-hand accounts from QA administrators (often dual-role faculty), teaching staff, and students; outcome linkages - quantitative measurement of university education outcome variables (student loyalty, academic citizenship behaviour, and academic performance) and cultural dimensions, based on data collected from undergraduate and postgraduate students..

Using Nicolaus Copernicus University (Poland) and the Norwegian University of Science and Technology as case studies, the research investigates how cultural differences influence QAS implementation and impact. Poland and Norway present contrasting cultural profiles in power distance, masculinity, and individualism (Hofstede, 2001), providing a robust framework for cross-cultural comparison.

In this multimethod design, qualitative and quantitative methods are integrated to capture different dimensions of QAS effectiveness. The qualitative part consists of a thematic analysis of interview data from QAS chairs, teaching staff, and students at each university, illuminating how QASs are designed, implemented, and perceived by key stakeholders. The quantitative component utilizes data collected from undergraduate and postgraduate students and employs Structural Equation Modelling (SEM) to examine the relationships among educational quality, SL, ACB, and AP, while also testing the moderating effects of cultural dimensions on these relationships. Cross-case comparisons (Yin, 2008) and mix-method interpretation (Creswell & Clark, 2018)

are utilised to synthesise findings from the two cases, facilitating data triangulation (Yin, 2008) and enhancing the validity of the conclusions through systematic comparison across both institutional contexts.

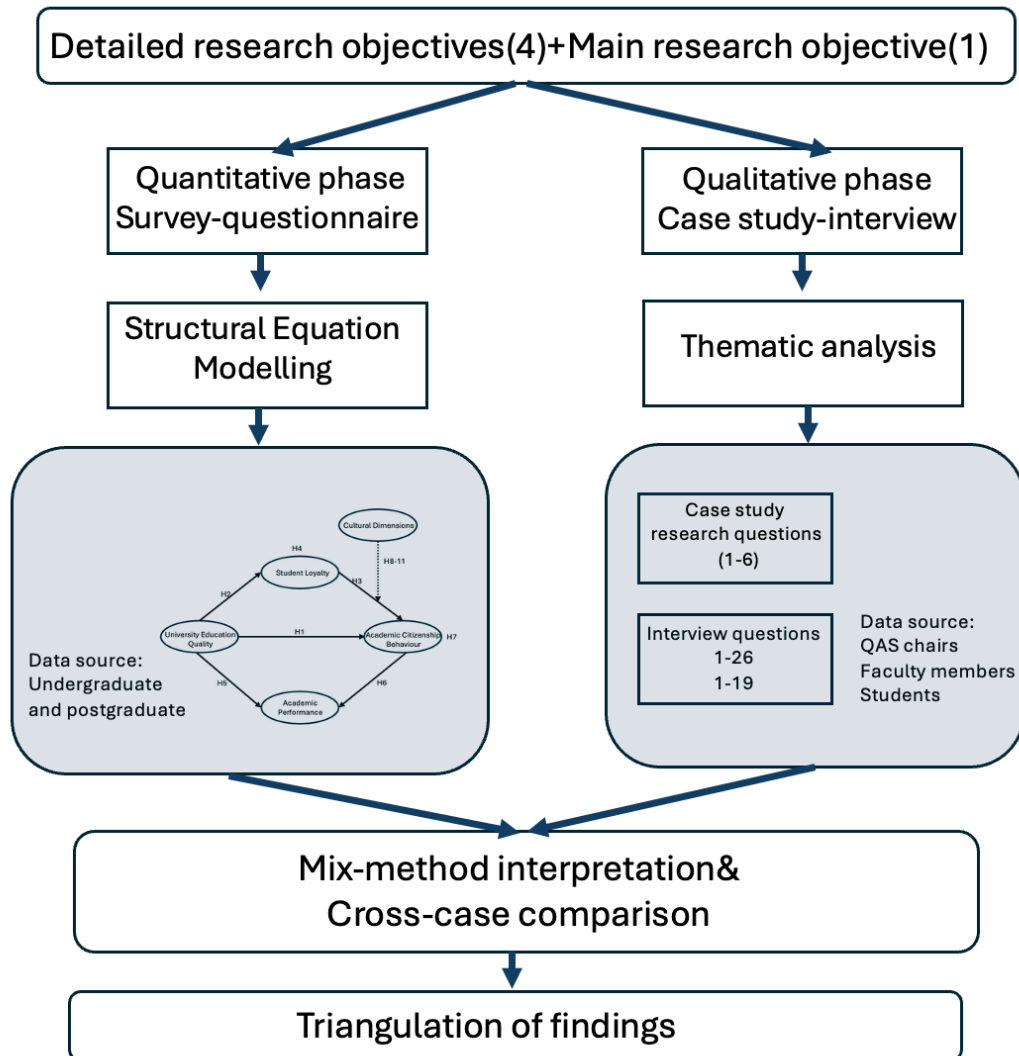


Figure 2. Mixed method research design

Drawing on Expectancy-Disconfirmation Theory (Fornell et al., 1996), Social Exchange Theory (Blau, 2017), and Hofstede's culture theory (2001), the study addresses the main research objective (1) and four detailed research objectives (2-5):

1. To investigate how does the design of the educational quality assurance system and its implemented activities affect the variables UEQ, AP, SL, and ACB, as well as the relationships among them in different cultural context?

2. To investigate how do quality assurance systems operate in different cultural contexts, and what are the key similarities and differences in their implementation?
3. To investigate what are the direct and indirect relationships between university education quality and academic citizenship behaviour through student loyalty?
4. To investigate what are the direct and indirect relationships between university education quality and academic performance through academic citizenship behaviour?
5. To investigate how do cultural dimensions (power distance, masculinity, and collectivism) moderate these relationships?

This study aims to explore these research objectives by investigating the culturally driven paths, specifically hypothesised in H1-11, via which institutional quality procedures impact classroom-level educational results. The qualitative case study further examines this impact through six focused research questions (1-6), addressing the experiences and perceptions of students, faculty members, and QAS chairs. This inquiry is centred on students' dual roles: not just as educational customers, but also as active participants in promoting educational progress.

Detailed hypothesis 1-11 are as follow:

H1: There is a positive relationship between University Education Quality and Academic Citizenship Behaviour.

H2: There is a positive relationship between University Education Quality and Student Loyalty.

H3: There is a positive relationship between Student Loyalty and Academic Citizenship Behaviour.

H4: Student Loyalty mediates the relationship between University Education Quality and Academic Citizenship Behaviour.

H5: There is a positive relationship between University Education Quality and Academic Performance.

H6: There is a positive relationship between Academic Citizenship Behaviour and Academic Performance.

H7: Academic Citizenship Behaviour mediates the relationship between University Education Quality and Academic performance.

H8: Power distance moderates the relationship between UEQ and SL.

H9: Masculinity vs. Femininity moderates the relationship between ACB and AP.

H10: Masculinity vs. Femininity moderates the relationship between UEQ and AP.

H11: Collectivism moderates the relationship between student loyalty (SL) and academic citizenship behaviour (ACB).

Detail case study research questions (1-6) are as follow:

1. What measurements are implemented in the educational quality assurance system of this university?

2. What procedures for improving educational quality, student satisfaction, and the educational quality assurance system are used at this university?

3. To what extent does the educational quality assurance system contribute to improving educational quality and student satisfaction in this university?

4. How does this university handle educational quality assurance system?

5. How the student perceived the quality assurance system?

6. What are the similarities and differences between the QAS of the two universities?

The study provides alternative, culturally appropriate techniques that enable quality assurance programs to be more effectively implemented in the classroom. It contends that the resolution of the quality assurance problem has an unbreakable connection to cultural context: while quality systems do eventually influence educational results, the pathways through which this occurs varies among cultural settings. Furthermore, the study seeks to provide practical insights for university administrators and politicians into the establishment of culturally sensitive quality assurance systems. These systems should be tuned to represent local attitudes and practices while adhering to fundamental educational quality standards. By opposing uniform, one-size-fits-all quality assurance solutions, this study supports for adaptive

systems that combine contextual relevance with basic principles. As a result, it contributes to the continuing change of quality assurance from a compliance-driven approach to a comprehensive, learning-centred model that really improves educational experiences and results.

To address these research objectives and provide comprehensive insights into culturally sensitive quality assurance systems, this dissertation is organized into four chapters.

Chapter 1 establishes the theoretical framework for understanding quality in higher education contexts. It begins by exploring the multifaceted definition of quality, examining product quality, service quality (including the SERVQUAL model), and total quality concepts. The chapter traces the evolution of quality management approaches from basic inspection methods through quality control, statistical quality control, quality assurance, to comprehensive quality management systems. It then focuses specifically on quality management systems in higher education, analyzing university education quality assessment frameworks, defining quality management system components. The chapter concludes by examining the management of university education quality, including Educational Quality Management Systems (EQMS), the selection of appropriate QMS components, and the role of external accreditation and certification in higher education quality assurance. Chapter 2 critically analyzes the complex relationships between university education quality and key academic outcomes. It systematically develops the theoretical foundation and research hypotheses by examining the connections between UEQ and ACB, UEQ and SL, SL and ACB, UEQ and AP, and ACB and AP. The chapter incorporates cultural dimensions as moderating variables, specifically examining how power distance, masculinity, and collectivism influence these relationships. Drawing on Social Exchange Theory, Cognitive Consistency Theory, and Hofstede's Cultural Dimensions Theory, the chapter establishes 11 research hypotheses. It concludes with a comprehensive literature review that identifies significant research gaps in



understanding these relationships, particularly in cross-cultural higher education contexts and when students are viewed as active academic community members rather than merely customers. Chapter 3 outlines the comprehensive mixed-methods case study approach employed in the research. It details the research procedures combining qualitative case study techniques with quantitative survey methodology to examine quality assurance systems at Nicolaus Copernicus University (NCU) in Poland and the Norwegian University of Science and Technology (NTNU). The questionnaire survey section describes data collection procedures, sample characteristics from both universities, and the measurement instruments used for key constructs. The case study section explains the qualitative data collection and analysis methods, including semi-structured interviews with quality assurance chairs, faculty members, and students. The quantitative analysis section details the use of Partial Least Squares Structural Equation Modelling (PLS-SEM) for testing the research model, based on the data collected from undergraduate and postgraduate students, including measurement model assessment and structural model evaluation procedures. Chapter 4 presents findings from both quantitative and qualitative components of the study. It begins with detailed questionnaire survey results. The chapter then examines national culture as a moderator in the research model, analyzing moderation effects in both countries. The case study results section provides detailed findings from NCU and NTNU, addressing the six research questions about quality assurance system implementation, followed by a comprehensive comparative analysis highlighting similarities and differences between the two institutions. The chapter concludes with an integrated discussion of findings, theoretical and practical implications, and acknowledges study limitations while suggesting directions for future research.

## Chapter 1. The Need for Quality in Higher Education

Quality is the foundation of modern higher education, acting as an essential differentiator in an increasingly competitive global environment. As universities throughout the world confront increasing challenges from stakeholders, regulatory authorities, and commercial forces, the systematic pursuit of educational excellence has transformed from a desirable trait to a necessary institutional necessity (Slette & Johansen, 2025).

The concept of quality has multiple dimensions, including both product quality characteristics such as quantifiable outcomes and, in the context of higher education, service quality elements that focus on the educational experience. Quality's multidimensional character makes it difficult to define clearly but yet critical to measure consistently. The chapter delves into these characteristics, charting the progression from basic quality inspection to sophisticated quality management systems designed expressly for educational contexts.

Quality at higher education institutions may be seen in concrete factors like infrastructure and equipment, as well as intangible aspects like teaching efficacy and institutional reputation. The chapter delves into these components, highlighting frameworks such as the Higher Education Performance (HEdPERF) model, which covers the distinct aspects of university education quality via academic variables, non-academic elements, access, reputation, and program structure.

Implementing quality management systems at universities is a strategic response to the growing demand for accountability and excellence. These systems combine ideas from international standards like ISO 9001, which emphasise customer focus, process orientation, and continuous improvement. The chapter explains how these ideas could be used in educational contexts, including detailed documentation, clear organisational frameworks, and comprehensive performance evaluation.

External accreditation and certification increase the quality assurance procedures in higher education. National authorities, such as NOKUT in Norway and the Polish Accreditation

Committee (PKA), as well as international organisations like AACSB, ENAEE and ABET. provide independent verification of conformity to defined quality standards. These external validations boost institutional legitimacy and promote worldwide recognition.

The chapter looks at how educational quality executives use internal processes and external assessments to create a complete quality frameworks. This integrated strategy displays the institution's dedication to educational quality, ongoing development, and responsiveness to stakeholder expectations, notably from students who are both educational service customers and active members of the academic community. This sets the stage for investigating how quality management concepts might improve teaching effectiveness, student satisfaction, and institutional performance in increasingly competitive and globalised higher education settings.

### **1.1. Definition of quality**

In general, quality can be defined as excellence or the absence of major variances, flaws, and inadequacies (Van Kemenade et al., 2008). It is created by rigorously and consistently adhering to certain standards that guarantee a product, or service is uniform in order to meet certain user or customer criteria. Quality is a term that is difficult to define. Transcendent, user-based, and product-based methods are among the many important techniques for defining quality (Garvin, 1987; Sebastianelli & Tamimi, 2002; Yong & Wilkinson, 2002). The complexity of the quality structure, that is, quality concerns that change at every step of a product's lifespan, from basic design to final market introduction, requires several definitions. Different definitions of quality have developed throughout time in response to changing business requirements. Since every definition has unique benefits and drawbacks when taking into account elements like measurement capabilities, generalisability, managerial usefulness, and customer relevance, there isn't a single definition that is better in every situation (Reeves & Bednar, 1994).

Reeves and Bednar (1994) find similar ways of defining quality while saying that there is no single meaning that applies to all situations. Rather, they argue that several meanings are

appropriate for various contexts. The notion of quality varies greatly depending on the methodology (Garvin, 1984a; Sousa & Voss, 2002). Garvin (1984) described several basic approaches for quality definition. The product-based approach is supported by economic theory, according to which changes in the quantity or characteristics of particular ingredients might indicate changes in the quality of the final product. According to the service marketing-derived user-based approach, quality is the extent to which a product or service meets or surpasses the expectations of the customer. The manufacturing-based approach, which links conformance quality with adherence to certain design requirements usually referred to as conformance to standards, was born out of operations and production management. Drawing from traditional economic models and recognising that consumers commonly weigh quality against price, the value-based definition equates quality with performance at acceptable cost or consistency at reasonable price. Therefore, quality becomes an idea with many dimensions and different forms, lacking a single trait that makes it stand out.

Among these several definitions, the most frequently accepted one defines quality as *“the extent to which a product or service meets and/or exceeds customer expectations”*. Prominent quality management pioneers (including Crosby, Feigenbaum, Juran, and Deming) have consistently defined quality as the satisfaction of customer demands. Feigenbaum (1991) defined quality to be *“the total composite product and service characteristics of marketing, engineering, manufacture, and maintenance through which the product and service in use will meet the expectations of the customer”*. Juran and Godfrey (1999) defined *“fitness for use”* as the degree to which a product successfully meets the demands of the user rather than those of the maker, merchant, or repair shop. Deming (2000) defined quality as the construction of consistent and dependable work procedures aimed at creating cost-effective products or services that fulfil market quality criteria. The addition of words like ‘customer’, ‘user’, and ‘market’ to quality criteria significantly broadens their reach. This growth guarantees that organisations emphasise outward orientation and pay closer attention to market dynamics via various consumer monitoring systems.

These several definitions show that there is no single ideal or precise definition for quality.

According to Ishikawa and Loftus (1990), the quality concept has a wide range of meanings: narrowly interpreted, it refers to product quality; broadly interpreted, it includes work quality, service quality, information quality, process quality, divisional quality, people quality (including workers, engineers, managers, and executives), systems quality, company quality, objectives quality, and more.

This comprehensive notion of quality has been divided into three basic categories: product quality, service quality, and overall quality. Product quality, as detailed in section 1.1.1, focusses on the physical and performance qualities of items, with a special emphasis on Garvin (1987) eight-dimensional framework. Service quality, as discussed in section 1.1.2, handles the particular issues of assessing intangible products, as demonstrated by models such as SERVQUAL and SERVPERF, which quantify the gap between expectations and performance. Total quality, as defined in section 1.1.3, is the total integration of quality principles across all organisational components and stakeholders, including both goods and services, within a holistic quality management framework. Understanding these distinct but interconnected quality domains provides critical context for investigating how quality management approaches have evolved over time and how they are implemented in various organisational settings, particularly in higher education environments where service elements contribute to overall institutional quality.

### **1.1.1. Product Quality**

The early twentieth century saw a tremendous emphasis on product quality, owing mostly to the massive increase in commodity manufacturing (Deming, 2000; Maguad, 2006; Reed et al., 1996). During this formative time, manufacturing trends prompted a more detailed understanding of product quality, with an emphasis on a product's conformance to design and functionality requirements (Reeves & Bednar, 1994). Quality evaluation in this era was typically performed after manufacturing, showing a reactive rather than proactive approach to quality management.

While product quality standards range between product categories, several common signs surface regularly, such as dependability, durability, and perceived value. Reliability, a key component of quality evaluation, refers to a product's reduced chance of failure within a certain timeframe, which fosters consumer trust (Sebastianelli & Tamimi, 2002). In contrast, consistency assesses how closely a product adheres to specified norms (Garvin, 1984). In this setting, the Garvin (1987) quality framework has emerged as particularly important, providing a holistic view of product quality via its constituent characteristics.

Garvin's (1987) contribution to quality theory is particularly notable since it established eight unique quality dimensions that give a comprehensive knowledge of product quality. This methodology is unusual in that it focusses solely on product quality components, an approach that has gained considerable acceptance and implementation in corporate consulting practices (Millson, 2014). The framework identifies eight key characteristics: performance, features, reliability, conformance, durability, serviceability, aesthetics, and perceived quality. Performance focusses on a product's key operational characteristics, whereas features provide extra properties and functions that improve the product's primary operations. It is important emphasising that quality assessments are fundamentally subjective, with various user groups perhaps having opposing perspectives on what defines performance qualities. Another important component is reliability, which refers to the likelihood of a product malfunctioning or failing within a given time frame. Conformance assesses the degree to which a product's design and operating aspects adhere to established standards. Durability refers to the benefit received from a product prior to degradation, which is a key feature that distinguishes products from services. While most services are consumed at the point of purchase, many items continue to give value over time. Thus, a product's durability typically represents its economic or physical longevity, which is frequently measured in terms of hours, years, or usage metrics. Serviceability refers to the efficiency, civility, skill, and simplicity of the repair procedure. The elements of aesthetics and perceived quality provide a significant subjective component to quality evaluation. Aesthetics refers to a product's sensory aspects: visual, tactile, aural, gustatory, or olfactory and is essentially subjective, reflecting personal preferences and

discernment (Sebastianelli & Tamimi, 2002). Previous research, like Jacobson and Aaker's study (1987), shows that price has a considerable impact on quality judgements, validating the widely held notion that higher-priced things often indicate greater quality, consistent with the cliché "you get what you pay for".

The emergence of product quality ideas in the early twentieth century marks an important turning point in manufacturing processes and customer perceptions. This era's emphasis on defining and analysing product quality laid the groundwork for modern quality control and improvement approaches. The Garvin (1987) model, with its comprehensive framework that includes several variables, has helped shape the knowledge of product quality. Importantly, it underlines that quality extends beyond technical requirements to encompass consumer perception and satisfaction.

This paradigm shift, which recognises both objective and subjective dimensions of product quality, has had a long-lasting impact on industrial processes and customer expectations. It promotes the awareness that superior product quality is a complicated and ever-changing concept that combines technical accuracy with human perception and experience.

### **1.1.2. Service Quality**

By the mid-1980s, service marketing had emerged as a unique subdiscipline within the wider marketing field, partly owing to the recognised features of services: intangibility, inseparability, and heterogeneity (Fisk et al., 1993; Parasuraman et al., 1985). Service quality has evolved as a central theme in services marketing literature, attracting significant academic attention due to its considerable impact on both businesses and customers. Although substantial study on this topic has produced several definitions, there is still a lack of consensus on defined service quality measures (Kritikos et al., 2013; Prasad & Verma, 2022), the distinctive characteristics of services require a specialised approach to accurately define and evaluate quality of service (Ghobadian et al., 1994). In service marketing, the assessment of quality is

predominantly based on the evaluation of the service user or customer. Juran (1988) and Deming (2000) were fundamental in developing quality theory, which is now well-established in management literature. Juran (1988) first defined service quality as the satisfaction of user expectations. Grönroos (1984) and Parasuraman et al. (1988) advanced the concept of service quality, concluding in its most widely accepted definition: a metric assessing the alignment of provided service levels with customer expectations. This field has since emerged as the most thoroughly investigated area in service marketing (Grönroos, 1984).

After reviewing previous service research, Parasuraman et al., (1985) offered three broad themes. First, they said that customers have a more difficult time analysing service quality than they do with product quality. Second, they proposed that service quality judgements arise from comparing consumer expectations to actual service delivery. Third, they emphasised that quality evaluations include not just service outcomes but also assessments of the service delivery process. Building on these ideas, Parasuraman et al. (1988) defined perceived service quality as a “*global judgement, or attitude, relating to the superiority of the service*”. Building on this definition, they further proposed that service quality is based on comparisons of customer expectations and service performance (Parasuraman et al., 1988; Ramamoorthy et al., 2018).

Parasuraman et al. (1985) created the gaps model, a widely accepted and applied framework for conceptualising service quality, based on focus group interviews. This methodology highlights a variety of quality gaps, such as knowledge, design, delivery, and communication. The most significant difference lies between consumer expectations of service and their perceptions of the service actually provided. According to this model, service quality is determined by the amount and orientation of this gap, which is controlled by the features of the other quality gaps (Law, 2013).

Based on figure 3, these gaps can be explained as follow:

Gap 1: The gap between what customers expect and what management thinks they expect. This refers to the mismatch between consumers’ service expectations and how managers



perceive those expectations.

Gap 2: The gap between management's understanding of customer expectations and the service quality standards they set. This occurs when the standards do not accurately reflect what customers want, often due to incorrect assumptions or unclear guidelines.

Gap 3: The gap between established service standards and actual service delivery. This represents the failure to deliver services according to the set specifications, indicating a problem in service execution.

Gap 4: The gap between actual service delivery and what is communicated to customers. This involves inconsistencies between what is promised through marketing or advertising and what is actually delivered.

Gap 5: The gap between expected service and perceived service. This is the difference between what customers believe they should receive and what they think they actually received, and it is influenced by the other four gaps on the company's side.

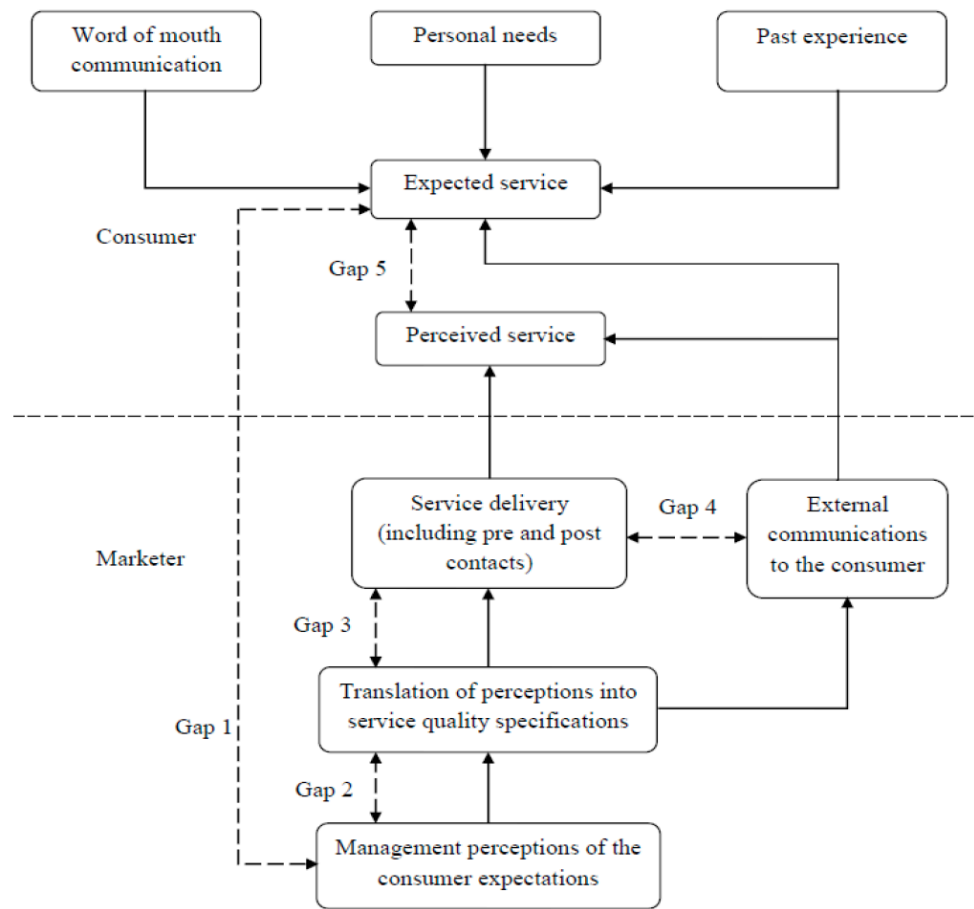


Figure 3. The Gap theory of service quality (Parasuraman et al., 1985)

This conceptual framework influenced the creation of SERVQUAL by Parasuraman et al. (1988). According to their findings, perceived service quality may be measured by calculating the difference between service performance (P) and customer expectations (E), which is represented as  $Q = P - E$ . These inequalities, known as gaps, have tremendous interpretative importance. Positive gaps imply that service provision surpasses customer expectations, whilst negative gaps suggest that customer expectations surpass service delivery.

The SERVQUAL instrument uses a questionnaire with 22 items divided into five quality aspects. Each item has two paired questions: the first assesses respondents' expectations for the specific service type based on an ideal service standard, and the second evaluates the client's impression of the specific organization's service quality. Using a 7-point Likert scale,

respondents first answer questions about their expectations (E), then questions about service performance (P). The data are examined using a gap approach, which allows for the identification of particular areas that require further attention from service providers.

This widely utilised instrument measures consumer expectations and perceptions across five key dimensions: reliability, assurance, tangibility, empathy, and responsiveness. Reliability represents the ability to perform promised services accurately and dependably; assurance encompasses employee knowledge, courtesy, and ability to inspire confidence; tangibility refers to physical facilities, equipment, and staff appearance; empathy involves individualised attention to clients; and responsiveness reflects willingness to help clients and provide prompt service (Parasuraman et al., 1988). Originally developed to assess service quality in various business types such as retail banks and credit card companies, this instrument has gained significant traction in the marketing field and has been applied across numerous other domains including education and industry (Asubonteng et al., 1996). The evolving demands of international firms have prompted extensive scholarly discourse on service quality over recent decades.

While the SERVQUAL model is widely used in service quality assessment, it has faced criticism (Asubonteng et al., 1996; Law, 2013). The importance of client expectations in service quality conceptualisation has caused much scholarly discussion. Several academics have questioned the SERVQUAL framework's customer expectations component, highlighting issues with psychometric concerns like as reliability, discriminant validity, and variance limitations. The theoretical "disconfirmation paradigm" for measuring service quality using "perceived minus expected" gap scores have been questioned (Carman, 1990; Teas, 1993).

Furthermore, despite conceptual differences, the actual dimensions of satisfaction and service quality sometimes overlap, making separation attempts difficult (Reeves & Bednar, 1994). The SERVQUAL model has also been criticised for its generic nature and limited quality factor range, which may exclude important context-dependent elements that influence service quality, such as the service product itself and non-human delivery aspects (Law, 2013;

Sureshchandar et al., 2002). Parasuraman et al. (1993) contended that SERVQUAL items form a fundamental framework for assessing that may be enhanced in appropriate settings.

SERVPERF (SERVice PERFormance), an alternative measuring tool, is based on SERVQUAL but takes a different approach. Cronin & Taylor (1992) developed this scale, which posits that perceived service quality evaluation should be exclusively based on performance perception, represented as  $Q = P$ . SERVPERF uses a single dimension with 22 items from the SERVQUAL questionnaire and a 7-point Likert scale. This technique developed from an investigation of customer-completed surveys in which quality rating depended on subjective perception rather than clear expectation criteria. The highest grade (7) was given only when service met or surpassed expectations. This streamlined technique significantly decreases the amount of needed customer replies, hence increasing practical implementation efficiency.

### **1.1.3. Total Quality**

As stated in section 1.1, consumers' perceptions of fitness for purpose are frequently emphasised in definitions of quality (Idrus, 1995). Satisfying the needs and expectations of customers, which includes both internal and external stakeholders in the organisation, is a generic way to describe the notion. Maintaining high standards requires adherence to several fundamental principles for all work teams within an organisation, including managers and their direct reports: fully comprehending and agreeing upon customer needs and expectations; acknowledging one's own capabilities and avoiding commitments beyond one's capacity; consistently fulfilling agreed obligations without fail ('zero defects'); operating efficiently and effectively to satisfy agreed customer needs; and continuously striving to enhance performance in meeting customer needs and expectations (Crosby, 1979; Jones, 1998). As a result, the main goal transfers to completely meeting agreed-upon client needs at the lowest possible organisational cost. In total quality, the modifier "total" is incredibly vague and wide, allowing for a number of plausible meanings (including perfect quality, without flaws). The word 'total'

traditionally indicates use throughout the entire organisation (Conti, 1993).

Generally accepted objectives for overall quality include lower expenses, higher profits, satisfied customers, and empowered employees (Juran & Godfrey, 1999). It suggests a thorough assessment of the quality displayed by a good, service, or procedure and is the result of a quality-centred strategy. Total quality can be defined as: *“A strategy for improving business performance through the commitment of all employees to fully satisfying agreed customer requirements at the lowest overall cost through the continuous improvement of products and services, business processes and the people involved”* (Jones, 1998).

According to Goetsch and Davis (2017), total quality includes continuous improvements of people, procedures, goods (including services), and surroundings. Everything that has an impact on quality becomes a target for continuous improvement within a whole quality framework. Global competitiveness, superior value, and organisational excellence can result from the successful application of the complete quality concept. Conti (1993) asserts that there are two different ways to look at “quality” inside “total quality”: the company viewpoint (derived) and the market perspective (primary). Quality is positioned as a strategic competitive component by the core premise of the market viewpoint. Businesses compete in the areas of value for money, customer satisfaction, and effective use of resources (time and money). The 4P principle, marketing mix theory (product, price, promotion, and place), can be used to analyse overall quality from a marketing perspective (Zineldin & Philipson, 2007). Products must not only fulfil but also surpass consumer expectations in marketing. This is consistent with the idea that “Quality is Free,” (Crosby, 1979; Juran & Godfrey, 1999) which emphasises creating and providing items that are naturally high-quality. In this sense, total quality denotes a dedication to continuous product innovation and development, guaranteeing the product’s continued superiority and market relevance. The price of overall excellence beyond simple numerical value, embodying the worth consumers recognise and are prepared to pay. The “Quality is Free” principle posits that investments in quality diminish long-term expenses, facilitating competitive pricing that accurately represents the product’s intrinsic worth. This price strategy guarantees consumer satisfaction and loyalty, essential elements of

comprehensive quality marketing. Promotion in whole quality transcends traditional advertising by conveying the product's inherent quality and worth to consumers. It entails establishing a brand associated with quality, reliability, and customer satisfaction. This relates to the “Quality is Free” principle, this ties into the idea behind Crosby’s “Quality is Free” principle. According to this concept, investing in good quality, such as through prevention and appraisal efforts, leads to the implementation of structured quality management practices like process control, measurement, and corrective actions. As a result, the costs associated with poor quality, including internal and external failures, are reduced over time.

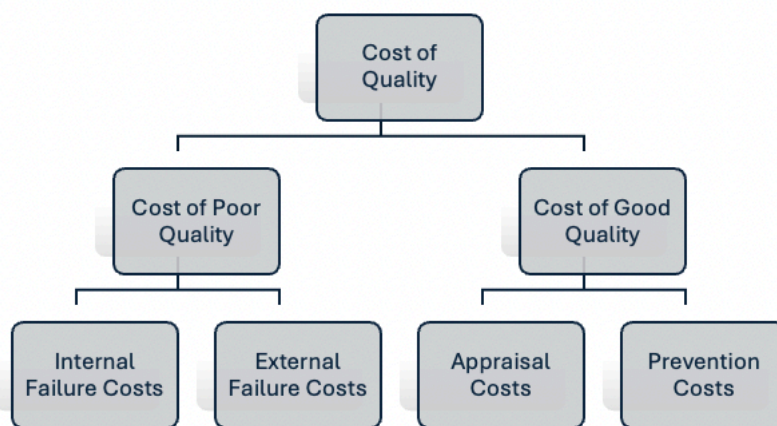


Figure 4. Cost of quality (Crosby, 1979)

Hence, “Total Quality” can be understood as the complete quality of a business, product, or service and is a broad and encompassing notion. It covers every facet of business operations with the goal of continuously meeting or surpassing client expectations. From design and manufacturing to delivery and customer service, this method incorporates quality considerations into all aspects of the organisation. Making sure that every facet of a product or service, including its distribution and promotion, complies with the highest quality standards is part of using marketing principles to explain complete quality.

The overall quality approach emphasises sustaining product quality across the supply

chain while guaranteeing accessible for target customers. Effective, dependable, and quality-oriented distribution techniques guarantee that clients obtain items in ideal condition, hence enhancing overall satisfaction (Singh, 2012). Total quality in marketing involves instilling a quality-centric approach throughout the product's lifecycle, from conception to consumption, ensuring that each component of the 4Ps enhances the consumer experience. Total quality embodies a comprehensive strategy aimed at guaranteeing excellence in all facets of an organization's operations, products, and services. It conforms to the principles of the 4Ps by guaranteeing that product, pricing, promotion, and place all meet the highest quality standards.

## **1.2. Evolution of Approaches to Quality Management**

Quality management has evolved into an essential component of modern company processes (Hamid et al., 2019). In today's fiercely competitive global market, product and service quality has emerged as a critical aspect in ensuring organisational success. Quality today encompasses the whole fulfilling of client wants and expectations, in addition to just meeting norms and specifications (Giovanni, 2024), this comprises not just the product itself, but also the business processes in which this product is manufactured. As a result, quality management has become a key competitive advantage for many organisations throughout the world.

This strategic approach to quality management displays a wide philosophical commitment that pervades all levels of a company. It affects customer satisfaction, increases operational efficiency, and gives a competitive advantage. Historically, quality management was a reactive approach based on the discovery of flaws in finished goods, associating quality with conformance to predetermined criteria. This was the inspection period, when systems were designed to uncover and correct flaws, and quality assurance was in its early stages.

However, as industrial complexity increased and consumer demands rose, the simple strategy of post-production quality inspections proved insufficient. Organisations saw the need for a more sophisticated technique, resulting in the creation of proactive quality management

systems. The change was fundamental: from finding and repairing faults to preventing them entirely. The emphasis was on embedding quality in the process and cultivating a culture of continual improvement and organisational learning.

Quality management has evolved from simplicity to complexity, from separate procedures to a full, integrated system. This evolution, which will be outlined in Section 1.2.1, includes several separate stages: basic inspection, quality control, statistical quality control, quality assurance, and finally complete quality management. Each stage addressed the limits of its predecessors while laying the groundwork for future breakthroughs, mirroring larger developments in organisational theory and industrial practice.

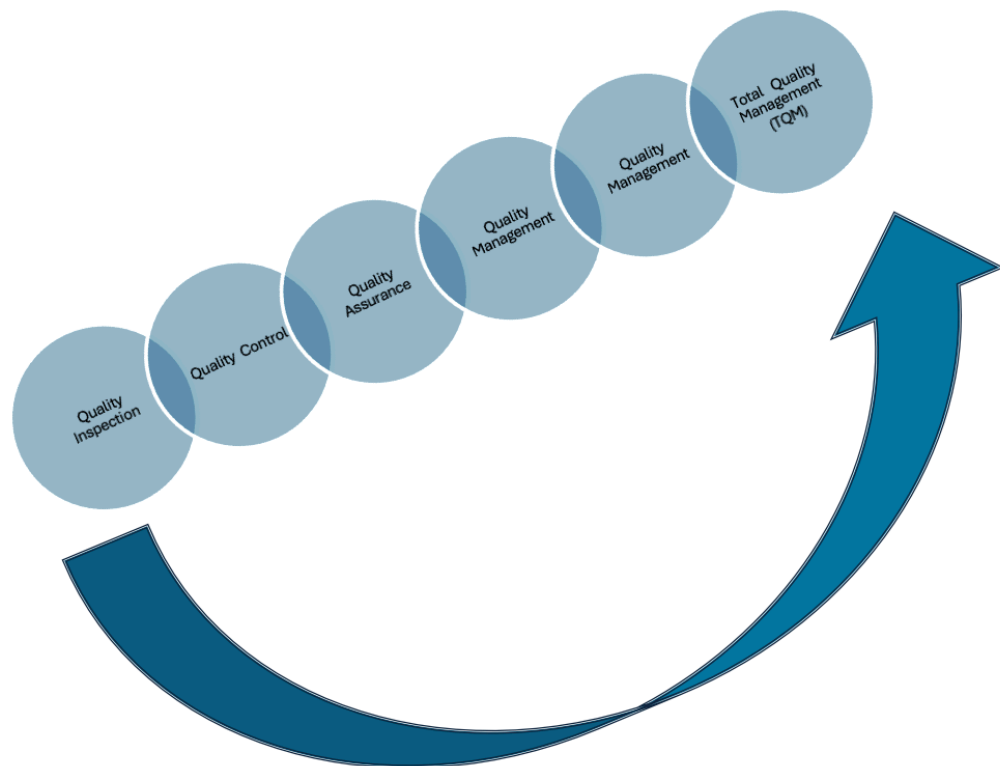


Figure 5. Quality management development

This evolutionary path led to Total Quality Management (TQM), which Section 1.2.2 will investigate via the contributions of significant personalities such as Deming, Juran, Crosby, and others. These quality pioneers introduced fundamental ideas that changed quality management into a comprehensive organisational philosophy stressing customer focus, leadership, employee



involvement, process approach, continuous improvement, evidence-based decision making, and relationship management. Today, quality management represents a paradigm change from a reactive to a proactive approach to quality concerns, assuring excellence throughout production processes and integrating quality into the organisational culture itself. This strategy is critical in today's fast-paced, technology-driven corporate world, where quality is not only a requirement, but a condition for organisational survival and profitability.

### **1.2.1. From Inspection to Quality Management**

The history of quality management methodologies provides remarkable insights into the shifting paradigms of organisational efficiency and satisfaction with customers. The basic model of quality management emerged during the mass production era, namely between 1900 and 1940, with a significant emphasis on inspection (Garvin, 1988; Weckenmann et al., 2015). According to Dale (2003), *"At one time inspection was thought to be the only way of ensuring quality"*. During this time, quality inspection efforts were largely directed on ensuring that produced items were delivered without obvious faults, with the goal of reducing customer complaints and claims.

The Model T, developed by Henry Ford, exhibits the qualities of this era. Ford pioneered the groundbreaking moving assembly line, which proved indispensable in contemporary production (Garvin, 1988). The Model T, designed for high-volume manufacturing, is regarded as the first product of this new production approach, indicating a significant shift in production methods that influenced quality control measures (Hamid et al., 2019).

Quality inspections were focused on finding non-conforming items rather than addressing detected faults (Broday, 2022), which failed to assist process improvement. In the final phase, it necessitated rigorous inspections, which resulted in high expenses for testing, fixing, and replacing defective parts, increasing waste rates. Furthermore, because production sequences remained set, corrective actions could only be undertaken after preceding stages were finished,

which took a long time. Perhaps most importantly, customer needs were rarely addressed beyond meeting required standards, with firms maintaining decision-making control over product features. This age was clearly product-oriented, with quality defined simply as “*the degree to which a set of inherent characteristics fulfils requirements*” (Dale, 2003).

As manufacturing processes developed in complexity and size, the limitations of simple inspection became more apparent, prompting a paradigm change from detection to prevention via Quality Control (QC). This method offered a considerable improvement over quality inspection since it allowed for the discovery of issues prior to completed product manufacture. “Quality control” is a broad management technique used to promote stability by preventing bad changes and preserving the status quo (Juran & Godfrey, 1999).

Quality control implemented rigorous process monitoring in order to identify and fix concerns throughout production. Rather than just assessing the quality of items after they are manufactured, quality control tries to prevent quality concerns from occurring in the first place by tracking and altering the manufacturing process (Weckenmann et al., 2015). This strategy prioritises prevention over repair; preventing problems before they occur is better to fixing them later. The quality control process compares actual performance to performance targets and addresses any deviations. Despite its improvements, quality control has several limits owing to the need to first identify problems and then create solutions. However, at the time, quality control looked to relieve businesses of the stress of meeting rising consumer demand with just acceptable quality, especially in today’s rapidly developing economic climate.

Further refinement occurred with the introduction of Statistical Quality Control (SQC), which used statistical approaches to understand and decrease process variability. SQC was pioneered by Walter Shewhart in 1924, who created a statistical chart to monitor and regulate product variables. It represented a more analytical approach that emphasised the value of statistics in quality management, allowing for a more nuanced understanding of process control.

Shewhart’s study was described in his 1931 paper “*Economic Control of Quality of Manufactured Product*”—the first publication directly addressing industrial production process

control using mathematical statistics. He investigated physical quantity fluctuations as a production system characteristic, depicting them as a statistical distribution approximated by parameters. The legitimacy of this idea required a production system that maintained a stable situation, which Shewhart defined as a “constant system of chance causes.” His study established the scientific foundation for the quality discipline sector. Dodge (1977) and colleagues also improved sample implementation, another critical SQC development component (Stuart et al., 1996; Yong & Wilkinson, 2002). Acceptance sampling was developed as an alternative to checking every single item, with the premise that a complete 100% examination was impossible and time-consuming. Their technique entailed conducting a selective analysis of limited amounts of products inside production batches and then assessing overall batch acceptability based on this assessment. The value of SQC and its mathematical and statistical techniques were widely recognised during World War II, when there was an urgent need for large-scale munitions manufacture. During this time, new sample tables were developed using Acceptable Quality Levels (AQLs), which refer to the lowest quality level or maximum proportion of defective goods that suppliers could continuously maintain while still being considered adequate.

The concepts of Quality Assurance (QA) later expanded quality management’s scope beyond manufacturing processes to cover all organisational functions. The beginnings of QA signalled a dramatic shift in industrial emphasis from reactive control to preventive assurance, with a preference for defect prevention over detection. This transition was formalised with the introduction of the ISO 9000 series quality assurance system standards (Ho, 1994). The original edition, launched in 1987, consisted of three independent models: ISO 9001, ISO 9002, and ISO 9003, all of which focused on quality assurance rather than overall quality management (Sroufe & Curkovic, 2008). Following its 1994 modification, the second edition continued the quality assurance emphasis. It wasn’t until the critical 2000 revision that ISO 9001 became the standard for a full quality management system, reflecting the larger conceptual move from assurance to management (Laszlo, 2000).

The ideas of quality assurance and quality control are quite similar, since both involve

comparing actual quality to intended quality. However, the techniques used by QA specialists have progressed beyond the statistical methodologies used in the past. As Juran and Godfrey (1999) mentioned, quality assurance attempts to help personnel who are not directly responsible for corporate operations but require information, updates on changes, and comfort about operational progress. QA requires a little cost to protect against major loss, in the form of prior notice, which helps to avoid substantial loss from occurring. QA stressed the establishment of systematic methods and standards to assure consistent quality, incorporating areas such as design, development, and service. Quality began to shift from a narrow production emphasis to a broader managerial scope during the 1950s and 1960s. The idea was developed to proactively assure quality by identifying possible risks and concerns in advance, rather than just regulating product and process quality and reacting later (Weckenmann et al., 2015; Yong & Wilkinson, 2002). Initially, preventative activities were driven internally, using a one-way push method from corporate to consumer. This involves management offering guidance for future items, which were then effectively transformed into actual products and sold to customers.

The concept of customer focus in development, in contrast to the preceding enterprise-focused paradigm, gained widespread acceptance around 1980 (Weckenmann et al., 2015). With scope growth, quality assurance procedures evolved to span the full product path within companies rather than just manufacturing. The QA period emphasised the need of using preventative quality assurance procedures and expanding quality principles beyond manufacturing processes. This preventative strategy entailed the use of comprehensive quality management tools and procedures, as well as the development of fresh operational philosophies and methods, which required a shift in managerial style and cognitive processes.

Quality management (QM) originated in statistical quality control, which was introduced by Shewhart in the 1930s, later brought to Japan through Deming and Juran's conferences in the 1950s and then reintroduced to the Western world in the late 1970s as total quality management (TQM) (Barouch & Kleinhans, 2015; Dahlgaard-Park, 2011). ISO 9001 did not change from a quality assurance system standard to a full quality management system standard until the crucial 2000 revision (Laszlo, 2000); this change has been preserved in the 2008 and

2015 versions that followed. This fundamental shift represented the overall conceptual movement from assurance-focused techniques to holistic management strategies. Quality Management (QM), a complete methodology that defines quality as a major organisational value, is the outcome of these achievements. QM includes both repeatable quality and continuous quality improvement, in contrast to Quality Assurance (QA), which concentrates on preserving repeatable quality through standardised processes and procedures. QM encourages continuous development in every aspect of the business, with all employees taking part in the quality process to not just maintain but actively improve quality results, while QA guarantees consistency and compliance to defined standards. This complete viewpoint emphasises the relevance of corporate culture, customer focus, and continuous improvement in achieving and maintaining quality excellence. Dean and Bowen (1994) define Quality Management as a *“philosophy or an approach to management”* that consists of a *“set of mutually reinforcing principles, each supported by a set of practices and techniques”*. As quality management has been more prevalent in businesses in recent decades, it has taken on varied meanings for different people (J. G. Watson & Rao Korukonda, 1995).

This historical review not only tracks the growth of quality management but also reflects larger trends in organisational thought and practice. Each progression level addressed the limits of predecessors while paving the way for more sophisticated and integrated systems, emphasising quality management’s dynamic and developing nature in response to changing industrial and market contexts.

### **1.2.2. Forerunners and Principles of Total Quality Management (TQM)**

Total Quality Management (TQM) evolved as a strategic need for businesses in response to rising worldwide competitiveness. While the origins of TQM can be traced back to the pioneering work of quality experts such as Deming, Crosby, and Juran prior to World War II (Martínez-Lorente et al., 1998; Yong & Wilkinson, 2002), its formal institutionalisation began in 1949, when the Union of Japanese Scientists and Engineers established a committee to improve Japanese production and postwar quality of life (Powell, 1995). American businesses

began seriously pursuing TQM around 1980, in response to increasing competition from Japanese organisations (Harris, 1995). This geographical translation of Quality Management methodologies from the United States to Japan in the 1950s, then back to the rest of the industrialised world in the 1980s and 1990s demonstrates TQM's developmental and transformational nature (Dahlgaard-Park, 2011; Fonseca, 2016; Mi Dahlgaard-Park, 2006). Given that TQM was used before the movement in a variety of organisational contexts, it is still difficult to pinpoint its exact origins despite its broad acceptance (Martínez-Lorente et al., 1998).

The conceptualisation of TQM has sparked substantial scholarly debate, resulting in several interpretations. Mehra et al. (2001) describe TQM as *“a quality-centric management strategy advocating for enterprise-wide quality, underscored by a pronounced focus on customer orientation and organisational dynamics.”* According to Powell (1995), it is *“an integrated management philosophy and set of practices emphasising continuous improvement and meeting customers' requirements.”* Ahire et al. (1995) define TQM as the purposeful embedding of quality in both products and processes, with the goal of creating a quality-centric attitude at all levels of the business. It develops as a holistic method to improving quality via continuous improvement in response to input. Contrary to popular belief, TQM concepts go beyond manufacturing to non-manufacturing areas like as production, purchasing, billing, and service (Harrington et al., 2012; Powell, 1995). This adaptability allows TQM to be used across a wide range of company types, resulting in cost savings, increased consumer and employee satisfaction, and improvements in output, revenue, and services. Each organization's implementation boundaries are often determined by its unique characteristics and market difficulties (Adamson, 2005).

TQM's progress has been accelerated by contributions from notable personalities whose different viewpoints and intellectual advances have moulded the current environment. These quality management pioneers include both American and Japanese participants.

In the American tradition, Shewhart is credited with inventing the control chart and the statistical quality control idea, setting the platform for subsequent improvements. Deming

(1986) became well-known for his 14 principles on quality management and the PDCA (Plan-Do-Check-Act) cycle. He highlighted detecting random and assignable causes in processes and using statistical methodologies for quality improvement, while also pushing for top management engagement and unwavering quality commitment.

Juran (1986) emphasised top management's involvement in quality management and proposed the Quality Trilogy (Planning, Control, and Improvement). He popularised the Pareto Technique and Quality Costs Measurement, eventually broadening his framework to include full processes. Crosby (1979) gained famous for claiming that 'Quality is Free' when accomplished via standard adherence and first-time task completion. He argued for Quality Cost measurement and senior management engagement and proposed a 14-step approach for quality improvement through defect avoidance. Feigenbaum (1991) introduced statistical approaches into organisational processes and pushed for company-wide total quality control, establishing 10 criteria for successful TQM implementation. Ishikawa (1982), drawing on Japanese tradition, developed the Cause-and-Effect Diagram and pushed the use of Quality Control at all levels of the business. Genichi Taguchi (1986) pioneered resilient designs and advanced quality engineering by introducing the Loss Function idea, Signal Noise Ratio, and Orthogonal Design of Experiments methodologies. He also highlighted the Internal Customer idea, which broadened the scope of quality management. In total, these Quality Gurus wielded significant power by defining the required stages for organisational success through quality management adoption.

The intellectual heritage of these geniuses developed a set of ideas that are important to TQM. It is vital to highlight that there is no consensus on critical features of successful TQM implementation, indicating that it is a flexible, context-dependent notion rather than a monolithic one. According to Han et al. (2007), adhering to ISO 9000 standards is a critical step towards achieving overall quality.

The seven main concepts of TQM, embodied in the ISO 9000 (2015) standards, provide a complete quality management system. The first principle, Customer Focus, indicates that TQM

is primarily based on fulfilling and surpassing customer expectations. Sustained organisational success is dependent on gaining and maintaining consumer trust via value-added interactions and understanding current and future demands. The benefits include enhanced consumer value, contentment, and loyalty. The second principle, Leadership, acknowledges that leadership at all levels fosters unity of purpose and guides companies towards quality objectives. Effective leadership fosters an atmosphere in which people actively participate in accomplishing goals while effectively harmonising strategies, policies, procedures, and resources. Benefits include enhanced organisational performance and better process collaboration. The third principle, Engagement of People, recognises that including competent, empowered individuals at all levels improves an organization's ability to generate and deliver value. Recognition, empowerment, and competency development are critical to meeting quality objectives. Benefits include a better knowledge of objectives, increased participation in development activities, and organisational collaboration. The fourth principle, Process Approach, suggests that activities be managed as interrelated processes within coherent systems in order to obtain consistent, predictable outputs. This approach understands that Quality Management Systems are made up of interconnected processes that may be optimised to improve overall performance. Benefits include increased emphasis on important processes and possibilities for improvement. The fifth principle, Improvement, states that effective TQM companies have a continual emphasis on improvement. Improvement keeps performance levels high, makes it easier to adjust to changes, and opens up new prospects. The benefits include improved process performance, organisational competency, and customer pleasure. The sixth principle, Evidence-based Decision Making, states that decisions based on data analysis and review are more likely to produce desired outcomes. Using facts, evidence, and data analysis improves objectivity in complicated, ambiguous decision-making processes. Benefits include better decision-making procedures and performance evaluation capabilities. The seventh principle, Relationship Management, highlights the need of managing stakeholder relationships for long-term success. Stakeholders have a substantial impact on organisational performance, and effective relationship management improves overall outcomes. Benefits include enhanced performance



and a shared understanding of objectives among interested parties.

TQM represents a paradigm shift in management thought, moving away from traditional quality control concepts and towards a holistic, organisation-wide approach. While these principles serve as a basis, their use and interpretation are nonetheless influenced by organisational and environmental factors. Implementation is not prescriptive, but rather flexible, taking into account the particular difficulties and possibilities that each business faces. The contributions of significant experts like as Deming, Juran, and others have helped shape TQM concepts, which are still evolving to answer current organisational difficulties.

### **1.3. Quality management system in higher education**

Implementing a Quality Management System (QMS) at higher education institutions demonstrates a strategic commitment to ongoing improvement, institutional responsibility, and high standards of teaching (Pratasavitskaya & Stensaker, 2010). In today's global higher education scene, quality has emerged as an important predictor of institutional reputation, satisfaction among students, and social influence (Lafuente-Ruiz-de-Sabando et al., 2018; Lazibat et al., 2014). As a result, understanding, assessing, and maintaining educational quality have become top priorities for universities throughout the world, needing strong frameworks that are specifically customised to the educational setting.

University education quality is a multidimensional and complicated construct with both tangible and intangible components (Abdullah, 2006). Tangible factors include infrastructure, technology, and physical resources, whereas intangible ones include instructional quality, institutional reputation, and overall student experience. Recognising students as essential stakeholders and primary customers of educational services has resulted in a greater emphasis on student experiences and perceptions when defining and evaluating quality. Educational institutions, therefore, require sophisticated methodologies and frameworks to precisely assess and continuously improve these aspects of quality.

Several conceptual frameworks for assessing educational quality have been established, with notable examples include the SERVQUAL model, which analyses service quality by comparing student expectations to actual experiences. However, specific frameworks such as the Higher Education Performance (HEdPERF) model have received widespread recognition for their ability to capture the distinct characteristics of higher education service quality. HEdPERF specifically covers academic and non-academic characteristics, staff attitudes, accessibility, institutional reputation, and program structure, resulting in a more accurate and context-specific measuring technique geared to higher education. Adopting a thorough QMS, as described in ISO 9001 standards, gives institutions a disciplined way to aligning organisational operations with strategic educational goals. ISO 9001 focusses on principles such as customer focus, process orientation, leadership commitment, and continuous improvement. When applied to higher education, this model promotes a wide definition of ‘customers’ that includes businesses, parents, governments, and the general public. Effective implementation necessitates clearly stated quality targets and policies, specific organisational structures with specified duties, thorough documentation, resource management, systematic performance evaluation, and a proactive risk management strategy. Furthermore, these systems incorporate continuous improvement measures such as internal audits and performance monitoring.

Managing quality in higher education also requires careful selection of appropriate quality evaluation instruments and procedures. These include quantitative performance measures such as student academic achievement and graduate job outcomes, in addition to qualitative assessments such as peer reviews and student feedback channels (ESG, 2015). Tools designed specifically for incorporating student perspectives, such as course evaluation questionnaires, student satisfaction surveys, improvement suggestion systems, student expectation surveys, and graduate career tracking, collectively improve institutions’ ability to measure educational effectiveness comprehensively and inclusively.

External accreditation and certification play an important role in ensuring quality in higher education. Accreditation methods allow independent verification of institutional adherence to

defined quality standards, which range from fundamental statutory requirements to criteria for excellence. International accrediting authorities, such as AACSB International, as well as national accreditation agencies such as NOKUT in Norway and the Polish Accrediting Committee (PKA), demonstrate the vital significance of accreditation in preserving and increasing educational quality across the world. These approaches not only strengthen institutional credibility and programme repute, but they also improve international collaboration and educational standard harmonisation.

Quality management in higher education requires a complex and integrated strategy that combines extensive internal quality management systems with stringent external accrediting standards. This integrated strategy demonstrates the institutions' dedication to educational excellence, continual improvement, stakeholder inclusion, and responsiveness to global educational trends and quality standards. Higher education institutions may assure long-term educational quality by efficiently managing both internal procedures and external assessments, so significantly contributing to societal growth and global competitiveness.

### **1.3.1. University Education Quality**

University education quality, which refers to all relevant educational services supplied to students as well as services that might have an impact on students' education, this perspective sees students as critical customers in the higher education context, emphasising instructional quality above institutional research capability. This method differs from larger generalised phrases used in other research, such as "quality of services" or "perceived service quality." Student experiences provide a more accurate depiction of service quality in higher education, as evidenced by research by Abdullah (2006), Sultan & Wong (2010) and Yeo & Li, (2014).

While higher education institutions throughout the world have continuously promoted quality, there is ongoing dispute about its precise definition (Harvey & Green, 1993; Kemenade et al., 2008). According to Polanyi (2009), quality in higher education is defined by tacit knowledge. The idea of quality is widely regarded as elusive (Harvey & Green, 1993), owing to its subjective character, which changes in meaning for various stakeholders. There is

agreement on the need of providing high-quality education; nevertheless, diverse views emerge when attempting to define the precise idea of quality (Kalayci et al., 2012). This definitional issue highlights the difficulty of setting consistent quality criteria across various educational situations.

University education quality includes both tangible and intangible components. Tangible features include physical infrastructure such as buildings, equipment, and materials, whereas intangible elements are exemplified by instructional quality (Lazibat et al., 2014). Teaching quality, which is significantly impacted by educators' actions and approaches, is a very intangible component. Unlike physical items that can be seen, touched, or looked, teaching is an activity or performance, making it less tangible and more difficult for customers to evaluate (Lazibat et al., 2014; Trivellas & Dargenidou, 2009; Umbach & Porter, 2002). Given the intangible character of education, management must focus on quantifiable metrics of quality service. This includes maintaining tangible proof of quality, minimising service complexity when possible, and encouraging student word-of-mouth recommendations. These tactics give students real indicators to help them identify and evaluate educational service quality.

There is general consensus among higher education administrators about the importance of service quality. However, academics continue to struggle with precisely assessing this attribute (Jager & Gbadamosi, 2010). Some experts believe that measurable indicators are essential for improving service quality (Donald & Denison, 2001), while others believe that quantitative measurements frequently give insufficient insights for quality improvement (Munteanu et al., 2010). This paradox emphasises the complexities of accurately measuring service quality in higher education.

Several conceptual frameworks have been established to assess service quality. Grönroos (1984) created the notion of perceived service quality, which determines quality by comparing pre-service expectations to actual experiences. Marketing mix, external influencers, word-of-mouth, and past service experiences all have an impact on these expectations. Based on this basis, Parasuraman et al. (1988) created the SERVQUAL questionnaire to completely measure

service quality gaps. This test has both anticipation and perception portions, with 22 pairs of Likert scales covering five essential dimensions: reliability, assurance, tangibility, empathy, and responsiveness. The SERVQUAL model has shown significant application across a variety of service industries, including higher education, by providing a systematic way to measuring and improving service quality.

However, it is important to note that these frameworks originated in the field of marketing and were not specifically designed for the unique context of higher education. The models are adapted from general service industries and may not fully reflect the specific characteristics and complexities of university education. A more detailed discussion of these models, including their limitations is provided in section 1.1.2. Furthermore, some researchers have called into question the significance of customer expectations in assessing service quality, claiming that they are fundamentally included into consumers' views (Alves & Raposo, 2007; Nadiri et al., 2009). This argument suggests that focussing exclusively on personal perceptions may be a more accurate indicator of service quality.

Recognising the limits of using general scales across different service types, Abdullah, (2006) created the HEdPERF (Higher Education Performance) instrument particularly for evaluating perceived service quality in higher education settings. This instrument has 41 items that address five dimensions of service quality: The academic dimension evaluates academic staff competences, attitudes, and behaviours, such as faculty interest and desire to help, feedback, consultation availability, and knowledge relevant to student enquiries. The non-academic dimension assesses non-academic staff attitudes and actions, as well as the structure of student support activities such as administrative office hours, inquiry and complaint processing, record maintenance, and response to student requests. The access factor is concerned with academic staff accessibility, counselling services, institutional attitudes towards student unions and criticism, and general institutional processes. The reputation component includes institutional image, academic program quality and prominence, graduate employability, institutional infrastructure, and geographical quality. The program dimension refers to the range, structure, and substance of academic programs available.

HEdPERF has received widespread recognition for its comprehensive and specialised approach, which is especially developed to meet the unique elements of higher education services. Multiple studies (Dužević et al., 2018; Dužević & Čeh Časni, 2015; Lazibat et al., 2014), as well as Brochado, (2009) and Abdullah (2006), have proven its superiority in evaluating higher education service quality compared to other accessible techniques. Icli and Anil (2014) supported the argument by noting HEdPERF as the most sophisticated scale in the literature for measuring service quality in higher education. The advantages of HEdPERF arise from its context-specificity, as opposed to the SERVQUAL and SERVPERF models, which, as Abdullah (2006) points out, have difficulties in properly capturing customer service quality subtleties in higher education contexts. These limitations are likely due to the more general nature of SERVQUAL and SERVPERF, which were not designed with the complexities of higher education institutions in mind. HEdPERF provides a more relevant and context-specific framework, making it a more effective instrument for assessing service quality in higher education institutions and providing the groundwork for quality management systems in the sector.

### **1.3.2. Quality management system: definition, components, elements of system documentation**

A quality management system (QMS) provides a systematic framework for ensuring that consistent information, approaches, skills, and controls are used every time a process is carried out. According to Dale (2003), this structure helps to define specific criteria, communicate standards and norms, monitor work performance, and improve team cooperation. In essence, a quality system may be characterised as a good approach to effective operations management that includes structure, tasks, procedures, and methodology. Li (2010) defined a quality management system as one that supervises and regulates quality, with customer satisfaction monitoring serving as an important technique for determining QMS performance. Traditionally, the major goal of a QMS has been to ensure product and service quality fulfilment, assisting

organisations in increasing customer satisfaction across various sectors. The International Organisation for Standardisation defines QMS as “*a part of a management system regarding quality, based upon a set of interconnected or interacting elements of an organisation to establish the organisation, operation, policies, objectives, and processes to achieve those objectives*” (ISO 9000, 2015).

ISO 9001 is widely regarded as the most popular and effective quality management system (Priede, 2012), acting as a globally accepted standard for quality management. It defines quality management systems as a set of interconnected and coordinated actions aimed at guiding and regulating an organization’s quality. The dedication to continually meeting consumer needs and increasing their satisfaction and loyalty is central to this paradigm, a value that is especially relevant in the educational sector. ISO 9001 is part of the ISO 9000 series, a collection of International Standards published in 1987 to facilitate business globalisation and meet the demand for standardised quality management systems (X. Cao & Prakash, 2011; Fonseca, 2016; Magd & Curry, 2003; Martínez-Costa et al., 2009). These principles have now undergone multiple updates, with the most recent version highlighting risk-based thinking, leadership participation, and context consideration.

According to ISO 9001 (2015), multiple interrelated components constitute the foundation of a successful quality management system. The necessary foundation is established by clear and explicit quality objectives and policies that are connected with the organization’s strategic vision. These are supplemented by a well-defined organisational structure with clear roles and responsibilities, allowing for effective administration of QMS processes (To et al., 2018). A customer-focused approach ensures that organisations consistently address stakeholder expectations and requirements. The adoption of a process approach facilitates the identification and management of interconnected activities as a coherent system, thereby enhancing organisational effectiveness in achieving quality objectives. Rigorous documentation, such as rules, procedures, and quality guides, standardises operations and increases transparency throughout the organisation. Effective resource management maximises the use of human, physical, and technology resources. Risk management is critical in detecting and managing

possible difficulties while capitalising on opportunities to strengthen strategic resilience. Regular performance monitoring, such as internal audits and management reviews, assesses the efficacy of organisational procedures. A commitment to continuous improvement guarantees that product and service quality standards are maintained as well as improved. Effective supplier management ensures that external contributions fulfil the set quality standards.

System documentation inside a QMS is critical for creating and sustaining uniform quality procedures throughout any company. Quality policies, objectives, manuals, procedures, and records provide the foundation for establishing and maintaining quality management techniques. Documented information kept as evidence of conformance must be safeguarded from accidental changes, since it serves as both proof of quality compliance and a platform for continuous improvement activities.

Organisations may develop effective quality management systems using these complete features, fostering a culture of excellence and continuous improvement, assuring adherence to quality standards while increasing stakeholder satisfaction across varied operational settings.

### **1.3.3. Managing University Education Quality**

Managing the quality of university education is a complicated task in today's changing higher education environment. To achieve long-term educational quality, comprehensive Educational Quality Management Systems (EQMS) must be implemented, as well as effective quality assessment components and rigorous external accreditation and certification processes. These integrated strategies work together to foster continuous development, institutional responsibility, and responsiveness to stakeholder expectations, notably among students.

Educational Quality Management Systems offer organised frameworks that include policies, processes, governance structures, and stakeholder involvement tools. Such systems systematically apply quality management principles tailored to the educational context, emphasising strong governance, comprehensive policy frameworks, well-defined process



architectures, dependable measurement and feedback systems, systematic documentation, and meaningful stakeholder involvement. The effective application of EQMS develops a culture of continuous improvement, led by both quantitative and qualitative outcomes, which has a direct influence on teaching quality, learning experiences, and overall educational efficacy.

The careful selection of components within these educational QMS is critical, blending objective, quantitative metrics with qualitative insights that represent the many facets of educational quality. Institutions strategically use a variety of techniques, including quantitative performance indicators (e.g., examination outcomes, faculty qualifications, graduate employment rates) and qualitative peer reviews, which give expert, context-rich evaluations. This comprehensive approach relies heavily on student-centred resources, such as extensive course assessment questionnaires, student satisfaction surveys, mechanisms for improvement suggestions, surveys analysing student expectations, and graduate career monitoring. These strategies not only enable a thorough evaluation of educational efficacy, but they also foster an inclusive atmosphere, encourage student participation, and promote continual growth.

External accreditation and certification strengthen university education quality by offering independent, rigorous evaluations against well-defined quality criteria. Accreditation systems evaluate institutions and programs from basic compliance to exceptional levels, as demonstrated worldwide by organisations like as AACSB International and nationally by agencies such as NOKUT in Norway and the Polish Accreditation Committee (PKA). These certification agencies actively promote quality assurance, stimulate international collaboration, and help to harmonise higher education standards around the globe. As a result, accreditation considerably improves institutional legitimacy, program quality, teacher recruitment, and student employability, cementing its position as a critical component of modern quality assurance systems.

Controlling university education quality requires a complex combination of internal quality management systems and external accrediting procedures. Successful quality management necessitates a comprehensive institutional plan that promotes a culture of

continual improvement and inclusion. By actively incorporating students and other stakeholders, schools guarantee that their quality assurance methods are responsive, relevant, and in line with global educational standards. This integrated strategy demonstrates universities' dedication to educational excellence, meeting varied stakeholder demands and expectations, and constantly adjusting to global educational trends and quality benchmarks.

#### **1.3.3.1. Educational Quality Management System (QMS)**

An Educational Quality Management System (EQMS)/Quality Assurance System (QAS) is a structured, complete framework of interrelated processes, rules, structures, resources, and practices that are especially designed to ensure, monitor, maintain, and improve the quality of education in higher education institutions. It applies quality management ideas to academic settings, with an emphasis on teaching, learning, student experiences, and educational results (Pratasavitskaya & Stensaker, 2010). Unlike traditional quality control methods, EQMSs combine continuous improvement tactics and stakeholder interaction, serving as both a tool for accountability and a vehicle for developmental progress.

A strong EQMS often has many critical, interconnected components. At its centre is a governance and leadership structure that establishes duties and authority for quality management at the institutional, academic, and departmental levels (Stensaker, 2008). This governance dimension offers the strategic direction and institutional commitment required to implement quality standards throughout the company. This leadership is supported by a thorough policy framework that includes explicit quality policies, well-defined objectives, and specific operational procedures. These policies provide quantifiable goals, regulate institutional performance, and provide normative support in a variety of academic and administrative settings (Westerheijden et al., 2007).

Process structure is another important component that includes fundamental educational procedures, supporting administrative operations, and overall management workflows. This structural design allows organisations to standardise critical operations while maintaining

enough flexibility to support disciplinary variety and innovation (Stensaker, 2003). In addition, good measurement and feedback mechanisms are critical to EQMS effectiveness. Course evaluations, student satisfaction surveys, and graduate tracking methods provide critical data for evaluating performance and making changes (ESG, 2015; Lazibat et al., 2014). These data gathering systems are supplemented by improvement tactics that turn insights into action, resulting in a continuous improvement cycle of gap identification, change implementation, and effect assessment (Manatos et al., 2017).

The transparency and coherence of an EQMS are strongly dependent on its documentation system. Accurate and thorough records of quality-related actions, decisions, and compliance with standards serve as both institutional memory and an accountability mechanism (Mihok, 2004). Stakeholder participation is equally important. An inclusive EQMS takes systematic input from both internal stakeholders (students, teachers, administrators) and external stakeholders (employers, alumni, and professional bodies). Ongoing communication and cooperation keep the quality management system current, adaptable, and responsive to changing demands.

In terms of structural implementation, institutions use several EQMS models (Alzafari & Ursin, 2019). A centralised method consolidates quality management inside a single unit or office, improving uniformity and administrative efficiency throughout the organisation, but it may impair contextual sensitivity at the department level. Alternatively, decentralised models disperse quality responsibilities across faculties or departments, promoting flexibility and responsiveness to local demands but potentially leading to fragmentation. The most typical option is a hybrid model, which combines centralised policymaking and supervision with distributed implementation, therefore balancing coherence and contextual adaptation.

External variables have a considerable impact on EQMS design and execution. National quality assurance mechanisms such as accreditations, evaluations, and audits engage dynamically with institutional systems to establish norms and processes (Westerheijden et al., 2007). The Bologna Process, in particular, has had a considerable impact on the development

of EQMS across the European Higher Education Area (EHEA) by establishing established standards and norms for quality assurance. The Standards and Guidelines for Quality Assurance in the EHEA (ESG), which were established during the 2015 EHEA Ministerial Conference, serve as the foundation for both internal and external quality procedures. Despite widespread adoption, obstacles remain in integrating these frameworks into universities' traditional operations and cultures, necessitating continuing institutional adaptation and policy refinement (Bleiklie & Michelsen, 2013).

The theoretical underpinnings of EQMS in higher education are mainly based on industry models such as Total Quality Management (TQM), the EFQM Excellence Model, and ISO 9001 standards. While these models provide valuable principles of standardisation, performance measurement, and continuous improvement, scholars are increasingly advocating for the development of higher-education-specific approaches that account for the sector's distinct mission and complexities (Harvey, 1995; Sahney et al., 2004).

Finally, quality management in higher education encompasses several factors. The academic dimension is on disciplinary content and faculty autonomy, ensuring the intellectual integrity of academic programs (Cardoso et al., 2016). The management dimension emphasises important performance metrics and established processes to promote efficiency and institutional responsibility (Teeroovengadum et al., 2016). The pedagogical dimension is on successful teaching methods, learning methodologies, and student competency development (Knight, 2006).

Educational Quality Management Systems are complicated and changing frameworks meant to fulfil the growing need for transparency, accountability, and quality in higher education. Their successful implementation necessitates integrated governance, comprehensive policies, strong measuring systems, rigorous documentation, and active stakeholder participation. Importantly, successful EQMSs must strike a balance between the fundamental principles of quality management and innovations customised to the particular institutional and disciplinary settings in which they are used.

### **1.3.3.2. Selecting Components of the Educational QMS**

Choosing the right components for an Educational Quality Management System (EQMS) is an important step towards guaranteeing effective quality assessment, which promotes the ongoing improvement of educational outcomes at universities. Quality indicators are chosen based on a variety of criteria, including unique national higher education settings, institutional agendas, norms set by accrediting agencies, and data measurability. Ideally, these indicators should mix objective, quantitative metrics with qualitative components of educational service, providing a comprehensive picture of educational quality (Westerheijden et al., 2007).

In higher education, quality evaluation systems typically use two methodologies: quantitative performance indicators and qualitative peer reviews. Achievement indicators work by methodically tracking objective data including teacher credentials, student academic achievement, test outcomes, and graduate employment rates (Johnes 1997). While quantitative performance measures provide unambiguous standards and simplify cross-institutional comparisons, they risk undervaluing less measurable but important qualitative characteristics of educational excellence. Peer reviews, on the other hand, incorporate subjective evaluations from academic colleagues, providing depth and context to quality assessments via expert opinion and experience-based insight (Westerheijden et al., 2007).

Student input is an important feature in EQMS component selection because it plays a major role in identifying areas for quality improvement (Popli, 2005). Institutions have routinely used student-centred assessment methods, such as course evaluation surveys, to systematically analyse pedagogical efficacy, teaching methods, course content relevance, and overall course delivery quality (Brochado, 2009; Gee, 2017). Student satisfaction surveys are also widely used, offering detailed information on students' impressions of academic quality, teaching effectiveness, administrative assistance, and campus infrastructure. These surveys collect critical input on elements such as social environment, aesthetic appeal of physical infrastructure, and responsiveness of administrative services, all of which contribute

considerably to the overall educational experience and student satisfaction (Wiers-Jenssen et al., 2002). Such methods actively promote a participatory and inclusive quality culture by encouraging students to propose specific improvements to courses, support services, and institutional regulations. Graduate career surveys provide additional critical insights by examining educational programs' long-term effectiveness, assessing how well academic training translates into successful employment outcomes, job satisfaction, career advancement, and overall employability (Florido et al., 2019; Harvey & Williams, 2010).

The transition to a student-centred approach to quality assessment reflects a larger institutional emphasis on active student participation in quality assurance procedures. Hill (1995) and Ratcliff (1996) emphasise the necessity of treating students as equal partners in defining, measuring, and improving educational quality. As a result, institutions are increasingly emphasising the systematic inclusion of student viewpoints into both internal and external quality assurance frameworks, indicating a shift towards inclusivity, active stakeholder involvement, and collaborative quality enhancement.

Within the larger framework of the European Higher Education Area (EHEA), Prisăcariu (2014) identifies four key quality assurance (QA) models, each serving a different strategic goal and driving EQMS component selection. To begin, the model for reviewing the internal quality assurance system focusses complete assessments of techniques, procedures, instruments, and processes, assuring alignment with institutional strategic and operational management requirements. This model entails a thorough examination of institutional quality policies, the development of quality systems, and extensive coverage of institutional activities, all of which are strongly aligned with the European Standards and Guidelines (ESG, 2015) principles of continuous improvement, evidence-based decision-making, and the establishment of an embedded quality culture through regular internal evaluations and auditing. Based on this QA model and ESG model, this study designed the interview questions in the case study part. The second approach is on assessing quality against externally specified fixed standards, ensuring that institutions closely adhere to the minimum needed criteria. This paradigm establishes explicit responsibility and benchmarks versus external expectations. Third, outcome-based

assessments focus on programme-level desired learning objectives, closely connecting institutional quality procedures with national certification systems. This strategy gives institutions more flexibility in tying their internal QA procedures to student accomplishment and learning outcomes. Finally, the fourth model highlights the efficacy and relevance of strategic decision-making processes by investigating how internal quality procedures influence successful institutional governance and strategic management decisions.

The selection of EQMS components entails carefully combining quantifiable performance indicators with in-depth qualitative insights and effective stakeholder interaction methods. The extensive use of course evaluation questionnaires, student satisfaction survey, employee satisfaction survey, improvement suggestion systems, student expectation surveys, and graduate career tracking surveys guarantees a comprehensive and multidimensional approach to quality assessment. Integrating these components into wider European quality assurance frameworks promotes ongoing educational improvement, closely integrating institutional practices with changing stakeholder expectations, and achieving comprehensive educational excellence.

#### **1.3.3.3. External accreditation and certification in higher education**

External accreditation and certification are critical to the creation and execution of QAS in higher education. Accreditation is a systematic external review process in which institutions and programs are evaluated against explicitly established quality criteria ranging from minimal threshold levels to standards of excellence customised to specific institutional purposes (Martin & Stella, 2007). This procedure includes a vital benchmarking stage that establishes certification as a definite and important method in the larger quality assurance environment.

In certain cases, accreditation entails evaluating institutions against higher criteria of excellence, distinguishing those that only satisfy the minimum requirements from those that demonstrate better quality (Duarte & Vardasca, 2023). Accreditation methods have become more standardised throughout higher education systems, with a shift away from institution-

specific requirements unless they closely fit with recognised professional or academic benchmarks (Kumar et al., 2020).

The Bologna Process, which aims to harmonise higher education standards across Europe, has had a considerable impact on the evolution of accrediting processes (Zahavi & Friedman, 2019), driving extensive reforms in national systems such as Poland and Norway. Accreditation in these situations sometimes confers certain advantages and duties on institutions, such as recognition by governmental or accreditation authorities, authority to conduct approved academic programs, and eligibility for government financing (Schwarz & Westerheijden, 2004a).

Norway created the Norwegian Agency for Quality Assurance in Education (NOKUT) in 2003, a specialist certification organisation independent of the Ministry that is expressly entrusted with certifying institutions and programs (Engebretsen et al., 2012). NOKUT took over tasks formerly provided by the Norway Network Council, instituting formal accrediting processes that require all institutions, public and commercial, to have adequate internal quality assurance systems encompassing all educational programs (Stensaker, 2004).

Poland created the Polish Accreditation Committee (PKA) in 2002 as an independent agency to improve educational quality in public and private schools (Chmielecka & Dąbrowski, 2004). PKA has had a significant impact on quality standards in Poland since joining the European Quality Assurance Register (EQAR) in 2008 and the European Association for Quality Assurance in Higher Education (ENQA) in 2009. This is evidenced by its role in coordinating the European Consortium for Accreditation in Higher Education's (ECA) Certificate for Quality in Internationalisation (Macukow & Chojnacka, 2005). Internationally, accrediting groups such as the Association to Advance Collegiate Schools of Business (AACSB International), founded in 1916, play an important role. Initially focused on improving management school quality in North America, AACSB grew abroad in the 1990s, certifying overseas institutions and establishing global business education standards (McIntyre & Gilbert, 2021; Trapnell, 2007). AACSB certification is generally regarded as an indicator of excellence,



with considerable benefits to institutional reputation, academic quality, faculty recruitment, and student employability (Miles et al., 2015; Urgel, 2007).

External accreditation and certification systems have made an important contribution to the global higher education environment. Examples from Norway, Poland, and specialised international certification agencies demonstrate accreditation's vital role in enhancing quality assurance, strengthening institutional credibility, and facilitating international collaboration and standardisation in higher education. AACSB International certifies business programs and institutions to provide excellent standards in business education (Chmielecka & Dąbrowski, 2004; Engebretsen et al., 2012; Urgel, 2007). Similarly, some sectors have their own specialised certification bodies: ENAEE certifies engineering programs, while ABET accredits computer science and associated technical subjects. Accreditation not only maintains educational quality within certain disciplines, but it also encourages continuous improvement and worldwide acknowledgement of institutional excellence, reflecting a long-standing international trend towards better educational standards across a wide range of areas of study.

## **Chapter 2. Academic outcomes of university education quality**

This chapter critically analyses the complex effects of university education quality on important academic results, building on the well-established concept that QA procedures indirectly influence teaching and learning practices in higher education (Mårtensson et al., 2014). Research indicates that rather than immediately enhancing routine academic tasks, QA systems largely improve governance and accountability (Stensaker, 2008; Stensaker & Harvey, 2010). This discrepancy between official QA requirements and observable advancements in education has spurred institutions and policymakers to look at other ways to increase institutional efficacy. Parts of this chapter (Sections 2.1 to 2.3) have been published in a previous study (Cao, 2025).

This chapter thoroughly examines the idea of university education quality and its interaction with other crucial variables in order to address this indirect influence of QA methods and get a better understanding of the wider effects of educational quality on students and institutional results. From early notions of “excellence” to more complex value-based frameworks that emphasise customer satisfaction and expectations, the idea of service quality in higher education has specifically changed significantly (Pariseau & McDaniel, 1997). Expectancy-disconfirmation theory also makes it clear that customer perceptions play a significant role in evaluating the quality of services, and that perceived value, which is the degree to which students’ expectations and experiences of educational services align, is a driver of student loyalty (Fornell et al., 1996).

Service quality is a crucial and complex concept in the context of universities. According to a number of studies, students’ favourable opinions of the quality of the services they receive have a substantial impact on important academic outcomes, such as loyalty and satisfaction (Ali et al., 2016a; De Jager & Gbadamosi, 2010; Hennig-Thurau et al., 2001; Y.-S. Hwang & Choi, 2019; Paswan & Ganesh, 2009; Prakash, 2021). Providing outstanding service quality is essential for the long-term viability of the institution as well as for its success (Aly & Akpovi,

2001). According to Barandiaran-Galdós et al, (2012), putting in place strong quality management systems is crucial to guaranteeing continuously excellent service standards. Teaching methods, educational procedures, and the resulting academic results are some of the variables that must be taken into account when evaluating the quality of university education (Hennig-Thurau et al., 2001). But there is still disagreement on how to define service quality in higher education (Becket & Brookes, 2006). According to Abdullah (2006), evaluating the quality of educational services should pinpoint important aspects of service provision, supporting a customer-centric approach in which students are seen as customers of educational services (Owlia & Aspinwall, 1996).

The use of the “students-as-customers” approach is still debatable, though. By portraying students largely as evaluative consumers, this paradigm, according to some academics, weakens the conventional master-disciple relationship and fails to effectively convey the unique educational experience (Budd, 2017; Hanken, 2011; Hennig-Thurau et al., 2001; Svensson & Wood, 2007). The practicality of this customer-oriented perspective in higher education research is demonstrated by the many studies that successfully apply it in spite of these criticisms (Ali et al., 2016a; Angell et al., 2008; Y.-S. Hwang & Choi, 2019; Narang, 2012; Sharif & Sidi Lemine, 2021; Sultan & Wong, 2013). These multiple studies demonstrate that students in higher education concurrently embody attributes of both customers and citizens within the academic community. Comprehensive evaluations of service interactions and resource usage are made possible by treating students as clients. At the same time, educational exchanges need active cooperation between teachers and students and go beyond transactional contacts (Budd, 2017; Hennig-Thurau et al., 2001; Svensson & Wood, 2007). In particular, Svensson and Wood (2007) stress the need of viewing students as engaged members of the academic community.

Crucially, student involvement enhances teacher involvement and has a substantial impact on learning outcomes (Hennig-Thurau et al., 2001). Therefore, it is crucial that students actively participate in educational activities in order to maximise their acquisition of knowledge and abilities. As such, the status of “participant” in the academic community better reflects the

experiences of students than the more restrictive “customer” label.

This research especially focusses on “university education quality” (UEQ) which includes other institutional elements like the efficacy of administrative services and the quality of the facilities in addition to direct educational outcomes. In order to evaluate this idea, it is necessary to incorporate the viewpoints of all parties involved, especially students, who are essential to the educational process.

Thus, this chapter examines the important connections between UEQ, SL, ACB and AP. It also takes into account the potential moderating effects of cultural factors like masculinity, power distance, and collectivism. The research emphasises the strategic importance of encouraging SL and active academic engagement by examining these nuanced relationships and highlighting the delicate balance between institutional service delivery and changing student expectations. The chapter specifically aims to clarify whether SL mediates the relationship between ACB and UEQ, and whether ACB mediates the relationship between UEQ and AP. These mediation dynamics have not yet been thoroughly investigated in light of the body of previous work. This study also looks at whether cultural factors influence these particular relationships.

This study fills important gaps in the literature on higher education by including viewpoints that both position students as active participants in their education and as customers. The mediation functions of SL and ACB within these connections have not yet been specifically investigated in any other study. As a result, the current study makes a substantial contribution to the area by providing insights into improving student academic performance and educational quality management techniques.

## **2.1. University Education Quality and Academic Citizenship Behaviour**

In the context of higher education, ACB reflected in students’ voluntary and extra-role

activities that contribute to the academic community—can be understood through the lens of social exchange and cognitive consistency theories. This term is derived from Organization Citizenship Behaviour (OCB). Organ (1988) states that OCB is a multi-dimensional concept consisting of five dimensions: altruism, civic virtue, conscientiousness, courtesy, and sportsmanship. Allison et al. (2001) have demonstrated examples of each behavioural feature within an academic context. A student exhibiting altruism would likely be prepared to assist others with their academic tasks (e.g., completing assignments or preparing for examinations). A courteous student might inform team members of their absence from meetings or alert a lecturer of their absence from class sessions. A student may demonstrate civic virtue by participating in university-related activities and attending encouraged, yet non-mandatory, meetings (e.g. meetings between the dean and students informing about the results of the student satisfaction survey and the improvement actions taken by the dean's authorities). A student may demonstrate sportsmanship by abstaining from expressing dissatisfaction with the instructor's criticism and the insufficient contributions of peers in collaborative assignments. A student may exhibit conscientiousness by consistently attending courses, submitting work punctually, and engaging in class discussions.

The five key elements of OCB in academic settings are theoretically essential but how they are displayed differ. In academic contexts, students' voluntary behaviours contribute not just to personal growth but also to the establishment of community (Allison et al., 2001). Unlike workplace OCB, which is primarily concerned with organisational productivity and efficiency (Vigoda-Gadot, 2007), ACB in higher education includes behaviours that directly benefit the learning ecosystem, such as peer academic assistance, active participation in university governance, and maintaining academic integrity even regardless of criticism. This difference emphasises the crucial need of examining ACB as a different construct than OCB, since the academic environment necessitates citizen behaviour that promotes both individual academic performance and the larger educational purpose (knowledge progress and academic community growth). Students' unique status as both service receivers and engaged community members necessitates a better grasp of how ACB functions in academic settings. As a result, these

practices must be studied through the perspective of higher education rather than just adopting workplace norms. This shift from the industrial workplace OCB framework to the academic environment reflects students' unique position within academic communities, they are not only 'customers' but also 'participants,' which more accurately captures their true experiences and responsibilities in the educational process.

Social exchange theory (Blau, 2017) suggests that when organizations, such as universities, treat their members positively and fairly, members are inclined to reciprocate with behaviours that extend beyond their formal responsibilities. Within a university setting, when students perceive that their institution consistently offers high-quality educational services, they may develop a sense of obligation and loyalty that prompts them to participate in beneficial, yet voluntary, community-building activities. In contrast, if students perceive these exchanges as unfair or inadequate, their trust and willingness to engage beyond the minimum requirements may diminish (Ahmadi et al., 2010).

Cognitive consistency theory (Heider, 1946) further complements this view by highlighting that individuals strive for psychological harmony between their beliefs and actions. When students positively perceive their university's educational quality, this belief encourages them to engage in corresponding actions that maintain consistency, such as offering constructive feedback, supporting campus initiatives, or otherwise acting as active members of the academic environment. Previous research in organizational and customer contexts supports these dynamics: employees who observe positive organizational attributes are more likely to remain with the organization and exhibit extra-role behaviours (Fu et al., 2014), and customers who perceive high service quality are more inclined to provide feedback and support the service provider (Aljarah & Alrawashdeh, 2021; Nguyen et al., 2014).

While these relationships have been explored among employees and customers, the literature on higher education remains limited. This gap is critical, as students represent a distinct stakeholder group whose role lies somewhere between a customer and an engaged community member. Studies show that when students experience high-quality educational

services, they are driven by an emotional impetus to reciprocate, exhibiting behaviours that enhance their learning environment and benefit the larger academic community (Paswan & Ganesh, 2009). Yet, to the current knowledge, there is one study by considers students as merely customers, investigated the relationship between customer service quality and customer citizenship behaviours (Sharif & Sidi Lemine, 2021). The direct relationship between UEQ and ACB by considering students as customers and members of the academic community in the higher education setting remains largely unexamined.

This study seeks to address this gap by empirically examining the influence of UEQ on ACB. By integrating social exchange theory and cognitive consistency theory into the conceptual framework, it aims to shed light on how perceptions of educational quality can foster student actions that go beyond conventional academic obligations.

Hence, it is hypothesised that :

H1: There is a positive relationship between University Education Quality and Academic Citizenship Behaviour.

## **2.2. University Education Quality and Student Loyalty**

SL in higher education is often conceptualized as consisting of both attitudinal and behavioural dimensions (Hennig-Thurau et al., 2001). The attitudinal component includes cognitive, affective, and conative elements, while the behavioural component is reflected in the decisions students make regarding their ongoing engagement with the institution (Helgesen & Nettet, 2007). Within higher education, loyalty can extend beyond current students to include graduates who, by maintaining a positive connection with their alma mater, contribute to the institution's reputation, enrol in further courses, or recommend the university to potential students (Helgesen & Nettet, 2007). Through direct involvement in academic activities, loyal students frequently actively contribute to improving the level of teaching quality and enhancing the learning environment (Rodie & Kleine, 2000).

Integrating expectancy-disconfirmation theory (Fornell et al., 1996), loyalty emerges in response to perceived value, an interplay between perceived quality and customer expectations. Thus, service quality serves as an antecedent to loyalty. Empirical research in marketing and management domains demonstrates the positive link between service quality and both attitudinal and behavioural loyalty (Boonlertvanich, 2019; Dick & Basu, 1994; Oliver, 1999; Rojas-Méndez et al., 2009). Loyal customers, relative to disloyal ones, tend to evaluate their entire service experience more favourably (Shankar et al., 2003), and a positive appraisal of required products or services forms a solid foundation for building and sustaining loyalty (Picón et al., 2014). The positive correlation between different dimensions of service quality and different dimensions of customer loyalty has been proved by Bloemer et al. (1999).

Extending these insights to higher education, a large amount of literature indicates that educational service quality predicts SL (Ali et al., 2016a; Annamdevula & Bellamkonda, 2016; Helgesen & Nettet, 2007; Pinna et al., 2023; Rojas-Méndez et al., 2009; Subrahmanyam, 2017; Zeithaml et al., 1996). By achieving a high standard of educational quality, universities can foster loyalty among students. In line with these findings, it is hypothesised that:

H2: There is a positive relationship between University Education Quality and Student Loyalty.

### **2.3. Student Loyalty and Academic Citizenship Behaviour**

Studies on employees and customers have also explored the link between loyalty and citizenship behaviours. Both sets of literature indicate that loyalty can prompt voluntary actions that benefit either the organization or its broader community (Anaza & Zhao, 2013 ;Bartikowski & Walsh, 2011; Bove et al., 2009; Zoghbi-Manrique-de-Lara et al., 2014). For example, it shows that loyalty behaviours can be used to predict consumer citizenship behaviour (Yi & Gong, 2013), besides, employee loyalty can predict employees' OCB (Dai et al., 2022; Gholam,



2014). Loyalty encourages behaviours such as offering constructive feedback, recommending services to others, or cooperating with various initiatives which forms of citizenship behaviour that improve organizational outcomes.

In the higher education environment, Nagy & Marzouk (2018) examined the relationship between SL and student citizenship behaviour, by considering students as customers and categorizing student citizenship behaviour into cooperation and participation behaviour, the results show that student loyalty has a significant and direct relationship with student citizenship behaviour. As discussed before, in this study it will consider the student as a member of the academic community when testing the ACB by using a five-dimension citizenship behaviour scale, which would make a difference in this study.

Hence, it is hypothesised:

H3: There is a positive relationship between Student Loyalty and Academic Citizenship Behaviour.

Finally, some scholars have highlighted the potential for loyalty to act as a mediating mechanism, bridging perceptions of customer service quality and the emergence of citizenship behaviours (Sharif & Sidi Lemine, 2021). To the current knowledge, no former study has examined student loyalty as a mediator in the relationship between UEQ and ACB. By considering loyalty's mediating role, it may gain deeper insights into how high-quality educational experiences prompt students to take an active role in their academic communities:

Hence, it is hypothesised:

H4: Student Loyalty mediates the relationship between University Education Quality and Academic Citizenship Behaviour.

## **2.4. University Education Quality and Academic Performance**

The quality of university services is frequently evaluated in higher education settings based on students' perceptions of service quality (Ali et al., 2016a; Alves & Raposo, 2007; Douglas et al., 2008; Gibson, 2010; Mark, 2013; Pérez Rave et al., 2022; Poon, 2019). The conceptualization of students' roles inside educational institutions is a crucial factor in this discussion. Although students are frequently seen as customers when evaluating the quality of university services, this perspective is not enough on its own. Students at universities are active participants in their education rather than only passive consumers (Barandiaran-Galdós et al., 2012; Harvey & Knight, 1996; Hennig-Thurau et al., 2001). Some academics contend that the distinctive character of the learning process is not adequately captured by seeing students as just customers (Hennig-Thurau et al., 2001; Svensson & Wood, 2007). Rather, students in universities concurrently display traits of both consumers and members of the academic community (Svensson & Wood, 2007). Because the educational exchange necessitates a cooperative effort between educators and students that goes beyond a straightforward, transactional "service provider-customer" framework (Budd, 2017; Hennig-Thurau et al., 2001; Svensson & Wood, 2007), unlike typical service sectors, this dual viewpoint is crucial.

The unique aspect of the learning process is that the outcomes are mostly, if not entirely, the consequence of the learner's engagement rather than only the teacher's (Hennig-Thurau et al., 2001). Students gain more knowledge, abilities, and competences in classes taught by lecturers the more actively they engage. Students' involvement in higher education is therefore better described by viewing them as members of the academic community rather than just as consumers.

This study recognizes the institution's quality of education as well as students' active involvement in achieving academic achievement by integrating AP, more especially, grades, into the model. This strategy is especially important in higher education settings as academic achievement is a key metric for assessing the efficacy and efficiency of university instruction (Florido et al., 2019).

Poor educational quality at higher education institutions significantly lowers students'

academic performance (Ibietan et al., 2016). On the other hand, students often achieve better academic results when they have access to high-quality instruction. Numerous studies show that students' AP improves when they perceive excellent service quality because they are more satisfied (Ahmed et al., 2010; LEE & SEONG, 2020). Alyahyan and Düşteğör (2020) thorough literature study provides more evidence that the learning environment and academic elements have a major impact on student success.

Students' academic success has been found to be largely determined by the quality of education, the classroom setting, and the campus infrastructure (Arthur et al., 2022; Baharin et al., 2015; Subrahmanyam, 2017). Final grades are important indicators for assessing academic achievement, according to Yen and Liu (2009), all of these results point to a rational foundation for arguing that academic achievement and the quality of university education are positively correlated.

Notwithstanding the data now available, it is important to remember that earlier study has either utilized a variety of research approaches or has concentrated on small-scale, restricted examinations, such certain subjects or courses. Recognizing that quality arises from the interaction between institutional offers and students' active involvement as both service users and members of the academic community, this study attempts to investigate this link more thoroughly across larger educational contexts.

Thus, the following is hypothesized:

H5: There is a positive relationship between University Education Quality and Academic Performance.

## **2.5. Academic Citizenship Behaviour and Academic Performance**

According to Podsakoff et al.(2009), OCB is seen as a critical component of performance at the individual and organisational levels. Given that performance is one of the most important

outcomes of OCB among employees, the social exchange theory and the reciprocity norm offer a theoretical foundation for forecasting the effect of OCB on performance (Nielsen et al., 2009). As emphasised by Podsakoff et al. (2000), OCBs can help team members coordinate their activities and boost employees' productivity. Focussing on OCB enhances task performance by sustaining, enhancing, and enhancing the social and psychological environment (Organ, 1997; Podsakoff et al., 2009). Additionally, by enhancing employee job performance, OCB boosts organisational efficiency (Casu et al., 2021; Mitonga-Monga et al., 2017; Werner, 1994).

In the workplace, in-role performance refers to carrying out the duties specified in a person's job description. This term, which is also frequently used to describe work performance, is occasionally connected to a person's compensation (Bergeron, 2007; Felfe et al., 2014). Grades can be used to evaluate a student's capacity for good academic achievement in a higher education setting (Aitken, 1982; Chemers et al., 2001; Koh et al., 1995).

According to several experts in higher education, one of the main responsibilities of universities is to foster citizenship (McCowan, 2012; Munck, 2010). A person's abilities and social engagement may be significantly impacted by their university attendance, claims McCowan (2012). In other words, students are often encouraged to concentrate on both extra-role citizenship activities and in-role academic success throughout their time at university. Students' OCB in general is substantially and favourably correlated with academic achievement, according to research that focusses on students (Allison et al., 2001). This connection can be explained by the possibility that students who help others finish tasks and edit materials may be able to improve their abilities, which will help them do better on assessments. One of the extra-role performance tasks described by Schmitt et al. (2008) is "serving as a mentor for younger students." In addition to helping others, these selfless students may become more conscious of their shortcomings in a variety of topics, which will enable them to minimise them prior to assessments.

Furthermore, Khaola (2014) suggested that civic virtue and altruism, two aspects of OCB, may have a good impact on academic performance. Academic accomplishment is viewed as a

gauge of the end result when evaluating pupils' academic performance. Course grades or Grade Point Average (GPA), which show the degree of knowledge of the subject matter and the ability to meet the academic standards set by educational institutions, are examples of academic achievements (York et al., 2019). In order to assess student achievement, a number of scales used in academic literature mostly rely on grades and/or GPA.

Few research have been conducted on university students' ACB, especially when examining the effects of ACB on students across national borders. The goal of this research is to shed fresh light on this crucial topic and advance knowledge of the relationship between academic citizenship conduct and academic achievement in various educational settings.

The following hypothesis is based on the theoretical framework and empirical data from earlier studies on OCB:

H6: There is a positive relationship between Academic Citizenship Behaviour and Academic Performance.

A mediating relationship can be suggested by building on the relationships that have already been established in this research framework, namely that ACB positively influences AP (H5) and that UEQ positively influences ACB (H1). According to the theoretical underpinnings, excellent education quality in the university encourage students citizenship behaviours, which improves their academic achievement. This indirect pathway provides a more thorough knowledge of how educational quality translates into better student outcomes, complementing the direct association between UEQ and AP (H4). To the best of current knowledge, this is the first study to look at how ACB mediates the link between UEQ and the AP. Thus, the following hypothesis is put forth:

H7: Academic Citizenship Behaviour mediates the relationship between University Education Quality and Academic performance.

## **2.6 The moderating role of the cultural dimension in specific**

## relationships

This study examines whether cultural factors like power distance, collectivism, and masculinity moderate the basic relationships between university education quality, academic performance, student loyalty, and academic citizenship behaviour. The ensuing analysis of cultural moderators will offer a better understanding of how these cultural elements might either enhance or weaken the established correlations by first ensuring that the conceptual framework's fundamental relationships hold (Becker et al., 2023). Therefore, this section will present hypotheses regarding the studied relationships taking into account cultural moderators.

In cross-cultural research, national culture plays a vital role in shaping individual behaviour and organizational outcomes (Taras et al., 2010). Drawing on Hofstede's cultural dimensions theory, cultural framework can be identified into four fundamental dimensions: power distance, individualism versus collectivism, masculinity versus femininity, and uncertainty avoidance (Hofstede, 2001) While the term "masculinity versus femininity" has been evolved into "motivation towards achievement and success" to move away from binary gender concepts, this study maintains the original terminology as it remains prevalent in the literature.

Hofstede's model reveals significant national-level cultural differences between Poland and Norway that provide the theoretical foundation for this study. As presented in Table 1, these two countries demonstrate marked variations across the three cultural dimensions relevant to this research.

Table 1. Poland and Norwegian scores on Hofstede's 3 Dimensions

Cultural dimensions	Power Distance	Masculinity (vs. Femininity)	Individualism (vs. Collectivism)
Poland	68	64	47
Norway	31	8	81
Differences	37	56	34

*Note: The scale runs from 0 - 100, with 50 as a mid-level. The rule of thumb is that if a score is under 50, the culture scores relatively LOW on that scale, and if any score is over 50, the culture scores HIGH on that scale. In the case of Individualism - the LOW side (under 50) is considered "Collectivist", and the HIGH side above 50 is considered "Individualist". The score of Individualism (vs. Collectivism) has been updated by the newest studies (Minkov & Kaasa, 2021, 2022).*

The substantial differences between Poland and Norway across these cultural dimensions provide an ideal context for investigating how national culture moderates the relationships in the research model. Poland scores considerably higher than Norway on power distance (68 vs. 31) and masculinity (64 vs. 8), while scoring lower on individualism (47 vs. 81). These contrasts suggest that Polish culture tends toward higher power inequality acceptance, stronger achievement orientation, and more collective social structures. Conversely, Norwegian culture is characterized by lower power distance (indicating greater equality and accessible authority figures), significantly lower masculinity (reflecting a stronger emphasis on cooperation, consensus-building, and quality of life over competition and achievement), and higher individualism (suggesting greater focus on individual rights, personal autonomy, and self-reliance in social interactions). These distinct cultural profiles, as defined by (Hofstede, 2001), create a compelling comparative framework for examining how specific cultural dimensions influence educational relationships and outcomes.

This study examines how these three key cultural dimensions moderate specific significant pathways in the research model. Given the substantial difference in power distance scores between Poland and Norway (37 points), it can be argued that power distance moderates the relationship between UEQ and SL. In high power distance cultures such as Poland, students are likely to place greater emphasis on hierarchical structures and formal educational quality, potentially strengthening the relationship between UEQ and SL.

The dramatic difference in masculinity scores (56 points) between Poland (64) and Norway (8) warrants investigation into how this dimension moderates different pathways in the

two countries: The analysis examines how masculinity (higher achievement orientation) moderates the relationship between ACB and AP as well as how masculinity moderates the UEQ and AP relationship.

Given Poland's collectivist tendencies (score of 47) and Norway's strong individualist orientation (score of 81), collectivism-individualism is proposed as a moderator of the relationship between SL and ACB. Specifically, in collectivist contexts such as Poland, stronger social bonds may reinforce the translation of student loyalty into citizenship behaviours within the academic community.

These cultural dimensions were specifically selected due to their pronounced differences between Poland and Norway and their theoretical alignment with the observed variations in the model's pathways. This selection was supported not only by Hofstede's cultural framework but also by previous research demonstrating connections between these dimensions and the constructs in the study. Incorporating these cultural dimensions as moderators enables a deeper understanding of the cultural mechanisms underlying country-specific differences in particular relationships, despite the general consistency of the overall research model.

PD indicates the extent to which less powerful members of a society accept an unequal distribution of power (Hofstede, 2001). This cultural dimension manifests distinctly in educational settings across different countries, notably between Norway and Poland, which show significant variation in their PD scores (37).

In low-PD nations like Norway, whose score is extremely low at 31—there is minimal tolerance for power imbalances, and subordinates do not rely heavily on their superiors. Instead, the society emphasizes consultation and collaboration, fostering mutual respect and interdependence between leaders and their teams. According to Hofstede (2001), in Norway's educational environment, this low power distance manifests through specific characteristics: students are treated as equals and are encouraged to take initiative; teachers are viewed as experts sharing objective knowledge; and the quality of learning depends on two-way communication as well as the students' own efforts. By contrast, Poland's cultural setting,



reflected in its higher PD score of 68, demonstrates a more hierarchical structure. Classrooms in Poland typically position teachers in an authoritative role, with students expected to follow their guidance rather than initiate class discussions. Teachers are often regarded as “gurus” who transfer personal wisdom, and the quality of learning depends primarily on the teacher’s expertise. Unlike in low power distance environments, students in Poland are less likely to be treated as equals or encouraged to take initiative in their educational journey.

The relationship between UEQ and SL has been established through Expectation-Disconfirmation Theory and multiple empirical studies, as discussed in section 2.3. However, the cultural context may influence the strength and nature of this relationship. Previous research in the customer service domain has established a clear precedent for examining cultural dimensions as moderators in quality-loyalty relationships. Several influential studies have demonstrated that cultural factors or cultural as a whole significantly related to the service quality and its outcomes, including customer satisfaction and loyalty (Belanche Gracia et al., 2015; Furrer et al., 2000; Lee et al., 2019; Schoefer, 2010; Smith & Reynolds, 2009). Specifically, Donthu and Yoo (1998) found substantial variations in service quality perceptions among consumers from different cultural backgrounds, while Dash et al, (2009) identified power distance and individualism as particularly influential cultural dimensions affecting service quality evaluations. Further strengthening this theoretical foundation, Tsaor et al, (2005) provided empirical evidence that the relationships between perceived service quality and customer loyalty differs in different cultural background.

It is important to note that previous studies examining power distance as a moderating variable have primarily focused on service quality, customer satisfaction, and loyalty in commercial contexts. In the present study, students are conceptualized as both customers experiencing university services and members of the university community. To current knowledge, no existing research has investigated power distance as a moderator of the relationship between UEQ and SL, let alone conducted a comparative study across countries with markedly different power distance scores. Therefore, this aspect of the research addresses a significant gap in the literature and represents one of the key innovations of this study. These

established findings in the service marketing literature provide a sound theoretical basis for examining how power distance might similarly moderate the relationship between UEQ and SL in educational contexts. In Poland, where power distance is high (score: 68), students are more inclined to accept hierarchical authority and may place greater emphasis on the formal quality of education delivered by instructors, potentially strengthening the relationship between UEQ and SL. Given Norway's low power distance (score: 31), the effect of UEQ on SL may be less pronounced or operate through more egalitarian and participative mechanisms, where students may evaluate educational quality through a lens of collaborative learning rather than authoritative instruction.

Hence, it is hypothesized that:

H8: Power distance moderates the relationship between UEQ and SL.

According to Hofstede (1998), a masculine society emphasizes achievement and success. A high score on this dimension suggests that competition, accomplishment, and triumph are key motivators, with success defined by being the winner or the best in a given field, a value system that takes root in schools and continues throughout professional life. Conversely, in a feminine society, people prefer friendly atmosphere, caring for others and prioritizing quality of life as central values. A low score indicates that quality of life is seen as a mark of success, and standing out is not particularly admired. Essentially, the fundamental question is what drives people: striving to be the best or finding satisfaction in what they do.

Cultural dimensions have consistently demonstrated strong explanatory and predictive power regarding behaviour and performance across various settings (Lofquist & Matthiesen, 2018; Taras et al., 2010). In a masculinity-oriented environment, culture tends to place greater emphasis on material success, task performance, and the utilitarian aspects of services (De Mooij & Hofstede, 2002; Furrer et al., 2000). In workplace environments, Ameer (2017) found that cultural dimensions, particularly masculinity vs. femininity significantly affect employee performance and OCB. These findings suggest that similar mechanisms likely operate in academic settings. In masculine cultures, individuals typically engage in more competitive

behaviours and place higher value on visible achievements. Within such environments, academic citizenship behaviours may serve as a means to gain competitive advantage and demonstrate capabilities to peers and instructors. Students in these contexts might more effectively translate their citizenship behaviours into performance outcomes precisely because these behaviours align with cultural expectations emphasizing achievement and success.

While OCB has been extensively examined in workplace settings, the investigation of masculinity vs. femininity as a moderator of the relationship between students' OCB in academic settings and AP represents a significant contribution to higher education research. This aspect of the study addresses an important gap in the literature, as the influence of cultural dimensions on ACB and their outcomes remains largely unexplored in educational contexts.

Hence, it is hypothesized that:

H9: Masculinity vs. Femininity moderates the relationship between ACB and AP. Given Poland's cultural profile (score: 64), students with high achievement motivation are anticipated to more effectively use their ACB to enhance AP.

In feminine cultures, softer values are encouraged: relationships are based on egalitarian principals, teachers tend to be supportive rather than authoritarian in their relationships with students, and decision-making often involves group consensus (Hofstede, 2001). This approach not only shapes interpersonal interactions but also influences how university students relate to one another, emphasizing inclusion and collaboration over rigid hierarchical structures.

As cultural differences play a crucial role in how services are evaluated; research indicates that perceptions of service quality vary among individuals from diverse cultural backgrounds (Donthu & Yoo, 1998; Furrer et al., 2000). In feminine cultures, the quality of the educational environment itself may have a more direct impact on performance, as students value the supportive aspects of education rather than seeing academic success primarily as a competitive endeavour. The emphasis on quality of life and well-being in feminine cultures suggests that students may respond more positively to high-quality educational experiences that support their learning in a holistic manner, rather than focusing on citizenship behaviours as a means to

performance outcomes.

The examination of masculinity vs. femininity as a moderator of the relationship addresses a notable gap in higher education research. While previous studies have explored factors affecting AP, the role of cultural dimensions particularly the masculinity-femininity, in moderating how educational quality translates to academic outcomes remains underexplored. This aspect of this research contributes valuable insights to understanding the cultural mechanisms that influence educational effectiveness.

Hence, it is hypothesized that:

H10: Masculinity vs. Femininity moderates the relationship between UEQ and AP.

Based on Hofstede cultural theory (2001), in individualist cultures, people tend to focus on caring for themselves and their immediate family. By contrast, collectivist cultures are characterized by membership in groups that provide support in return for loyalty. In individualist societies, identity is centred on the individual, whereas in collectivist societies, one's sense of self is grounded in the social network to which they belong (De Mooij & Hofstede, 2002). Additionally, communication in individualist cultures is generally more direct and verbal, while in collectivist cultures it tends to be more implicit. According to Carrillat et al. (2009) and Izogo et al. (2020), the individualism dimension, which most effectively accounts for cross-cultural variations in personal attitudes and behaviours, differed significantly between Poland and Norway.

Poland scores 47 on the individualism scale, placing it slightly on the collectivist side, while Norway scores 81, indicating a strongly individualist society. This notable difference (34 points) provides an excellent opportunity to examine how this cultural dimension might influence academic behaviours and relationships.

In collectivist cultures like Poland, group membership and loyalty are particularly valued. Individuals often define themselves through their group affiliations and prioritize group harmony and cohesion. Research has shown that cultural dimensions, including collectivism vs.

individualism, significantly affect OCB (Ameer, 2017). Thompson et al. (2014) further established that individual-level collectivist values significantly moderate the relationship between loyalty and behaviour, showing that individuals with stronger collectivist values demonstrate greater loyalty-driven actions, particularly in contexts where trust and quality perceptions vary. This finding is particularly relevant to this research context, suggesting that collectivism may similarly moderate how student loyalty translates into citizenship behaviours in academic settings.

The relationship between SL and ACB is significant in both Poland and Norway, but the cultural mechanisms driving this relationship may differ. In more collectivist contexts like Poland, student loyalty may more readily translate into citizenship behaviours as an expression of group commitment and reciprocity. Students who feel loyal to their institution may engage in citizenship behaviours as a way to give back to their academic community and fulfil perceived obligations to the group.

The examination of collectivism vs. individualism as a moderator of the relationship between SL and ACB addresses an important gap in higher education research. While the influence of cultural dimensions on organizational citizenship behaviour has been studied in workplace contexts, its application to academic settings remains relatively unexplored. This aspect of our research contributes to understanding how cultural values shape student behaviours and institutional relationships.

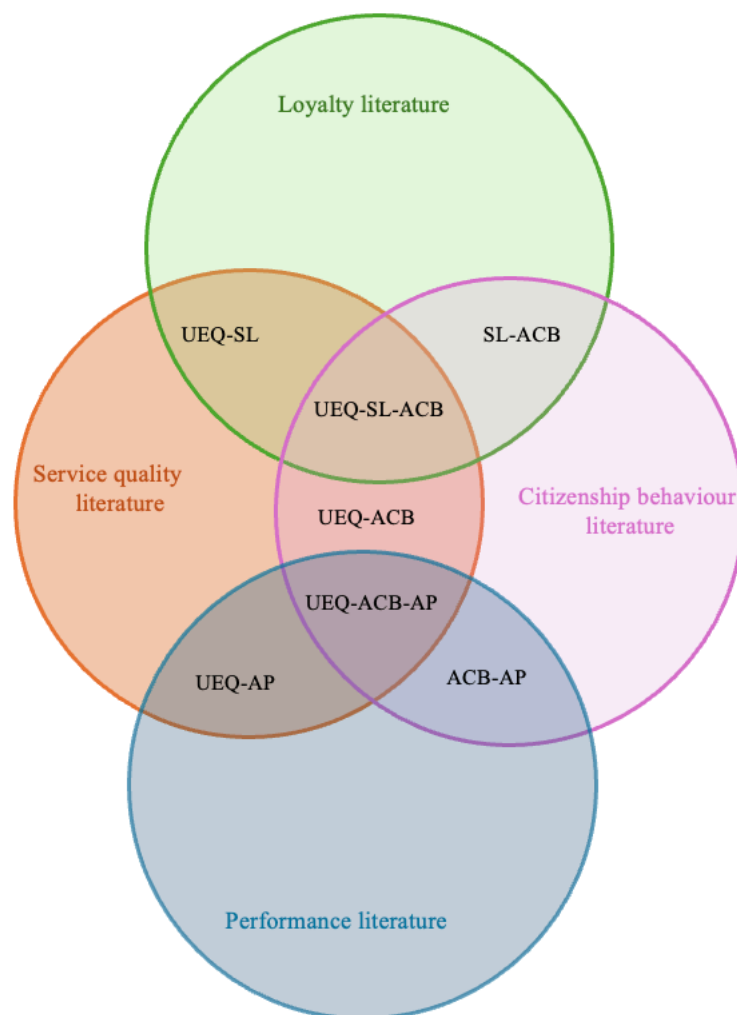
Hence, it is hypothesized that:

H11: Collectivism moderates the relationship between student loyalty (SL) and academic citizenship behaviour (ACB).

## **2.6. Identifying a research gap – the results of critical literature review**

Based on the critical review of literature presented in this chapter, several significant research gaps have been identified within the realm of university education quality and its

relationships with key academic outcomes. Furthermore, since this research integrates several distinct but related streams of literature, a Venn diagram is used (Figure 6.) to visually demonstrate the overlapping parts and the core focus area of this thesis. The diagram highlights intersections among UEQ, SL, ACB, and AP literatures, thus clarifying the novel contribution and scope of this study.



**Figure 6.** Overlap of literature streams examined in this study and their intersections.

First, the relationship between UEQ and ACB remains largely unexplored. While social exchange theory (Blau, 2017) and cognitive consistency theory (Heider, 1946) provide theoretical foundations suggesting that high-quality educational services may prompt students to engage in voluntary, community-building behaviours, empirical evidence in the higher

education context is scarce. Most studies have examined this relationship in organizational or customer contexts (Aljarah & Alrawashdeh, 2021; Fu et al., 2014; Nguyen et al., 2014), with only Sharif and Sidi Lemine, (2021) investigating it within higher education, yet even then, only considering students purely as customers. The unique positioning of students as both service recipients and active members of the academic community warrants further investigation into how educational quality influences their citizenship behaviours.

Second, while numerous studies have established the relationship between UEQ and SL (Ali et al., 2016a; Annamdevula & Bellamkonda, 2016; Helgesen & Nasset, 2007; Pinna et al., 2023; Rojas-Méndez et al., 2009; Subrahmanyam, 2017; Zeithaml et al., 1996), cross-cultural comparative research examining how this relationship may vary across different national contexts remains limited. Given that cultural dimensions significantly impact service evaluations and loyalty formation (Belanche Gracia et al., 2015, 2015; Furrer et al., 2000; Lee et al., 2019), there is a need for international comparative studies that account for cultural variations.

Third, the relationship between SL and ACB represents another understudied area. While Nagy and Marzouk (2018) examined this relationship by categorizing student citizenship behaviour into cooperation and participation, they used a customer-centric framework rather than conceptualizing students as members of the academic community. The present study addresses this gap by applying a five-dimension organizational citizenship behaviour scale, which offers a more comprehensive assessment of students' extra-role behaviours within their academic environment.

Fourth, the mediating role of SL in the relationship between UEQ and ACB has not been previously examined. While some scholars have suggested loyalty's potential as a mediating mechanism between customer service quality and citizenship behaviours (Sharif & Sidi Lemine, 2021), no study has specifically tested this mediating effect in the higher education context.

Fifth, regarding the relationship between UEQ and AP, prior studies have shown that poor educational quality significantly lowers students' academic performance (Ibietan et al., 2016),

while high-quality instruction generally leads to better academic results (Ahmed et al., 2010; LEE & SEONG, 2020). Additionally, research has demonstrated that the learning environment, classroom setting, and campus infrastructure substantially impact student success (Alyahyan & Düşteğör, 2020; Arthur et al., 2022; Baharin et al., 2015; Subrahmanyam, 2017). However, as noted in section 2.4, existing research has either utilized diverse methodologies or focused on limited contexts such as specific subjects or courses, rather than investigating this relationship across broader educational settings.

Sixth, while research has established that OCB positively influences performance at both individual and organizational levels in workplace settings (Nielsen et al., 2009; N. P. Podsakoff et al., 2009; P. M. Podsakoff et al., 2000), studies specifically examining ACB and AP among university students are limited. As discussed in section 2.5, some research has shown that students' OCB is positively related to academic achievement (Allison et al., 2001), and aspects of OCB such as civic virtue and altruism may positively impact academic performance (Khaola, 2014). However, few studies have examined this relationship across national boundaries, particularly when investigating the effects of ACB on students from different cultural contexts.

Seventh, the mediating role of ACB in the relationship between UEQ and AP represents an unstudied area. As noted in section 2.5, building on the established relationships in this research framework that UEQ positively influences ACB and that ACB positively influences AP, a mediating relationship can be proposed. To the best of current knowledge, this is the first study to examine how ACB mediates the link between UEQ and AP, providing a more comprehensive understanding of how educational quality translates into improved student outcomes.

Finally, the moderating effects of cultural dimensions on these relationships remain largely unexplored in higher education contexts. As section 2.6 highlights, significant national-level cultural differences between Poland and Norway across power distance (68 vs. 31), masculinity (64 vs. 8), and individualism/collectivism (47 vs. 81) provide an ideal context for investigating how these dimensions moderate specific relationships in the research model. Previous research



has established that cultural factors significantly affect service quality evaluations and outcomes (Belanche Gracia et al., 2015; Furrer et al., 2000; Lee et al., 2019; Schoefer, 2010; Smith & Reynolds, 2009), as well as citizenship behaviors and performance (Ameer, 2017; Lofquist & Matthiesen, 2018; Taras et al., 2010). However, their application to the specific relationships in this study's conceptual framework represents a novel contribution to higher education research.

By addressing these research gaps, this study aims to contribute to a more nuanced understanding of the complex interplay between UEQ, SL, ACB, and AP, while accounting for cultural variations that may influence these dynamics.

## **Chapter 3. Research methodology**

### **3.1. Research procedure**

A mixed-methods case study enables researchers to address more complex or wide-ranging research problems than relying solely on case studies (Guetterman & Fetters, 2018; Yin, 2008). This study adopts a comparative mixed-methods case study approach, combining qualitative case study techniques with quantitative survey data to examine the quality assurance systems (QASs) of Nicolaus Copernicus University in Toruń (NCU) and the Norwegian University of Science and Technology (NTNU) as distinct yet comparable cases within a broader comparative analysis framework. Cross-case comparisons (Yin, 2008) and thematic analysis (Braun & Clarke, 2006) were utilized as the overarching analytical framework for interview data, SEM was used to analyse the quantitative data. In the last stage, mixed method interpretation (Creswell & Clark, 2018) and cross-case comparisons (Yin, 2008) were utilized integrating and comparing both qualitative and quantitative data sources, resulting in explanatory insights.

Within this case study approach, the qualitative component involved analysis of interview data collected from three key stakeholder groups: heads of the QAS departments (often teachers with dual roles), teaching staff, and students at both institutions. This multi-perspective approach provided rich insights into each university's quality assurance system, investigating their measurement tools, communication methods, improvement implementation processes, and perceptions of the QAS from different institutional positions. The analysis then provides a detailed comparison between the two institutions, highlighting similarities and key differences, while examining how cultural and institutional contexts influence the effectiveness and development of these systems. The quantitative component employed SEM as a statistical implementation. The research aims to identify several key relationships: the direct and indirect

relationships between UEQ and ACB through SL, the direct and indirect relationships between UEQ and AP through ACB and the moderating effects of cultural dimensions (power distance, masculinity and collectivism) on select significant relationships. Then, mixed method interpretation (Creswell & Clark, 2018) and cross-case comparisons (Yin, 2008) integrating and comparing the data from these two universities, aims to explore detailed and complex problems.

This study used a mixed-methods case study methodology that emphasised data triangulation (Yin, 2008), which increased the validity of the findings and allowed for a systematic comparison of both implementation procedures and outcomes across two institutional contexts. To fully address the research objectives, the case study technique included a range of empirical data gathering methods, such as semi-structured interviews, observations, and document analysis. Using different sources of evidence within a coherent research framework increased the study's rigour, breadth, complexity, richness, and depth (Flick et al., 2004). The integration of several data sources revealed relevant patterns of similarities and variations in how QASs work and impact educational quality across cultural and organisational contexts. The study was carried out between October 2023 and April 2024, with all data gathering and analysis aligned with the overall case study design to achieve a comprehensive grasp of the research goals.

The research was conducted at two public research universities: NCU and NTNU. NCU established in 1945, is an internationally recognized institution with 16 faculties across two campuses, serving 18,331 students and employing 4,453 staff members. The university offers education in over 100 fields of study and 55 postgraduate courses. NTNU with roots dating back to 1760, is Norway's largest single university following a merger in 2016. This case study university Ålesund campus emerged with NTNU in 2016, these mergers were part of the broader national Structure Reform (Ministry of Education and Research, 2015). It offers 398 study programmes to 43,422 students, including 4,062 international students, across campuses in Trondheim, Gjøvik, and Ålesund. Both universities demonstrate commitment to quality assurance in higher education, with their respective in NCU's Faculty of Economic Sciences and Management and in NTNU's Faculty of Economics and Management, either holding (NCU)

or pursuing (NTNU) AACSB accreditation. This similarity in institutional focus on quality assurance, combined with their different cultural contexts, makes them ideal cases for comparative analysis.

The research process began with a comprehensive literature review in January 2022, utilizing major academic databases including Web of Science, Scopus, Wiley, Taylor and Francis, Elsevier, Emerald, and Springer. The review focused on key themes including quality assurance in higher education, quality assurance, quality management, cultural dimensions, higher education, education quality, university service quality, student loyalty, organizational citizenship behaviour, customer citizenship behaviour, and academic performance. This was complemented by analysis of institutional published documentation and quality assessment reports from both universities in case study. The review incorporates 104 peer-reviewed articles selected based on relevance to the constructs of UEQ, SL, ACB, AP and cultural dimensions. Studies were excluded (a) if they are not part of relevant groups, such as customers, employees, and students (b) lacked empirical support.

QASs in higher education occupy a paradoxical position: while widely implemented to enhance teaching quality, their impacts operate primarily through indirect, institutional-level channels rather than directly transforming teaching practices (Bohrer, 2011; Mårtensson et al., 2014; Stensaker, 2008). This study interrogates this paradox through a comparative examination of QASs at NCU in Poland and NTNU in Norway, institutions operating within distinct European cultural and policy contexts.

The research builds upon two established scholarly observations. First, that QAS generates most measurable outcomes in governance and accountability domains rather than classroom practice (Stensaker, 2008; Stensaker & Harvey, 2010). Second, that the resultant gap between procedural compliance and academic reality has driven European policymakers toward innovative solutions, particularly learning-outcomes frameworks and qualification standards (Mårtensson et al., 2014). These developments frame the central research problem: how universities can reconcile standardized QA mandates with the need for quality enhancement?

To address this challenge, the study employs a mixed-methods case study design capturing multiple dimensions of QA effectiveness. Due to the large size of these two public universities and the complexity of their QASs, it is impractical for one person to answer all questions comprehensively. Therefore, a comprehensive understanding of each case usually requires synthesizing multiple perspectives from multiple respondents. This method of using multiple sources of evidence is known as ‘data triangulation’ (Yin, 2008) and it greatly enhances the construct validity of the study. In addition, explicitly combining the theoretical underpinnings derived from QAS-based documents with the empirical data collection instrument, a semi structured interview guide containing open-ended questions, further enhances the construct validity of the study (Yin, 2008). Reliability was addressed by systematically recording all methodological decisions, procedures and interview questions within a detailed case study protocol (See Appendix 1 case study protocol and Appendix 4 scenario and interview plan ) (Yin, 2008).

Hence, the case study analysis examines how institutional QAS processes are designed, implemented, and improved. The experiential dimensions include first-hand accounts from head of the QAS department (often dual-role teachers), teaching staff, and students. The outcome linkages involve quantitative measurement of university education quality and student outcomes, including student loyalty, academic citizenship behaviour, and academic performance.

Based on the literature review, a theoretical framework was developed to examine relationships between UEQ, ACB, SL, and AP. Cultural dimensions serve as moderating variables in this framework, as the two countries under study exhibit notable differences in power distance, collectivism, and masculinity values. These cultural variations are expected to influence the strength and nature of selected significant relationships between the primary constructs across the different cultural contexts. The research instruments were designed based on established scales and validated measures, with careful attention to translation procedures to ensure linguistic equivalence across both universities (Polish and Norwegian).

The data collection process involved both quantitative and qualitative phases. The quantitative phase, which commenced in October 2023, involved distributing questionnaires to undergraduate and graduate business students at both universities. before full implementation, pilot testing was conducted with six participants to refine questionnaire clarity. The questionnaires employed Likert-scale measurements. The qualitative phase consisted of case studies conducted at NTNU in April 2024 and NCU in Toruń in May-June 2024, involving interviews with quality assurance staff, faculty members, and students, along with document analysis of university quality assurance frameworks.

The research instruments were carefully developed and validated. The questionnaire utilized validated scales for measuring key constructs, underwent expert review, and was refined through pilot testing. The case study protocol included structured interview guidelines and comprehensive data protection policies, focusing on system creation, benchmarking, organizational structure, evaluation tools, and improvement mechanisms.

The mixed-method case study approach was used to provide both a broad overview and depth in understanding the QASs and their impacts. The quantitative analysis through questionnaires offered measurable insights into relationships between variables, while the qualitative case studies provided rich contextual understanding of how quality assurance systems operate in practice. All necessary research permissions were obtained from both universities, and the study followed strict ethical guidelines, including obtaining consent from participants and protection of data confidentiality. The research design and implementation were guided by academic rigour and ethical considerations throughout all phases of the study.

## **3.2. Questionnaire Survey**

### **3.2.1. Data Collection**

This quantitative research approach uses a questionnaire survey (See Appendix 2 English, Polish and Norwegian version questionnaire) to empirically test the proposed theoretical model and hypotheses. The survey was conducted in Poland and Norway in October 2023 and data

was collected at various points in time, focusing on 2nd-, 3rd-, and 4th-year business students who had at least a year of experience with university education quality. Data were collected through the computer-assisted web interviewing (CAWI) using Google Forms platform. To ensure broad accessibility within the target population, survey invitations were distributed via email, and professors teaching classes were asked to invite their students to participate. After being checked for consistency and completeness, 165 of the 198 questionnaires that were collected were considered valid at NCU, and 77 of the 80 questionnaires that were collected were considered valid at NTNU. The sample size was considered sufficient for the planned statistical analyses. To ensure the quality of the study, the sample size was determined following the ten times rule suggested by Hair et al. (2011), which specifies that the minimum sample size for a PLS model should be ten times the largest number of structural paths directed at a single latent construct. The sample of 165 and 77 respondents significantly exceeds this threshold.

### **3.2.2. Sample Characteristics**

The survey was completed by business students from various majors at NCU and NTNU from various academic years at both undergraduate and graduate levels. They evaluated their overall experiences with the university's educational quality and student outcomes: SL, ACB and AP throughout their time at the institution.

This study collected data from business students at two universities, resulting in 165 valid responses from Poland and 77 from Norway. The Polish sample (N=165) had a mean age of 22.06 years (SD = 2.80), ranging from 18 to 36 years, with a median age of 21. The age distribution showed that 50.3% were between 18-21 years, 39.4% between 22-24 years, 6.1% between 25-27 years, and 4.2% between 28-36 years. The gender distribution indicated a female majority (64.8%), with males comprising 34.5% and 0.6% preferring not to specify. The sample consisted primarily of undergraduate students (73.9%) with the remainder being postgraduate students (26.1%). Most respondents were second-year students (50.3%), followed by third year (42.4%) and fourth-year students (7.3%). The majority were full-time students (78.2%), with

21.8% studying part-time. The sample was predominantly Polish (92.7%), with small representations from Ukraine (3%), Belarus (1.2%), Indonesia (1.2%), and other nationalities (Norway (0.6%), Kazakhstan (0.6%), and the Republic of Congo (0.6%).

In the Norwegian sample (N=77), participants had a mean age of 22.9 years (SD = 2.6), ranging from 19 to 32 years, with a median age of 22. The age distribution showed 33.8% between 19-21 years, 42.9% between 22-24 years, 16.9% between 25-27 years, and 6.5% between 28-32 years. The gender distribution was nearly equal, with 50.6% female and 49.4% male participants. The sample was predominantly undergraduate students (92.2%) with 7.8% postgraduate students. The majority were second-year students (44.2%), followed by third-year students (31.2%), first-year students in their last semester (18.2%), with smaller percentages of other year groups (four-year student at 3.9%, fifth-year student at 2.6%). All participants were full-time students. The sample was predominantly Norwegian (94.8%), with small representations from other nationalities including Sweden (1.3%), Denmark (1.3%), and Thailand (1.3%).

### **3.2.3. Measures**

The measurement scales were carefully selected from established literature. The university education quality construct was assessed using an adapted version of the higher education performance (HEDPERF) scale (Abdullah, 2006), modified by Dužević et al. (2018) to include 27 items across four dimensions: academic aspect (6 items, e.g., “Academic staff show a positive attitude towards students”), reputation aspect (5 items, e.g., “The institution runs excellent quality programmes”), non-academic aspect (9 items, e.g., “When I have a problem, administrative staff show a sincere interest in solving it”), and access aspect (7 items, e.g., “The institution encourages and promotes the setting up of students’ union”). Student loyalty was measured using a 4-item scale developed by Annamdevula and Bellamkonda (2016), including items such as “I feel proud to study in this University”. The academic citizenship behaviour construct utilized a 10-item organizational citizenship behaviour scale in academic settings (Allison et al., 2001), measuring five dimensions: altruism (e.g., “I willingly give of my time



to help other students who have school-related problems”), courtesy (e.g., “I check with other students before initiating actions that might affect them”), civic virtue (e.g., “I attend special classes or other meetings that students are encouraged but not required to attend”), sportsmanship (e.g., “I always find fault with what the school/team is doing”), and conscientiousness (e.g., “I turn in homework, projects, reports, etc. earlier than is required”). Academic performance was assessed using a single-item scale from Khaola (2014), asking “What was your average grade in the last semester? (or Grade Point Average (GPA))”. Cultural dimensions were measured using scales from Yoo et al. (2011), including power distance (5 items, e.g., “People in higher positions should make most decisions without consulting people in lower positions”), collectivism (6 items, e.g., “Individuals should sacrifice self-interest for the group”), and masculinity (4 items, e.g., “It is more important for men to have a professional career than it is for women”).

All items were rated on a seven-point Likert-type scale, ranging from 1 (“strongly disagree”) to 7 (“strongly agree”). To ensure cross-cultural applicability, the questionnaire underwent a rigorous translation process. The survey instruments were translated from English to Polish and Norwegian, with the involvement of native speakers and experts in both languages. Pilot testing was conducted in both countries, leading to minor modifications, particularly in the Norwegian version where clarification was added regarding the term “administration staff” in the scale items.

### **3.3. Case study**

According to Yin (2018)’s case study research framework, there are six fundamental steps (see figure 7) to the case study approach. The process begins with the Planning stage, during which specific research questions need be specified, the applicability of the case study technique should be evaluated and discovers relevant theoretical ideas. During the Design phase, create a rigorous case study protocol (see Appendix 1), specifies the unit of analysis, and chooses relevant cases that correspond with the study’s objectives. During the Preparation stage, researchers are trained, and tools and procedures (see Appendices 3, 4, 5) are refined to assure

data collection reliability and consistency. The Data Collection phase emphasises the use of numerous sources of information, including documentation, archival records, interviews (see Appendix 6 for detailed interview questions) and direct observations, while preserving a chain of evidence to improve construct validity. During the Analysis stage, data are evaluated utilising tactics such as pattern matching, explanation building, and cross-case synthesis to aid in the creation of analytical generalisations. Finally, the Sharing stage emphasises the systematic and clear presentation of findings, directly relating empirical data and discussing alternate interpretations. Together, these steps provide a methodical and rigorous approach to case study research, enhancing its credibility and consistency.

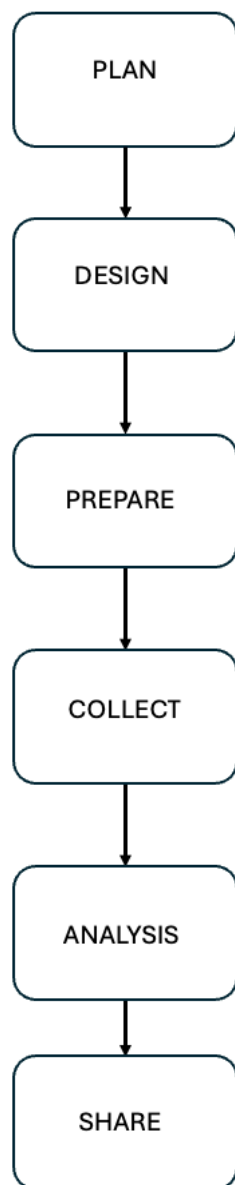


Figure 7. Steps in case study method

Building on the theoretical foundations, a qualitative study employing a multi-perspective approach was conducted to gather rich insights into each university's quality assurance system. This investigation examined their measurement tools, communication methods, improvement implementation processes, and perceptions of the QAS from various institutional positions. By capturing diverse viewpoints from quality assurance administrators (most of whom also served

as faculty members) and students, the research provided a comprehensive understanding of how quality assurance systems function in practice across different organizational levels and stakeholder experiences.

The following 6 research questions guided the study:

1. What measurements are implemented in the educational quality assurance system of this university?
2. What procedures for improving educational quality, student satisfaction, and the educational quality assurance system are used at this university?
3. To what extent does the educational quality assurance system contribute to improving educational quality and student satisfaction in this university?
4. How does this university handle educational quality assurance system?
5. How the student perceived the quality assurance system?
6. What are the similarities and differences between the QAS of the two universities?

NCU and NTNU Ålesund campus were selected for this case study primarily due to the researcher's extensive personal understanding of these two institutions. The researcher had been a student at NCU for over three years, gaining direct experience and deep insights into its operations and academic environment. Additionally, during field visits to NTNU Ålesund campus, the researcher conducted interviews with various stakeholders, significantly enhancing their firsthand knowledge of NTNU's organizational dynamics and strategic developments.

Furthermore, both NTNU and NCU serve as exemplary research universities within their respective national contexts, Norway and Poland, with well-established quality assurance frameworks. Their business schools maintain comparably high standards, as indicated by NCU's AACSB accreditation and NTNU's ongoing AACSB accreditation process. Selecting these universities also facilitates the exploration of quality assurance practices across differing higher education systems and cultural backgrounds, allowing for a comprehensive comparative

analysis. NTNU, in particular, exemplifies broader national trends resulting from Norway's Quality Reform and Structural Reform, highlighting institutional mergers and a shift towards a globally competitive university model. The availability of extensive data, including administrative records, policy documentation, historical archives and university official website, further solidifies the robustness and reliability of this comparative study.

The research used multiple data collection methods to ensure comprehensive understanding of the quality assurance systems. The primary method was semi-structured interviews with key stakeholders, supplemented by document analysis of quality assurance policy documents, assessment reports, and student feedback data. To create a comprehensive case study, this study gathered a variety of data from multiple sources to construct a detailed narrative of NCU and NTNU's QAS. The narrative is supported by collected interview data included official web pages and documents from NCU and NTNU. This approach ensured the reliability and depth of this case study, providing valuable insights into the higher education QAS in NCU and NTNU.

The selection of interview participants was based on their involvement and experience in the quality assurance system at different organizational levels. At Nicolaus Copernicus University in Toruń, six participants were interviewed across three distinct perspectives: From the administrative perspective, interviews included one representative responsible for the Internal System of Educational Quality Assurance who also interacts with the Polish Accreditation Committee (PKA) at the central level, two members of the University Council for Quality of Education at the university level, and one representative from the Faculty Council for Education Quality who also works with the Polish Accreditation Committee (PKA) at the faculty level. Notably, these administrative representatives also maintained teaching responsibilities, giving them dual insight into both quality assurance administration and classroom implementation. From the student perspective, interviews were conducted with two postgraduate students to gain insights at the postgraduate and undergraduate academic level. Because one of them has been studying at this university for five years and also completed their undergraduate studies here. This multi-level approach ensured data collection from

administrative, faculty, and student perspectives, offering a comprehensive view of the quality assurance system's implementation and effectiveness.

At Norwegian University of Science and Technology, nine participants were interviewed across three distinct perspectives: From the administrative perspective, interviews included one senior official responsible for coordinating with the Norwegian Agency for Quality Assurance in Education (NOKUT) and managing quality work at the faculty level (used to work at university level), and one head of education at the department level who also serves as Institute Head of the Quality System while maintaining teaching responsibilities. From the faculty perspective, interviews included the department head and three study program leaders, all of whom balanced teaching duties alongside their administrative roles. These participants provided insights into quality assurance implementation at the program level. From the student perspective, three participants were interviewed: one international master student, one domestic master student, and one domestic undergraduate student representative. This multi-level approach ensured comprehensive data collection from administrative, faculty, and student perspectives at NTNU.

The interview protocol was designed to address different aspects of quality assurance while adapting questions to participant roles. Core themes included the operational mechanisms of the quality assurance system, specific quality assessment measures, effectiveness of improvement mechanisms, and implementation challenges. For example, administrators were asked about organizational structures and system operations, while students were questioned about their involvement in quality improvement processes and their experiences with the system.

### **3.3.1. Case Study Data collection and analysis**

Before data collection, ethical considerations were carefully addressed. All participants were provided with detailed information about the research and were required to sign privacy protection agreements (see Appendix 5) and audio recording consent forms before the

interviews commenced. These documents outlined the purposes of the research, data handling procedures, and participants' rights. The case studies were then conducted in two phases (see Appendix 3 for case study schedule). The first phase took place at Norwegian University of Science and Technology in April 2024, comprising ten days of intensive field research. The second phase was conducted at Nicolaus Copernicus University in Toruń during May-June 2024, building on the researcher's familiarity with the institution since January 2022. Interviews with academic staff and administrators typically lasted 40-90 minutes, while student interviews were approximately 30 minutes in duration. All interviews were audio-recorded and supplemented with field notes.

Thematic analysis and cross-case synthesis were used to analyse the interview data. Data analysis followed a systematic approach. All audio recordings of interviews were transcribed into transcripts and analysed using thematic coding (Braun & Clarke, 2006). The coding process involved three stages: initial coding to identify key themes and concepts, secondary coding to consolidate related themes, and cross-case analysis to compare similarities and differences between the two universities. This analytical approach enabled the identification of both institution-specific patterns and broader trends in quality assurance practices.

For the interviews with the head of the university's quality assurance system, university teachers, and students, this study organized the findings around key analytical themes. Because most of the individuals serving as heads of the quality assurance system also have teaching responsibilities, the interviews with these individuals and other teachers were analysed together, while the student interviews were analysed separately. The responses from the quality assurance system heads and teachers were grouped into five major themes, each containing several subthemes and the student interviews were similarly categorized into five major themes with multiple subthemes. The research questions were addressed using these themes, combining the responses of the head of the quality assurance system, university teachers, and students from the same institution to examine similarities and differences between the two universities. For the comparison, the responses from the head of the quality assurance system, university teachers, and students at both universities were analysed, with illustrative quotations from the

case studies supplementing the findings.

During the open coding phase, the data analysis was conducted separately based on university type (NCU and NTNU) and participant identity (teachers and students). This initial separation was necessary to effectively compare and contrast differences and similarities between the two universities.

Using axial coding, this study identified significant patterns of shared meaning to establish categories relevant to the research questions under study. These coding results clearly illustrate differences and similarities in perceptions and practices related to course evaluation across universities and participant groups, laying the groundwork for subsequent thematic analysis. In reporting the findings, the study adopted university names to represent the two institutions under investigation. In cases where multiple participants were interviewed from the same university, identifiers were used to distinguish between academic staff and students—using “NCU/T/1” for NCU teachers and “NTNU/S/1” for NTNU students in the comparative analysis part. In individual university section will be “student 1” or “teacher 1”. The decision to label respondents by institutional affiliation and role was intended to more clearly reflect how participants’ positions within their respective universities influenced their perspectives on and experiences with QAS.

The analysis then provides a detailed cross-case synthesis comparison between the two institutions, highlighting similarities and key differences, while examining how cultural and institutional contexts influence the effectiveness and development of these systems. Some points may be repeated to verify that they are adequately addressed and stand on their own. Where a point has previously been stated in a prior answer, it will be mentioned briefly rather than in its entirety. This approach eliminates unnecessary repetition and makes each response clear and self-contained, making it easy to go over the questions separately. As previously stated, the aim of this study was to conduct a comparative analysis of the QAS of two universities, with a focus on both their similarities and differences. The comparison was designed to deliberately uncover how each institution’s context, practices, and structures influence its



approach to quality assurance. While some common patterns exist, the study specifically highlights substantial institutional and country-level differences that are rooted in the distinct cultural, policy, and economic contexts in which each university operates.

The purpose of the comparative case analysis is to explore how different institutional contexts shape quality assurance practices and to highlight both converging trends and distinctive approaches. The two universities are situated in different national contexts, each characterized by distinct cultural backgrounds, policy frameworks, and levels of economic development. These contextual differences have a significant influence on the design and implementation of their respective QAS. Further details regarding these contextual influences are discussed in the section on moderating factors.

### **3.4. Quantitative analysis**

This study evaluated UEQ, ACB, SL and AP and culture dimensions (power distance, masculinity and collectivism) as reflective latent variables, with both first order and second-order constructs specified as reflective measurement models. Respondents were asked to reply to questions related to these constructs based on their experiences during their stay at these two universities. The constructs were using both unidimensional and multidimensional scales from the relevant literature.

This study employs Partial Least Squares Structural Equation Modelling (PLS-SEM) for data analysis, utilizing WarpPLS 8.0 software (Kock, 2022). The selection of PLS-SEM as the analytical method is justified by several factors. First, the research model incorporates both mediating and moderating effects, resulting in a complex structure. Second, PLS-SEM does not require strict normality assumptions for data distribution (Fornell & Bookstein, 1982). Third, it produces reliable results even with relatively small sample sizes (Chin & Newsted, 1999; Hair et al., 2017; Wold, 1985). Additionally, PLS-SEM is particularly suitable for exploratory research and theory development (Hair, Risher, et al., 2019), which aligns with the objectives of this study. Furthermore, PLS works best in analyses that use many indicators to predict

constructs (Haenlein & Kaplan, 2004; Hair et al., 2011). At least ten indicators were present in two of the constructs in the examination.

The data analysis process consists of four main steps: for step one, the study utilizes an online questionnaire with forced responses, thus eliminating missing data issues. Initial data screening removes invalid responses based on three criteria. First, responses from non-business students are removed. Second, questionnaires lacking academic performance data are excluded. Third, questionnaires showing obvious response patterns, such as selecting the same option throughout, are eliminated. This data cleaning process ensures the use of high-quality and reliable data for final analysis. For step two, the measurement model assessment examines the reliability and validity of the questionnaire. For reliability assessment, both Cronbach's alpha (CA) coefficient and Composite Reliability (CR) are examined, it is widely accepted in exploratory research with threshold values set at 0.6 (Hair et al., 2017; Kock, 2022; Nunnally, 1994).

The validity assessment consists of two aspects. Convergent validity is evaluated through factor loadings (threshold  $>0.7$ ) (Hair et al., 2017) and Average Variance Extracted (AVE  $>0.5$ ) (Fornell & Larcker, 1981). These indicators reflect the extent to which latent variables explain the variance in their measurement indicators. Discriminant validity is assessed using both the Fornell-Larcker criterion and Heterotrait-Monotrait (HTMT) ratio (Henseler et al., 2015). The HTMT ratio threshold is set at 0.90, representing a relatively conservative standard (Teo et al., 2008). Step three, the structural model assessment encompasses several aspects. Multicollinearity is examined using Variance Inflation Factors (VIF) with a threshold of  $VIF < 3.3$  applied as all constructs in this study are measured reflectively (Kock & Lynn, 2012). More conservatively, it is recommended that VIFs be lower than 5 (Kline, 1988; Kock, 2022). Path coefficients' significance is tested using WarpPLS software's default resampling method, with significance level set at  $p < 0.05$ . Model explanatory power is evaluated through  $R^2$  values. Following Chin (1998),  $R^2$  values of 0.67, 0.33, and 0.19 represent substantial, moderate, and weak explanatory power, respectively. Effect sizes ( $f^2$ ) are calculated to assess the relative importance of predictor variables. Referencing Cohen (2013),  $f^2$  values of 0.35, 0.15, and 0.02

indicate large, medium, and small effects, respectively. Model predictive capability is assessed using Stone-Geisser's  $Q^2$  value, where  $Q^2$  values greater than 0 indicate predictive relevance. Mediation effects are analysed using WarpPLS's indirect effects testing functionality, which assesses specific indirect effects and their significance (Kock, 2022). For the last step, for moderation effects in the model, specialized analytical procedures within WarpPLS are employed. Moderation effects are examined using the software's built-in Two Stage method, which effectively controls for measurement error and provides more accurate moderation effect estimates (Kock, 2022).

## Chapter 4

### 4.1. Questionnaire survey results

The quantitative research part employed a reflective-reflective type second-order hierarchical latent variable model in this work, where the first-order components as determined by reflective factors serve as the basis for the second-order components as determined by reflective factors (Becker et al., 2012; Hair et al., 2018; Sarstedt et al., 2019). The standard two-stage modelling approach was applied, first analysing the measurement model and then the structural model (Hair et al., 2011; Henseler et al., 2016; Kock, 2022). Initially, assessed the measurement model, which established the reliability and validity evaluation of the constructs. In the next step, evaluated the structural model, which explained the interrelations among the analysed structures. The two-step approach was adopted to model higher order constructs. In the first step, estimation of the first-order detailed constructs for UEQ, ACB, SL and AP as well as moderator construct, power distance (PD), collectivism (COLL) and masculinity (MAS) and their indicators were conducted, and the latent variable scores of each dimension of UEQ and ACB were saved. In the second step, the saved latent variable scores were used as reflective indicators of UEQ and ACB.

#### 4.1.1. Measurement Model (Poland)—Assessment of First-Order Reflective Constructs

At first, assessing the suitability of the first-order constructs inside the measurement model. According to the guidelines established by Hair et al. (2017), the examination of a reflective measurement model encompasses the assessment of internal consistency reliability, convergent validity, and discriminant validity.

Initially, internal consistency reliability was assessed utilising CA and CR coefficients. In exploratory research, a satisfactory CR and CA should be  $\alpha > 0.60$  (Hair et al., 2017; Kock, 2022; Nunnally, 1994). Table 2 indicates that all coefficients, with the exception of two,

surpassed 0.60. Two dimensions of ACB constructs had scores below the specified minimum  $\alpha > 0.60$  for CA, prompting the exclusion of these dimensions (sportsmanship and conscientiousness), this aligns with the results of Khaola (2014). All indicators show satisfactory scores according to CR. Convergent validity was assessed using factor loadings. Two criteria are advised for establishing that a measurement model shows appropriate convergent validity: The p-values corresponding to the loadings must be less than or equal to 0.05, and the loadings must be larger than or equal to 0.50 Hair et al. (2019). Hair et al. (2017) state that values in the range of 0.40 to 0.70 are the recommended standards for outer loadings. Researchers must examine the effect of item removal on the composite reliability and content validity of the construct. Thus, ten indicators were removed where their deletion led to an increase in the composite reliability while not decreasing the average variance extracted. As shown in Table 2, all retained items loaded were above satisfactory 0.70 (Hair, et al., 2019). Researchers must assess the AVE for convergent validity. According to Fornell & Larcker (1981), an AVE value of 0.50 or more signifies an adequate level of convergent validity. As indicated in Table 2, all AVE values were higher than 0.50 and hence satisfied this requirement.

The assessment of discriminant validity was conducted via the AVE and the heterotrait–monotrait ratio (HTMT). According to Fornell & Larcker, (1981), discriminant validity is established when the square root of the AVE for each construct exceeds the correlations with other constructs. The outcomes achieved were satisfactory. Table 3 indicates that the square root of the AVE for each variable exceeds the values of the off-diagonal items. Furthermore, Table 4 indicates the assessment of HTMT confirms the achievement of discriminant validity. Teo et al. (2008) suggests a threshold of 0.90 or below for HTMT. The HTMT for the constructions in first order is equal to or less than the required threshold of 0.90. Multicollinearity has been investigated as well using the variance inflation factor (VIF). All VIF values are below the 5 threshold, confirming that there is no of multicollinearity (Hair, Black, et al., 2019; Kock, 2022).

**Table 2.** First Order Internal Consistency Reliability (CR and CA) and Convergent Validity (AVE and Combined Loadings)

	AA	REPU	NAA	ACCE	SL	ALTR	COUR	CV	SPOR	CON	AP	PD	COLL	MAS	P value
CR	0.91	0.882	0.94	0.89	0.951	0.949	0.845	0.934	0.829	0.776	1	0.856	0.91	0.871	-
CA	0.868	0.822	0.927	0.851	0.922	0.893	0.632	0.86	0.588	0.421	1	0.776	0.867	0.778	-
AVE	0.716	0.652	0.663	0.573	0.866	0.903	0.731	0.877	0.708	0.633	1	0.599	0.716	0.693	-
Q_AA1	<b>0.862</b>	0.047	-0.077	0.019	0.022	-0.045	-0.014	-0.075	-0.024	-0.092	0.091	0.021	0.165	-0.062	<0.001
Q_AA2	<b>0.839</b>	0.061	0.038	0.069	0.15	0.114	-0.041	-0.061	0.078	-0.022	0.055	-0.085	-0.088	-0.014	<0.001
Q_AA3	<b>0.866</b>	-0.125	0.045	-0.126	-0.029	-0.062	0.067	0.068	-0.004	0.088	-0.081	0.004	-0.021	0.052	<0.001
Q_AA4	<b>0.817</b>	0.021	-0.006	0.042	-0.146	-0.004	-0.015	0.069	-0.051	0.027	-0.066	0.061	-0.062	0.024	<0.001
Q_REPU1	0.129	<b>0.814</b>	0.187	-0.291	0.199	0.074	-0.171	0.028	-0.086	0	0.078	-0.045	-0.002	0.12	<0.001
Q_REPU2	0.037	<b>0.811</b>	0.128	-0.063	-0.105	-0.018	0.049	0.035	-0.026	0.065	-0.179	-0.107	0	0.053	<0.001
Q_REPU4	-0.215	<b>0.79</b>	-0.179	0.171	-0.176	0.028	0.114	0.021	0.075	-0.102	0.043	0.017	-0.046	-0.121	<0.001
Q_REPU5	0.043	<b>0.815</b>	-0.141	0.188	0.076	-0.083	0.011	-0.083	0.039	0.035	0.058	0.136	0.046	-0.055	<0.001
Q_NAA1	0	-0.048	<b>0.83</b>	-0.2	0.24	0.171	0.109	-0.163	0.1	-0.102	-0.006	0.051	-0.098	-0.036	<0.001
Q_NAA2	0.016	-0.033	<b>0.848</b>	-0.354	0.302	0.034	0.28	-0.114	0.135	-0.115	0.034	0.037	-0.043	-0.028	<0.001

**Table 2. continued**

Q_NAA3	0.088	0.121	<b>0.73</b>	0.024	-0.02	-0.131	-0.005	0.009	0.015	0.088	0.063	0.152	0.257	-0.158	<0.001
Q_NAA4	-0.021	0.18	<b>0.819</b>	-0.263	0.044	-0.12	0.018	-0.016	-0.026	0.128	0.1	0.089	0.099	-0.141	<0.001
Q_NAA5	0.017	-0.08	<b>0.81</b>	0.072	0.053	-0.06	-0.076	0.071	0.049	0.149	-0.017	-0.147	0.047	0.051	<0.001
Q_NAA6	-0.159	-0.031	<b>0.766</b>	0.521	-0.243	0.005	-0.111	0.053	-0.147	-0.118	-0.01	-0.003	0.06	-0.079	<0.001
Q_NAA7	-0.024	-0.097	<b>0.856</b>	0.199	-0.167	0.017	-0.172	0.099	-0.094	0.008	-0.06	-0.038	-0.107	0.16	<0.001
Q_NAA8	0.079	0.004	<b>0.846</b>	0.043	-0.225	0.063	-0.054	0.065	-0.039	-0.029	-0.094	-0.123	-0.169	0.197	<0.001
Q_ACCE1	0.273	0.022	0.136	<b>0.799</b>	0.021	0.015	-0.01	-0.017	-0.174	0.044	-0.037	-0.03	0.034	0.028	<0.001
Q_ACCE2	0.305	-0.048	-0.091	<b>0.773</b>	-0.017	-0.022	-0.215	0.11	-0.012	0.021	-0.042	-0.086	-0.077	0.13	<0.001
Q_ACCE3	0.249	-0.228	0.064	<b>0.711</b>	0.118	-0.102	0.413	-0.032	0.127	0.03	-0.19	0.075	0.006	-0.07	<0.001
Q_ACCE5	-0.241	0.208	-0.056	<b>0.734</b>	-0.35	0.049	-0.186	0.086	-0.082	0.061	0.025	-0.031	0.044	0.016	<0.001
Q_ACCE6	-0.232	0.109	0.028	<b>0.764</b>	0.19	-0.023	0.117	-0.119	0.07	-0.048	0.112	0.018	0.015	-0.067	<0.001
Q_ACCE7	-0.365	-0.071	-0.084	<b>0.758</b>	0.033	0.078	-0.095	-0.027	0.086	-0.107	0.124	0.061	-0.02	-0.045	<0.001
SL1	-0.035	0.039	0.055	0.006	<b>0.939</b>	-0.021	0.014	-0.055	0.064	0.041	-0.005	0.064	-0.062	-0.005	<0.001
SL2	0.021	0.039	-0.026	0.016	<b>0.928</b>	0.016	0.033	0.046	-0.079	0.021	-0.005	-0.042	-0.033	0.05	<0.001

**Table 2. continued**

SL3	0.015	-0.078	-0.03	-0.023	<b>0.924</b>	0.005	-0.047	0.01	0.015	-0.062	0.01	-0.023	0.096	-0.045	<0.001
ACB_O1	0.041	0.011	0.027	-0.043	0.007	<b>0.95</b>	0.05	-0.029	-0.006	-0.009	-0.012	-0.094	0.002	0.025	<0.001
ACB_O2	-0.041	-0.011	-0.027	0.043	-0.007	<b>0.95</b>	-0.05	0.029	0.006	0.009	0.012	0.094	-0.002	-0.025	<0.001
ACB_O3	0.009	-0.055	0.113	-0.153	0.185	-0.003	<b>0.855</b>	-0.123	0.094	0.084	-0.087	-0.101	-0.11	-0.001	<0.001
ACB_O4	-0.009	0.055	-0.113	0.153	-0.185	0.003	<b>0.855</b>	0.123	-0.094	-0.084	0.087	0.101	0.11	0.001	<0.001
ACB_O5	-0.013	0.018	0.011	0.036	0.006	-0.03	-0.023	<b>0.936</b>	-0.025	-0.044	0.052	-0.034	0.023	-0.034	<0.001
ACB_O6	0.013	-0.018	-0.011	-0.036	-0.006	0.03	0.023	<b>0.936</b>	0.025	0.044	-0.052	0.034	-0.023	0.034	<0.001
ACB_O7	0.085	-0.132	0.115	-0.123	0.103	0.061	-0.109	0.145	<b>0.842</b>	0.002	-0.074	-0.036	-0.024	-0.129	<0.001
ACB_O8	-0.085	0.132	-0.115	0.123	-0.103	-0.061	0.109	-0.145	<b>0.842</b>	-0.002	0.074	0.036	0.024	0.129	<0.001
ACB_O9	-0.011	0.145	-0.026	0.016	-0.071	-0.028	-0.076	-0.107	0.159	<b>0.796</b>	0.218	0.085	0.011	0.042	<0.001
ACB_O10	0.011	-0.145	0.026	-0.016	0.071	0.028	0.076	0.107	-0.159	<b>0.796</b>	-0.218	-0.085	-0.011	-0.042	<0.001
AP	0	0	0	0	0	0	0	0	0	0	1	0	0	0	<0.001
PD1	0.072	0.403	0.118	-0.349	-0.004	-0.225	0.094	-0.025	0.112	0.026	0.159	<b>0.77</b>	0.099	-0.144	<0.001
PD2	-0.016	0.171	0.139	-0.086	-0.206	-0.005	0.008	-0.011	-0.031	-0.064	0.039	<b>0.835</b>	-0.051	0.035	<0.001



**Table 2. continued**

PD3	-0.083	-0.354	-0.203	0.313	0.191	0.064	-0.082	0.008	0.033	0.031	-0.009	<b>0.768</b>	0.039	0.009	<0.001
PD4	0.031	-0.252	-0.071	0.139	0.039	0.179	-0.023	0.031	-0.12	0.014	-0.205	<b>0.719</b>	-0.088	0.104	<0.001
COLLE3	-0.119	0.187	-0.049	0.015	-0.121	0.1	-0.042	0.076	-0.152	0.016	-0.031	0.098	<b>0.85</b>	-0.033	<0.001
COLLE4	-0.053	0.146	-0.031	0.072	-0.207	-0.04	-0.103	0.129	-0.109	0.04	0.005	-0.053	<b>0.882</b>	-0.05	<0.001
COLLE5	0.119	-0.251	0.003	-0.009	0.188	-0.028	0.107	-0.231	0.168	0.067	-0.046	0.069	<b>0.788</b>	0.016	<0.001
COLLE6	0.063	-0.105	0.077	-0.08	0.161	-0.032	0.049	0.005	0.109	-0.118	0.068	-0.105	<b>0.861</b>	0.07	<0.001
MASCU1	0.113	-0.124	0.073	-0.033	-0.032	-0.097	-0.024	0.148	-0.064	0.048	-0.066	-0.069	0.001	<b>0.824</b>	<0.001
MASCU2	0.023	-0.117	0.122	-0.054	0.179	0.062	-0.061	-0.142	0.189	0.015	0.003	-0.017	0.035	<b>0.83</b>	<0.001
MASCU3	-0.133	0.236	-0.192	0.086	-0.145	0.034	0.084	-0.006	-0.123	-0.062	0.061	0.083	-0.035	<b>0.843</b>	<0.001

**Table 3.** First Order Discrimination Validity Correlation of Latent Variables with Square Root of AVEs

Item	AA	REPU	NAA	ACCE	SL	ALTR	COUR	CV	SPOR	CON	AP	PD	COLL	MAS
AA	<b>0.846</b>	0.589	0.442	0.641	0.511	0.216	0.144	0.207	-0.117	0.101	0.202	-0.038	0.087	-0.022
REPU	0.589	<b>0.808</b>	0.489	0.713	0.723	0.294	0.306	0.301	0.008	0.228	-0.012	0.011	0.077	0.005
NAA	0.442	0.489	<b>0.814</b>	0.702	0.451	0.175	0.297	0.158	-0.083	0.25	0.018	-0.004	0.118	-0.026
ACCE	0.641	0.713	0.702	<b>0.757</b>	0.691	0.332	0.388	0.282	-0.03	0.271	0.057	-0.036	0.166	0.003
SL	0.511	0.723	0.451	0.691	<b>0.93</b>	0.385	0.279	0.336	-0.005	0.325	0.074	0.009	0.114	0.05
ALTR	0.216	0.294	0.175	0.332	0.385	<b>0.95</b>	0.454	0.353	0.108	0.395	0.142	-0.069	0.286	0.01
COUR	0.144	0.306	0.297	0.388	0.279	0.454	<b>0.855</b>	0.207	-0.058	0.316	0.117	-0.261	0.094	-0.153
CV	0.207	0.301	0.158	0.282	0.336	0.353	0.207	<b>0.936</b>	0.139	0.157	0.038	0.107	0.117	0.001
SPOR	-0.117	0.008	-0.083	-0.03	-0.005	0.108	-0.058	0.139	<b>0.842</b>	-0.017	-0.05	0.218	0.184	0.23
CON	0.101	0.228	0.25	0.271	0.325	0.395	0.316	0.157	-0.017	<b>0.796</b>	0.168	0.03	0.02	-0.018
AP	0.202	-0.012	0.018	0.057	0.074	0.142	0.117	0.038	-0.05	0.168	<b>1</b>	-0.08	-0.123	-0.121
PD	-0.038	0.011	-0.004	-0.036	0.009	-0.069	-0.261	0.107	0.218	0.03	-0.08	<b>0.774</b>	0.074	0.337
COLL	0.087	0.077	0.118	0.166	0.114	0.286	0.094	0.117	0.184	0.02	-0.123	0.074	<b>0.846</b>	0.307

**Table 3. continued**

MAS	-0.022	0.005	-0.026	0.003	0.05	0.01	-0.153	0.001	0.23	-0.018	-0.121	0.337	0.307	<b>0.832</b>
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Note: Square roots of average variances extracted (AVEs) shown on diagonal.

**Table 4.** First Order HTMT

Item	AA	REPU	NAA	ACCE	SL	ALTR	COUR	CV	SPOR	CON	PD	COLL	MAS
AA													
REPU	0.697												
NAA	0.495	0.561											
ACCE	0.744	0.851	0.792										
SL	0.572	0.829	0.488	0.778									
ALTR	0.246	0.344	0.192	0.382	0.425								
COUR	0.195	0.425	0.387	0.533	0.365	0.604							
CV	0.241	0.358	0.178	0.33	0.378	0.402	0.28						

**Table 4. continued**

SPOR	0.172	0.069	0.139	0.119	0.078	0.149	0.095	0.206				
CON	0.211	0.387	0.41	0.454	0.52	0.644	0.613	0.262	0.304			
PD	0.118	0.15	0.117	0.098	0.097	0.152	0.371	0.133	0.322	0.235		
COLL	0.102	0.115	0.137	0.194	0.136	0.325	0.153	0.157	0.26	0.087	0.118	
MAS	0.059	0.114	0.126	0.094	0.073	0.062	0.219	0.077	0.341	0.178	0.435	0.376

#### **4.1.2. Measurement Model (Norway)—Assessment of First-Order Reflective Constructs**

At first, assessing the suitability of the first-order constructs inside the measurement model. According to the guidelines established by Hair et al.(2017), the examination of a reflective measurement model encompasses the assessment of internal consistency reliability, convergent validity, and discriminant validity.

Initially, internal consistency reliability was assessed utilising CA and CR coefficients. In exploratory research, a satisfactory CR and CA should be  $\alpha > 0.60$  (Hair et al., 2017; Kock, 2022; Nunnally, 1994). Table 5 indicates that all coefficients, with the exception of two, surpassed 0.60. All indicators show satisfactory scores according to CR. Convergent validity was assessed using factor loadings. Two criteria are advised for establishing that a measurement model shows appropriate convergent validity: The p-values corresponding to the loadings must be less than or equal to 0.05, and the loadings must be larger than or equal to 0.50 (Hair et al., 2019). Meanwhile, Hair et al. (2017) state that values in the range of 0.40 to 0.70 are the recommended standards for outer loadings. Researchers must examine the effect of item removal on the composite reliability and content validity of the construct. Thus, thirteen indicators were removed where their deletion led to an increase in the composite reliability while not decreasing the average variance extracted. As shown in Table 5, all retained items loaded were above satisfactory 0.70 (Hair, et al., 2019). Researchers must assess the AVE for convergent validity. According to Fornell & Larcker (1981), an AVE value of 0.50 or more signifies an adequate level of convergent validity. As indicated in Table 5, all AVE values were higher than 0.50 and hence satisfied this requirement. The assessment of discriminant validity was conducted via the AVE (see Table 6) and the HTMT (see Table 7). The assessment of HTMT confirms the establishment of discriminant validity, with first-order constructs meeting the threshold of 0.90 or below, as recommended by Teo et al. (2008). However, the HTMT value for NAA and ACC is 0.929, marginally exceeding the suggested threshold. While this value slightly surpasses the recommended limit, rounded to the closest hundredth, it remains at

the boundary of acceptability.

Furthermore, Fornell and Larcker (1981) criterion has been met, as the square root of the AVE for each construct is greater than its correlations with other constructs. This outcome provides additional support for the presence of discriminant validity within the model. Given that the Fornell-Larcker criterion is satisfied, the slight deviation in HTMT does not raise significant concerns regarding construct distinctiveness. Additionally, multicollinearity was assessed through the variance inflation factor (VIF). All VIF values are below the threshold of 5 (Hair, Black, et al., 2019; Kock, 2022), indicating the absence of multicollinearity.

**Table 5.** First Order Internal Consistency Reliability (CR and CA) and Convergent Validity (AVE and Combined Loadings)

Item	AA	REPU	NAA	ACCE	SL	ALTR	COUR	CV	SPOR	CON	AP	PD	COLL	MAS	P value
CR	0.889	0.903	0.954	0.889	0.942	0.952	0.88	0.901	0.871	0.888	1	0.897	0.891	0.905	-
CA	0.833	0.865	0.945	0.812	0.916	0.9	0.728	0.779	0.703	0.747	1	0.827	0.816	0.843	-
AVE	0.667	0.651	0.698	0.727	0.803	0.909	0.786	0.819	0.771	0.798	1	0.743	0.731	0.761	-
Q_AA1	<b>0.801</b>	0.001	-0.02	-0.055	-0.085	-0.191	0.251	-0.008	-0.143	0.044	0.083	0.055	-0.049	0.086	<0.001
Q_AA2	<b>0.805</b>	-0.228	0.218	0.064	0.131	0.214	-0.101	0.027	0.064	-0.095	-0.294	-0.259	-0.119	0.218	<0.001
Q_AA3	<b>0.872</b>	0.195	-0.212	-0.158	0.087	-0.16	0.036	0.073	-0.037	-0.007	0.064	-0.001	0.119	-0.05	<0.001
Q_AA4	<b>0.787</b>	0.016	0.031	0.166	-0.145	0.153	-0.191	-0.1	0.121	0.06	0.144	0.21	0.039	-0.256	<0.001
Q_REPU1	0.13	<b>0.784</b>	-0.117	0.072	0.102	-0.328	0.31	-0.053	-0.088	-0.283	0.043	0.042	-0.1	0.017	<0.001
Q_REPU2	-0.069	<b>0.878</b>	-0.075	0.136	-0.023	-0.062	0.022	-0.044	-0.007	0.091	-0.077	-0.019	-0.034	0.008	<0.001
Q_REPU3	-0.073	<b>0.729</b>	0.736	-0.854	-0.103	-0.247	0.161	0.052	-0.24	-0.014	0.193	0.201	0.044	-0.193	<0.001
Q_REPU4	0.062	<b>0.83</b>	-0.207	0.05	-0.124	0.349	-0.16	0.003	0.116	0.199	-0.041	-0.11	-0.008	0.061	<0.001
Q_REPU5	-0.05	<b>0.804</b>	-0.257	0.505	0.147	0.252	-0.307	0.049	0.192	-0.018	-0.09	-0.089	0.103	0.086	<0.001
Q_NAA1	-0.164	0.225	<b>0.805</b>	-0.242	0.043	-0.034	-0.039	-0.005	-0.074	-0.087	-0.157	0.173	-0.124	-0.115	<0.001

**Table 5. continued**

Q_NAA2	0.088	0.229	<b>0.846</b>	-0.483	0.023	0.001	-0.07	0.064	-0.079	-0.139	0.076	0.086	0.049	-0.071	<0.001
Q_NAA3	0.173	-0.322	<b>0.751</b>	0.212	-0.021	-0.115	-0.115	-0.068	-0.168	0.015	0.155	0.157	-0.027	-0.142	<0.001
Q_NAA4	-0.144	-0.113	<b>0.851</b>	0.166	-0.075	0.083	0.032	-0.078	0.171	0.121	-0.119	-0.124	-0.025	0.087	<0.001
Q_NAA5	-0.136	0.032	<b>0.859</b>	-0.087	-0.037	-0.009	0.107	-0.045	0.119	0.154	-0.039	-0.101	0.032	0.128	<0.001
Q_NAA6	-0.117	0.169	<b>0.782</b>	0.241	-0.121	-0.146	-0.011	0.181	0.002	0.006	0.079	0.012	-0.03	0.162	<0.001
Q_NAA7	0.274	0.035	<b>0.841</b>	-0.09	-0.024	0.06	0.169	-0.051	-0.028	-0.063	0.072	-0.003	0.19	-0.096	<0.001
Q_NAA8	-0.091	-0.115	<b>0.895</b>	0.269	0.017	0.11	-0.109	0.026	-0.054	-0.012	-0.081	-0.054	-0.112	0.028	<0.001
Q_NAA9	0.126	-0.14	<b>0.88</b>	0.027	0.179	0.018	0.025	-0.017	0.086	0	0.034	-0.109	0.042	0.006	<0.001
Q_ACCE1	0.306	0.204	-0.26	<b>0.845</b>	-0.114	-0.141	0.291	-0.115	0.033	0.025	0.061	0.013	0.097	-0.046	<0.001
Q_ACCE5	-0.308	-0.065	0.129	<b>0.858</b>	0.102	0.167	-0.209	-0.011	0.046	-0.053	-0.088	-0.137	-0.078	0.098	<0.001
Q_ACCE7	0.007	-0.136	0.128	<b>0.854</b>	0.009	-0.028	-0.078	0.125	-0.078	0.028	0.029	0.125	-0.017	-0.052	<0.001
SL1	0.085	0.113	-0.168	0.049	<b>0.923</b>	0.062	-0.016	-0.033	0.045	-0.05	-0.109	-0.092	-0.017	0.17	<0.001
SL2	0.208	-0.286	0.07	-0.179	<b>0.79</b>	0.054	-0.079	-0.088	0.046	0.213	0.145	0.235	0.34	-0.332	<0.001
SL3	-0.1	0.066	0.16	-0.12	<b>0.941</b>	-0.099	0.09	0.067	-0.052	-0.102	-0.028	-0.09	-0.109	0.134	<0.001



**Table 5. continued**

SL4	-0.161	0.065	-0.055	0.227	<b>0.922</b>	-0.007	-0.008	0.04	-0.031	-0.029	0.013	-0.018	-0.164	-0.022	<0.001
ACB_O1	-0.005	0.039	-0.222	0.143	0.122	<b>0.953</b>	-0.072	-0.038	0.042	0.055	0.021	0.026	-0.007	0.027	<0.001
ACB_O2	0.005	-0.039	0.222	-0.143	-0.122	<b>0.953</b>	0.072	0.038	-0.042	-0.055	-0.021	-0.026	0.007	-0.027	<0.001
ACB_O3	-0.122	0.052	0.063	0.111	-0.243	0.077	<b>0.887</b>	0.039	-0.171	0.033	-0.018	0.052	0.029	-0.042	<0.001
ACB_O4	0.122	-0.052	-0.063	-0.111	0.243	-0.077	<b>0.887</b>	-0.039	0.171	-0.033	0.018	-0.052	-0.029	0.042	<0.001
ACB_O5	0.056	0.042	0.029	-0.108	-0.11	-0.017	-0.099	<b>0.905</b>	-0.066	0.048	-0.134	0.067	0.068	-0.07	<0.001
ACB_O6	-0.056	-0.042	-0.029	0.108	0.11	0.017	0.099	<b>0.905</b>	0.066	-0.048	0.134	-0.067	-0.068	0.07	<0.001
ACB_O7	0.267	0.176	-0.084	-0.475	0.08	0.038	-0.103	-0.041	<b>0.878</b>	0.166	0.152	0.092	0.116	-0.116	<0.001
ACB_O8	-0.267	-0.176	0.084	0.475	-0.08	-0.038	0.103	0.041	<b>0.878</b>	-0.166	-0.152	-0.092	-0.116	0.116	<0.001
ACB_O9	0.004	0.081	0.104	-0.247	-0.013	-0.128	-0.047	0.089	-0.148	<b>0.893</b>	-0.008	-0.069	0.011	0.046	<0.001
ACB_O10	-0.004	-0.081	-0.104	0.247	0.013	0.128	0.047	-0.089	0.148	<b>0.893</b>	0.008	0.069	-0.011	-0.046	<0.001
AP	0	0	0	0	0	0	0	0	0	0	1	0	0	0	<0.001
PD2	0.02	0.119	0.102	-0.377	0.137	0.05	-0.023	-0.004	-0.022	0.095	-0.006	<b>0.888</b>	0.074	0.098	<0.001
PD3	-0.144	-0.043	0.155	-0.052	0.026	-0.134	0.087	0.076	-0.072	-0.166	0.092	<b>0.878</b>	0.089	0.044	<0.001

**Table 5. continued**

PD4	0.132	-0.082	-0.276	0.465	-0.177	0.089	-0.068	-0.077	0.101	0.074	-0.092	<b>0.819</b>	-0.175	-0.153	<0.001
COLLE3	0.179	0.025	-0.247	0.196	-0.096	0.184	-0.067	-0.158	0.085	-0.133	0.105	0.113	<b>0.831</b>	-0.212	<0.001
COLLE4	-0.155	0.117	-0.07	0.132	0.006	-0.031	-0.054	0.079	0.06	0.012	-0.22	-0.109	<b>0.888</b>	0.037	<0.001
COLLE6	-0.013	-0.148	0.317	-0.331	0.088	-0.148	0.123	0.073	-0.147	0.119	0.128	0.003	<b>0.844</b>	0.17	<0.001
MASCU1	0.008	-0.069	-0.004	-0.072	0.171	0.048	-0.054	-0.187	0.04	-0.028	-0.008	0.135	0.126	<b>0.853</b>	<0.001
MASCU2	0.052	-0.09	-0.067	0.067	-0.025	0.101	0	0.047	-0.077	0.069	0.085	-0.051	-0.151	<b>0.889</b>	<0.001
MASCU3	-0.06	0.158	0.071	0.002	-0.141	-0.149	0.053	0.134	0.04	-0.043	-0.078	-0.08	0.03	<b>0.875</b>	<0.001

**Table 6.** First Order Discrimination Validity Correlation of Latent Variables with Square Root of AVEs

Item	AA	REPU	NAA	ACCE	SL	ALT	COU	CV	SPOR	CON	AP	PD	COLL	MAS
AA	<b>0.817</b>	0.614	0.705	0.685	0.445	0.163	0.197	0.172	-0.061	0.175	0.096	0.022	-0.137	0.182
REPU	0.614	<b>0.807</b>	0.612	0.741	0.642	0.41	0.533	0.324	-0.162	0.38	0.058	-0.061	0.023	-0.111
NAA	0.705	0.612	<b>0.835</b>	0.813	0.476	0.14	0.268	0.124	0.021	0.209	0.141	-0.019	0.077	0.142
ACCE	0.685	0.741	0.813	<b>0.852</b>	0.607	0.209	0.406	0.201	-0.156	0.33	0.103	-0.003	0.111	-0.002

**Table 6. continued**

SL	0.445	0.642	0.476	0.607	<b>0.896</b>	0.227	0.455	0.246	-0.102	0.375	-0.069	0.077	0.137	-0.107
ALTR	0.163	0.41	0.14	0.209	0.227	<b>0.953</b>	0.584	0.224	-0.153	0.108	0.026	-0.204	0.031	-0.15
COUR	0.197	0.533	0.268	0.406	0.455	0.584	<b>0.887</b>	0.335	-0.165	0.389	-0.054	-0.094	0.204	-0.192
CV	0.172	0.324	0.124	0.201	0.246	0.224	0.335	<b>0.905</b>	0.128	0.355	0.161	-0.115	0.094	-0.199
SPOR	-0.061	-0.162	0.021	-0.156	-0.102	-0.153	-0.165	0.128	<b>0.878</b>	-0.187	0.241	0.232	-0.074	0.221
CON	0.175	0.38	0.209	0.33	0.375	0.108	0.389	0.355	-0.187	<b>0.893</b>	0.015	-0.125	0.272	-0.182
AP	0.096	0.058	0.141	0.103	-0.069	0.026	-0.054	0.161	0.241	0.015	<b>1</b>	-0.184	-0.131	0.052
PD	0.022	-0.061	-0.019	-0.003	0.077	-0.204	-0.094	-0.115	0.232	-0.125	-0.184	<b>0.862</b>	-0.199	0.445
COLL	-0.137	0.023	0.077	0.111	0.137	0.031	0.204	0.094	-0.074	0.272	-0.131	-0.199	<b>0.855</b>	0.035
MAS	0.182	-0.111	0.142	-0.002	-0.107	-0.15	-0.192	-0.199	0.221	-0.182	0.052	0.445	0.035	<b>0.872</b>

Note: Square roots of average variances extracted  
(AVEs) shown on diagonal.

**Table 7.** First Order HTMT

	AA	REPU	NAA	ACCE	SL	ALTR	COUR	CV	SPOR	CONC	PD	COLL	MAS
AA													
REPU	0.722												
NAA	0.798	0.679											
ACCE	0.835	0.884	0.929										
SL	0.501	0.714	0.507	0.701									
ALTRU	0.189	0.461	0.178	0.245	0.248								
COUR	0.251	0.67	0.328	0.53	0.556	0.722							
CV	0.21	0.395	0.163	0.253	0.291	0.268	0.444						
SPOR	0.127	0.206	0.154	0.222	0.144	0.193	0.232	0.178					
CON	0.22	0.469	0.247	0.424	0.46	0.163	0.528	0.465	0.261				
PD	0.1	0.139	0.099	0.091	0.092	0.236	0.132	0.144	0.304	0.176			
COLL	0.172	0.12	0.138	0.144	0.174	0.096	0.265	0.116	0.096	0.347	0.252		
MAS	0.232	0.152	0.165	0.067	0.137	0.173	0.246	0.247	0.288	0.231	0.53	0.156	

#### 4.1.3. Measurement Model (Poland)—Assessment of Second-Order Reflective Constructs

The second-order constructs were validated throughout the measurement model evaluation. The constructs of UEQ and ACB were evaluated for reliability and convergent validity. Furthermore, as recommended by Sarstedt et al. (2019), the second-order construct was assessed for discriminant validity against various lower-order constructs.

Initially, internal consistency reliability was assessed utilising CA and CR coefficients. In exploratory research, a satisfactory CR and CA should be  $\alpha > 0.60$  (Hair et al., 2017; Kock, 2022; Nunnally, 1994). Table 8 indicates that all coefficients surpassed 0.60. All indicators show satisfactory scores according to CR. Convergent validity was assessed using factor loadings. Two criteria are advised for establishing that a measurement model shows appropriate convergent validity: The p-values corresponding to the loadings must be less than or equal to 0.05, and the loadings must be larger than or equal to 0.50 (Hair et al., 2019). Meanwhile, Hair et al. (2017) state that values in the range of 0.40 to 0.70 are the recommended standards for outer loadings. As shown in Table 8, all items loaded were above satisfactory 0.70 (Hair, et al., 2019). Researchers must assess the AVE for convergent validity. According to Fornell & Larcker (1981), an AVE value of 0.50 or more signifies an adequate level of convergent validity. As indicated in Table 8, all AVE values were higher than 0.50 and hence satisfied this requirement.

**Table 8.** Second Order Internal Consistency Reliability (CR and CA) and Convergent Validity (AVE and Combined Loadings)

Item	SL	AP	UEQ	ACB	P value
CR	0.951	1	0.903	0.792	-
CA	0.922	1	0.855	0.605	-
AVE	0.866	1	0.7	0.562	-
SL1	<b>0.939</b>	0.013	0.056	0.039	<0.001

**Table 8. continued**

SL2	<b>0.928</b>	0.007	0.04	0.054	<0.001
SL3	<b>0.924</b>	0.006	0.097	0.015	<0.001
AP	0	<b>1</b>	0	0	<0.001
lv_AA	0.071	0.217	<b>0.795</b>	0.136	<0.001
lv_REPU	0.348	0.107	<b>0.839</b>	0.027	<0.001
lv_NAA	0.34	0.069	<b>0.783</b>	0.007	<0.001
lv_ACCE	0.033	0.031	<b>0.922</b>	0.086	<0.001
lv_ALTR	0.133	0.055	0.151	<b>0.833</b>	<0.001
lv_COUR	0.287	0.01	0.25	<b>0.749</b>	<0.001
lv_CV	0.159	0.082	0.094	<b>0.655</b>	<0.001

The assessment of discriminant validity was conducted via the AVE and the HTMT. According to Fornell & Larcker, (1981), discriminant validity is established when the square root of the AVE for each construct exceeds the correlations with other constructs. The outcomes achieved were satisfactory. Table 9 indicates that the square root of the AVE for each variable exceeds the values of the off-diagonal items. Furthermore, the assessment of HTMT confirms the achievement of discriminant validity. Teo et al. (2008) suggests a threshold of 0.90 or below for HTMT. Kline (2011) proposed a more stringent criterion of 0.85 or below. The HTMT for the constructs in second order is less than the required threshold of 0.85, as indicated in Table 10. Additionally, multicollinearity was assessed through the variance inflation factor (VIF). All VIF values (see Table 11) are below the threshold of 5 (Hair, Black, et al., 2019; Kock, 2022), indicating the absence of multicollinearity.

**Table 9.** Second Order Discrimination Validity Correlation of Latent Variables with Square Root of AVEs

Item	SL	AP	UEQ	ACB
SL	<b>0.93</b>	0.074	0.716	0.445
AP	0.074	<b>1</b>	0.078	0.137
UEQ	0.716	0.078	<b>0.836</b>	0.416
ACB	0.445	0.137	0.416	<b>0.749</b>

Note: Square roots of average variances extracted (AVEs) shown on diagonal.

**Table 10.** Second Order HTMT

	SL	UEQ	ACB
SL			
UEQ	0.801		
ACB	0.598	0.576	

**Table 11.** Second Order Full collinearity VIFs

SL	AP	UEQ	ACB
2.167	1.02	2.102	1.295

#### 4.1.4. Measurement Model (Norway)—Assessment of Second-Order Reflective Constructs

The second-order constructs were validated throughout the measurement model evaluation. The constructs of UEQ and ACB were evaluated for reliability and convergent validity. Furthermore, as recommended by Sarstedt et al. (2019), the second-order construct was assessed for discriminant validity against various lower-order constructs.

Internal consistency reliability was assessed using CA and CR. In exploratory research, both CA and CR values above 0.60 are considered satisfactory (Hair et al., 2017; Kock, 2022; Nunnally, 1994). As shown in Table 12, all coefficients exceeded 0.60, indicating good internal consistency. Convergent validity was then evaluated via factor loadings and the AVE. Following Hair et al.(2019), two criteria must be met to establish adequate convergent validity: (1) the p-values for factor loadings should be  $\leq 0.05$ , and (2) factor loadings should be  $\geq 0.50$ . While Hair et al.(2017) suggest that outer loadings in the range of 0.40–0.70 can be acceptable, most items in this study loaded above 0.70 (Hair et al., 2019). Moreover, Fornell & Larcker (1981) state that an AVE above 0.50 indicates sufficient convergent validity; as shown in Table 12, all AVE values exceeded 0.50.

**Table 12.** Second Order Internal Consistency Reliability (CR and CA) and Convergent Validity (AVE and Combined Loadings)

Item	SL	AP	UEQ	ACB	P value
CR	0.942	1	0.931	0.801	-
CA	0.916	1	0.901	0.666	-
AVE	0.803	1	0.773	0.505	-
SL1	<b>0.923</b>	0.119	0.108	0.005	<0.001
SL2	<b>0.79</b>	0.08	0.252	0.019	<0.001
SL3	<b>0.941</b>	0.009	0.071	0.039	<0.001
SL4	<b>0.922</b>	0.041	0.035	0.029	<0.001
AP	0	<b>1</b>	0	0	<0.001
lv_AA	0.121	0.02	<b>0.853</b>	0.137	<0.001
lv_REPU	0.113	0.033	<b>0.841</b>	0.299	<0.001
lv_NAA	0.073	0.038	<b>0.894</b>	0.15	<0.001
lv_ACCE	0.079	0.012	<b>0.926</b>	0.001	<0.001
lv_ALTR	0.237	0.084	0.091	<b>0.696</b>	<0.001
lv_COUR	0.039	0.14	0.047	<b>0.85</b>	<0.001



**Table 12. continued**

lv_CV	0.007	0.239	0.101	<b>0.65</b>	<0.001
lv_CONC	0.204	0.035	0.061	<b>0.625</b>	<0.001

For first-order constructs, this study adopted a more stringent cut-off of  $\geq 0.70$  for factor loadings to ensure higher measurement precision. However, for second-order constructs (e.g., ALTR, CV, and CONC under ACB), applying the same 0.70 threshold would lead to the exclusion of items loading between 0.60 and 0.70, potentially reducing the comprehensiveness of the measurement model. Given the recommendation that each latent variable should retain at least two indicators to minimize measurement error (Kock, 2015; Nunnally, 1994; Nunnally & Bernstein, 1978), the factor loading cut-off for second-order constructs was relaxed to  $\geq 0.50$  (Amora, 2021; Hair, Black, et al., 2019; Kock, 2014). This approach retains sufficient indicators to capture the underlying constructs adequately while still maintaining acceptable reliability and validity in an exploratory context.

The assessment of discriminant validity was conducted via the AVE and the HTMT. According to Fornell & Larcker, (1981), discriminant validity is established when the square root of the AVE for each construct exceeds the correlations with other constructs. The outcomes achieved were satisfactory. Table 13 indicates that the square root of the AVE for each variable exceeds the values of the off-diagonal items. Furthermore, the assessment of HTMT (see Table 14) confirms the achievement of discriminant validity. Teo et al. (2008) suggests a threshold of 0.90 or below for HTMT. Kline, (2011) proposed a more stringent criterion of 0.85 or below. The HTMT for the constructs in second order is less than the required threshold of 0.85. Additionally, multicollinearity was assessed through the variance inflation factor (VIF). All VIF values (see Table 15) are below the threshold of 5 (Hair, Black, et al., 2019; Kock, 2022), indicating the absence of multicollinearity.

**Table 13.** Second Order Discrimination Validity Correlation of Latent Variables with Square Root of AVEs

Item	SL	AP	UEQ	ACB
SL	<b>0.896</b>	0.069	0.617	0.465
AP	0.069	<b>1</b>	0.114	0.043
UEQ	0.617	0.114	<b>0.879</b>	0.428
ACB	0.465	0.043	0.428	<b>0.711</b>

Note: Square roots of average variances extracted (AVEs) shown on diagonal.

**Table 14.** Second Order HTMT

Item	SL	UEQ	ACB
SL			
UEQ	0.675		
ACB	0.591	0.551	

**Table 15.** Second Order Full collinearity VIFs

SL	AP	UEQ	ACB
1.816	1.049	1.745	1.333

#### 4.1.5. Structural Model/s Assessment

##### 4.1.5.1. Structural Model/s Assessment (Poland)

The structural model path coefficient ( $\beta$ ) and path significance (p-value) were analysed to clarify the links among the components in the study model. The outcomes of the hypothesis testing, including effect sizes ( $f^2$ ), are displayed in Table 16. Values of 0.35, 0.15, and 0.02 indicate significant, medium, and modest impacts, respectively (Cohen, 2013). From Table 16,

the following conclusions can be made for this study:

- UEQ has a significant effect on ACB at a p-value=0.004 and  $\beta = 0.199$ . Thus, hypothesis H1<sub>p</sub> is supported<sup>1</sup>;

- UEQ has a significant effect on SL at a p-value < 0.001 and  $\beta = 0.725$ . Thus, hypothesis H2<sub>p</sub> is supported;

- SL has a significant effect on ACB at a p-value < 0.001 and  $\beta = 0.311$ . Thus, hypothesis H3<sub>p</sub> is supported;

- UEQ has an insignificant effect on AP at a p-value=0.102 and  $\beta = 0.097$ . Thus, hypothesis H5<sub>p</sub> is not supported;

- ACB has a significant effect on AP at a p-value =0.012 and  $\beta = 0.171$ . Thus, hypothesis H6<sub>p</sub> is supported;

- When checking the significance of the indirect effect, we notice that the indirect relationship between UEQ and ACB is significant ( $\beta = 0.225$ ,  $p < 0.001$ ); therefore, SL mediates the relationship between UEQ and ACB. Thus, hypothesis H4<sub>p</sub> is supported;

- When checking the significance of the indirect effect, we notice that the indirect relationship between UEQ and AP is not significant ( $\beta = 0.034$ ,  $p = 0.268$ ); therefore, ACB does not mediate the relationship between UEQ and AP. Thus, hypothesis H7<sub>p</sub> is not supported;

The global model fit, and quality indices indicate an appropriate model–data fit (see Table 17). In this study, the  $R^2$  (coefficient of determination) values were 0.526 for SL, 0.044 for AP and 0.223 for ACB. The values measured for Stone–Geisser ( $Q^2$ ) in this analysis were 0.528 for SL, 0.066 for AP and 0.232 for ACB, which can be considered satisfactory (if greater than 0).

**Table 16.** Hypothesis Testing

Hypothesis	Path	Path coefficient ( $\beta$ )	P value	Effect size( $f^2$ )	Results
H1 <sub>p</sub>	UEQ-ACB	0.199	P=0.004	0.083	Supported

**Table 16. continued**

H2p	UEQ-SL	0.725	P<0.001	0.526	Supported
H3p	SL-ACB	0.311	P<0.001	0.14	Supported
H4p	UEQ-SL-ACB	0.225	p<0.001	0.094	Supported
H5p	UEQ-AP	0.097	P=0.102	0.012	Not Supported
H6p	ACB-AP	0.171	P=0.012	0.032	Supported
H7p	UEQ-ACB-AP	0.034	P=0.268	0.004	Not Supported

**Table 17. Model fit and quality indices**

Index	Value	Interpretation
Average path coefficient (APC)	0.301	p<0.001
Average Rsquared (ARS)	0.264	p<0.001
Average adjusted Rsquared (AARS)	0.256	p<0.001
Average block VIF (AVIF)	1.520	acceptable if $\leq 5$ , ideally $\leq 3.3$
Average full collinearity VIF (AFVIF)	1.646	acceptable if $\leq 5$ , ideally $\leq 3.3$
Tenenhaus GoF (GoF)	0.455	small $\geq 0.1$ , medium $\geq 0.25$ , large $\geq 0.36$
Simpson's paradox ratio (SPR)	1	acceptable if $\geq 0.7$ , ideally = 1
Rsquared contribution ratio (RSCR)	1	acceptable if $\geq 0.9$ , ideally = 1
Statistical suppression ratio (SSR)	1	acceptable if $\geq 0.7$
Nonlinear bivariate causality direction ratio (NLBCDR)	0.7	acceptable if $\geq 0.7$
Standardized root mean squared residual (SRMR)	0.093	acceptable if $\leq 0.1$
Standardized mean absolute residual (SMAR)	0.075	acceptable $\leq 0.1$
Standardized chisquared with 54 degrees of freedom (SChS)	1.432	p<0.001

**Table 17. continued**

Standardized threshold difference count ratio (STDCR)	0.982	acceptable if $\geq 0.7$ , ideally = 1
Standardized threshold difference sum ratio (STDSR)	0.950	acceptable if $\geq 0.7$ , ideally = 1

#### 4.1.5.2. Structural Model/s Assessment (Norway)

The structural model path coefficient ( $\beta$ ) and path significance (p-value) were analysed to clarify the links among the components in the study model. The outcomes of the hypothesis testing, including effect sizes ( $f^2$ ), are displayed in Table 18. Values of 0.35, 0.15, and 0.02 indicate significant, medium, and modest impacts, respectively (Cohen, 2013). From Table 18, we can make the following conclusions for this study:

- UEQ has a significant effect on ACB at a p-value=0.003 and  $\beta = 0.29$ . Thus, hypothesis H1n is supported;<sup>1</sup>

- UEQ has a significant effect on SL at a p-value < 0.001 and  $\beta = 0.631$ . Thus, hypothesis H2n is supported;

- SL has a significant effect on ACB at a p-value < 0.001 and  $\beta = 0.384$ . Thus, hypothesis H3n is supported;

- UEQ has a significant effect on AP at a p-value=0.203 and  $\beta = 0.203$ . Thus, hypothesis H5n is supported;

- ACB has an insignificant effect on AP at a p-value =0.058 and  $\beta = 0.172$ . Thus, hypothesis H6n is not supported.

- When checking the significance of the indirect effect, we notice that the indirect relationship between UEQ and ACB is significant ( $\beta = 0.242$ ,  $p < 0.001$ ); therefore, SL mediates

<sup>1</sup> In H<sub>p</sub> and H<sub>n</sub>, the subscripts p and n denote Poland and Norway, respectively.

the relationship between UEQ and ACB. Thus, hypothesis H4n is supported;

- When checking the significance of the indirect effect, we notice that the indirect relationship between UEQ and AP is not significant ( $\beta = 0.05$ ,  $p = 0.266$ ); therefore, ACB does not mediate the relationship between UEQ and AP. Thus, hypothesis H7n is not supported.

**Table 18.** Hypothesis Testing

Hypothesis	Path	Path coefficient ( $\beta$ )	P value	Effect size( $f^2$ )	Results
H1n	UEQ-ACB	0.29	P=0.003	0.136	Supported
H2n	UEQ-SL	0.631	P<0.001	0.398	Supported
H3n	SL-ACB	0.384	P<0.001	0.2	Supported
H4n	UEQ-SL-ACB	0.242	p<0.001	0.114	Supported
H5n	UEQ-AP	0.203	P=0.031	0.043	Supported
H6n	ACB-AP	0.172	P=0.058	0.031	Not Supported
H7n	UEQ-ACB-AP	0.05	P=0.266	0.011	Not Supported

The global model fit and quality indices indicate appropriate model-data fit (Table 19). Although the SRMR value slightly exceeds the threshold (0.114, acceptable if  $\leq 0.1$ ), it remains very close to the acceptable boundary. Other fit and quality indices demonstrated satisfactory results, confirming overall acceptable model-data fit.

In this study, the  $R^2$  (coefficient of determination) values were 0.398 for SL, 0.012 for AP and 0.336 for ACB. The values measured for Stone–Geisser ( $Q^2$ ) in this analysis were 0.399 for SL, 0.083 for AP and 0.338 for ACB, which can be considered satisfactory (if greater than 0).

**Table 19.** Model fit and quality indices

Index	Value	Interpretation
Average path coefficient (APC)	0.336	$p < 0.001$
Average Rsquared (ARS)	0.248	$P = 0.005$
Average adjusted Rsquared (AARS)	0.231	$P = 0.008$
Average block VIF (AVIF)	1.145	acceptable if $\leq 5$ , ideally $\leq 3.3$
Average full collinearity VIF (AFVIF)	1.486	acceptable if $\leq 5$ , ideally $\leq 3.3$
Tenenhaus GoF (GoF)	0.437	small $\geq 0.1$ , medium $\geq 0.25$ , large $\geq 0.36$
Simpson's paradox ratio (SPR)	0.8	acceptable if $\geq 0.7$ , ideally = 1
Rsquared contribution ratio (RSCR)	0.961	acceptable if $\geq 0.9$ , ideally = 1
Statistical suppression ratio (SSR)	1	acceptable if $\geq 0.7$
Nonlinear bivariate causality direction ratio (NLBCDR)	0.9	acceptable if $\geq 0.7$
Standardized root mean squared residual (SRMR)	0.114	acceptable if $\leq 0.1$
Standardized mean absolute residual (SMAR)	0.089	acceptable $\leq 0.1$
Standardized chisquared with 54 degrees of freedom (SChS)	3.099	$p < 0.001$
Standardized threshold difference count ratio (STDCR)	0.923	acceptable if $\geq 0.7$ , ideally = 1
Standardized threshold difference sum ratio (STDSR)	0.780	acceptable if $\geq 0.7$ , ideally = 1

## 4.2. National Culture as a moderator in the examined research model

### 4.2.1 Moderation analysis results (Poland)

The structural model path coefficient ( $\beta$ ) and path significance (p-value) were analysed to

clarify the moderation effects in the study model. Table 20 displays the outcomes of the moderation hypothesis testing, including effect sizes ( $f^2$ ). According to Cohen (2013),  $f^2$  values of 0.35, 0.15, and 0.02 indicate significant, medium, and modest impacts, respectively. Based on the data in Table 20, this study reaches the following conclusions:

- H8<sub>p</sub>: PD×UEQ has an insignificant moderation effect on SL at a p-value=0.415 and  $\beta$  = -0.017. Thus, indicating negative and insignificant moderation. Therefore, hypothesis H8a is not supported;
- H9<sub>p</sub>: MAS×ACB has a significant moderation effect on AP at a p-value=0.016 and  $\beta$  = 0.163. Thus, indicating positive and significant moderation;
- H11<sub>p</sub>: COLL×SL has a significant moderation effect on ACB at a p-value=0.024 and  $\beta$  = -1.151. Thus, indicating negative and significant moderation.

**Table 20.** Poland moderation analysis

Moderation Hypothesis	Path	Path coefficient ( $\beta$ )	P value	Effect size( $f^2$ )	Results
H8p	$PD \times UEQ \rightarrow SL$	-0.017	0.415	0.006	Negative and insignificant Moderation
H9p	$MAS \times ACB \rightarrow AP$	0.163	0.016	0.027	Positive and significant moderation
H10p	$COLL \times SL \rightarrow ACB$	-0.151	0.024	0.043	Negative and significant Moderation

#### 4.2.2. Moderation analysis results (Norway)

The structural model path coefficient ( $\beta$ ) and path significance (p-value) were analysed to clarify the moderation in the study model. The outcomes of the moderation hypothesis testing, including effect sizes ( $f^2$ ), are displayed in Table 21. Values of 0.35, 0.15, and 0.02 indicate significant, medium, and modest impacts, respectively (Cohen, 2013). From Table 21, we can make the following conclusions for this study:



- H8n: PD×UEQ has an insignificant moderation effect on SL at a p-value=0.381 and  $\beta = -0.034$ . Thus, indicating negative and insignificant moderation;
- H9n: MAS×UEQ has a significant moderation effect on AP at a p-value=0.015 and  $\beta = -0.233$ . Thus, indicating negative and significant moderation;
- H10n: COLL × SL has an insignificant moderation effect on ACB at a p-value=0.404 and  $\beta = -0.028$ . Thus, indicating negative and insignificant moderation.

**Table 21.** Norway moderation analysis

Moderation Hypothesis	path	Path coefficient ( $\beta$ )	P value	Effect size( $f^2$ )	Results
H8n	$PD \times UEQ \rightarrow SL$	-0.034	0.381	0.011	Negative and insignificant Moderation
H9n	$MAS \times UEQ \rightarrow AP$	-0.233	0.015	0.062	Negative and significant Moderation
H10n	$COLL \times SL \rightarrow ACB$	-0.028	0.404	0.003	Negative and insignificant Moderation

### 4.3. Results of case studies

This section presents the findings from the case studies conducted at NCU in Poland and NTNU in Norway. The results directly address the established research questions and offer insights into the implementation and operation of QAS at both institutions. Some points may be repeated to verify that they are adequately addressed and stand on their own. Where a point has previously been stated in a prior answer, it will be mentioned briefly rather than in its entirety. This approach eliminates unnecessary repetition and makes each response clear and self-contained, making it easy to go over the questions separately.

Since 1990, Poland's higher education system transitioned significantly from a state-operated model toward a diversified structure, including both public and private institutions (Antonowicz et al., 2014). The governance structure emphasizes academic autonomy and democratic decision-making, retaining characteristics unique to post-communist legacies (Kwiek, 2011, 2015). Norway's higher education system is predominantly publicly funded, characterized by widespread accessibility and significant governmental support (Bleiklie, 2023). Policy consensus and structured reform processes have progressively transformed the Norwegian higher education landscape (Bleiklie et al., 2017; Kyvik, 2008).

Interview data were analysed using thematic analysis following Braun and Clarke's (2006) six-step method: familiarization, coding, theme searching, theme reviewing, theme defining, and narrative reporting. Interviews with QA system heads (who often also teach), university teachers, and students were coded and organized into thematic groups. See Appendix 7 for the detailed theme-code table. The analysis separately examined the perspectives of teachers and QA leaders versus student perspectives. Then use the cross-case synthesis to compare the similarities and differences between these two universities.

The presentation of the results follows a logical sequence: first, the responses to the research questions are presented separately for NCU and NTNU based on the interview results; then, a cross-case synthesis is conducted to highlight the similarities and differences between the two universities. This structured approach ensures that the findings are clearly and systematically articulated, this structured approach ensures clarity and systematization of the research results.

### **4.3.1. Case Study Specific Findings**

#### **4.3.1.1. Nicolaus Copernicus University (NCU)**

Question 1 (Q1) was as follows: What measurements are implemented in the educational quality assurance system of this university? This question will be discussed from the following perspectives: This question will be discussed from the following perspectives: course

evaluation mechanisms, student satisfaction measurements, other measurements, employee satisfaction surveys, quality indicators and metrics, anonymity assurance, and trends in measurement.

When it comes to the **course evaluation mechanisms**, the primary measurement tool at NCU is course evaluation questionnaires which consist of quantitative ratings on a five-point scale and a comment section where students can provide more detailed feedback administered through the USOS system at the end of each semester. Students consistently identified this as the most recognizable component of the quality assurance system. Student 1 explained: *“After each semester, we have these questionnaires to fill out on our profile in USOS system. So, every student, actually can see it on our main profile. We can decide if the professor can see our comments or not. So that’s the main way how University collects feedback from us. I participated in this survey before.”* Another student added details about the format: *“We have course evaluation questionnaire survey, and I participated in one. It has like eight questions, which are on a scale from zero to five, at the end of it, you can comment, so you can write whatever you want about the classes. These opinions can be disclosed to the professor or not, but even if it’s disclosed, they don’t know the data who wrote this opinion, so it’s really good.”* (Student 2). Teachers confirmed the centrality of these evaluations, noting their regular implementation and scoring system: *“We have course evaluations, student satisfaction surveys, and graduate career surveys”* (Teacher 1). They further explained that these evaluations typically use a five-point scale with consistently high averages: *“The average course evaluation score is 4.6”* (Teacher 2), and *“For the 22/23 academic year, the faculty’s course evaluation average was 4.61. The target is 4.65”* (Teacher 3).

In addition to this primary tool student 1 also indicated that *“Sometimes professors at the end of the courses ask us directly what we would like to change, what we would like to improve in the courses”*.

Concerning **student satisfaction measurements**, teachers referenced student satisfaction surveys as a standard component of the university’s measurement system, students showed limited awareness of it. One teacher stated: *“Student satisfaction is about 4.2”* (Teacher1), indicating that such surveys are regularly analysed at the administrative level.

However, students expressed uncertainty about these surveys: *“Student satisfaction survey. I don’t know. I think I’ve never participated in one, maybe it is one, but if it is, it’s not really well advertised, because I didn’t participate in one”* (Student 2). Student 1 indicated that *“I actually don’t know student satisfaction survey”*. This discrepancy suggests a gap between the institution’s measurement practices and student awareness or engagement with them.

Regarding **other measurements**, both students and teachers acknowledged the existence of graduate career surveys designed to track alumni outcomes and employment success. Student 2 recalled: *“Graduate career survey, there is something like that. I participated in one. They asked if you found the job, do you own company, something like that? How was your career after graduating from every course?”*. Teachers similarly confirmed these surveys as part of the measurement system: *“Graduate career surveys are part of our evaluation system”* (Teacher 3). These instruments help the university evaluate how effectively its programs prepare students for the job market and maintain long-term relevance.

When it comes to **employee satisfaction surveys**, all Teachers mentioned employee satisfaction measures as an important component of the quality assurance system. For example, *“We conduct employee satisfaction surveys”* (Teacher 1). Teacher 3 mentioned the observations of teaching is part of the employee evaluation, *“We have observations of teaching classes as well, because it’s also a part of a periodic employee evaluation, which also needs to be done every four years.”*

When it comes to **quality indicators and metrics**, NCU utilizes several core indicators to measure educational quality. A teaching quality index exists (Teacher 4), the university also employs metrics to track performance. As teacher 3 explained: *“We compare course evaluation results year by year and analyse whether scores are increasing or decreasing”*. This longitudinal analysis helps identify trends in teaching effectiveness over time.

The student satisfaction index, typically hovering around 4.2 on a five-point scale, serves as another key indicator: *“Student satisfaction is about 4.2”* (Teacher 1). Similarly, the university tracks employee satisfaction, which has been reported at approximately 3.55, reflecting challenges with workload and salary: *“Employee satisfaction is bad because of*

*salaries and being overloaded” (Teacher 1).*

The university tracks response rates across various surveys as a key indicator of measurement effectiveness. The course evaluation survey response rate has shown improvement, as one teacher noted: *“We had 11% in 2021/22, and in 2022/23, this response rate was at 16.9%—so five percentage points higher.”* (Teacher 3). Despite this progress, participation remains below targets: *“For the course evaluation survey, the target is 20%, but some faculties only have 4%, so we need to work a lot to improve it.”* (Teacher 3).

Other surveys show varying levels of participation. The student satisfaction survey maintains relatively stable engagement: *“Student satisfaction survey response rate is around 20%. If it remains stable, it is fine because the goal is to get responses from those who care about quality assurance.”* (Teacher 1). Another teacher confirmed: *“Student satisfaction survey response rates are stable, around 20%, with a small progress.”* (Teacher 2).

Employee satisfaction survey conducts every other year, it shown a recent increase in participation: *“Employee satisfaction survey response rate was 22.94% in 2020 and 25.76% in 2022, but in 2024, it is currently at 16.54% (still ongoing).”* (Teacher 4). In April 2025 the final response rate of employee satisfaction survey is 24.32% shows a decrease of 1.44% points, and when conducted the interview it is the process of collecting the data of employee satisfaction survey, as from January 2024, there is a salary increase for every employee at NCU, administrative staff have a 20% more and every teacher 30% more, so the result of this survey is expecting because the main problem in employee satisfaction survey is salary. *“About the employee satisfaction survey the worst part is the salary, we are interested in next survey results, because in this year we had some better situation, and we have higher salaries from our government, and every employee at our university, from administrative staff have a 20% more, and every teacher 30% more. It’s a regulation that it works from January of 2024 and its important situation. And right now, we are in a process of collecting data of employee satisfaction.”* (Teacher 2). In April 2025 the final results is 24.32%, a little decline than last time.

Graduate career tracking achieves much higher engagement: *“The graduate career survey*

response rate was 60.27% in 2022/23, up from 44.18% in 2020/21.” (Teacher 4).

Teachers highlighted the importance of benchmarking to contextualize results: *“We calculate the mean score for the whole faculty, then benchmark it against other faculties and the university average”* (Teacher 3). This comparative approach allows for identifying trends across different academic units and tracking changes over time.

Faculty performance is assessed through regular evaluation of course scores, with departments setting specific targets: *“For the 22/23 academic year, the faculty’s course evaluation average was 4.61. The target is 4.65”* (Teacher 3). These metrics create accountability benchmarks while allowing for comparison across different academic units.

Students identified a notable gap in the measurement system—the absence of a formal mechanism for submitting improvement suggestions. One student observed: *“Improvement suggestion system, I don’t think so, only if, for example, professor asks on the classes if he can improve something. But I don’t think there’s a system”* (Student 2). This limitation means that students perceived feedback tools often depends on informal channels rather than systematic collection methods.

When it comes to **anonymity assurance**, both students and teachers addressed the importance of anonymity in obtaining honest feedback. Students expressed general trust in the system’s privacy protections: *“I think I trust our university that it’s anonymous... maybe just to faculty. So, I think it is private. I think because it’s also online, maybe it feels more anonymous also”* (Student 2). *“I know it’s anonymity, only because in the title of the questionnaire, it says that it’s anonymous, but other information are not provided”* (Student 1)

Teachers confirmed that anonymity measures are in place: *“Each survey has information that it is anonymous... they shouldn’t worry about the results and can write what they need to write”* (Teacher 1). *“The system is designed in such a way that when they complete the questionnaire, then the data sent not with a label which is not their name or their email address, but a series of different letters, which means that this link with a concrete person is completely discontinuous. So, it’s impossible when you have the set of data from every student to link the set of data with a concrete person. It’s impossible in the system.”* (Teacher 3). They

acknowledged that system design deliberately de-identifies responses, with some surveys offering restricted access options for sensitive comments.

However, some desired more transparent explanations of privacy safeguards: *“I know it’s anonymity, only because in the title of the questionnaire, it says that it’s anonymous, but other information are not provided... I think the way of keep anonymity should be in the questionnaire, so everyone can know”* (Student 1).

Regarding **trends in measurement results**, teachers reported that over the past three years, course evaluation scores have remained relatively stable or shown slight improvements. A notable positive trend has been the increase in survey response rates, which one teacher described as *“the most important indicator that has been changing in recent years is the response rate of surveys, which has been steadily increasing”* (Teacher 4). However, employee and student satisfaction has declined, particularly during pandemic-related stresses. *“But in student satisfaction survey and employee satisfaction survey, we have a worse situation because the grade goes down because I think it’s a covid effect.”* (Teacher 2)

Overall, NCU implements multiple measurement tools: primarily course evaluations through the USOS system, complemented by student satisfaction surveys, graduate career tracking, and employee satisfaction mechanisms. While these instruments provide a foundation for quality assurance, their effectiveness is somewhat limited by inconsistent student awareness, varying response rates, and the absence of a structured improvement suggestion system. The university emphasizes anonymity to encourage honest feedback but could enhance transparency about privacy measures and the utilization of results to build greater trust in the measurement process.

Question 2 (Q2) was as follows: What procedures for improving educational quality, student satisfaction, and the educational quality assurance system are used at this university? This question will be discussed from the following perspectives: Structured Framework for Quality Assurance, Communication of Results and Improvements, Feedback Implementation and Change Management, Student Representative Systems, Recognition and Incentives for Teaching Excellence, Privacy Protection Procedures, Corrective Actions and Improvements,

Strategies to Enhance Survey Participation, and Faculty Engagement with the Quality Assurance System.

Regarding **structured framework for quality assurance**, NCU operates within a comprehensive, multi-step framework designed to ensure continuous improvement of educational standards. Summarized from teacher 3 and 4 this structure includes “*different kinds of systematic measurements (student satisfaction, employee satisfaction etc.); communicating these measurement results; creating a plan for corrections and improvements; introducing corrections and improvements; communicating about the corrections and improvements introduced; systematic review of academic programs; ongoing evaluation and updating of the curriculum and training programs for faculty and administrative staff on quality assurance processes*”. This formal approach establishes a foundation for identifying issues and implementing targeted reforms.

When it comes to **communication of results and improvements**, while teachers described multiple channels for sharing survey findings—including websites, emails, annual meetings, and faculty webpages—students consistently reported difficulties accessing this information. One teacher stated: “*Results are presented on the website, mailing of survey results, and annual meetings with faculty, staff, and students*” (Teacher 1). However, students presented a contrasting experience: “*I have no idea if we can know about the results, I was trying to check any information, how we can get the results, but I didn’t find it*”, “*I also, before the interview, check the website, and I found some information about the participation of students. And general rating. if the rating improved from the last year, or is it lower? But that’s all*” (Student 1) Student 2 expressed similar frustration: “*I do not know where to find the results.*” And “*have no idea how we can check the results if we have access.*” (Student 1). Students identified the where and how to find the results. This discrepancy suggests that while formal communication procedures exist, they may not effectively reach the student population.

A recurring challenge is poor communication within the university. As teacher 2 claimed that “*...we have a real problem with communication at our university, with open Communication, with creating some channels to communicate information for students and for employees.*” also as students complained about no channels for them to find the results or being



inform the changes made by the university, *“I think we are not informed. Maybe, if we would be really interested, maybe if we go to the Dean’s office to ask, maybe they will tell us, I never tried. But generally, we are not informed. I think it’s not informed.”* (student 2). Teachers 3 attributed this disconnect to students’ limited engagement, noting that a majority of full-time students now work alongside their studies and often ignore institutional communications like emails *“they don’t come because they don’t have time for that. they very often say “we don’t know about the meeting.” But when they are invited for meetings with Dean, where these results are communicated, they don’t come, when they got an email with the link to these results, maybe majority of students, they don’t look at this link. They’re not interested in looking in details.”*. This aspect has been agreed by students 1 *“We get newsletters and then or you can read about the possibility to fill out the questionnaire, but the truth is that not many students actually read the newsletter, so I think we should be encouraged more.”* Also, majority of the full-time students have a job while studying, they even do not have time for studying *“they don’t have time for anything, even for studying. They work during studies. The number of students who participate in lectures has been decreasing during last year. For example, when I studied, the majority are full time students, they didn’t work at the same time. So that’s why that I think the percentage of students who participated in lectures was higher, now even full-time students work. Statistics suggest that in Poland it’s more than 50% of students work during studying. Full time students, not part time students, because in case of part time students, of course, higher percentage of them, probably 70% 80%, or 90% of them are working students. But in case of full-time students, they also more than 50% of them work already.”* (teacher 3). This highlights a fundamental communication dilemma within the quality assurance system. When analysing faculty participation patterns, a clear connection emerges between instructor attitudes and student response rates. As one NCU teacher insightfully observed: *“When employees ignore the system, students will too”* (NCU Teacher 3). This observation illustrates how faculty communication and attitudes directly influence student engagement with quality assurance activities.

This communication dynamic is further validated by concrete evidence: *“Not the problem of students. It was the problem of employees, because when the employees don’t encourage that*

*it's right to be evaluated, when they generally ignore this evaluation process, when they ignore it, also students will ignore it and when they started to take care of it. For example, in medical faculty the response rate increases from 3.5% to 23%*" (NCU Teacher 3). This dramatic improvement demonstrates how enhanced faculty communication and endorsement can transform student participation rates, suggesting that addressing the communication gap between faculty and students represents a significant opportunity for system improvement.

Faculty resistance to engaging with and communicating about the quality assurance process stems from multiple sources, including professional identity and hierarchical traditions. Some professors remain reluctant to discuss evaluations with students due to a strong sense of professional authority: *"...they are not so open on to cooperate within the system. I think these cultural issues are the most important. Connected with the specificity of generally the sector; educational sector; and within this sector; also with the specificity of some of the professions..."*. This resistance appears particularly pronounced in certain disciplines with strong professional hierarchies, such as law and medicine: *"...as I said, for example I think Law and physicians, medical faculty we can see that they are also more resistant."*

The communication challenge crosses generational lines, challenging assumptions that resistance is individual mindsets and cultural contexts could lead to resistant to new feedback mechanisms: *"Sometimes we could say both, the older professors, they will be much more resistant....but of course, we can find these kinds of attitudes among youngers, especially young professors..."* These perspectives highlight how faculty communication practices significantly influence quality assurance effectiveness, suggesting that improving communication channels and emphasizing the importance of quality assurance at all levels could substantially enhance system outcomes and student engagement. Teacher 1 propose that any changes should be informed by related teachers and employees *"maybe we should ask Teacher or people who are responsible for changing to come back to students and talk about the change."*

In terms of **feedback implementation and change management**, the university follows a structured process for planning corrections and improvements. As one teacher explained: *"There is a plan and schedule. If you'd like a new program, all documents must be submitted by second half of the September... then reviewed by a university committee and then sent to the*

rector” (Teacher 1). After faculty-level approval, the Dean’s Council (including the dean, vice deans, and heads of departments) reviews and approves the selected improvements. *“The Dean’s Council, which includes dean, vice deans and heads of departments, reviews and approves the improvement plan.”* (Teacher 2) Any study program modifications must be evaluated by multiple stakeholders, including: the Board of Disciplines (Science or Arts), the Student Government, the Dean’s Board. *“A draft of the improved study program is evaluated by the Board of Disciplines, the Student Government, and the Dean’s Board.”* (Teacher 4). Each year, faculty councils and deans must report on the progress of past improvement plans and the degree to which actions have been implemented. *“After a year, the dean reports on the implementation of the previous year’s improvement actions.”* (Teacher 2)

Regarding **student representative systems**, while student representatives and the Quality Assurance System (QAS) at NCU share a collaborative and mutually beneficial relationship, this contribution is not widely recognized by the broader student population. Students often perceive representatives as independent agents of change, rather than as integral parts of the university’s quality assurance infrastructure. This perception gap suggests a need for clearer communication about how the QAS functions and who is involved in implementing improvements.

As Student 1 indicate that *“So I think the main things that changes at our university is because of the representatives of student community, because, as I saw, there are more like changes, for example, like microwave in our faculty. Or in the library. So, I think those initiatives comes from the student representatives at university.”*

In practice, student representatives are key partners in the QAS, acting as both conduits of student feedback and facilitators of change. As teacher 4 indicated the student governments shall be informed when modifications are made. Also, as Teacher 2 emphasized: *“Every single voice, every single comment, every single mark is important,”* reinforcing the inclusive nature of the system. Teacher 3 similarly stated: *“We just want to build in the student awareness a belief that their voices matter, that they can really influence the situation in the university and the faculty.”* These remarks highlight the shared goal of enhancing student agency through cooperation. Besides, in the rector’s letter informed the benefit for the students would be

discussed with students government also indicated this.

However, Teacher 3 also pointed out a structural limitation: unlike some universities, NCU does not offer financial incentives or competition-based rewards to encourage engagement in the quality assurance process. *“At some universities, faculties with the highest response rates receive additional funding for student government activities.”* This lack of formal motivation structures may weaken both faculty and student engagement, thereby increasing the importance of student representatives as the primary drivers of participation and trust-building. Their role becomes even more crucial in bridging the gap between institutional processes and student awareness, ensuring that feedback mechanisms are not only accessible but also meaningful.

Concerning **recognition and incentives for teaching excellence**, NCU has established procedures for recognizing teaching excellence, though these are not solely based on evaluation scores. As one teacher explained: *“Even if you’re the best teacher, it’s not enough reason to be awarded. The award is for people creating new programs, organizing conferences, or writing handbooks”* (Teacher 1). There is a specific recognition practices: *“Each faculty identifies five best teachers and shares best practices, which can become part of university regulations”* (Teacher 2).

Students seemed aware that feedback from the course evaluation survey might influence course offerings, with Student 1 noting: *“probably some students give positive feedback in the questionnaire, in the special comments”*. Student 2 thought that the course evaluation survey is a way to recognize the good teaching as the survey general ask all aspects about the course. *“I think in course evaluation survey; the questions are mostly about this. ‘Do the information useful?’ Because they have to write everything in syllabus. So, the questions are, for example, ‘if he/she did everything that was written in syllabus’, and ‘was it coherent?’ For example, ‘was it easy to understand?’ it’s evaluated on this survey.”*

From the perspective of **privacy protection procedures**, see question 1, Anonymity and Privacy Measures, it has already addressed this. Based on the 2 students’ responses, they generally trust NCU, However, when discuss the privacy protection procedures in the whole university context, teachers and the managers in the QAS do mention the trust issue within

NCU. Some students remain sceptical, particularly in cases where they lack trust in faculty-student dynamics. *“Of course, a part of our students doesn’t trust us still. Because sometimes it is some mistakes of our teachers. I think it’s a normal process, but I don’t feel safe, especially in situation that we have a domination of teacher, sometimes we have teachers with a bad attitude towards students and in those situations, when we have students feel unsafe in this relation, you don’t trust this survey, and You have a problem with talking about the real problems and writing downs about it, I know that, but, we do our best to show students that we are safe”* (Teacher 2). The university has implemented various measures to reinforce confidentiality and institutional trust, including clear messaging, videos, restricted access to sensitive comments, and system modifications. Teacher 3 added *“We prepared a video, and now a new video is under preparation—shorter and more communicative—to explain anonymity from both the IT and faculty perspectives”*. Teacher 2 also added that *“We try to send letters to students with information about the system, using videos, and discussing hidden comments.”* Teacher 3 indicated that *“We repeat every time in all the messages we send and during meetings with students after presenting reports”*. One of the reasons students were suspicious about the anonymity of the survey was that students had to log into the USOS (an NCU system) with their own information, so students thought their identity would be identified. However, teacher 3: *“The system is designed so that when students complete the questionnaire, their data is sent not with their name or email, but as a series of different letters. This link to a concrete person is completely discontinued”*. Also, regarding the comment section in the course evaluation survey, *“Students may disable the availability of the comment for the assessed lecturer. This modification was introduced three years ago”*. Teacher 1 mentioned that even as a member of a QAS, *“There is an option that only the dean can read certain comments—not even me. If the dean decides to share it, then it’s possible.”* Teacher 2 pointed out that some students still fear retaliation, particularly in situations where faculty members have a dominant position in relationships. This dynamic also reflects Poland’s broader cultural context, which features a relatively high power distance according to Hofstede’s cultural dimensions theory (Hofstede, 2001a). In such environments, teachers are often viewed as authorities or “gurus,” creating hierarchical relationships that can inhibit open feedback. *“Some students don’t trust us because of certain teachers. In cases where students feel unsafe in the faculty-student*

*relationship, they don't trust the survey either."*

With respects to **corrective actions and improvements**, despite communication gaps, both students and teachers identified tangible improvements resulting from the quality assurance system. Teachers cited examples such as increasing laboratory courses based on student requests: *"Students said that they need more laboratory courses, not only lectures"* (Teacher 1), and addressing content repetition across courses: *"Students often complained about repeated content in courses. Now, program coordinators review syllabuses annually to reduce redundancy"* (Teacher 3). As well as physical changes, *"Special relaxation spaces and small restaurants, bars were added across faculties based on student feedback."* (Teacher 2) *"These zones serve as study areas but also provide spaces where students can relax with a book or laptop."* (Teacher 3)

Students 1 and 2 acknowledged certain improvements, particularly those related to physical facilities: *"Because we have, for example, this new co-working space... maybe these were the changes, not because of me, but maybe because of larger group of students".* *"Like microwave in our faculty"*. However, they felt that more complex issues remained unaddressed: *"It's harder to, for example, change the class time schedule or professor's attitude, but if something is easy... they will do this"*.

Student 2 noted that individual professors occasionally implement changes based on informal feedback: *"I think the changes happen, but only in several courses. So only depends on professor... For example, we say more teamwork, then the professor will do more teamwork"*. This suggests that students consider these changes are depend on individual teachers motive not from QAS.

However, students expressed uncertainty about how their feedback leads to concrete changes: *"Once we had a situation that we had very complicated situation with professor, and at the end of the semester, we decided to give lower rating in the feedback and write comments... but afterwards, we don't know what happened with our results"* (Student 1). Student 1 added: *"If something was done maybe there are some meetings, but we are just not included in those meetings. We just don't know what happens with our results"*. If there were a meeting on this,

then it also shows a communication gap between the students attend the meeting and do not discuss the results with the rest students.

Teachers emphasize the importance of setting realistic goals for improvements and maintaining transparent communication with students about what changes are feasible. *“It’s not a Wishlist. You can choose only these which you think will be possible in the next academic year”* (Teacher 2) and *“We must communicate that we listen to students, but we cannot change everything.”* (Teacher 3)

In terms of **strategies to enhance survey participation**, both groups acknowledged efforts to increase participation in quality assurance activities, though their perceptions of effectiveness differed. Teachers described multiple approaches: *“We start in June, then remind students twice, and again in September when they return from holidays”* (Teacher 3). They also mentioned organizing special meetings in low-response faculties, which reportedly increased rates *“from 3% to 14%”* (Teacher 2). Teacher 2 also mentioned that the importance of showing students that their feedback leads to real changes to build trust and encourage participation. *“We try to force our rector and vice rectors to communicate about survey results, recommendations, and changes based on data”*. We want students know that *“Every single voice, every single comment, every single mark is important.”* In April 2015, the rector suggested that some benefits could be planned for students completing the survey, but these would need to be agreed by the students’ government. One of these might be an extra rector’s Day (day off) for the faculty with the highest response rate.

Students generally felt these encouragement efforts were insufficient: *“Actually, I think we are not encouraged too much to participate, because I’ve never heard from a professor during our class say that maybe you can fill out the questionnaire”* (Student 1). Student 1 pointed out that teachers should encourage more *“I think just professors should mention it during the class, and they could mention, what improvements can be done thanks to gathering the feedback from students.”* Student 2 suggested more direct approaches: *“Maybe doing this on the last classes, like professor telling for example, you now have 10 minutes. Please say your thoughts. Do the survey... I think would be the best”*. And also make it obligatory, *“Maybe it should be obligatory, because even if Professor will encourage it, even if sometimes we want to*

*write something, you just sometimes forget because it's at the end of the classes."*

Concerning **faculty engagement with the quality assurance system**, Faculty engagement is promoted through regular information sharing and mandatory participation requirements. However, problems remain, when faculty members do not actively encourage evaluations or demonstrate the importance of feedback, students may, in turn, become disengaged: *"Not the problem of students. It was the problem of employees, because when the employees don't encourage that it's right to be evaluated, when they generally ignore this evaluation process, when they ignore it, also students will ignore it and when they started to take care of it. For example, in medical faculty the response rate increases from 3.5% to 23%"* (NCU Teacher 3).

Some professors remain resistant or unwilling to cooperate with student evaluations and external feedback. This is often attributed to a strong sense of professional authority or status: *"...they are not so open on to cooperate within the system. I think these cultural issues are the most important. Connected with the specificity of generally the sector, educational sector, and within this sector, also with the specificity of some of the professions..."*

Certain faculty members—regardless of seniority—possess a high sense of self-esteem, which can hinder their openness to being evaluated by students. They may perceive such evaluations as a threat to their authority: *"...Their ego is very high. And we usually used to say that there are some professors, doctors, whose ego is so wide, so wide that it doesn't fit in the corridor of the university."* These attitudes can make it difficult to implement changes to traditional faculty-student power dynamics.

Individual mindsets could lead to resistant to new feedback mechanisms, *"Sometimes we could say both the older professors, they will be much more resistant ...but of course, we can find these kinds of attitudes among youngsters, especially young professors..."*

The university has established procedures for faculty to review and respond to evaluation results. Teachers described a structured process: *"They can analyse them... every four years, each teacher undergoes an evaluation that is discussed with deans and institute directors"* (Teacher 2). In cases of persistently negative feedback, intervention may occur: *"If there are*



*concerning survey results, deans take clarifying and corrective actions, sometimes even changing the staffing for specific subjects” (Teacher 4).*

Students, however, had limited visibility into these procedures: *“I think the changes happen, but only in several courses. So only depends on professor... There’s no big systemic change... If we want to complain about this issue, we probably have to go to the dean”* (Student 2). This disconnect suggests that while formal response mechanisms exist, they may not be sufficiently transparent or consistent from the student perspective.

Question 3 (Q3) was as follows: To what extent does the educational quality assurance system contribute to improving educational quality and student satisfaction in this university? This question will be discussed from the following perspectives integrating perspectives from both students and teachers at NCU: Impact on Teaching Practices and Standards, Implementation of Concrete Improvements, Differential Impact Across Academic Areas, Impact on Student Satisfaction, Communication and Transparency, Influence on Faculty Development and Recognition, Trust and Anonymity, Challenges, and System Evolution and Future Impact.

Regarding **impact on teaching practices and standards**, teachers at NCU generally believe that the QAS has helped maintain high teaching standards and fostered a culture of continuous feedback. One respondent observed that *“students’ needs are different than five or ten years ago... they need more interactive learning, online education, and project-based work”* (Teacher 1), suggesting that faculty have become more adapted to evolving expectations. Teachers also emphasized the stability of course evaluation scores, typically around 4.6 out of 5, with teacher 3 noting: *“The stability of scores suggests that we have maintained quality, even as student expectations increase”*.

Students generally believe that feedback from surveys has little impact on their education, unless a professor they have for several years makes noticeable changes. Student 2 stated: *“It may impact if, for example, we have classes for several years with the same professor... but in universal way, I don’t think so... it’s not systemic thing in university. It’s just this professor wanted to be better professor... If somebody wants to teach better, they will do this. But if*

*somebody just goes to work and then goes home... it's not going to change or improve".* However, student 1 stated that: *"I do not think the feedback on surveys impacts my education".* This highlights a perception that improvements depend more on individual instructor motivation than systematic institutional influence. Teacher 1's response can explain this situation. *"Teacher is always lower than the researcher in Poland in academic university, like our university. The research is much more valuable than the didactic teaching".* Teacher 1 call for different situation, *"I am telling that because I would like to have different situation because I think even for research university, people who are good teachers are very important. Even for researcher, people who are good teachers are important. And if we will not notice it, and it's in long time, policy or strategy is for nothing. We will not improve our research also."*

If this is the situation at the NCU, then the phenomenon described by Student 2 can be explained by the current situation reported by Teacher 1. Teachers at NCU can be "safe and sound" as long as they ensure that they produce something in terms of research, and the teacher's focus may be on research rather than teaching.

From the perspective of **implementation of concrete improvements**, both groups acknowledged that the QAS has led to certain tangible improvements. Teachers cited various modifications implemented in response to feedback: *"We have introduced changes in study programs, updated syllabi, changed lecturers, and created rest rooms for students"* (Teacher 4). They described specific examples such as increasing laboratory courses based on student requests and reducing content repetition across different courses.

Students similarly recognized some concrete improvements, particularly regarding physical facilities. Student 2 noted: *"Because we have, for example, this new co-working space... maybe these were the changes, not because of me, but maybe because of larger group of students"* (Student 2). However, they perceived limitations in the scope of these changes: *"It's harder to, for example, change the schedule or professor's attitude, but if something is easy... they will do this"* (Student 2).

Regarding **differential impact across academic areas**, both teachers and students observed that the QAS's effectiveness varies across different courses and aspects. Teachers

acknowledged that not all recommendations are implemented, as resource constraints and institutional limitations sometimes necessitate selective action: *"We must communicate that we listen to students, but we cannot change everything"* (Teacher 3). Teacher 2 and 3 mentioned more study and social spaces for students for example, bars, restaurants and relax space for students.

Student 2 similarly noted the physical change for example, microwaves and relax space and inconsistent impact: *"I think the changes happen, but only in several courses. So only depends on professor... There's no big systemic change... If we want to complain about this issue, we probably have to go to the dean... So I have positive experience when it comes to like small classes... But when it comes to like whole system, no positive experience"*. Student 2 also added, *"professor do make changes according to the student's feedback. For example, did more teamwork, more talking, instance of just looking at presentation. We give feedback directly and also in survey, sometimes teachers wants it directly. I think on one class we get blank paper, and professor was like, 'please write me some suggestions, what was good, what was bad, and I will try to correct it next year.' And it was actually true. But I think it's not systemic thing in university. It's just this professor wanted to be better professor. I think it works like that."*

This suggests that the QAS may be more effective at driving some physical changes than addressing broader institutional challenges. In addition, there is a perception gap between students and the university's quality assurance operations. While feedback systems exist, students view them as individual efforts by instructors rather than systematic institutional behaviours, thereby undermining belief in the system's performance.

In terms of **impact on student satisfaction**, students acknowledged certain improvements, particularly related to physical facilities: *"Because we have, for example, this new co-working space... maybe these were the changes, not because of me, but maybe because of larger group of students"* (NCU Student 2) and *"Like microwave in our faculty"* (NCU Student 1). However, they expressed scepticism about the system's ability to address more complex issues: *"It's harder to, for example, change the schedule or professor's attitude, but if something is easy... they will do this"* (NCU Student 2).

The system shows some adaptability to course-level feedback, with Student 2 noting: *“I think the changes happen, but only in several courses. So only depends on professor... For example, we say more teamwork, then the professor will do more teamwork.”* Student 2 also added, *“professor do make changes according to the student’s feedback. For example, did more teamwork, more talking, instance of just looking at presentation.* This suggests that while individual professors may respond to feedback by adjusting their teaching approaches, students think these changes appear dependent on individual faculty motivation rather than systematic institutional processes.

Students expressed uncertainty about whether their feedback truly influenced satisfaction-related improvements: *“As I said before, we don’t know what happens after university receives our feedback... the main things that changes... is because of the representatives of student community... But other like feedback... the questionnaire and rating the courses. I really don’t know”* (NCU Student 1). This lack of transparency diminishes students’ confidence in the system’s effectiveness.

Teacher perspectives suggest varied impact on satisfaction metrics. While course evaluation scores remain relatively stable at around 4.6 on a five-point scale, broader satisfaction measures have shown decline, particularly during challenging periods: *“But in student satisfaction survey and employee satisfaction survey, we have a worse situation because the grade goes down because I think it’s a covid effect”* (NCU Teacher 2).

Concerning **communication and transparency**, a significant factor affecting the QAS’s contribution to improvement is the communication of results and changes. Teachers described a feedback loop where *“There is a feedback loop, thanks to the system so they assess, teachers, they react also managers, let’s say, react on the faculty or university level, I think that will be also a very good outcome, positive outcome of the system function.”* (Teacher 3), suggesting a structured process for translating feedback into action.

Students, however, consistently expressed uncertainty about the corrections and improvements communication: *“I do not know”* (Student 1,2) was a common response when asked about results communication. Student 1 described submitting feedback without any

visibility into resulting actions: *“Once we had a situation that we had very complicated situation with professor, and at the end of the semester, we decided to give lower rating in the feedback and write comments, maybe try to change the situation, but afterwards, we don’t know what happened with our results”*.

While student perceive a difference between small course-level changes and broader systemic issues. As one student explained: *“There’s no big systemic change. For example, everybody on our faculty hates the schedule. They make the worst class schedule of all the faculties because there’s lots of gaps. For example, you have free Tuesday and not Monday or Friday, so you don’t have bigger weekends. It’s really awful. And everyone knows that, and nobody is doing anything about it. If we want to complain about this issue, we probably have to go to the dean. I think there’s no place to put it”* (Student 2). The same student noted that while course-specific feedback sometimes leads to visible changes, broader institutional issues remain unaddressed: *“But when it comes to courses, like small courses, for example, this business excellence. If you say something to professor and you have classes with him next year, they will make it better. I think it’s mostly my experience. for example, we say more teamwork, then the professor will do more teamwork, mostly, or we want to know more about this subject, they will tell us more about this subject. So, I have positive experience when it comes to like small classes, several classes. But when it comes to like whole system, no positive experience. Sometimes for example, one time we had problem with one professor. We just didn’t get along well, and we asked if we can change her to another professor next year, because we are supposed to have classes with her. And they didn’t change it”* (Student 2).

Another student observed: *“As I said before, we don’t know what happens after university receives our feedback... the main things that changes... is because of the representatives of student community... But other like feedback... the questionnaire and rating the courses. I really don’t know”* (Student 1). This lack of transparency appeared to diminish students’ confidence in the system’s effectiveness.

Concerning **influence on faculty development and recognition**, teachers indicated that the QAS contributes to faculty development through regular reviews and discussions. Faculty-wide conversations have become more collaborative, with one teacher noting that *“we discuss*

*what happened in each faculty, what kind of changes were made, and what factors may have influenced the results” (Teacher 2). Teaching evaluations do contribute to promotions and awards, though they are not the sole criterion: “Even if you’re the best teacher, it’s not enough reason to be awarded... The award is for people creating new programs, organizing conferences, or writing handbooks” (Teacher 1).*

Students had limited visibility into how the QAS affects faculty development or recognition. Student 2 acknowledged that feedback might influence whether courses remain available: *“If there’s lots of good opinions, the course will stay, and if there’s not, the course maybe won’t stay”.*

In terms of **trust and anonymity**, both groups recognized the importance of anonymity in facilitating honest feedback. Teachers described efforts to address privacy concerns, such as introducing a hidden-comment feature for smaller classes: *“If you feel unsafe in a small class... you can hide your comment” (Teacher 2). They implemented multiple communication strategies—videos, posters, direct messaging—to reassure students about anonymity. “Not everything has to be on TikTok or social media. Posters in corridors work too. When you walk past, you see the message” (teacher 1)*

Students generally expressed trust in the system’s privacy protections: *“I think I trust in our university that it’s anonymous... maybe just to faculty. I think it is private. I think because it’s also online, maybe it feels more anonymous also” (Student 2). However, student 1 noted that despite these assurances, students might still hesitate to provide candid criticism in the case professors choose to ask students directly: “I think students are scared to say what they really think, because it’s a bit weird to say to a professor, Oh, class was boring “.*

Regarding **challenges**, both groups identified challenges in the current procedures. Teachers cited communication deficiencies, and resource limitations: *“we have a real problem with communication at our university, with open communication, with creating some channels to communicate information for students and for employees... it’s a main problem” (Teacher 2). Faculty engagement remains challenging due to academic culture, hierarchical faculty structures, and resistance to student feedback. For example, teacher 2 indicate that faculty*

members receive structured guidelines and reminders about their role in promoting course evaluations. *“Professors see themselves as mentors, and in some fields like medicine or law, they may feel uncomfortable being evaluated by students.”* However, as teacher 1 stated that no one check if they do so. *“We ask deans and faculty coordinators to remind students, but we do not check if they do it.”* There is a cultural and hierarchical barrier to engagement, teacher 3 emphasised that *“Professors see themselves as mentors, and in some fields like medicine or law, they may feel uncomfortable being evaluated by students.”* Also, students have problems to evaluate the teachers as well, *“In highly specialized fields, students may struggle with the idea of assessing their professors.”*

Even faculty engagement is partially enforced through university regulations, but some instructors comply reluctantly. *“New procedures make participation mandatory, but some faculty members may try to bypass these rules”.* *“Some will do it because they have to, but they may not truly engage with it.”* (Teacher 3)

Students highlighted the lack of transparency and communication as well as perception gap in how feedback is processed and the inconsistent communication of results and improvements. They expressed frustration at not knowing whether their input led to meaningful change: *“As I said before, we don’t know what happens after university receives our feedback.”* (Student 1). *“being really open to communications with us,”* Regarding the interview questions on inform the results and how to find the results and the changes being made, student 1 and 2 answers multiple times *“I do not know this”*.

Concerning **system evolution and future impact**, as NCU’s quality assurance system continues to develop, teachers envision several directions for its evolution and future impact on educational quality and student satisfaction. The system has already shown adaptability in responding to changing student needs, as one teacher observed: *“students’ needs are different than five or ten years ago... they need more interactive learning, online education, and project-based work”* (Teacher 1).

Looking ahead, teachers emphasized the importance of balancing teaching and research priorities more effectively. The current academic culture sometimes undervalues teaching

compared to research, which can limit the QAS's impact: *"There is no equality between a good teacher and a good researcher; teachers are always lower"* (Teacher 1). Addressing this imbalance could enhance the system's influence on teaching quality.

Teachers also articulated a vision for transforming the QAS from a documentation-focused system to a more learning-centred approach: *"We have to concentrate more on working with results, but not to collect another set of data"* (Teacher 2). This shift would prioritize meaningful analysis and application of feedback rather than simply accumulating more measurements.

The university is working toward greater transparency in its quality assurance processes, which could strengthen the system's future impact. Efforts to make results more accessible and demonstrate clearer connections between feedback and improvements may address current student frustrations about visibility: *"On every faculty webpage, we publish reports from course evaluations and satisfaction surveys, including grades, recommendations, and best practices"* (Teacher 2).

Cultural changes among faculty represent another evolution pathway. While some professors, may feel uncomfortable being evaluated by students, the university is gradually fostering greater acceptance of the quality assurance process. As this cultural shift progresses, the system's effectiveness in driving improvement may increase.

The iterative nature of the QAS positions it to have growing influence on institutional practices. The emphasis on *"there is a feedback loop, thanks to the system so they assess, teachers, they react also managers, let's say, react on the faculty or university level, I think that will be also a very good outcome, positive outcome of the system function."* (Teacher 3) establishes a framework for continuous refinement that can adapt to evolving educational needs and expectations.

The educational quality assurance system at NCU contributes to maintaining teaching standards and implementing certain concrete improvements, particularly at the course level and regarding physical facilities. However, its impact is limited by communication gaps and perception gaps, varying levels of faculty engagement. While teachers generally view the QAS



as an effective framework for continuous improvement, students express uncertainty about its real impact on their educational experience. The contrast between institutional perspectives and student perceptions highlights the need for greater transparency in how feedback leads to changes, more visible communication of improvements, and a more systematic approach to addressing structural challenges. Overall, the QAS shows potential as a driver of educational quality and student satisfaction but has yet to fully realize this potential across all aspects of the university experience.

Question 4 (Q4) was as follows: How does this university handle educational quality assurance system? Based on the teachers' interview, this question will be discussed from the following perspectives: Origins and Development, System Structure and Organization, Comprehensive Measurement Approach, Communication and Transparency Processes, Implementing Improvements, and Faculty Development and Engagement.

Regarding **origins and development**, NCU's Quality Assurance System (QAS) evolved in response to both external regulatory requirements and internal needs for consistent quality standards. The system was formally established around 2011-2012 to address inconsistencies across faculties and align with national accreditation mandates: *"Each university should have this kind of system as part of the Polish accreditation system correlated with the Bologna system in the European framework"* (Teacher 1). This development reflected both compliance with Polish higher education regulations and the university's commitment to maintaining educational quality.

As the system matured, NCU introduced and refined multiple evaluation instruments to create a comprehensive framework for quality assessment. These tools now include course evaluations, student satisfaction surveys, employee satisfaction surveys, and graduate career tracking, forming the foundation of the university's quality assurance approach.

Concerning **system structure and organization**, The QAS at NCU follows a structured, cyclical process designed to ensure continuous improvement. As introduced by teacher 4, *"The introduction and development of our QAS were significantly influenced by the standards of programme and institutional evaluation of the PKA, which have existed since 2002."* As

summarized from teacher 3 and 4: *“The structures and procedures within the quality assurance system include different kinds of systematic measurements (student satisfaction, employee satisfaction, etc.); communicating these measurement results; creating a plan for corrections and improvements; introducing corrections and improvements; communicating about the corrections and improvements introduced”*. This sequence establishes a clear framework for data collection, analysis, and implementation of changes.

The system operates within both national and international quality frameworks. While primarily adhering to the Polish Accreditation Committee (PKA) standards, certain faculties pursue global accreditations that introduce additional quality requirements: *“For education, we don’t have university-wide international standards, but some faculties have AACSB and AMBA accreditation, introducing additional measurements”* (Teacher 3). These accreditation processes, typically reviewed every four years, drive ongoing refinements to the quality assurance approach.

In relation to **comprehensive measurement approach**, NCU employs multiple instruments to assess educational quality from different perspectives. Course evaluations serve as the primary tool, typically averaging around 4.6 on a five-point scale. These are complemented by student satisfaction surveys (averaging around 4.2) and employee satisfaction measurements (around 3.55). As teacher 1 noted: *“We have response rate in the course evaluation, student satisfaction index, and response rate in the student satisfaction survey”*.

The university also conducts graduate career surveys to evaluate long-term program effectiveness and relevance to the job market: *“Graduate career surveys are part of our evaluation system”* (Teacher 3). This multi-faceted approach allows for assessing both immediate educational experiences and broader outcomes.

Performance benchmarking forms another key component of the measurement strategy. The university compares results across different academic units: *“We calculate the mean score for the whole faculty, then benchmark it against other faculties and the university average”* (teacher 3). This comparative analysis helps identify areas of strength and opportunities for

improvement.

From the perspective of **communication and transparency processes**, to close the feedback loop, NCU employs various channels to share evaluation results with stakeholders. As teacher 2 explained: *“On every faculty webpage, we publish reports from course evaluations and satisfaction surveys, including grades, recommendations, and best practices”*. Additional communication occurs through emails, annual meetings, and formal letters from the rector summarizing key findings and planned improvements.

The university also emphasizes anonymity in its measurement processes to encourage honest feedback. Students can disable comment visibility for instructors in certain cases, and the system design ensures that *“when students complete the questionnaire, their data is sent not with their name or email, but as a series of different letters”* (Teacher 3). These measures aim to address potential concerns about identification, particularly in smaller classes.

Regarding **implementation of improvements**, the quality assurance system drives concrete changes across various aspects of the university experience. The physical improvements and some course level changes have been addressed in last sections. Besides, teachers described numerous examples of improvements stemming from feedback data, from curriculum adjustment *“Students said that they need more laboratory courses, not only lectures”* (Teacher 1), to enhanced support services: *“Survey results highlighted the need for mental health support, leading to the creation of a centre offering free psychological services”* (Teacher 2).

These improvements follow a structured planning process involving multiple stakeholders. Faculty councils formulate recommendations based on survey data and select feasible changes for implementation: *“It’s not a Wishlist. You can choose only these which you think will be possible in the next academic year”* (Teacher 2). The Dean’s Council then reviews and approves these actions, creating an institutional commitment to the selected improvements.

Accountability is maintained through regular progress reviews: *“After a year, the dean reports on the implementation of the previous year’s improvement actions”* (Teacher 2). This ensures that planned changes are actually implemented and provides an opportunity to assess

their effectiveness.

With respect to **faculty development and engagement**, the university integrates quality assurance with faculty development through systematic evaluation and support. While teaching excellence is not the sole criterion for recognition *“Even if you’re the best teacher, it’s not enough reason to be awarded... The award is for people creating new programs, organizing conferences, or writing handbooks”* (Teacher 1) the QAS does influence faculty advancement and improvement.

Regular reviews provide structured opportunities for discussion: *“They can analyse them... every four years, each teacher undergoes an evaluation that is discussed with deans and institute directors”* (Teacher 2). When feedback indicates areas for improvement, the university typically focuses on supportive interventions rather than punitive measures at the first time, though persistent issues may have consequences: *“If you receive a second negative evaluation, it can be a pretext for not working here anymore”* (Teacher 1).

Question 5 (Q5) was as follows: How the student perceived the quality assurance system? This question will be discussed from the following perspectives: Awareness and Recognition of Evaluation Tools, Perceptions of Transparency and Communication, Assessment of System Impact, Recognition of Limited Improvements, Trust in Anonymity Measures, Perceived Barriers to Effective Feedback, and Suggestions for Improvement.

Regarding **awareness and recognition of evaluation tools**, Students at NCU demonstrated clear awareness of course evaluation questionnaires administered through the USOS system, which emerged as the most recognizable component of the quality assurance system. Student 1 explained: *“Actually, after each semester, we have these questionnaires to fill out on our profile in USOS system. So, every student, actually can see it on our main profile. We can decide if the professor can see our comments or not. So that’s the main way how University collects feedback from us. I participated in this questionnaire before.”* Another student added details about the format: *“We have course evaluation questionnaire, and I participated in one. It has like eight questions, which are on a scale from zero to five, at the end of it, you can comment, so you can write whatever you want about the classes. These opinions*

can be disclosed to the professor or not, but even if it's disclosed, they don't know the data who wrote this opinion, so it's really good." (Student 2). However, students showed limited awareness of other evaluation instruments. When asked about student satisfaction surveys, student 2 responded: *"Student satisfaction survey. I don't know. I think I've never participated in one, maybe it is one, but if it is, it's not really well advertised, because I didn't participate in one"*. This pattern of recognition for course evaluations but uncertainty about other components suggests uneven visibility of the complete quality assurance system or a perception gap of the QAS.

In relation to **perceptions of transparency and communication**, Students consistently expressed frustration about the lack of transparency regarding survey results and subsequent improvements. Student 1 articulated this concern: *"I have no idea if we can know about the results, I was trying to check any information, how we can get the results, but I didn't find it"*. Student 1 added finding only limited information: *"I also, before the interview, check the website, and I found some information about the participation of students. And general rating. So if the rating improved from the last year, or is it lower? But that's all"*.

This perceived opacity extended to follow-up actions taken based on feedback. As one student explained: *"Once we had a situation that we had very complicated situation with professor, and at the end of the semester, we decided to give lower rating in the feedback and write comments... but afterwards, we don't know what happened with our results"* (Student 1) as well as student 2 mentioned the class schedule problem. This lack of visible response appears to diminish students' confidence in the system's effectiveness and purpose.

Concerning **assessment of system impact**, Students generally expressed scepticism about the QAS's broader impact on educational quality. One student stated: *"I do not think the feedback on surveys impacts my education, I check the newsletter today, and there was a link that I can watch video about who can check our results, etc. But I think it should be more accessible... it should be short note, when you go enter the questionnaire in USOS... because it's hard, actually to get to those details"* (Student 1).

Student 2 perceived the system's effectiveness as largely dependent on individual

instructor motivation rather than institutional processes: *“It may impact if, for example, we have classes for several years with the same professor... but in universal way, I don’t think so... it’s not systemic thing in university. It’s just this professor wanted to be better professor... If somebody wants to teach better, they will do this. But if somebody just goes to work and then goes home... it’s not going to change or improve”*. This example, as well as the one related to student representative’s role imply that there is perception and communication gap in students at NCU.

From the perspective of **Recognition of Limited Improvements**, despite their reservations, students acknowledged that the QAS has led to certain tangible improvements, particularly regarding physical facilities and amenities. Student 1 and 2 noted: *“Because we have, for example, this new co-working space... maybe these were the changes, not because of me, but maybe because of larger group of students”* (Student 2) and *“Like microwave in our faculty”* (Student 1). However, student 2 perceived limitations in the scope of these changes: *“It’s harder to, for example, change the schedule or professor’s attitude, but if something is easy... they will do this”*.

Student 2 observed that improvements tend to be more visible at the course level when individual professors take initiative: *“I think the changes happen, but only in several courses. So only depends on professor... For example, we say more teamwork, then the professor will do more teamwork”*. This suggests that students perceive the QAS as more effective when mediated through responsive individual faculty rather than as an institutional system.

In terms of **trust in anonymity measures**, students generally expressed confidence in the anonymity of the feedback system. One student stated: *“I think I trust in our university that it’s anonymous... maybe just to faculty. So, I think it is private. I think because it’s also online, maybe it feels more anonymous also. I trust our university”* (Student 2). This trust appears to be based partly on the online format and partly on general confidence in the institution.

However, student 1 desired more explicit information about privacy safeguards: *“I know it’s anonymous only because it’s in the title of the questionnaire, it says that it’s anonymous, but other information is not provided... I think this information should be in the questionnaire, so*

*everyone can know*". This suggests that while basic trust exists, enhanced transparency about privacy measures could further strengthen student confidence.

Concerning **perceived barriers to effective feedback**, students identified several factors that they believe limit the effectiveness of the quality assurance system. These include reluctance to provide candid criticism when teachers ask feedback directly: *"I think students are scared to say what they really think, because it's a bit weird to say to a professor, Oh, class was boring"* (Student 1). Student 1 also noted difficulties in verifying whether course changes were implemented: *"We actually don't know, because usually we switch professors, so we can't verify if actually the change was done"*. Also, the same students stressed the importance of having middle term survey, *"I think, first of all, the questionnaire should be done in the middle of the semester. So real change can be done."*

Another perceived barrier was insufficient encouragement to participate: *"Actually, I think we are not encouraged too much to participate, because I've never heard from a professor during our class say that maybe you can fill out the questionnaire"* (Student 1). Students felt that existing incentives, such as emoji indicators in the USOS system, were inadequate: *"There you can see the percentage of the questionnaires that you filled out... if you didn't fill out a lot of questionnaires, the emoji is crying, but it's not that motivating"* (Student 1).

From the perspective of **suggestions for improvement**, Students offered several recommendations for enhancing the quality assurance system. These included integrating surveys into class time and make it obligatory: *"Maybe doing this on the last classes, like professor telling for example, you now have 10 minutes. Please say your thoughts. Do the survey... I think would be the best"*, *"Maybe it should be obligatory, because even if Professor will encourage it, even if sometimes we want to write something, you just sometimes forget because it's at the end of the classes."* (Student 2). Student 1 advocated for improved communication about results and subsequent changes and middle term survey: *"As I said before, I think there should be some changes made in this, students should be more encouraged to give feedback, and we should know the results... I think it would improve the situation"*. *"I think, first of all, the questionnaire should be done in the middle of the semester. So real change can be done."*

Student 2 called for greater institutional responsiveness and openness: *“I think it’s not that effective... if they would respond better, then more changes would be made... not be like, Oh, we are the best. We know the best. Just be more open to students and to the responses”*. This suggests that students perceive the potential value of the QAS but feel its current implementation falls short of this potential.

Overall, students at NCU perceive the quality assurance system as a recognizable but somewhat ineffective framework. While they acknowledge its role in facilitating certain improvements, particularly through individual instructor initiative and for physical facilities, they express significant frustration about limited transparency, insufficient communication of results, and inconsistent implementation of changes based on feedback. Students generally trust the anonymity of the system but feel that greater encouragement to participate, clearer information about privacy measures, and more visible responses to feedback would substantially enhance its effectiveness. Their perceptions reveal a gap between the institutional intention of the quality assurance system and the lived student experience of its implementation and impact.

#### **4.3.1.2. Norwegian University of Science and Technology (NTNU):**

Question 1 (Q1) was as follows: What measurements are implemented in the educational quality assurance system of this university? This question will be discussed from the following perspectives: Course Evaluation Mechanisms, Student Satisfaction Measurements, Other Measurements, Employee Satisfaction Surveys, Quality Indicators and Metrics, Anonymity Assurance, and Trends in Measurement Results.

Regarding **course evaluation mechanisms**, at NTNU, teachers are able to use a variety of course evaluation instruments, such as surveys or reference groups, to collect feedback, either reference group alone or in combination with other instruments. Student 3 indicated this by address the questionnaire and reference group. *“We have in the middle of the semester; some courses had a questionnaire. which asked what should we do more of what should we do less of? How do students want lectures to be? that was not in every class, but some classes had a questionnaire like that. We also have what we call it reference group, where four students have*



*meetings two or three times during the semester with a professor about the lectures and about the course what is good, what should we improve”*

Course Evaluation Questionnaires: These questionnaires are administered through online platforms such as Blackboard and Google Forms, student 3 added: *“Different questionnaires from either published on the site we use Blackboard. I think someone use Google Forms.”*

Reference Groups: Teachers noted that evaluations tend to take the form of constructive dialogue rather than strict numerical ratings: *“The course evaluation, we don’t rate our lecturers on a scale of one to five... It’s much more a constructive dialogue than a report card.”* (Teacher 5) Each course selects students who meet regularly with professors to discuss course quality. Student 3 explained: *“We also have what we call it in Norwegian referansegruppe or in English reference group, where four students have meetings two or three times during the semester with a professor about the lectures and about the course what is good, what should we improve.”* This student also added at the end of the semester, the course representative in the reference group need finishes a report, *“And at the end of the semester, after the course exam, we fill out a report on the course. How the professor did in terms of different metrics”* These meetings typically occur without professors present to reduce power dynamics, as Student 1 noted: *“Because the professor is not there. He/she’s not presents, when we will do this. Because the point is to anonymize our thoughts. So, it’s easier for us.”* Teachers confirmed the importance of reference groups in the system. As teacher 2 stated: *“All courses should have a reference group... so ideally, in the system, every course should have a reference group of students.”*

Evaluation Cycle: According to teacher feedback, each course should theoretically undergo a detailed evaluation every three years, but actual implementation varies. As one teacher 1 stated: *“Every course is to be more detailed, evaluated every three years, but not very many do that... we have probably not been good enough following this up.”*

In terms of **student satisfaction measurements**, National Survey (Studiebarometeret): NTNU does not conduct an internal student satisfaction survey. Instead, it relies on a government-led instrument called Studiebarometeret. As teachers confirmed: *“NTNU doesn’t measure student satisfaction. A national survey measures it, called Studiebarometeret.”*

(Respondents 1, 2) This survey serves as the university's primary student satisfaction index, typically reported on a one-to-five scale. As teacher 5 explained: *"Student satisfaction survey is a scale of one to five on everything. Overall satisfaction is around a four out of five for us."*

**Student participation Rate Challenges:** Both students and teachers mentioned participation rates as a significant issue. In voluntary surveys, response rates can be as low. As Student 3 pointed out: *"If it's voluntary, it might be that just 10% of the class answers."* Teacher 3 reported similar concerns: *"That's one of my long-standing criticisms to the student satisfaction questionnaire, response rate in general is low. It used to be so low, that 10 to 30% at low years... I think we're hovering, the reality is below 50% in most years."*

**Concerning other measurement tools, Graduate Career Surveys:** These surveys exist at the program level, though implementation varies. Student 1 mentioned: *"And I know course evaluation survey, student satisfaction survey, improvements suggestion system, do not know student expectations survey, heard about graduate career survey."* Teacher 2 confirmed this variation: *"Graduate career survey on program level some do and some don't."*

**Employee Satisfaction Surveys:** Conducted periodically, focusing primarily on staff well-being. Teacher 1 explained: *"Internal surveys satisfaction is for all over NTNU... it's more about health and environmental health and wellbeing."*

**Observations of Teaching:** Some departments observe teaching sessions, but this practice is not uniform. As teacher 3 stated: *"Observations of teaching classes are not standardized."*

From the perspective of **quality indicators and metrics**, NTNU employs several key indicators to measure educational quality, though it lacks a formal teaching quality index. Multiple teacher respondents confirmed this absence: *"We don't have addition to rate the teacher the same way as they do in for instance east Europe, US and Asia..."* (Teacher 1) Another teacher stated: *"I don't think we have a teaching quality index that I'm aware of."* (Teacher 2) Instead, the university relies on alternative metrics to track performance.

The student satisfaction index, measured through the national Studiebarometeret survey on a five-point scale, serves as a primary indicator. As teacher 5 explained: *"Student satisfaction survey? That's a scale of one to five on everything. Overall satisfaction is around a four out of*

*five for us.*” This provides a standardized measure of student experience across programs.

The university carefully tracks response rates across various surveys as a key indicator of measurement effectiveness. For the national student satisfaction survey (Studiebarometeret), participation varies significantly by program: *“Yeah, for the student’s response rate that is that round. I think, around 40%”* (Teacher 2).

Teachers have established target response rates to ensure data reliability. For student surveys, the aspirational goals are quite high: *“I think it depends on from the program to programs, some programs will be very happy with 40%, Some programs would be very happy with 95% or 100%. But as a total, I think, if we’ve got 60% or 70 In total, I think we would be very good.”* (Teacher 1) Another teacher set a similar target: *“So what we should aim for, according to my liking would be at least two out of three, better even three out of four students answering the survey in order to have a broad to ensure that the results are representative ... But that will be a long journey, before we arrive at 75%.”* (Teacher 3)

Employee satisfaction surveys show notably higher participation rates than student surveys: *“For the employee survey, we have a response rate over 80 in our department. ... So, we’re happy with that.”* (Teacher 2) The target for these surveys is consistently high across departments: *“For the employment survey, we want that to be 80% for employee satisfaction survey, ... we want that to be around 80%.”* (Teacher 5)

Students confirmed that professors monitor participation rates closely, with one noting: *“Yeah, so I know that the one survey I discussed with a professor at the reference group, he had all the numbers of how many people answered, it was anonymous, so he didn’t know who answered what.”* (Student 3) This attention to response rates reflects the university’s recognition that representative feedback is essential for meaningful quality improvement.

While NTNU doesn’t maintain a formal teaching quality index, its system of tracking satisfaction scores, monitoring response rates, and setting participation targets provides a framework for measuring educational quality and identifying areas for improvement across different academic units.

In relation to **anonymity assurance**, Formal surveys are conducted anonymously, with

students clearly informed about data protection. As Student 1 described: *“It’s like normal survey communication; we are informed that it’s anonymous and we can’t be identified.”* Teacher 3 confirmed this approach: *“The evaluation is anonymous... in any form of electronic surveys, it’s impossible to identify who’s who.”*

Reference Group Privacy: While reference groups are less anonymous, measures are taken to protect privacy. As teacher 5 explained: *“For course evaluations, if it’s a survey that’s anonymous. If it’s a reference group, it’s the three students representing the class, they don’t tell us who they talk to... we know who the three reference group students are, but we don’t know where the ideas come from”*. Teacher 2 use additional tools to reinforce anonymity: *“When we have surveys, they are conducted anonymously through the web... that is why I use Google Forms... no way I can track the responses back to them.”*

As regards **trends in measurement results**, Teachers at NTNU reported generally positive trends in key quality metrics over recent years. Most respondents indicated that satisfaction scores have been improving: *“And most of them are quite stable and stable to better I think, everybody’s working to get things better to improve.”* (Teacher 1) Some departments have experienced particularly notable upward movements: *“In our department, we’ve seen it go up. So there has been a positive trend.”* (Teacher 2)

The COVID-19 pandemic created a temporary disruption in these otherwise positive trends. During this period, student satisfaction declined, particularly regarding social integration and faculty access: *“We’ve had years, where we looked at steady to worse basically, or most prominently, possibly in the COVID years, where students struggled on in areas like social integration, access to teaching faculty and so on and so forth.”* (Teacher 3) However, recent data suggest a recovery is underway: *“But right now, the most recent trend is upwards in student and employee satisfaction.”* (Teacher 3)

The improvement patterns show some variability across different academic units. Some study programs have demonstrated consistent progress across multiple indicators: *“For our study programs, we’re in a good trend. We have had rising results in all programs more or less.”* (Teacher 4) Other programs report steady upward movement in satisfaction metrics: *“We’ve*

*been doing pretty well; they're generally trending up."* (Teacher 5)

Employee satisfaction surveys also reflect general improvement, though these results tend to vary more significantly by department than student-focused measurements. Overall, the trajectory of most quality indicators at NTNU shows gradual but consistent improvement, with post-pandemic measurements suggesting a return to the previously established positive trend lines.

Question 2 (Q2) was as follows: What procedures for improving educational quality, student satisfaction, and the educational quality assurance system are used at this university? This question will be discussed from the following perspectives: Structured Framework for Quality Assurance, Communication of Results and Improvements, Feedback Implementation and Change Management, Student Representative Systems, Recognition and Incentives for Teaching Excellence, Privacy Protection Procedures, Corrective Actions and Improvements, Strategies to Enhance Survey Participation, and Faculty Engagement with the Quality Assurance System.

Regarding **structured framework for quality assurance**, NTNU operates within a comprehensive, multi-step framework designed to ensure continuous improvement of educational standards. Summarized answer from teacher 1-6, this structure includes *"different kinds of systematic measurements (student satisfaction, employee satisfaction etc.); communicating these measurement results; creating a plan for corrections and improvements; introducing corrections and improvements; communicating about the corrections and improvements introduced; systematic review of academic programs; ongoing evaluation and updating of the curriculum and training programs for faculty and administrative staff on quality assurance processes"*. This formal approach establishes a foundation for identifying issues and implementing targeted reforms.

Regarding **communication of results and improvements**, NTNU employs multiple channels to disseminate evaluation findings, including annual meetings, course-specific feedback sessions, and online platforms. As Student 1 described: *"If I remember correctly, we have a meeting every year where these results, at least, the satisfaction survey for students at*

*the university. They have a yearly meeting with us, where they explain this, the results, where it's better, where it's worse."* Teachers actively encourage sharing evaluation results with students, as teacher 1 stated: *"We encourage the lecturers... to inform the students about the last year's evaluation of the course or the program at the beginning of each semester... we discuss it in committees, with students as representatives"*. As teacher 2 confirmed this *"If I make a change, I say this change was made based on feedback from the group before you... so they know we actually do something about it"*.

Course-specific feedback is made available through Blackboard, while university-wide results are published on internal websites. As Student 3 noted: *"So in the reference group, the professor showed to the whole class and even published them on Blackboard. So, every student can see it from the course."* However, teacher 6 acknowledged that accessing these results requires active searching: *"It's available on the internal internet, but people have to go and search for it... we don't do a big presentation or send it directly to each student"*.

In terms of **feedback implementation and change management**, the procedures for implementing feedback operate at multiple levels within the institution. At the course level, instructors can make immediate changes based on student input. Student 3 provided a concrete example: *"For example, when doing different problems, some students wanted to have more formulas, beside the problem to know how to solve the problem. So, the teacher adapted the next lecture, we had the formulas for the problem."*

Teachers confirmed this responsive approach: *"When they get the feedback from the students, they will use this in the evaluation and in the revise thing of the course to see if this is relevant Feedback. Is it possible to use this?"* (Teacher 1). For larger program-wide changes, a more structured approach involves multi-stakeholder committees, as teacher 1 explained: *"What we do in the educational committee at our faculty is that we discuss the quality assurance report every half year.... see if you've followed up all your action points... the departments have their own educational committees as well"*.

Regarding **student representative systems**, NTNU maintains distinct student representative systems for gathering input. Course-specific student representatives work

through reference groups to collect feedback in specific course, while institutional representatives address broader university issues. Student 1 explained this distinction: *“There is difference, like the reference group is for courses, it’s course specific, you have a reference group in every course. While the student representatives are the person or the people who are chosen to handle the administration, or the organization of events that we participate in as a whole.”*

These course representatives actively gather feedback through various methods, including requesting professors to leave the room to create a safe space for honest discussion, as Student 3 described: *“So sometimes I asked the professor to leave the room. And then I go in front of the class and ask everyone, do we have some feedback, and the teacher is not in the room. So, she or he doesn’t listen.”*

Concerning **recognition and incentives for teaching excellence**, NTNU employs a multi-faceted approach to recognizing teaching excellence that operates independently from the standard evaluation system. Rather than directly linking recognition to course evaluation scores, the university has developed several parallel recognition pathways involving student nominations and faculty applications.

At the departmental level, some units have implemented student-driven recognition initiatives. As teacher 1 explained: *“Some of the departments... the students can vote on the best lecture and the best lecture can have some kind of awarding, but that’s not systematic at all in the university. We have this merited teacher system, and then the teachers themselves can apply to be merited and teacher. And each year they pick out who will get this award... So, we have the excellent teaching practitioners at NTNU. And we picked that up once a year.”*

Student-initiated recognition plays a significant role in the university’s approach. Teacher 4 noted: *“We have prizes but not from the teaching evaluation, that’s a student prizes due to the teachers. So, it’s not based on the teaching evaluation. it’s on campus initiative here... the students are encouraged to send the nomination for one of the teachers anonymously”*. Another teacher clarified: *“They are recognized, and they are rewarded, but not based on the results of teaching evaluations, we have Teacher of the Year type of award... So, there’s a Content link,*

*but it's not formally linked to the teaching evaluations."* (Teacher 3) Another teacher emphasized the student-driven nature of this process: *"Not on teaching evaluations, there is a nomination process. students prize. students have their own process for doing this. They have a student prize for the best teacher, that kind of thing and quality of teaching. So they drive that process. Once a year."* (Teacher 5) Students confirmed their awareness of these nomination opportunities. As Student 3 mentioned: *"It was not the teachers who encouraged it, but it was you can nominate your teacher who you thought did a great job. So now in February, we could nominate some teacher I don't know if there was a prize, we could nominate a teacher and why he/she did a great job."* This indicates that students are actively engaged in the recognition process.

The university has also established more formal recognition processes such as the "Merittert undervisar" program, which involves rigorous assessment beyond simple evaluation metrics. Teacher 2 described this comprehensive approach: *"We have 'Merittert undervisar' award or it's not award but it's the well sort of prize. It's something that you become so you have that is quite a long process and you have to write an application, and you will be evaluated by a committee. So we have that, that is on university level. And then there are also student prizes on campus level where the students can nominate teachers and there is a committee that evaluates, so there is sort of different levels."*

Through its multi-level approach to recognition, combining departmental initiatives, formal institutional awards, and student-driven nominations, NTNU has created a system that values teaching excellence while acknowledging the limitations of relying solely on standardized evaluation metrics. This approach allows for more nuanced recognition of different teaching strengths and complements the broader quality assurance framework.

From the perspective of **privacy protection procedures**, privacy protection is a core component of the feedback procedures. The university maintains strict anonymity in formal feedback collection. Student 1 described the standard approach: *"It's like normal survey communication; we are informed that it's anonymous and we can't be identified."* The university regularly communicates about privacy policies, with Student 3 noting: *"We often get mails, and they inform us about privacy often. So therefore, I think, since they're promoting*



*privacy, often they also prioritize anonymous feedback a lot.”*

Teachers confirmed this commitment to anonymity: *“The evaluation is anonymous... in any form of electronic surveys, it’s impossible to identify who’s who.”* (Teacher 3). For reference groups, where complete anonymity is difficult, teachers emphasized aggregating feedback to protect individual identities: *“When you have the reference group, it’s impossible to have anonymous... but we don’t identify who has made such claims or anything like that.”* (Answer 2) and student representatives help protect the privacy of students as Student 3 described: *“So sometimes I asked the professor to leave the room. And then I go in front of the class and ask everyone, do we have some feedback, and the teacher is not in the room. So, she or he doesn’t listen.”*

With respects to **corrective actions and improvements**, Teachers cited tangible course modifications stemming from student input. These include creating new courses, removing outdated ones, changing course format, and diversifying exam formats and so on. Teacher 1 noted: *“We have developed new courses because students were asking for topics we didn’t offer before... on the other hand, we’ve also shut down some programs”*. Teacher 2 mentioned change the course format *“one example is the podcasts, we had done that in another course last semester before, with very good feedback. And that was the reason why I thought of it as a good idea for the ethics course, as well, because it fits to the kind of type of course that it is”*. and adjustment of the timetable *“We’ve also made adjustments to the timetable. Some courses are very work heavy. And then we’ve sometimes made in one course, we’ve made it, bulk that together so that we have five weeks, instead of classes every week. So that the students can manage their time, a little more flexible. That’s also based on feedback.”* Teacher 5 mentioned variety on exam format: *“Students wanted more variety in how they were evaluated. This was discussed in the advisory board, leading to changes in exam formats across courses.”*

Students confirmed seeing changes implemented based on their feedback, such as adjustments to teacher-student interactions and exam sessions. Student 3 observed: *“we had an example; I think it’s the way he talked to students. Like you pick students that didn’t want to answer and made them answer. And we get feedback on that. Talk with them in the reference group. And after the meeting, he stopped doing that. there is impact.”* Student 1 described:

*“One thing is something they have usually at the end of any course is what do we feel we need to know more about before the exams... So, it’s like this summary kind of lecture where we provide input beforehand, what we would like to focus on before the exam.”* Student input has also influenced assessment methods. As Student 1 mentioned: *“When we were talking about an exam structure on an exam, like a paper... I think we influenced it with our opinions.”*

In terms of **strategies to enhance survey participation**, NTNU employs various strategies to increase survey participation especially for the national student satisfaction survey. Teachers described providing in-class time for survey completion: *“In some courses, they stop the lecturing and say, now we will answer Studiebarometeret... the lecturers talk to the students, we also talk in the educational committee, and the student organizations... promote it”* (Teacher 1, 2, 3, 4, 5, 6).

Additional approaches include distributing QR codes and offering small incentives: *“There are university publications that raise awareness to students. This is a week where you need to answer if you consider pizza for free. As a small reward, we have started implementing this gathering of the students with the purpose of participating.”* (Teacher 3)

Students have also proposed their own solutions to improve participation rates. Several suggested stronger incentive programs to motivate more widespread engagement: *“I think general marketing strategies could help make more students give their feedback, you have the word system or incentive, right. Three people will be able to win an iPhone. It’s a very easy thing. And it doesn’t cost much.”* (Student 1) This suggests that while the university’s current incentives like free pizza may help, students believe more valuable rewards could significantly increase participation.

Some students advocated for making survey completion mandatory as a more direct solution to low response rates: *“About how to make more students to give their feedback, if you’re obligated to fill out. Some people might don’t like it. But if you’re obligated to, for example, fill out just to have the right to go today or take the exam, for example, then everyone has to fill out. I’m not sure.”* (Student 3) The same student highlighted the significant gap in participation for voluntary surveys: *“If it’s voluntary, it might be that just 10% of the class*

*answers.*” (Student 3) This perspective reveals student awareness of the participation challenges faced by the quality assurance system.

The combination of institutional strategies (in-class completion time, small incentives, and organizational promotion) with student-suggested approaches (higher-value incentives and mandatory participation requirements) illustrates the ongoing dialogue about how best to increase engagement with the quality assurance system. While different stakeholders may support different approaches, there is general agreement that improving response rates is essential for collecting more representative feedback.

Concerning **faculty engagement with the quality assurance system**, Faculty engagement is promoted through regular information sharing and mandatory participation requirements. As one teacher explained: *“We tried to do that by giving information about the system... department heads are encouraged to go back to their department... talk positive about the system”* (Teacher 1).

Many faculty members view evaluations as a professional development tool rather than merely an administrative burden: *“We are encouraged to engage with, it’s mandatory, that’s easy. We have more soft factors and in order to develop our classes and become a better teacher achieve better teaching results. It is widely accepted as a professional tool.”* (Teacher 3). This perspective is reinforced through seminars and group discussions: *“This is sort of the tasks that you are needed to do as a teacher, then you need to fill out this end of the course report. And so of course, we encourage that and we also sometimes seminars in order to sort of discuss these reports together, encourage active participation.”* (Teacher 4)

Question 3 (Q3) was as follows: To what extent does the educational quality assurance system contribute to improving educational quality and student satisfaction in this university? This question will be discussed (by integrating perspectives from both students and teachers) from the following perspectives: Impact on Teaching and Learning, Implementation of Concrete Improvements, Differential Impact Across Academic Areas, Communication and Transparency, Effectiveness Across Different Feedback Mechanisms, Impact on Student Satisfaction, Role of Anonymity and Trust, Challenges, and System Evolution and Future

Impact.

Regarding **impact on teaching and learning**, the quality assurance system has facilitated concrete improvements in teaching methods and course content. While students observe changes in teaching styles and course/exam structures and format, students notice improvements without official confirmation. Student 3: *"We didn't know that they enforced something. We just saw his behaviour change."* Professors adjust their teaching styles based on class preferences, such as incorporating more PowerPoint presentations for visually oriented students or increasing problem-solving sessions for students who prefer practical learning. Student 3: *"For example, if one year the class is very visually orientated, then you will make more PowerPoint presentations than usual. Or if the class likes to work on problems or cases, you will do that instead of having theoretical lectures."* Student 3 feel that their feedback influences how lectures are conducted, with some adjustments aligning with their learning preferences. *"I think we feel there is some change. We can feel that we have an impact on the lectures."* Student feedback has influenced the structure and grading criteria of exams, *"When we were talking about an exam structure on an exam, like a paper. I think at least if I remember correctly, we influenced a little bit how the structure of the paper like the requirements or the structure, I think our feedback influenced it."* *"How do they plan to grade it? I think our opinions influence it."* Student 2 acknowledge that not all feedback can be applied, show a understanding of how the system works, as recommendations must be assessed for their practicality and overall impact on course quality. *"In terms of change, you know, first we need to understand that if that recommendation is rational is reasonable or not."* *"I think, finally, it's the head of the department and then the professors decide to assess and evaluate that if we bring in these kinds of changes to the course programs."*

The system has also contributed to improving classroom dynamics, particularly in teacher-student interactions. Student 3 provided an illustrative example: *"Yeah, we had an example, I think it's the way he talked to students. Like you pick students that didn't want to answer and made them answer. And we get feedback on that. Talk with them in the reference group. And after the meeting, he stopped doing that. there is impact."* This shows how the feedback mechanism can effectively address interpersonal aspects of teaching that significantly affect the

learning environment.

Teachers confirmed that the system raises awareness of quality teaching and encourages faculty to view evaluation reports as professional development tools rather than mere administrative requirements. One teacher remarked: *“Making sure that the teachers understand why they have to write the reports, and why this is good practice is one way of making sure that the students reap the benefits of it.”* (Teacher 2)

From the perspective of **implementation of concrete improvement**, the system has demonstrated effectiveness in influencing assessment methods. Student feedback has led to modifications in exam formats and structures. As Student 1 mentioned: *“When we were talking about an exam structure on an exam, like a paper... I think we influenced it with our opinions.”* This indicates that the quality assurance system can impact high-stakes components of education that directly affect student performance and satisfaction. More example on students’ feedback led to improvement can be found in question 2.

Teachers cited numerous corrective actions, including shifting to project-based assessments or providing additional support: *“Students wanted more variety in how they were evaluated. This was discussed in the advisory board, leading to changes in exam formats across courses.”* (Teacher 5)

Teachers described departmental discussions, language assistance, and mentoring programs as typical responses. One teacher observed: *“It depends on what kind of evaluation it is... we got feedback that the students didn’t really understand... we provided language support... the idea is not to punish anyone, but to try to help.”* (Teacher 2)

The system has also implemented responsive measures such as review sessions before the exam based on student needs. Student 1 described: *“One thing is something they have usually at the end of any course is what do we feel we need to know more about before the exams... So, it’s like this summary kind of lecture where we provide input beforehand, what we would like to focus on before the exam.”* This demonstrates how the system can create additional learning opportunities tailored to student concerns.

Regarding **differential impact across academic areas**, students generally believe in the

system's potential to drive improvements. Student 2 expressed strong confidence in the feedback system: *"Everything can be improved through these, receiving feedback and putting change on the process... I firmly believe that it can have a huge impact on our education in the future."* This positive perception is significant as it may encourage continued student participation in the feedback process.

Students perceive the system as progressive and learning oriented. Student 2 noted: *"It is effective, even if it has the negative outcomes, it gives a seal, I think, a progress because we know that in future what mistakes to get done before, so we need to learn from our mistakes."* This suggests that students value the system's role in fostering continuous improvement, even when specific changes are not immediately apparent.

Teachers noted that the QAS has a positive and growing impact on educational quality and student satisfaction. One respondent highlighted how small but consistent modifications can improve satisfaction over time: *"In general, students are more satisfied... many small changes would hopefully lead to better satisfaction, but we cannot really tell which one caused that."* (Teacher 6)

The system's effectiveness is strengthened by NTNU's regular committee reviews, departmental discussions, and semi-annual quality assurance reports. One teacher described a process in which program leaders revisit action points after six months to assess progress: *"We discuss the quality assurance report every half year... then after six months, we take it up for a new discussion and see... have you followed up all your action points?"* (Teacher 1)

In terms of **communication and transparency**, the findings of the research indicate a good influence on the system's communication and transparency, detailed analysis see previous sections; yet, while changes occur and seen by the students, student 3 mentioned the results be informed would be better: *"Like I told you earlier that we didn't get to know that the professor had to change. We just saw it happen... So that the information flow to the students should be better."*

Concerning **influence on faculty development and recognition**, The system's effectiveness varies between different feedback mechanisms. While surveys help identify

general trends, direct conversations through meetings are perceived as more effective for discussing concerns and suggesting improvements. Student 1 explained: *“I think the survey may have impact in the way that it’s easier for them to realize what maybe they should improve on. Because they’re, you see what numbers are going down. What numbers are going up? But the real quality I think goes into the conversations with students in the regard that then we are more able more easily able to express what we feel, what could be better.”*

The impact of feedback can also be limited by low participation rates in surveys. Student 1 pointed out: *“The service can always benefit from more answers. I think still the problem may be here is the challenge is that the less people that answer, the less generalized it is.”* Teachers reported similar concerns about representativeness when response rates are low. Teacher 1 noted *“For instance, Studiebarometeret. We wish a lot more students to answered that. So, the response rate there is quite poor. And if it’s too poor, we don’t get to public with the results. I think it depends on from the program to programs, some programs will be very happy with 40%, Some programs would be very happy with 95% or 100%. But as a total, I think, if we’ve got 60% or 70 In total, I think we would be very good.”* Teacher 3 indicated *“That’s one of my long-standing criticisms to the student satisfaction questionnaire, response rate in general is low. It used to be so low, that 10 to 30% at low years. ... I think we’re hovering, the reality is below 50% in most years.”* Teacher 4: *“studiebarometeret, which is a national survey of students’ satisfaction after the session, ... it was about 40 50%, I think that’s good enough to get that impression. Of course, it would like to have more but we also had the years with, like, 10 to 20.”*

In terms of **impact on student satisfaction**, the impact appears mixed. While some changes have led to increased satisfaction. Student 2 reflected this perspective: *“Some changes could lead us to more satisfied with the result, like the course Sustainable Business Development and I think it was a good one. But I cannot say for sure that all the changes are positive, but at least I can say some of them are.”*

The system shows adaptability to student preferences (more examples see question 2), as noted by Student 3: *“For example, if one year the class is very visually orientated, then you will make more PowerPoint presentations than usual. Or if the class likes to work on problems or cases, you will do that instead of having theoretical lectures.”* This suggests that the system

can effectively tailor educational experiences to the preferences of specific student cohorts, potentially enhancing satisfaction. As Teacher 6 think that consistent modifications can improve satisfaction over time: *“In general, students are more satisfied... many small changes would hopefully lead to better satisfaction, but we cannot really tell which one caused that”*.

In terms of **role of trust and anonymity**, a key factor enabling the QAS to improve teaching and satisfaction is students' trust in anonymity. At NTNU, the Norwegian cultural context creates a foundation of high trust, which extends to the feedback system. As one teacher explained: *“There is no trust issue at this university, or this is a highly trusted society.”* (Teacher 1) Another teacher elaborated on this cultural aspect: *“In Norway. I mean we have a general understanding of trust, very high trust-based society, so they generally expect if we say that it's anonymous, they believe it. There is no need to do more to earn trust.”* (Teacher 5)

Teachers emphasized that legal frameworks further reinforce this trust: *“I think they trust that when we do a questionnaire... I will not be able to see who is responding... According to the systems and the laws that we follow.”* (Answer 4) This institutional and legal assurance creates an environment where students feel comfortable providing honest feedback.

Students confirmed this perception of anonymity and expressed confidence in the system. Student 1 explained: *“It's like normal survey communication; we are informed that it's anonymous and we can't be identified. And through a survey, it's much more difficult to identify also because they don't ask about our names, they don't have any specific identifiable variables.”* This description suggests that students appreciate both the stated anonymity policy and the design features that reinforce privacy.

Regular communication about privacy policies further strengthens student trust. As Student 3 noted: *“We often get mails, and they inform us about privacy often. So therefore, I think, since they're promoting privacy, often they also prioritize anonymous feedback a lot.”* When asked directly about confidence in anonymity, Student 3 responded simply: *“I'm as confident as I trust NTNU. It depends on trust.”*

This established trust creates a virtuous cycle: students provide more candid feedback because they trust the anonymity of the system, which in turn gives faculty more accurate and



actionable information to improve courses. The combination of cultural context, legal frameworks, system design, and ongoing communication about privacy contributes to an effective feedback environment at NTNU.

Regarding **challenges**, despite the established quality assurance procedures at NTNU, both students and teachers identified several challenges that affect the system's effectiveness in improving educational quality and student satisfaction.

Limited student engagement with online platforms remains a significant issue. As Student 3 explained: *"Not much, because we are students, most of us over 90%, I think, don't usually go to this website. INNSIDA. We don't read about the results. Like it's just voluntarily if you want to look at this, you can go at this website, but most people just don't think about it."* This suggests that even when information is made available, students may not actively seek it out.

Another engagement challenge is recruiting students for reference groups. Student 3 noted: *"It's such a huge encouragement, because it's a problem to get people to participate in the reference group. Like most people don't care about it. So, some courses have problem getting for people... And I know that's also a problem, not only in Alesund, but I've heard it in Trondheim as well."* This difficulty in finding willing participants affects the system's ability to gather representative qualitative feedback.

Teachers consistently cited documentation workload as a significant obstacle. As Teacher 1 stated: *"The main obstacle is a lot of course leaders think it's too much documentation... can't see that anyone actually reads it."* This perception that reports disappear into a "black hole" can reduce faculty motivation to engage meaningfully with the evaluation process.

Both students and teachers observed variations in system implementation across departments. One teacher acknowledged the inconsistent application of the three-year detailed evaluation cycle: *"Every course is to be more detailed, evaluated every three years, but not very many do that... we have probably not been good enough following this up"* (Teacher 1). This inconsistency can create uneven quality assurance across different parts of the university.

Another significant challenge is balancing standardization with course-specific needs across NTNU's multi-campus environment. As Teacher 6 explained: *"If you have a course*

where everything is grouped based on teamwork in one course and a traditional classroom in another, it's difficult to build something that actually works across all courses." The diversity of teaching approaches and student populations across campuses further complicates this balancing act.

In response to these challenges, NTNU is actively refining its quality assurance approach. The system is evolving toward greater flexibility, sometimes referred to as "QAS 2.0." Teacher 1 described this direction: *"We have this evaluation of NTNU's quality assurance system done by NOKUT... And I think that what they call it quality assurance system 2.0 and I think what they're trying to do is ease it a little bit more... it's a continuously improving system."*

A notable trend in this evolution is movement toward greater decentralization. Teacher 3 explained: *"I do believe that we're currently discussing a more localized quality... more decentralized aspects and implementation of quality assurance measures and less centralized. ... we will soon arrive at a new system with more localized power in terms of measuring, responding, implementing and continuous improvement."* Teacher 3 also gave an example, *"We applied for, it's a course that is run on three campuses, synchronized in a synchronized manner. And that synchronization and the cooperation between course instructors on these three campuses, that did not work as intended had major difficulties to overcome that negatively impacted student performance and student satisfaction we applied for taking this course out of the synchronized delivery and run it on a standalone basis."* This shift aims to empower local decision-makers while maintaining institutional standards.

Looking ahead, teachers hope for a fundamental shift in the system's focus. Teacher 4 articulated this vision: *"I'm also hoping it could be more of a learning system... not just a sort of assurance system that documents things."* This aspiration reflects a desire to move from compliance-focused documentation toward more meaningful improvement processes.

Improvements have been made to solve the technical challenges with reporting platforms. Teacher 2 explained: *"We've had some challenges with the Kasper system itself. Because earlier, we didn't know... it was like all the reports were put into this black hole... now it is possible to look them up."* These technical improvements represent a positive development in system

usability.

These ongoing refinements demonstrate NTNU's commitment to developing a quality assurance system that balances regulatory compliance with genuine educational improvement. While facing typical challenges of documentation burden and varying engagement levels, the institution continues to evolve its approach to better support educational quality enhancement in an ever-changing academic landscape.

Concerning **system evolution and future impact**, Teachers emphasized that the QAS itself is continuously evolving, aiming to become a more dynamic, learning-focused system rather than just a documentation tool. One teacher commented: *"I would hope that we can relate it to this next part here about accreditation, nothing will be more attuned to their accreditation. And I'm also hoping that it could be more of a learning system. And not just a sort of assurance system that... documents things, but we don't necessarily always learn from them."* (Teacher 4)

The pursuit of international accreditation (AACSB) is driving further improvements in measurement and reporting: *"For the Faculty of Economics sake, we are at the moment for most of our programs, working with an international accreditation... We are working with AACSB... all the programs... are within the scope of the accreditation."* (Teacher 1)

Some teachers mentioned decentralizing aspects of the QAS to empower local decision-makers: *"I do believe that we're currently discussing a more localized quality... more decentralized aspects and implementation of quality assurance measures and less centralized... we will soon arrive at a new system with more localized power in terms of measuring, responding, implementing and continuous improvement."* (Teacher 3) This ongoing development indicates that the QAS's contribution to educational quality and student satisfaction is likely to grow over time.

Question 4 (Q4) was as follows: How does this university handle educational quality assurance system? This question will be discussed from the following perspectives: Origins and Motivations, System Structure and Organization, Systematic Measurement and Feedback, Ensuring Trust and Anonymity, Implementing Improvements, Communication and Transparency, and Engaging Faculty and Students.

Regarding **origins and development**, NTNU's Quality Assurance System (QAS) emerged from both external regulatory requirements and internal commitment to educational excellence. As teacher 1 recalled, *"QAS started the work at NTNU about 2003... The founding was based on the NOKUT... The government started to be more demanding... it came from the Bologna process"*. The primary motivation behind the system is clear: *"The motive is quality assurance... to make sure that all education is at the level where it should be"* (Teacher 2).

Concerning **system structure and organization**, the quality assurance system operates through a layered organizational structure that connects institutional policy with departmental implementation. As teacher 1 explained, *"In NTNU, we divide the NTNU organizational chart in three levels. A level one is the top level, then the level two is that the faculties and the level three is departments. And the level one are the ones that are working on the NTNU's quality assurance system, and they are cooperating with the faculties and the departments."* This structure enables both centralized oversight and localized adaptation, allowing different faculties to implement quality processes that suit their specific contexts while maintaining institutional standards. Aligned with this multi-level structure, the quality assurance system at NTNU follows a structured and cyclical process aimed at continuous improvement. As summarized from all the responses, the system includes various systematic measurements (such as student and employee satisfaction), communication of these results, the development and implementation of improvement plans, and further communication about the changes introduced. This sequence forms a clear and repeatable framework for data collection, analysis, response, and refinement, reinforcing a culture of ongoing evaluation and responsive change across different levels of the institution.

The university is increasingly pursuing international accreditation, which is shaping the system's development. One teacher noted, *"Our faculty have started the process of an international accreditation by AACSB... it really is a global benchmarking right now"* (Teacher 3). This pursuit of global standards is driving further refinement of quality measurement and reporting processes.

In relation to **comprehensive measurement approach**, at its core, NTNU's approach to quality assurance relies on comprehensive feedback collection. Course evaluations take

multiple forms, including both quantitative surveys and qualitative reference group discussions.

The university also uses the national Studiebarometeret survey to measure student satisfaction, with teachers confirming: *“NTNU doesn’t measure student satisfaction. A national survey measures it, called Studiebarometeret.”* (Teacher 1, 2). For employee feedback, university employee satisfaction surveys are conducted: *“Internal surveys satisfaction is for all over NTNU... it’s more about health and environmental health and wellbeing.”* (Teacher 1).

From the perspective of **ensuring trust and anonymity**, emphasized that the effectiveness of the QAS relies on student trust in the anonymity of the feedback process. Several respondents pointed to Norway’s cultural context and legal framework as factors that reinforce this trust: *“No, I think they trust... according to Norwegian law... if we say it’s anonymous, they believe it”* (Teacher 4). For reference groups, teachers and course representatives employ various strategies to protect student identities while still collecting meaningful feedback.

Regarding **implementation of improvements**, the university’s approach to quality improvement involves translating feedback into tangible changes across course design, teaching methods, and program structure. One teacher provided concrete examples: *“We have developed new courses because students were asking for topics we didn’t offer before... On the other hand, we’ve also shut down some programs”* (Teacher 1).

When addressing poor teaching evaluations, the institution emphasizes supportive interventions rather than punitive measures. As one teacher explained, *“We got feedback that the students didn’t really understand... we provided language support... the idea is not to punish anyone, but to try to help”* (Teacher 2). This constructive approach preserves faculty morale while still addressing quality concerns.

With respect to **communication and transparency**, NTNU communicates evaluation results through multiple channels, including committee meetings, online platforms, and semester gatherings. Teachers are encouraged to explicitly connect course changes to previous feedback: *“If I make a change, I say this change was made based on feedback from the group before you... so they know we actually do something about it”* (Teacher 2). This transparency aims to demonstrate the system’s responsiveness and encourage future participation.

The follow-up process is structured through regular review cycles: *“We discuss the quality assurance report every half year... after six months, we take it up for a new discussion and see... have you followed up all your action points?”* (Teacher 1). This systematic approach ensures that proposed improvements are implemented and evaluated.

Regarding **engaging faculty and students**, Faculty engagement with the QAS is promoted through mandatory reporting requirements and professional development opportunities. Many teachers view the system as a valuable tool rather than just an administrative burden: *“We are encouraged to engage with, it’s mandatory, that’s easy. We have more soft factors and in order to develop our classes and become a better teacher achieve better teaching results. It is widely accepted as a professional tool.”* (Teacher 3).

To boost student participation in surveys, the university employs various strategies: *“In some courses, they stop the lecturing and say, now we will answer Studiebarometeret... the lecturers talk to the students, we also talk in the educational committee, and the student organizations... promote it”* (Teacher 1,2,3,4,5,6). Some departments offer incentives like free pizza, while others incorporate survey completion into class time.

Question 5 (Q5) was as follows: How the student perceived the quality assurance system? This question will be discussed from the following perspectives: Awareness and Understanding, Belief in System’s Potential, Perception of Different Feedback Mechanisms, Trust in Privacy Protection, Recognition of Tangible Impacts, Identified Limitations, Value of Reference Groups, Appreciation for Continuous Improvement, and Suggested Improvements.

Concerning **awareness and understanding**, Students demonstrate varying levels of awareness about the university’s quality assurance tools. Some students are quite familiar with the available evaluation mechanisms, as Student 1 noted: *“And I know course evaluation survey, student satisfaction survey, improvements suggestion system, do not know student expectations survey, heard about graduate career survey.”* However, participation patterns differ among students, with some actively engaging in formal evaluations while others prefer alternative feedback channels, as Student 2 explained: *“But I’ve never participated in filling up an evaluation form. But verbally, gave feedback regarding our professors and the quality of our*

*courses to the director of our program.”*

In relation to **belief in system’s potential**, Students generally express confidence in the system’s capacity to drive positive change. Student 2 articulated strong faith in the feedback mechanism: *“Everything can be improved through these, receiving feedback and putting change on the process... Yes, I firmly believe that it can have a huge impact on our education in the future.”* This optimism extends to viewing the system as progressive and learning-oriented, with Student 2 further noting: *“It is effective, even if it has the negative outcomes, it gives a seal, I think, a progress because we know that in future what mistakes to get done before, so we need to learn from our mistakes.”*

Concerning **perception of different feedback mechanisms**, Students identify varying effectiveness levels among different feedback tools. They generally view surveys as helpful for identifying broad trends but consider direct conversations more effective for nuanced feedback. Student 1 explained this distinction: *“I think the survey may have impact in the way that it’s easier for them to realize what maybe they should improve on. Because you see what numbers are going down. What numbers are going up? But the real quality I think goes into the conversations with students in the regard that then we are more able more easily able to express what we feel, what could be better.”*

From the perspective of **trust in privacy protection**, students all express confidence in the anonymity safeguards of the quality assurance system. Student 1 described the communication around privacy: *“It’s like normal survey communication; we are informed that it’s anonymous and we can’t be identified. And through a survey, it’s much more difficult to identify also because they don’t ask about our names, they don’t have any specific identifiable variables.”* This trust is reinforced by the university’s regular communication about privacy matters as well as Norway is a high-trust society, as Student 3 observed: *“We often get mails, and they inform us about privacy often. So therefore, I think, since they’re promoting privacy, often they also prioritize anonymous feedback a lot.”*

In terms of **recognition of Tangible Impacts**, students acknowledge concrete improvements resulting from the feedback process. They observe real changes in teaching

methods and course content based on student input. Student 3 described the adaptability of teaching approaches: *“For example, if one year the class is very visually orientated, then you will make more PowerPoint presentations than usual. Or if the class likes to work on problems or cases, you will do that instead of having theoretical lectures.”* Students feel their feedback influences how lectures are conducted, with Student 3 affirming: *“I think we feel there is some change. We can feel that we have an impact on the lectures.”*

Concerning **identified limitations**, despite its strengths, students identify several shortcomings in the current system. Communication about implemented changes is perceived as insufficient. Student 3 highlighted this gap: *“Like I told you earlier that we didn’t get to know that the professor had to change. We just saw it happen... So that the information flow to the students should be better.”* Low participation rates in voluntary surveys also concern students, with Student 1 noting: *“I think still the problem may be here is the challenge is that the less people that answer the more the less generalized it is.”*

From the perspective of **value of reference groups**, students particularly value the reference group system while acknowledging its recruitment challenges. They appreciate how it provides a protected space for feedback, as Student 1 explained: *“Because the professor is not there. He/she’s not presents, when we will do this. Because the point is to anonymize our thoughts.”* However, finding willing participants can be difficult, as Student 3 observed: *“It’s such a huge encouragement, because it’s a problem to get people to participate in the reference group. Like most people don’t care about it.”*

Regarding **appreciation for continuous improvement**, students recognize the system’s role in fostering ongoing educational enhancement. They see value in the feedback cycle for both current and future students. Student 1 reflected: *“Because it’s only better for the system, it’s only better for the University as a whole, because the more feedback we give, the more accurate the course may be for students next year; but also I will say, for us, because if it’s something that we express very early in the course, they can make changes during the course for us.”*

With respect to **suggested improvements**, Students offer several recommendations to enhance the quality assurance system. These include introducing incentives, as Student 1



suggested: *“I think general marketing strategies could help make more students give their feedback, you have the word system or incentive, right. Three people will be able to win an iPhone.”* Some advocate for mandatory participation, with Student 3 proposing: *“If you’re obligated to, for example, fill out just to have the right to go today or take the exam, for example, then everyone has to fill out.”* Others recommend including more open-ended questions, as Student 2 suggested: *“And then if there were no multiple options were involved, I think it would be better because sometimes you want to give some comments, but or you want to add something, but the question is never including these kinds of questions.”*

Overall, students perceive NTNU’s quality assurance system as valuable and potentially impactful, while identifying specific areas for improvement. They appreciate the dual approach of surveys and reference groups, recognize tangible changes resulting from their feedback, and trust the privacy protections in place. At the same time, they advocate for better communication about implemented changes, higher participation rates, and more nuanced feedback options. Their perspectives reveal an engaged student body that values educational quality and seeks an increasingly responsive and effective quality assurance system.

#### **4.3.2. Comparative Analysis**

Question 6 (Q6) was as follows: What are the similarities and differences between the QAS of the two universities? This question will be discussed from the following perspectives: Measurement Tools and Mechanisms, Communication and Transparency, Implementation of Improvements, Recognition of Teaching Excellence, Student Engagement and Participation, System Effectiveness and Impact, System Evolution and Development, and Cultural and Contextual Factors.

The quality assurance systems at NCU and NTNU reveal both significant commonalities and distinct approaches to maintaining educational standards. This comparative analysis explores how these two institutions have developed and implemented their respective quality assurance frameworks.

Concerning **Measurement Tools and Mechanisms**, both NCU and NTNU have

established comprehensive quality assurance systems with multiple measurement tools, though their approaches differ in several important aspects.

NCU relies primarily on a survey-based approach centred around course evaluation questionnaires administered through the USOS system at the end of each semester. Students clearly recognize this tool, with one student explaining, *“Actually, after each semester, we have these questionnaires to fill out on our profile in USOS system. So, every student, actually can see it on our main profile. And I participated in this questionnaire before”* (NCU Student 1). Another student added details about the format: *“We have course evaluation questionnaire, and I participated in one. It has like eight questions, which are on a scale from zero to five”* (NCU Student 2). Teachers confirmed that these evaluations use a five-point scale with consistently high averages: *“The average course evaluation score is 4.6”* (NCU Teacher 2), and *“For the 22/23 academic year, the faculty’s course evaluation average was 4.61. The target is 4.65”* (NCU Teacher 3).

This course evaluation comprises two main components: quantitative ratings on a five-point scale and a comment section where students can provide more detailed feedback. Importantly, NCU has implemented privacy features that give students control over who sees their comments. *“We can decide if the professor can see our comments or not. So that’s the main way how University collects feedback from us.”* (NCU Student 1) Students can disable visibility of their comments for the evaluated lecturer, ensuring that only the dean and quality assurance coordinators can access them. As one teacher noted: *“Students may disable the availability of the comment for the assessed lecturer. This modification was introduced three years ago.”* (NCU Teacher 4)

In contrast, NTNU employs a dual approach that combines course evaluation questionnaires with reference groups. As explained by an NTNU student: *“We also have what we call it in Norwegian referansegruppe or in English reference group, where four students have meetings two or three times during the semester with a professor about the lectures and about the course what is good, what is, what should we improve”* (NTNU Student 3). These reference groups create opportunities for qualitative feedback throughout the semester, not just at its conclusion. Teachers confirmed the centrality of reference groups in the system: *“All*

*courses should have a reference group... so ideally, in the system, every course should have a reference group of students” (NTNU Teacher 2).*

The timing of feedback collection differs between the two universities. At NCU, evaluations are primarily conducted at the end of each semester, as confirmed by students: *“Actually, after each semester, we have these questionnaires to fill out on our profile in USOS system. So, every student, actually can see it on our main profile. And I participated in this questionnaire before”* (NCU Student 1). Some students see this end-of-semester timing as a limitation and suggested: *“So I think, first of all, the questionnaire should be done in the middle of the semester. So real change can be done.”* (NCU Student 1) Student 1 noted that occasionally professors would seek direct feedback during their courses: *“Sometimes professors at the end of the courses ask us directly what we would like to change, what we would like to improve in the courses”* (NCU Student 1), but this appears to be perceived as an individual instructors’ initiative rather than a systematic approach.

In contrast, NTNU implements a more varied approach to timing. While they also conduct end-of-semester evaluations, some courses include mid-semester questionnaires to gather feedback on teaching methods and course structure. As one student explained: *“Yeah, so if it’s for the classes, we have in the middle of the semester, some courses had a questionnaire. which asked what should we do more of what should we do less of? How do students want lectures to be? that was not in every class, but some classes had a questionnaire like that.”* (NTNU Student 3)

NTNU’s reference group system also provides structured opportunities for feedback throughout the semester: *“We also have what we call it in Norwegian referansegruppe or in English reference group, where four students have meetings two or three times during the semester with a professor about the lectures and about the course what is good, what is, what should we improve.”* (NTNU Student 3) This regular feedback cycle allows for potential adjustments during the course rather than only informing future iterations. One NTNU student described a particularly responsive example: *“One thing is something they have usually at the end of any course is what do we feel we need to know more about before the exams... So it’s like this summary kind of lecture where we provide input beforehand, what we would like to focus*

*on before the exam.*” (NTNU Student 1) This demonstrates how the system can create additional learning opportunities tailored to student concerns during the semester.

For measuring student satisfaction, the institutions diverge in their approaches. NCU administers its own student satisfaction surveys, though students demonstrated limited awareness of these instruments. One student stated: *“Student satisfaction survey. I don’t know. I think I’ve never participated in one, maybe it is one, but if it is, it’s not really well advertised, because I didn’t participate in one”* (NCU Student 2). Meanwhile, NTNU relies on a national government-led instrument called Studiebarometeret rather than developing its own internal survey. As teachers confirmed: *“NTNU doesn’t measure student satisfaction. A national survey measures it, called Studiebarometeret”* (NTNU Teachers 1 and 2).

Both universities conduct graduate career surveys and employee satisfaction surveys, though with varying implementation. At NCU, graduate career surveys track alumni outcomes with relatively high engagement: *“The graduate career survey response rate was 60.27% in 2022/23, up from 44.18% in 2020/21”* (NCU Teacher 4). At NTNU, implementation of graduate career surveys varies by program: *“Graduate career survey on program level some do and some don’ts”* (NTNU Teacher 2). For employee satisfaction, NCU conducts surveys every other year, with one teacher noting a recent increase: *“Employee satisfaction survey response rate was 22.94% in 2020 and 25.76% in 2022, but in 2024, it is currently at 16.54% (still ongoing)”* (NCU Teacher 4). In contrast, NTNU’s employee satisfaction surveys achieve notably higher participation, with one teacher stating: *“For the employee survey, we have a response rate over 80 in our department. ... So, we’re happy with that”* (NTNU Teacher 2). There is difference in reporting levels (university-wide at NCU versus department-specific at NTNU).

A notable difference is the absence of a formal improvement suggestion system at NCU, as identified by students: *“Improvement suggestion system, I don’t think so, only if, for example, professor asks on the classes if he can improve something. But I don’t think there’s a system”* (NCU Student 2). NTNU’s reference group system provides a more structured channel for ongoing improvement suggestions throughout the semester.

Both universities struggle with response rates for student surveys, though NTNU generally

achieves higher participation. NCU's course evaluation participation was reported at 16.9% (up from 11% previously), with a target of 20%, while NTNU's student surveys typically range from 40-50%, though some programs experience rates as low as 10-30%. An NTNU teacher noted: *"That's one of my long-standing criticisms to the student satisfaction questionnaire, response rate in general is low. It used to be so low, that 10 to 30% at low years... I think we're hovering, the reality is below 50% in most years"* (NTNU Teacher 3).

Regarding **communication and transparency**, both universities have established multiple channels for communicating evaluation results, though they face different challenges in ensuring transparency and awareness among students.

NCU employs various communication methods including websites, emails, and annual meetings. As one teacher stated: *"Results are presented on the website, mailing of survey results, and annual meetings with faculty, staff, and students"* (NCU Teacher 1). However, students consistently reported difficulties accessing this information: *"I have no idea if we can know about the results, I was trying to check any information, how we can get the results, but I didn't find it"* (NCU Student 1). The same student expressed further frustration after attempting to research: *"I also, before the interview, check the website, and I found some information about the participation of students. And general rating. if the rating improved from the last year, or is it lower? But that's all"* (NCU Student 1). According to the findings, student consider some student representatives and teacher improvements in course levels as a separate change unrelated to QAS at NCU.

This communication disconnect was acknowledged by NCU faculty, with one teacher candidly stating: *"...we have a real problem with communication at our university, with open Communication, with creating some channels to communicate information for students and for employees"* (NCU Teacher 2). Some faculty attributed this gap to student disengagement, noting that many students now work alongside their studies and often ignore institutional communications: *"they don't come because they don't have time for that. they very often say 'we don't know about the meeting.' But when they are invited for meetings with Dean, where these results are communicated, they don't come, when they got an email with the link to these results, maybe majority of students, they don't look at this link. They're not interested in looking*

*in details*” (NCU Teacher 3).

NTNU also employs multiple communication channels, including annual meetings, course-specific feedback sessions, and online platforms. Students described more visibility at the course level: *“So in the reference group, the professor showed to the whole class and even published them on Blackboard. So, every student can see it from the course”* (NTNU Student 3). The university holds annual meetings to share broader results: *“If I remember correctly, we have a meeting every year where these results, at least, the satisfaction survey for students at the university. They have a yearly meeting with us, where they explain this, the results, where it’s better, where it’s worse”* (NTNU Student 1).

However, NTNU also faces communication challenges. One teacher acknowledged that accessing institution-wide results requires initiative from students: *“It’s available on the internal internet, but people have to go and search for it... we don’t do a big presentation or send it directly to each student”* (NTNU Teacher 6). Students confirmed limited engagement with these resources: *“Not much, because we are students, most of us over 90%, I think, don’t usually go to this website. INNSIDA. We don’t read about the results. Like it’s just voluntarily if you want to look at this, you can go at this website, but most people just don’t think about it”* (NTNU Student 3).

Regarding anonymity assurance, both universities have implemented privacy measures, though their approaches and student perceptions differ. NCU has established technical safeguards in its system, as explained by one teacher: *“The system is designed in such a way that when they complete the questionnaire, then the data sent not with a label which is not their name or their email address, but a series of different letters, which means that this link with a concrete person is completely discontinuous. So, it’s impossible when you have the set of data from every student to link the set of data with a concrete person. It’s impossible in the system”* (NCU Teacher 3). However, some students desired more transparent explanations of these protections: *“I know it, only because in the title of the questionnaire, it says that it’s anonymous, but other information are not provided... I think the way of keep anonymity should be in the questionnaire, so everyone can know”* (NCU Student 1).

NTNU benefits from a cultural context of high trust, which reduces the need for elaborate privacy explanations. As one teacher stated: *“In Norway. I mean we have a general understanding of trust, very high trust-based society, so they generally expect if we say that it’s anonymous, they believe it. There is no need to do more to earn trust”* (NTNU Teacher 5). Students confirmed this confidence: *“It’s like normal survey communication; we are informed that it’s anonymous and we can’t be identified. And through a survey, it’s much more difficult to identify also because they don’t ask about our names, they don’t have any specific identifiable variables”* (NTNU Student 1).

In terms of **implementation of improvements**, both universities have established processes for translating feedback into concrete improvements, though their structures and student perceptions of effectiveness vary considerably. NCU operates within a structured improvement framework where faculty councils formulate recommendations based on survey data, and then the Dean’s Council (including the dean, vice deans, and heads of departments) reviews and approves the selected improvements. As one teacher explained: *“There is a plan and schedule. If you’d like a new program, all documents must be submitted by second half of the September... then reviewed by a university committee and then sent to the rector”* (NCU Teacher 1). Another teacher emphasized the importance of realistic goal setting: *“it’s not a Wishlist. You can choose only these which you think will be possible in the next academic year”* (NCU Teacher 2).

Accountability is maintained through annual progress reviews: *“After a year, the dean reports on the implementation of the previous year’s improvement actions”* (NCU Teacher 2). This ensures that planned changes are actually implemented and provides an opportunity to assess their effectiveness.

Teachers at NCU cited several tangible improvements resulting from feedback, such as increasing laboratory courses based on student requests: *“Students said that they need more laboratory courses, not only lectures”* (NCU Teacher 1), and addressing content repetition across courses: *“Students often complained about repeated content in courses. Now, program coordinators review syllabuses annually to reduce redundancy”* (NCU Teacher 3). Physical facility improvements were also implemented: *“Special relaxation spaces and small*

*restaurants, bars were added across faculties based on student feedback*” (NCU Teacher 2).

Students acknowledged certain improvements, particularly those related to physical facilities: *“Because we have, for example, this new co-working space... maybe these were the changes, not because of me, but maybe because of larger group of students”* (NCU Student 2) and *“Like microwave in our faculty”* (NCU Student 1). However, they perceived limitations in the scope of changes: *“It’s harder to, for example, change the schedule or professor’s attitude, but if something is easy... they will do this”* (NCU Student 2). Also changed are made because of individual course: *“I think the changes happen, but only in several courses. So only depends on professor... For example, we say more teamwork, then the professor will do more teamwork”*. (student 2)

At NTNU, the implementation process operates at multiple levels, with instructors able to make immediate course-level changes based on feedback, while larger program-wide improvements involve committee review. As one teacher explained: *“What we do in the educational committee at our faculty is that we discuss the quality assurance report every half year.... see if you’ve followed up all your action points... the departments have their own educational committees as well”* (NTNU Teacher 1).

This multi-level approach allows for both rapid adaptations at the course level and more systematic changes at the program level. NTNU students provided several examples of instructors making immediate adjustments based on feedback. One student described an instructor quickly adapting teaching materials: *“For example, when doing different problems, some students wanted to have more formulas, beside the problem to know how to solve the problem. So, the teacher adapted the next lecture, we had the formulas for the problem”* (NTNU Student 3). The same student also described how instructor-student interaction patterns were modified after feedback: *“I think it’s the way he talked to students. Like you pick students that didn’t want to answer and made them answer. And we get feedback on that. Talk with them in the reference group. And after the meeting, he stopped doing that. there is impact”* (NTNU Student 3). Another NTNU student mentioned how feedback influenced assessment structures: *“When we were talking about an exam structure on an exam, like a paper... I think we influenced it with our opinions”* (NTNU Student 1). The same student also described how the system



enables responsive end-of-course support: *“One thing is something they have usually at the end of any course is what do we feel we need to know more about before the exams... So, it’s like this summary kind of lecture where we provide input beforehand, what we would like to focus on before the exam”* (NTNU Student 1).

Teachers at NTNU cited various improvements implemented based on student feedback, including creating new courses, removing outdated ones, and changing course formats: *“We have developed new courses because students were asking for topics we didn’t offer before... on the other hand, we’ve also shut down some programs”* (NTNU Teacher 1). Another teacher mentioned adjustments to timetabling: *“We’ve also made adjustments to the timetable. Some courses are very work heavy. And then we’ve sometimes made in one course, we’ve made it, bulk that together so that we have five weeks, instead of classes every week. So that the students can manage their time, a little more flexible. That’s also based on feedback”* (NTNU Teacher 2).

Assessment methods were also influenced by student input: *“Students wanted more variety in how they were evaluated. This was discussed in the advisory board, leading to changes in exam formats across courses”* (NTNU Teacher 5). Students confirmed seeing changes in teacher-student interactions based on their feedback: *“I think it’s the way he talked to students. Like you pick students that didn’t want to answer and made them answer. And we get feedback on that. Talk with them in the reference group. And after the meeting, he stopped doing that. there is impact”* (NTNU Student 3).

A key difference between the institutions is that NTNU appears more agile in implementing course-level adaptations through its reference group system, which provides feedback during the semester rather than only at the end of the course. NCU has a more formalized process for approving and tracking improvements over time (for the course evaluation survey done at the end of the course), with clearer accountability mechanisms for ensuring changes are implemented.

From the perspective of **recognition of teaching excellence**, both universities have established recognition programs for teaching excellence, though they operate quite differently

and have varying relationships to the quality assurance systems.

At NCU, recognition for teaching is not primarily based on course evaluation scores. As one teacher explained: *“Even if you’re the best teacher, it’s not enough reason to be awarded. The award is for people creating new programs, organizing conferences, or writing handbooks”* (NCU Teacher 1). The university does have specific recognition practices: *“Each faculty identifies five best teachers and shares best practices, which can become part of university regulations”* (NCU Teacher 2).

A significant contextual factor at NCU is the cultural prioritization of research over teaching. One teacher candidly described this hierarchy: *“Teacher is always lower than the researcher in Poland in academic university, like our university. The research is much more valuable than the didactic teaching”* (NCU Teacher 1). The same teacher expressed desire for change: *“I am telling that because I would like to have different situation because I think even for research university, people who are good teachers are very important. Even for researcher, people who are good teachers are important. And if we will not notice it, and it’s in long time, policy or strategy is for nothing. We will not improve our research also”* (NCU Teacher 1).

NTNU has developed a multi-faceted approach to teaching recognition that operates independently from the standard evaluation system. The university has established both departmental and institutional recognition programs, as one teacher explained: *“Some of the departments... the students can vote on the best lecture and the best lecture can have some kind of awarding, but that’s not systematic at all in the university. We have this merited teacher system, and then the teachers themselves can apply to be merited and teacher. And each year they pick out who will get this award... So we have the excellent teaching practitioners at NTNU. And we picked that up once a year”* (NTNU Teacher 1).

The “Merittert undervisar” program involves a rigorous assessment process: *“We have ‘Merittert undervisar’ award or it’s not award but it’s the well sort of prize. It’s something that you become so you have that is quite a long process and you have to write an application, and you will be evaluated by a committee. So we have that, that is on university level. And then there are also student prizes on campus level where the students can nominate teachers and there is*

*a committee that evaluates, so there is sort of different levels”* (NTNU Teacher 2).

Student-initiated recognition plays a significant role at NTNU: *“We have prizes but not from the teaching evaluation, that’s a student prizes due to the teachers. So, it’s not based on the teaching evaluation. it’s on campus initiative here... the students are encouraged to send the nomination for one of the teachers anonymously”* (NTNU Teacher 4). Students confirmed their awareness of these nomination opportunities: *“you can nominate your teacher who you thought did a great job. So now in February, we could nominate some teacher I don’t know if there was a prize, we could nominate a teacher and why he did a great job”* (NTNU Student 3).

Both universities separate teaching recognition from evaluation scores, though NTNU has more formalized, multi-level recognition programs with greater student involvement in the nomination process. NCU faces the additional challenge of a cultural context that prioritizes research accomplishments over teaching excellence.

Concerning **student engagement and participation**, both universities face challenges with student engagement in quality assurance activities, though they employ different strategies to address low participation rates.

At NCU, although course evaluation participation has improved to 16.9%, the university has implemented multiple strategies to increase student engagement in student centred surveys, including work with student organizations, faculty encouragement, digital outreach, and policy changes. The university actively involves student organizations in promoting survey participation: *“We engage student organizations, the student conference, and the student council to encourage students to participate”* (NCU Teacher 3). They organize *“meetings at each faculty and learning unit”* (NCU Teacher 2) to emphasize the importance of participation. Faculty members are expected to encourage participation: *“Employees are expected to remind students at the end of their courses—both in person and via email—to evaluate their courses”* (NCU Teacher 3).

Digital communication plays a key role in their strategy: *“Messages are sent via email to students and then to the Promotion Department, which communicates the same message via the university website and social media”* (NCU Teacher 3). The university employs strategic timing

with “multiple reminders scheduled throughout the evaluation period”: “We start in June, then remind students twice, and again in September when they return from holidays” (NCU Teacher 3). They’ve also modified survey design to increase completion rates: “We made some changes in our questionnaire to reduce the number of questions—right now, there are just maybe eight” (NCU Teacher 2).

Teachers emphasized the importance of transparency about survey impact: “We try to force our rector and vice rectors to communicate about survey results, recommendations, and changes based on data” (NCU Teacher 2). They stress to students that “Every single voice, every single comment, every single mark is important” (NCU Teacher 2). The university also works with student representatives to build trust, though Teacher 3 noted a potential improvement: “At some universities, faculties with the highest response rates receive additional funding for student government activities.”

However, there appears to be a significant implementation gap in these strategies. While the quality assurance team involves faculty in their promotion efforts: “We ask deans and faculty coordinators to remind students, but we do not check if they do it” (NCU Teacher 1), student experiences suggest these requests often go unheeded: “I’ve never heard from a professor during our class say that maybe you can fill out the questionnaire” (NCU Student 1). This disconnects between official strategy and classroom-level implementation may partially explain the lower participation rates despite numerous institutional initiatives.

Another challenge is student engagement with the digital communication channels. As Teacher 3 observed: “when they got an email with the link to these results, maybe majority of students, they don’t look at this link. They’re not interested in looking in details.” This assessment was confirmed by students themselves: “We get newsletters and then or you can read about the possibility to fill out the questionnaire, but the truth is that not many students actually read the newsletter, so I think we should be encouraged more” (NCU Student 1). This disconnects between official strategy and student engagement may partially explain the lower participation rates despite numerous institutional initiatives.

Additional communication efforts include: “We prepared a video, and now a new video is

*under preparation—shorter and more communicative—to explain anonymity from both the IT and faculty perspectives” (NCU Teacher 3), and “Not everything has to be on TikTok or social media. Posters in corridors work too. When you walk past, you see the message” (NCU Teacher 1).*

Despite these initiatives, students felt encouragement was insufficient: *“Actually, I think we are not encouraged too much to participate, because I’ve never heard from a professor during our class say that maybe you can fill out the questionnaire” (NCU Student 1).* The same student suggested more direct encouragement: *“I think just professors should mention it during the class, and they could mention, what improvements can be done thanks to gathering the feedback from students.”* Another student proposed integrating surveys into class time: *“Maybe doing this on the last classes, for example, professor saying that you now have 10 minutes. Please say your thoughts. Do the survey... I think would be the best” (NCU Student 2).*

Another significant contextual factor affecting engagement at NCU is the increasing number of students working while studying: *“they don’t have time for anything, even for studying. They work during studies. The number of students who participate in lectures has been decreasing during last year. For example, when I studied, the majority are full time students, they didn’t work at the same time. So that’s why that I think the percentage of students who participated in lectures was higher, now even full-time students work. Statistics suggest that in Poland it’s more than 50% of students work during studying” (NCU Teacher 3).*

NTNU employs multiple strategies to increase response rates for students though challenges remain. For student surveys, NTNU implements a variety of approaches. The most effective appears to be classroom-based completion: *“In some courses, they stop the lecturing and say, now we will answer Studiebarometeret... the lecturers talk to the students, we also talk in the educational committee, and the student organizations... promote it” (NTNU Teacher 1).* All instructors *“take time within the lecture and let students answer there” (NTNU Teacher 1,2,3,4,5,6)* or *“present the national survey in class, give them the link or QR code, and answer their questions to ensure they understand it” (NTNU Teacher 2).*

The university also collaborates with student organizations and offers incentives: *“There*

*are university publications that raise awareness to students. This is a week where you need to answer if you consider pizza for free as a small reward, we have started implementing this gathering of the students with the purpose of participating” (NTNU Teacher 3). Teacher 1 mentioned: “so I know that also the students in the student organizations at NTNU are talking positive about this survey and promoting it to all their fellow students.”*

NTNU also emphasizes showing students the impact of their feedback: *“I tell students, ‘This change was made based on feedback from the group before you,’ so they know we act on their input” (NTNU Teacher 2). Electronic communication is another component of their strategy: “We use email reminders from the head of study programs and also share it in our learning system, Blackboard” (NTNU Teacher 4).*

Despite these efforts, NTNU still struggles with voluntary participation: *“If it’s voluntary, it might be that just 10% of the class answers” (NTNU Student 3). Online surveys sent via email often get ignored, making in-class participation the most effective method. As one teacher directly stated: “The best way is in-class participation. Email surveys get ignored” (NTNU Teacher 6). Students suggested stronger incentive programs: “I think general marketing strategies could help make more students give their feedback, you have the word system or incentive, right. Three people will be able to win an iPhone. It’s a very easy thing. And it doesn’t cost much” (NTNU Student 1).*

NTNU’s reference group system creates additional participation challenges, as finding willing students can be difficult: *“It’s such a huge encouragement, because it’s a problem to get people to participate in the reference group. Like most people don’t care about it. So, some courses have problem getting for people... And I know that’s also a problem, not only in Alesund, but I’ve heard it in Trondheim as well” (NTNU Student 3). Some instructors have developed direct approaches to address this challenge: “In class, I tell my students, ‘I need a student reference group, I need three volunteers, and we won’t continue until I have them.’ It works” (NTNU Teacher 6). This assertive strategy demonstrates the importance some faculty place on establishing these reference groups despite student reluctance.*

Students who provide feedback often do not see the results firsthand, leading to Students

who provide feedback often do not see the results firsthand, leading to perceptions that feedback is ignored. Some lecturers explain changes within the context of past student concerns, but not all students understand previous issues. This communication challenge creates opportunities for meaningful dialogue between students and teachers. When students question certain approaches, teachers can provide valuable historical context. As one teacher noted: “*Students might say, ‘Why don’t you do it this way?’ and I explain, ‘We did last year, and it didn’t work’*” (NTNU Teacher 6). These conversations represent a positive aspect of NTNU’s feedback culture, where students feel comfortable directly engaging with instructors about course design, and teachers can explain the rationale behind current practices with reference to past feedback cycles. This direct communication helps close the loop between feedback collection and implementation, though the university could potentially formalize these discussions to better acknowledge how student input shapes course development over time.

Both universities face participation challenges, but NTNU employs more diverse strategies to increase engagement, including in-class completion time and incentives. Both student bodies suggested making participation mandatory, but neither university has implemented this approach. NCU faces the additional challenge of increasing student work commitments, which limit time for engagement with university activities.

In relation to **system effectiveness and impact**, both quality assurance systems have demonstrated impact on educational quality and student satisfaction, though effectiveness varies across different areas and student perceptions differ significantly, though they operate within different institutional contexts and face distinct challenges in implementing their quality assurance frameworks.

At NCU, teachers reported that course evaluation scores have remained relatively stable, suggesting maintained quality standards. The stability of scores around 4.6 on a five-point scale was interpreted positively: “*The stability of scores suggests that we have maintained quality, even as student expectations increase*” (NCU Teacher 3). However, other measures showed decline, particularly during the pandemic: “*But in student satisfaction survey and employee satisfaction survey, we have a worse situation because the grade goes down because I think it’s a covid effect*” (NCU Teacher 2).

Students at NCU expressed scepticism about the system's broader impact, suggesting that improvements depend more on individual faculty motivation than institutional processes: *"It may impact if, for example, we have classes for several years with the same professor... but in universal way, I don't think so... it's not systemic thing in university. It's just this professor wanted to be better professor... If somebody wants to teach better, they will do this. But if somebody just goes to work and then goes home... it's not going to change or improve"* (NCU Student 2).

A significant issue in the quality assurance system is student uncertainty about whether their feedback actually leads to meaningful changes. Students described submitting feedback without any visibility into resulting actions: *"Once we had a situation that we had very complicated situation with professor, and at the end of the semester, we decided to give lower rating in the feedback and write comments, maybe try to change the situation, but afterwards, we don't know what happened with our results"* (NCU Student 1).

Students perceived a clear difference between course-level improvements and broader systemic changes. While acknowledging certain improvements, particularly regarding physical facilities such as co-working spaces, they attributed these changes to student representatives rather than the quality assurance system: *"So I think the main things that changes at our university is because of the representatives of student community, because, as I saw, there are more like changes, for example, like microwave in our faculty or in the library. I think those initiatives comes from the student representatives at university"* (NCU Student 1).

This perception reveals an important disconnect in the quality assurance system. While student representatives and the QAS at NCU share a collaborative and mutually beneficial relationship, this connection is not widely recognized by the broader student population. Students often perceive representatives as independent agents of change, rather than as integral parts of the university's quality assurance infrastructure. This perception gap suggests a need for clearer communication about how the QAS functions and who is involved in implementing improvements. Student representatives could serve as effective communication channels, helping to both disseminate information about QAS processes and collect student feedback, thereby enhancing the system's effectiveness. By using the existing trust students place in their



representatives, the university could potentially strengthen engagement with the quality assurance system and create a more visible connection between feedback collection and implemented changes.

In practice, student representatives are key partners in the QAS, acting as both conduits of student feedback and facilitators of change. As Teacher 2 emphasized: *“Every single voice, every single comment, every single mark is important,”* reinforcing the inclusive nature of the system. Teacher 3 similarly stated: *“We just want to build in the student awareness a belief that their voices matter, that they can really influence the situation in the university and the faculty.”* These remarks highlight the shared goal of enhancing student agency through cooperation.

However, Teacher 3 also pointed out a structural limitation: unlike some universities, NCU does not offer financial incentives or competition-based rewards to encourage engagement in the quality assurance process. *“At some universities, faculties with the highest response rates receive additional funding for student government activities.”* This lack of formal motivation structures may weaken both faculty and student engagement, thereby increasing the importance of student representatives as the primary drivers of participation and trust-building. Their role becomes even more crucial in bridging the gap between institutional processes and student awareness, ensuring that feedback mechanisms are not only accessible but also meaningful. Strengthening communication through student organizations and representatives could potentially increase student awareness of how the QAS operates and improve recognition of its impact on campus improvements.

Course-specific feedback sometimes led to visible changes, as one student noted: *“But when it comes to courses, like small courses, for example, this business excellence. If you say something to professor and you have classes with him next year, they will make it better. I think it’s mostly my experience. for example, we say more teamwork, then the professor will do more teamwork, mostly, or we want to know more about this subject, they will tell us more about this subject. So I have positive experience when it comes to like small classes, several classes”* (NCU Student 2).

However, students felt that broader institutional issues remained unaddressed: *“There’s no*

*big systemic change. For example, everybody on our faculty hates the schedule. They make the worst class schedule of all the faculties because there's lots of gaps. For example, you have free Tuesday and not Monday or Friday, so you don't have bigger weekends. It's really awful. And everyone knows that, and nobody is doing anything about it. If we want to complain about this issue, we probably have to go to the dean. I think there's no place to put it"* (NCU Student 2).

This disconnects between providing feedback and seeing results, particularly for larger structural issues, contributes to student scepticism about the system's overall effectiveness. Students perceive the system as more responsive to small, easily implemented changes than to more complex issues involving scheduling, faculty assignments, or institutional practices.

At NTNU, teachers noted positive trends in quality metrics: *"In general, students are more satisfied... many small changes would hopefully lead to better satisfaction, but we cannot really tell which one caused that"* (NTNU Teacher 6). Some departments reported particularly positive path: *"For our study programs, we're in a good trend. We have had rising results in all programs more or less"* (NTNU Teacher 4).

Students at NTNU generally expressed more confidence in the system's potential to drive improvements. One student articulated strong faith in the feedback mechanism: *"Everything can be improved through these, receiving feedback and putting change on the process... Yes, I firmly believe that it can have a huge impact on our education in the future"* (NTNU Student 2). Students also valued the system's learning orientation: *"It is effective, even if it has the negative outcomes, it gives a seal, I think, a progress because we know that in future what mistakes to get done before, so we need to learn from our mistakes"* (NTNU Student 2).

Students at both universities identified communication gaps that limited their awareness of system effectiveness. At NCU, students consistently reported not knowing what happened with their feedback: *"Once we had a situation that we had very complicated situation with professor, and at the end of the semester, we decided to give lower rating in the feedback and write comments... but afterwards, we don't know what happened with our results"* (NCU Student 1). At NTNU, students similarly noted limited communication about changes resulting from feedback: *"Like I told you earlier that we didn't get to know that the professor had to*

*change. We just saw it happen... So that the information flow to the students should be better”* (NTNU Student 3).

With respect to **system evolution and development**, both quality assurance systems continue to evolve in response to changing needs, external requirements, and internal learning.

NCU’s system was established around 2011-2012 to address inconsistencies across faculties and align with national accreditation mandates: *“Each university should have this kind of system as part of the Polish accreditation system correlated with the Bologna system in the European framework”* (NCU Teacher 1). The system has matured over time, with refinements to evaluation instruments and processes.

Looking toward future development, NCU teachers emphasized the importance of balancing teaching and research priorities more effectively. The current academic culture sometimes undervalues teaching: *“There is no equality between a good teacher and a good researcher; teachers are always lower”* (NCU Teacher 1). Addressing this imbalance could enhance the system’s influence on teaching quality.

Teachers also articulated a vision for transforming the QAS from a documentation-focused system to a more learning-centred approach: *“We have to concentrate more on working with results, but not to collect another set of data”* (NCU Teacher 2). The university is working toward greater transparency in its quality assurance processes to strengthen future impact.

International accreditation is driving further development at NCU, with some faculties pursuing global recognitions like AACSB and AMBA: *“For education, we don’t have university-wide international standards, but some faculties have AACSB and AMBA accreditation, introducing additional measurements”* (NCU Teacher 3).

NTNU’s system originated earlier, around 2003, based on similar external requirements: *“QAS started the work at NTNU about 2003... The founding was based on the NOKUT... The government started to be more demanding... it came from the Bologna process”* (NTNU Teacher 1). The primary motivation was clear: *“The motive is quality assurance... to make sure that all education is at the level where it should be”* (NTNU Teacher 2).

The NTNU system is now undergoing refinement toward what some call “QAS 2.0,” aimed at increasing flexibility: *“We have this evaluation of NTNU’s quality assurance system done by NOKUT... And I think that what they call it quality assurance system 2.0 and I think what they’re trying to do is ease it a little bit more... it’s a continuously improving system”* (NTNU Teacher 1).

A notable trend at NTNU is movement toward greater decentralization: *“I do believe that we’re currently discussing a more localized quality... more decentralized aspects and implementation of quality assurance measures and less centralized. ... we will soon arrive at a new system with more localized power in terms of measuring, responding, implementing and continuous improvement”* (NTNU Teacher 3). This shift aims to empower local decision-makers while maintaining institutional standards.

NCU business school is already AACSB accredited, NTNU’s business school is in the process of pursuing international accreditation, particularly AACSB: *“Our faculty have started the process of an international accreditation by AACSB... it really is a global benchmarking right now”* (NTNU Teacher 3). This pursuit is driving further refinement of quality measurement and reporting processes.

Teachers at NTNU hope for a shift from compliance-focused documentation toward a more learning-centred approach: *“I’m also hoping it could be more of a learning system... not just a sort of assurance system that documents things”* (NTNU Teacher 4). This vision aligns with NCU’s similar aspiration to move beyond documentation toward meaningful improvement.

Both systems evolved from Bologna process requirements and continue to develop in response to both external pressures and internal learning, hence, both universities share similar structures and processes in their quality assurance systems (see table 22-23). NTNU’s system is older and appears to be further along in its evolution toward a more flexible, decentralized approach. They face different challenges, NCU with the prioritization of research over teaching, and both with bureaucratic documentation requirements.

**Table 22. QAS Process Comparison**

QAS Process Comparison	NCU	NTNU
Compares QAS against national/international standards	✓	✓
Identifies improvement areas for alignment	✓	✓
Follows detailed processes for accreditation (self-assessment, site visits)	✓	✓
Provides training on quality assurance, educational technologies, and teaching methods	✓	✓
Utilizes stakeholder feedback to improve QAS and academic programs	✓	✓
Maintains detailed records for internal review and external compliance	✓	✓

**Table 23. QAS Structure and Procedures Comparison**

QAS Structure and Procedures	NCU	NTNU
systematic measurements	✓	✓
communicating measurement results	✓	✓
creating a plan for corrections and improvements	✓	✓
introducing corrections and improvements	✓	✓
communicating about the corrections and improvements introduced	✓	✓
systematic review of academic programs	✓	✓
ongoing evaluation and updating of the curriculum	✓	✓
training programs for faculty and administrative staff on quality assurance processes	✓	✓

Regarding **cultural and contextual factors**, the effectiveness and implementation of quality assurance systems at both universities are significantly influenced by their distinct cultural and institutional contexts.

At NCU in Poland, a strong research orientation shapes the academic culture, with teaching often considered secondary: *“Teacher is always lower than the researcher in Poland in academic university, like our university. The research is much more valuable than the*

*didactic teaching*” (NCU Teacher 1). This prioritization creates challenges for the QAS’s impact on teaching quality, as excellence in teaching may not be valued as highly as research accomplishments.

The university also operates within a more hierarchical academic structure, which can create resistance to student feedback, particularly in prestigious faculties. This dynamic affects both student willingness to provide feedback and faculty receptiveness to it. Some students remain sceptical about anonymity, particularly in cases where they lack trust in faculty-student relationships: *“Some students don’t trust us because of certain teachers. In cases where students feel unsafe in the faculty-student relationship, they don’t trust the survey either”* (NCU Teacher 2).

When faculty members do not actively encourage evaluations or demonstrate the importance of feedback, students may, in turn, become disengaged: *“Not the problem of students. It was the problem of employees, because when the employees don’t encourage that it’s right to be evaluated, when they generally ignore this evaluation process, when they ignore it, also students will ignore it and when they started to take care of it. For example, in medical faculty the response rate increases from 3.5% to 23%”* (NCU Teacher 3).

Some professors remain resistant or unwilling to cooperate with student evaluations and external feedback. This is often attributed to a strong sense of professional authority or status: *“...they are not so open on to cooperate within the system. I think these cultural issues are the most important. Connected with the specificity of generally the sector, educational sector, and within this sector, also with the specificity of some of the professions...”*

Certain faculty members—regardless of seniority—possess a high sense of self-esteem, which can hinder their openness to being evaluated by students. They may perceive such evaluations as a threat to their authority: *“...Their ego is very high. And we usually used to say that there are some professors, doctors, whose ego is so wide, so wide that it doesn’t fit in the corridor of the university. This was irony.”* These attitudes can make it difficult to implement changes to traditional faculty-student power dynamics.

Individual mindsets and cultural contexts could lead to resistant to new feedback

mechanisms, *“Sometimes we could say both, sometimes, I mean, some could say that the older professors, they will be much more resistant. No, no, it doesn’t work like that...I think we would, of course. We could find some holders who could be, who would say it’s in my times it was unacceptable...but of course, we can find these kinds of attitudes among youngers, especially young professors...”*

A significant contextual factor at NCU is the increasing proportion of students working while studying: *“Statistics suggest that in Poland it’s more than 50% of students work during studying”* (NCU Teacher 3). This limits student engagement with both courses and quality assurance activities, as many students *“don’t have time for anything, even for studying”* (NCU Teacher 3).

Employee satisfaction at NCU has historically been affected by salary issues, though recent increases may address this: *“About the employee satisfaction survey the worst part is the salary, we are interested in next survey results, because in this year we had some better situation, and we have higher salaries from our government, and every employee at our university, from administrative staff have a 20% more, and every teacher 30% more. It’s a regulation that it works from January of 2024 and its important situation”* (NCU Teacher 2).

In contrast, NTNU in Norway benefits from a cultural context characterized by high levels of trust. As one teacher explained: *“There is no trust issue at this university, or this is a highly trusted society”* (NTNU Teacher 1). Another teacher elaborated: *“In Norway. I mean we have a general understanding of trust, very high trust-based society, so they generally expect if we say that it’s anonymous, they believe it. There is no need to do more to earn trust”* (NTNU Teacher 5). This cultural foundation facilitates honest feedback without elaborate privacy assurances.

At NTNU, the academic culture among Teachers are different, there is a shared mindset among teachers: a desire for effective teaching and a willingness to engage in practices that foster professional growth. *“We have more soft factors and in order to develop our classes and become a better teacher achieve better teaching results. It is widely accepted as a professional tool”* (Teacher 2) *“And I think people are generally have an inner motivation here, and that*

*they want things to work out well, for the courses and the students. No one likes to think that they're not teaching Well. And so, you know, this is a way that we know we can improve. And I would say most people feel that way.”* (Teacher 5)

NTNU's approach to addressing poor teaching evaluations emphasizes supportive interventions rather than punitive measures. When students provided negative feedback about an instructor's clarity, one teacher described the response: *“we got feedback that the students didn't really understand... we provided language support... the idea is not to punish anyone, but to try to help”* (NTNU Teacher 2). This constructive approach preserves faculty morale while still addressing quality concerns.

The multi-campus nature of NTNU presents unique challenges for system consistency: *“If you have a course where everything is grouped based on teamwork in one course and a traditional classroom in another, it's difficult to build something that actually works across all courses”* (NTNU Teacher 6). Serving diverse student populations across different locations requires flexibility in quality assurance approaches.

This comparative analysis demonstrates that effective quality assurance systems must be adapted to their specific institutional and cultural contexts. While certain elements appear universally valuable, their implementation must be tailored to each university's unique challenges and opportunities.

#### **4.4. Conclusion and discussion**

QASs in higher education occupy a paradoxical position: while widely implemented to enhance teaching quality, their impacts operate primarily through indirect, institutional-level channels rather than directly transforming teaching practices (Bohrer, 2011; Mårtensson et al., 2014; Stensaker, 2008).

This comparative research employed a mixed-methods case study methodology to examine QAS at NCU (Poland), and the NTNU (Norway). The study combined qualitative case analysis with quantitative modelling to explore relationships between UEQ, SL, ACB and AP, while considering cultural dimensions as moderating variables to identify cross-institutional



differences. This mixed-methods approach provides valuable insights into how quality assurance systems function across different cultural contexts.

The qualitative findings revealed the structure, procedure, measurement tools implemented in each university and both important similarities and significant differences between the two universities' quality assurance approaches. The beginning of the QAS in these two universities is because of the European Bologna process, as implementing quality assurance in line with ESG is one of the key commitments of the Bologna Process. The structure and external standards of NCU and NTNU are similar, but their implementation varies according to the characteristics of the respective universities. They both established comprehensive quality assurance frameworks that incorporate multiple measurement tools, structured improvement processes, and mechanisms for tracking progress over time. Both institutions recognize the importance of student feedback in enhancing educational quality and have implemented various strategies to increase student participation in evaluation activities. Both universities conduct similar measurement system components, for example, student satisfaction surveys, course evaluations, graduate career surveys, staff satisfaction surveys, etc.

Despite these similarities, the universities differ considerably in implementing the measurement system components, for example, their primary feedback collection methods. NCU relies predominantly on end-of-semester course evaluation surveys through the USOS system with formal hierarchical improvement processes. In contrast, NTNU employs a dual approach combining surveys with "reference groups" that meet throughout the semester, allowing for more immediate feedback implementation. Communication effectiveness also differed substantially, with NCU students reporting difficulty in accessing information about results and improvements, while NTNU demonstrated better communication at the course level through its reference group system. Both institutions face common challenges with student engagement and documentation requirements, though they employ different strategies to address these issues based on their cultural and institutional contexts.

The quantitative analysis revealed both similarities and differences in the relationships between key variables across the two cultural contexts. The findings demonstrate that while certain relationships, such as the impact of education quality on student loyalty and the

mediating role of loyalty in promoting citizenship behaviours, were consistently observed in both cultural contexts examined in this study, the pathways to academic performance and the moderating effects of cultural dimensions create distinct operational environments for quality assurance systems.

Both countries show significant positive relationships between **UEQ and ACB** (Poland:  $\beta=0.199$ ,  $p=0.004$ ; Norway:  $\beta=0.29$ ,  $p=0.003$ ). The effect is stronger in Norway (NTNU), which aligns with their more participatory reference group system that actively encourages student engagement throughout the semester. Norway's feminine culture (score: 8) emphasizes cooperation and consensus-building (Hofstede, 2001a), creating an environment where quality education naturally fosters citizenship behaviours. Poland's more hierarchical and masculine culture may create barriers to this relationship, as the qualitative data revealed that some faculty members at NCU were "*not so open to cooperate within the system.*"

Strong significant relationships between **UEQ and SL** exist in both countries (Poland:  $\beta=0.725$ ,  $p<0.001$ ; Norway:  $\beta=0.631$ ,  $p<0.001$ ). Poland shows a stronger effect, which can be explained through Hofstede's collectivism dimension. In Poland's more collectivist culture (score: 47), institutional affiliation and group loyalty hold greater importance, potentially strengthening how education quality translates to loyalty. Norway's individualist culture (score: 81) emphasizes personal choice and autonomy, which may explain the comparatively weaker effect of education quality on loyalty. This aligns with previous research by Carrillat et al. (2009) and Izogo et al. (2020) suggesting that individualism accounts for variations in attitudes and behaviours.

This relationship between **SL and ACB** is significant in both countries (Poland:  $\beta=0.311$ ,  $p<0.001$ ; Norway:  $\beta=0.384$ ,  $p<0.001$ ). This can be explained by Norway's extremely feminine culture (score: 8), which prioritizes relationships and caring for others, values that naturally align with citizenship behaviours. In Poland's more masculine culture (score: 64), loyalty may not translate as directly to citizenship behaviours due to greater emphasis on individual achievement rather than communal well-being.

Relationship between **UEQ and AP** is insignificant in Poland ( $\beta=0.097$ ,  $p=0.102$ ) but

significant in Norway ( $\beta=0.203$ ,  $p=0.031$ ). This divergence can be understood through Norway's feminine cultural orientation, where educational quality is valued for its supportive and nurturing aspects rather than just achievement metrics. In Norway's low masculinity culture, the learning environment itself (UEQ) has greater importance for performance than individual competitive behaviours. Moreover, at NCU, this is further evidenced by several institutional practices. The evaluation system at NCU typically relies on a single survey at the end of the semester, which doesn't allow for timely adjustments based on student feedback during the course. This one-time assessment approach aligns with a performance-oriented culture rather than a continuous improvement model. NCU, like many Polish higher education institutions, places stronger emphasis on research output than on teaching quality. This system of priorities that is based on research may make professors less focused on their teaching methods and getting students involved. In this kind of setting, teachers might not be as motivated to regularly get feedback and change the way they teach, since their career progress is more tied to how much study they do than how well they teach. These things, along with the larger cultural background of greater masculinity (which values achievement, assertiveness, and financial success) (Hofstede, 2001a), might help explain why this study didn't find a significant link in the path in Poland data. In NTNU, the potential explanation for the significant path could be the fact that the reference group was able to communicate with the teachers 2-3 times, allowing the teacher to improve student input on a timely basis. This has several benefits: it enabled the teacher to quickly modify teaching techniques in response to students' demands, resulting in more effective education. It raised students' feeling of involvement by making them feel heard and respected, which boosted engagement and motivation. It improved the entire learning experience by better matching course material and speed with students' expectations. Besides, it established a positive feedback loop in which constant communication fostered continual improvement in teaching, resulting in a more dynamic and responsive learning environment. After all it can improve the students' perceived education quality and final results. Furthermore, the instructor was personally driven by the desire to become a competent teacher, which provided a solid foundation for this open and improvement-focused feedback process.

The study found opposite results between countries in the relationship between **ACB and**

**AP:** a significant effect in Poland ( $\beta=0.171$ ,  $p=0.012$ ) but an insignificant effect in Norway ( $\beta=0.172$ ,  $p=0.058$ ). This pattern strongly aligns with Poland's masculine culture (score: 64), where achievement orientation would naturally connect citizenship behaviours with performance outcomes (De Mooij & Hofstede, 2002; Furrer et al., 2000; Hofstede, 2001a). In masculine cultures, citizenship behaviours may be strategically employed to gain competitive advantage and demonstrate capabilities to peers and instructors. Norway's feminine culture (score: 8) creates a context where citizenship behaviours are valued for their contribution to community well-being rather than individual performance gains (Hofstede, 2001a). The qualitative findings support this interpretation, as NCU operates in an environment where *"research is much more valuable than didactic teaching"*. This is a clear indication of achievement orientation.

Mediating Effects and moderating effects are discussed in the following paragraph, the mediating role of SL and ACB, and the moderating role of Power Distance (PD), Masculinity (MAS) and Collectivism (COLL).

This **mediation role of SL in the relationship between UEQ and ACB** is significant in both countries (Poland:  $\beta=0.225$ ,  $p<0.001$ ; Norway:  $\beta=0.242$ ,  $p<0.001$ ). The similar strength of this mediation effect suggests that building student loyalty may serve as a common mechanism for encouraging citizenship behaviours within the cultural contexts examined in this study. However, the cultural mechanisms behind this mediation likely differ. In Poland's more collectivist environment, loyalty may translate to citizenship through group obligation and reciprocity mechanisms. In Norway's individualist but feminine culture, loyalty may operate through personal identification with institutional values of cooperation and community support. This interpretation aligns with research by Thompson et al. (2014) showing that collectivist values affect loyalty-driven actions, but suggests that feminine values may produce similar outcomes through different pathways.

The **mediation role of ACB in the relationship between UEQ and AP** is not significant in either country, suggesting that citizenship behaviours don't serve as the primary mechanism through which education quality affects performance.

**Power distance moderation** was not statistically significant in either country (Poland:  $\beta=-0.017$ ,  $p=0.415$ ; Norway:  $\beta=-0.034$ ,  $p=0.381$ ). This finding is unexpected given the substantial difference in power distance scores between Poland (68) and Norway (31). In Poland's high power distance culture, this study expected students to place greater value on hierarchical structures and formal educational quality, potentially strengthening the UEQ and SL relationship. The lack of significant moderation suggests that while qualitative differences in power dynamics exist between the universities (as evidenced by NCU's more hierarchical academic structure where "*teacher is always lower than researcher*", and teacher's position), these differences may not substantially alter how education quality influences student loyalty. This contradicts previous service quality research (Dash et al., 2009; Tsaur et al., 2005) which found power distance to be an influential moderator in service quality-loyalty relationships. One possible explanation is that university education quality may be evaluated through different mechanisms than commercial service quality, with academic values potentially transcending cultural power distance variations. This is in line with the assumptions of this study, according to which students play a dual role at the university.

**Masculinity (MAS) moderation** shows significant but distinctly different moderation effects emerged between the countries. In Poland (masculine culture, score: 64), there was positive moderation of ACB and AP ( $\beta=0.163$ ,  $p=0.016$ ). In Norway (feminine culture, score: 8), there was negative moderation of UEQ and AP ( $\beta=-0.233$ ,  $p=0.015$ ). These findings strongly align with Hofstede's (1998) characterization of masculine cultures emphasizing achievement and success, while feminine cultures prioritize quality of life and supportive environments. In Poland's achievement-oriented culture, students who engage in ACBs may be more effective at translating these behaviours into performance outcomes, as these actions align with cultural values of competition and visible achievement. This supports Ameer's (2017) findings that masculinity significantly affects citizenship behaviour and performance outcomes. In Norway's strongly feminine culture (the second most feminine globally), the negative moderation of UEQ and AP by masculinity suggests that the minority of students with higher achievement motivation may actually experience reduced benefits from educational quality. This unexpected finding may indicate that in extremely feminine cultures like Norway, achievement-oriented

approaches could conflict with the predominant educational values of support, consensus, and collaboration. The qualitative data supports this interpretation, with NTNU's approach emphasizing supportive interventions rather than competition, as one teacher explained: *"the idea is not to punish anyone, but to try to help."*

**Collectivism (COLL) moderation** indicates that there was significant negative moderation in Poland ( $\beta = -1.151$ ,  $p = 0.024$ ), but not significant moderation in Norway ( $\beta = -0.028$ ,  $p = 0.404$ ). This finding is particularly interesting considering Poland's moderately collectivist culture (score: 47) compared to Norway's strongly individualist society (score: 81). The significant negative moderation in Poland presents an intriguing dynamic that can be explained through qualitative findings. This negative moderation indicates that as collectivist orientation increases among Polish students, the positive relationship between student loyalty and individual citizenship behaviours becomes weaker. In collectivist society like Poland, students often perceive themselves as essential parts of a group; hence, demonstrating loyalty does not inherently result in further academic citizenship behaviours, as such conduct is already expected. By contrast, in Norway's highly individualist culture (score: 81), the relationship between loyalty and citizenship behaviour appears to operate through personal choice mechanisms rather than collective obligations, resulting in no significant moderation effect ( $\beta = -0.028$ ,  $p = 0.404$ ). This lack of moderation in Norway's individualist context, compared with the significant moderation in Poland's more collectivist environment, actually supports Thompson et al.'s (2014) broader finding that collectivist values influence loyalty-behaviour relationships. In highly individualist cultures like Norway, this study would expect the relationship between loyalty and citizenship behaviour to be less affected by variations in collectivist orientation, which is precisely what the results show. However, the negative direction of moderation in Poland was opposite to what hypothesized, suggesting a more complex mechanism than initially anticipated.

The research highlights that effective quality assurance is not merely a matter of implementing standardized procedures but requires culturally sensitive approaches that align with local values and expectations. In Poland's more hierarchical, masculine, and collectivist culture, NCU's structured, representative-focused system operates through different

mechanisms than NTNU's more egalitarian, collaborative approach in Norway's low power distance, feminine, and individualist environment.

The cultural dimensions findings provide crucial context for understanding the broader differences observed in quality assurance systems at NCU and NTNU. These cultural dimensions will be discussed in the following perspectives: Power distance, Masculinity/Femininity, and Collectivism/Individualism.

While **power distance** did not significantly moderate the UEQ and SL relationship, the qualitative findings clearly demonstrate its influence on institutional structures and feedback processes. Poland's higher power distance (68) is reflected in NCU's more formal, hierarchical quality assurance system with structured approval processes through Faculty and Dean's Councils. Faculty resistance to student evaluations at NCU aligns with high power distance expectations, as teachers described some professors who "*are not so open to cooperate within the system*" due to their professional authority status. Norway's lower power distance (31) manifests in NTNU's more accessible reference group system, where students meet directly with professors throughout the semester and express greater agency in the feedback process. These qualitative differences in power dynamics, though not captured in the moderation analysis, clearly influence how quality assurance systems function at both universities.

The moderation role of **Masculinity/Femininity** indicates that the significant moderation effects mirror Hofstede's characterization of Poland as Masculinity (achievement-oriented 64) and Norway as Femininity (strongly relationship-oriented 8). Poland's masculine culture is reflected in NCU's emphasis on research productivity over teaching quality ("*Teacher is always lower than researcher*"), prioritizing achievement metric, besides, based in the results of these surveys NCU also attempted to address the primarily good teaching activities. Norway's feminine culture is evident in NTNU's collaborative reference group approach and emphasis on supportive interventions rather than punitive measures for addressing poor teaching evaluations. These cultural differences explain why citizenship behaviours more directly enhance performance in Poland, while education quality itself is more important in Norway. As Hofstede (2001) notes, in feminine cultures like Norway, teachers are viewed as supportive rather than authoritarian, and decision-making involves group consensus which characteristics

clearly present in NTNU's quality assurance approach.

The moderation role of **Collectivism/Individualism** indicates that the significant negative moderation in Poland aligns with its more collectivist approach (47) compared to Norway's strong individualism (81). NCU's reliance on student representatives as change agents reflects a collectivist approach where group representatives advocate on behalf of the collective. The qualitative data reveals a disconnect at NCU where students perceive representatives (rather than individual feedback) as the primary drivers of change: *"the main things that changes at our university is because of the representatives of student community."* By contrast, NTNU's reference group system encourages individual student participation alongside representative structures, reflecting Norway's more individualist culture where personal agency is valued. These cultural differences explain why loyal students in Poland might engage in fewer individual citizenship behaviours (delegating to representatives instead), while loyalty and citizenship behaviour operate through different mechanisms in Norway's individualist environment.

In conclusion, the comparative analysis suggests several opportunities for strengthening quality assurance systems at both institutions. First, enhancing feedback transparency could benefit both universities. At NCU, the research shows students reporting "difficulty accessing information about results and improvements" in the quality assurance system. Implementing a transparent feedback dashboard within the USOS system would help close the loop between evaluation and implementation. This should include status tracking of student feedback from submission to implementation, regular updates on actions taken in response to course evaluations, and a "you said, we did" section highlighting concrete changes. At NTNU, while the reference group system provides more immediate feedback channels, there remains an opportunity to better document and share insights across programs. Even though there are digital platforms to systematically capture and disseminate reference group outcomes, the results suggest that the publication or communication of systematic results reporting should be maintained.

Second, working with student representatives more effectively could be valuable, particularly at NCU. At NCU, students perceive representatives as "independent change agents



rather than integrated parts of the university's quality assurance structure." Officially integrating student representatives' participation into the QAS structure with defined responsibilities, creating formal documentation acknowledging their contributions, and establishing regular meetings between faculty leadership and student representatives would strengthen their role.

Third, each university might benefit from adapting elements of the other's approach. NCU would benefit from incorporating more mid-semester feedback opportunities similar to NTNU's reference group model. Implementing mid-semester check, micro-surveys, organizing optional groups facilitated by trained student representatives, and creating digital suggestion boxes for real-time feedback would enhance engagement. For course evaluations, it is not good to quantify and compare if teachers use different measurement tools. If there is a quantifiable, comparable measurement, such as in NCU, QAS results would become more intuitive and effective, so setting up a minimum standard of QAS might be more intuitive in order to compare changes.

Fourth, both institutions should transform their systems from documentation-focused to learning-centred approaches. The research highlights that both universities face "common challenges with student engagement and documentation requirements," indicating a need to shift focus from compliance to meaningful improvement. At NCU, this transformation could include creating teaching innovation grants that emphasize research-informed pedagogy, recognizing teaching excellence with comparable status to research accomplishments, and establishing teaching portfolios as important components of faculty evaluation. This would address the hierarchical culture where "research is much more valuable than didactic teaching" while working within the achievement-oriented value system. At NTNU, a learning-centred approach would build on their existing strength in the UEQ and AP relationship by enhancing collaborative learning spaces, expanding peer mentoring programs, developing faculty training focused on supportive teaching methodologies, and creating assessment methods that balance individual achievement with collaborative skills.

Fifth, culturally aligned student engagement strategies should be implemented. For NCU in Poland's masculine culture (score: 64), designing a recognition system that acknowledges

and rewards ACB, emphasizes how citizenship behaviours contribute to academic success, and creates opportunities for students to demonstrate leadership in quality improvement would be beneficial. For NTNU in Norway's feminine culture (score: 8), creating a balanced approach that acknowledges the intrinsic value of contribution without tying it explicitly to grades, recognizes multiple forms of educational success beyond academic performance, and emphasizes how quality participation benefits both individual growth and community well-being would align with cultural values.

Sixth, strategic alignment between quality assurance and institutional values is essential. Both universities should ensure their quality assurance systems reflect and reinforce their broader institutional targets and cultural contexts. At NCU, bridging research and teaching quality assurance by developing integration points between research excellence and teaching quality would enhance institutional coherence. At NTNU, enhancing cross-departmental quality consistency through creating a quality assurance community of practice across departments would strengthen their approach while maintaining their cultural values.

#### **4.4.1. Theoretical Implications**

This study addresses significant research gaps in the higher education quality literature by systematically examining the complex relationships among UEQ, SL, ACB, and AP across diverse cultural contexts. While prior studies have often focused on isolated dyadic relationships: such as between UEQ and SL, or UEQ and ACB, they have typically done within single cultural settings (Ali et al., 2016b; Helgesen & Nettet, 2007; Nagy & Marzouk, 2018; Sharif & Sidi Lemine, 2021). Moreover, many of these studies were not conducted in higher education contexts; instead, they were situated in commercial or workplace environments, where constructs such as loyalty and citizenship behaviour were examined from a customer perspective. In some cases, students were conceptualized merely as customers rather than active participants in the educational process. In contrast, this study adopts an integrated, education-centred, and cross-cultural mixed-methods case study approach to provide a more comprehensive understanding of how these constructs interact within the higher education domain.

A crucial theoretical contribution of this research is its reconceptualization of students' roles within higher education institutions. While much previous research has treated students merely as customers of educational services (Ali et al., 2016b; Angell et al., 2008; Y.-S. Hwang & Choi, 2019; Narang, 2012), this study recognizes students' dual identity as both service recipients and active members of the academic community. This perspective aligns with critiques raised by Budd, (2017), Hennig-Thurau et al. (2001), and Svensson & Wood, (2007), who argue that the customer-oriented paradigm fails to capture the collaborative nature of the educational experience. By demonstrating how QAS function when students are viewed as engaged community participants as well as passive consumers, this research advances theoretical understanding of the student role in higher education.

The findings confirm several key relationships while revealing important cultural consistencies and variations. The positive relationship between UEQ and SL is significant in both countries, aligning with prior research by Ali et al. (2016) and Annamdevula & Bellamkonda (2016). This cross-cultural consistency makes a notable contribution to Expectancy-Disconfirmation Theory (Fornell et al., 1996) by demonstrating that the theorized relationship between perceived quality and loyalty holds across different cultural settings, though with varying strengths. This validates the theory's fundamental premise in educational contexts while suggesting cultural nuance in its application.

Similarly, the significant relationship between SL and ACB in both countries extend Social Exchange Theory (Blau, 2017) by demonstrating that reciprocal exchange dynamics operate in educational contexts across diverse cultural environments. These finding advances theoretical understanding by showing that when students are viewed as active community members rather than just customers, they develop loyalty that manifests as citizenship behaviours benefiting the broader academic community, regardless of cultural context. The identification of student loyalty as a partial mediator between UEQ and ACB in both cultural contexts represent a significant theoretical integration of Expectancy-Disconfirmation Theory and Social Exchange Theory. This consistent mediation effect shows that Fornell et al.'s (1996) expectancy-disconfirmation framework can be linked with Blau's (2017) social exchange principles to explain how perceived quality creates loyalty which then motivates reciprocal citizenship

behaviours. Unlike traditional service relationships, education requires collaborative engagement beyond the customer-provider dynamic (Budd, 2017; Hennig-Thurau et al., 2001; Svensson & Wood, 2007). This theoretical integration provides a more comprehensive framework for understanding the mechanisms through which educational quality influences student behaviours when students are recognized as community participants.

The study makes a distinctive contribution to Hofstede's Cultural Dimensions Theory (Hofstede, 2001) by empirically demonstrating how these dimensions actively moderate educational relationships rather than merely describing cultural differences. The significant positive moderation of ACB and AP by masculinity in Poland provides empirical validation for Hofstede's theorization of masculine cultures as achievement-oriented environments where competition and visible success are valued. Similarly, the negative moderation of UEQ and AP by masculinity in Norway confirms Hofstede's characterisation of feminine cultures as prioritizing supportive relationships over individual achievement.

The differing effects of quality assurance systems between NCU and NTNU provide further evidence for the importance of viewing students as active community participants. The qualitative findings from NTNU's reference group system, which actively involves students throughout the semester rather than merely collecting feedback at course end, demonstrate how student can be integrated into quality assurance processes. This approach extend the theoretical perspective that quality is enhanced when students are engaged as community members rather than passive recipients of services (Sharif & Sidi Lemine, 2021).

The case studies enhance the theoretical comprehension of quality assurance systems by illustrating how QAS standards, despite being provided within a unified framework like the European Bologna Process and linked with the ESG, are perceived and executed variably across cultural settings. Both NCU and NTNU implemented their QAS structures in alignment with their dedication to the Bologna Process, resulting in largely similar external frameworks. Nonetheless, the comparison research indicates that the actual execution of these requirements differs markedly, influenced by the national policy, institutional attributes and foundational cultural beliefs inherent to each university. This illustrates how seemingly universal ideas of educational quality assurance are influenced by local perceptions and practices.

The case study findings further extend quality management theory by providing empirical evidence for how external accreditation and certification processes, as discussed by Schwarz and Westerheijden (2004), operate in different cultural contexts. The comparison between Polish and Norwegian approaches to accreditation demonstrates how national quality frameworks reflect broader cultural values while simultaneously responding to European harmonization efforts through the Bologna Process. This theoretical contribution is particularly valuable for understanding the interplay between global quality standards and local cultural interpretations.

The case study component of this research makes a distinctive theoretical contribution by providing empirical validation and extension of Prisăcariu's (2014) quality assurance models framework. By structuring the main case study interview questions around the first model for reviewing internal quality assurance systems, this research empirically demonstrates how techniques, procedures, instruments, and processes align with institutional strategic and operational requirements in different cultural contexts. This methodological approach extends quality assurance theory by revealing how these models manifest in practice across divergent cultural environments, showing that while the fundamental components remain consistent, their implementation and prioritization are culturally contingent.

The comparative case analysis further contributes to theoretical understanding of the European Standards and Guidelines (ESG, 2015) principles by demonstrating how continuous improvement, evidence-based decision-making, and embedded quality culture are interpreted and operationalized differently in Polish and Norwegian institutional contexts. This extends quality assurance theory by showing that these seemingly universal principles are filtered through cultural and policy lenses and resulting in structurally different but functionally equivalent approaches to quality assurance in higher education. The case study findings also make a significant theoretical contribution by validating and extending the student-centred approach to educational quality (Brochado, 2009; Gee, 2017). While previous literature has emphasized the importance of student-centredness in ensuring the relevance and efficacy of educational programs, this research empirically demonstrates how this principle is interpreted and implemented across different cultural contexts. The comparison between NCU and NTNU

reveals that student-centredness takes culturally distinct forms, more representative-based in Poland's collectivist environment versus more individualistic in Norway's context, while still addressing the fundamental need to incorporate student perspectives into quality assurance processes.

This theoretical synthesis advances understanding by demonstrating how Expectancy-Disconfirmation Theory, Social Exchange Theory, and Hofstede's Cultural Dimensions Theory can be integrated to explain educational quality relationships when students are viewed as active participants in the academic community. The research shows that while expectancy-disconfirmation processes and social exchange mechanisms operate across cultural boundaries, their specific manifestations and outcomes are shaped by cultural dimensions and by the extent to which institutions recognize students as engaged community members rather than merely customers. This comprehensive theoretical perspective offers a more sophisticated framework for comprehending educational quality, which recognises the significance of student agency and participation, as well as universal mechanisms and cultural contingencies.

#### **4.4.2. Practical Implications**

This study provides critical insights into how QAS in higher education can be designed and implemented to enhance educational outcomes across culturally distinct institutional environments. By comparing NCU in Poland and NTNU in Norway, the research demonstrates that while quality frameworks may share structural similarities due to European-wide standards (Bologna process, and ESG, 2015), their practical impact depends heavily on cultural and policy alignment, the positioning of students within the academic system, and communication effectiveness (Stensaker, 2008; Stensaker & Harvey, 2010).

A central finding is the importance of reconceptualizing the student role from that of a passive consumer to an active academic citizen. This aligns with arguments by Hanken (2011) and Svensson and Wood (2007), who critique transactional "customer service" models of higher education and advocate for student participation as engaged community member. Structural equation modelling revealed that in both Poland and Norway, student loyalty significantly mediates the relationship between perceived UEQ and ACB. This suggests a universal

mechanism: high-quality educational experiences foster loyalty, and loyalty, in turn, promotes voluntary behaviours that benefit the academic community (Sharif & Sidi Lemine, 2021). Universities should therefore focus not only on monitoring satisfaction but on fostering environments where students feel valued, heard, and empowered.

However, the pathways through which quality assurance influences academic outcomes are shaped by cultural context. In Norway, educational quality directly predicts AP, reflecting the country's feminine, low power distance values, which emphasize supportiveness, collaboration, and student well-being (Hofstede, 2001; De Mooij & Hofstede, 2002). In contrast, Poland's higher masculinity and power distance scores align with a different mechanism: here, ACB, rather than perceived educational quality, play a stronger role in influencing performance. These findings suggest that QAS must be culturally calibrated. In achievement-oriented cultures like Poland, universities should strengthen mechanisms that promote and recognize voluntary academic engagement, such as peer mentorship, leadership roles, or citizenship awards. In contrast, in more egalitarian and student-centred cultures like Norway, investing in collaborative pedagogy, inclusive course design, and emotionally supportive learning environments may have more direct academic benefits.

The effectiveness of any QAS is also highly dependent on its ability to communicate outcomes and close the feedback loop. This observation echoes findings from Watson (2003), who stress that visible and transparent communication about feedback results enhances students' perception of institutional responsiveness and increase student satisfaction. Across both universities, students expressed a shared concern on the feedback results, in NCU, they often did not know what happened to their feedback after submission and the perception gap, in NTNU, students report that sometimes they see the improvement directly but without the official announced report. At NCU, despite formal mechanisms for reporting and annual reviews, students reported difficulty accessing information about actions taken based on evaluations. NTNU, while benefiting from a more trust-based academic culture, also faced challenges with disseminating system-wide results. In both contexts, students showed greater confidence in feedback processes when they were able to observe changes or received direct acknowledgement from instructors. Integrating short "you said, we did" summaries into

lectures, course websites, or department newsletters could significantly enhance student trust and engagement with QAS.

Another key implication concerns the timing and format of feedback mechanisms. The comparative analysis illustrates that systems designed to collect feedback only at the end of the semester risk limiting responsiveness. NTNU's use of mid-semester reference groups allowed for real-time pedagogical adaptation and created a sense of member of the community among students. By contrast, NCU's reliance on post-semester evaluations often left students feeling disconnected from the process, especially when changes were deferred or remained invisible. Institutions should thus consider timely feedback models.

Faculty participation also plays a vital role in shaping the success of QA systems, and cultural context again conditions which strategies are most effective. At NCU, some faculty members expressed reluctance to fully embrace evaluation mechanisms, especially when teaching is perceived as less prestigious than research. In such environments, formal expectations: such as linking QA participation to career progression or recognizing teaching excellence through awards—may be necessary to drive engagement. NTNU, in contrast, uses a developmental and voluntary approach, such as the “Merittert undervisar” system, which promotes teaching quality as a professional identity rather than a compliance obligation, also students are able to nominate their favourite teachers. Allowing students to nominate their favourite teachers fosters a culture of appreciation and engagement. It motivates teachers, highlights effective teaching practices, and encourages students to actively participate in the feedback process. This practice enhances the credibility of the QAS by fostering a transparent, student-inclusive environment and by promoting a constructive feedback loop that benefits the entire academic community. Teaching recognition systems also play a role in reinforcing QA principles. At NTNU, multi-level teaching awards, including student-nominated recognitions, were perceived as affirming the value of quality teaching. At NCU, however, teaching excellence is often overshadowed by research achievements, and formal recognition is not always linked to student feedback or quality metrics. Shifting institutional culture to more meaningfully value teaching, including integrating student feedback into recognition processes, could help strengthen the connection between QA outcomes and faculty motivation.



Student engagement remains a persistent challenge. At NCU, students reported low motivation to participate in evaluations, often due to time constraints related to working part-time or uncertainty about whether feedback would make a difference. Although the university implemented extensive strategies, such as video campaigns, student organization outreach, and simplified questionnaires, the disconnection between QA planning and classroom-level implementation limited their impact. In contrast, NTNU's more direct classroom strategies, including in-lecture survey completion and small incentives like pizza, were perceived as more effective. Both cases underscore the need to embed QA participation into existing academic routines, reducing the burden on students and making engagement a visible and routine part of the academic experience.

Finally, while both NTNU and NCU established their quality assurance systems in response to the Bologna Process and the associated European Standards and Guidelines (ESG, 2015), qualitative findings make it clear that shared policy origins do not lead to identical institutional practices. Although the two systems reflect a common framework of accountability and improvement, their implementation diverges significantly in response to national values, organizational cultures, and institutional logics. The contrast between NTNU's trust-based, participatory model and NCU's more hierarchical approach underscores the fact that there is no one-size-fits-all model for quality assurance. Systems must be adapted to their local cultural and institutional environments to ensure not only compliance, but true educational improvement.

This point carries direct policy relevance for national education authorities. While harmonization under initiatives like the Bologna Process creates a shared language and minimum standards for quality assurance, national frameworks must preserve sufficient flexibility for local adaptation. Policymakers should avoid overly prescriptive or standardized QA requirements that fail to consider cultural dimensions such as power distance, trust in authority, and institutional autonomy. Instead, national QA frameworks should promote a principles-based approach that sets out core expectations, such as student involvement, transparency, and continuous improvement, while empowering institutions to tailor implementation based on their values, structures, and student demographics. By fostering this

balance between standardization and contextualization, policy can enable meaningful quality enhancement rather than bureaucratic compliance.

This study shows that effective quality assurance depends not only on effective systems but on cultural intelligence, communicative transparency, and authentic engagement with students' dual role in academic life. By designing QA strategies that reflect local values, recognize diverse pathways to educational success, and close the feedback loop with integrity, universities can bridge the gap between governance and learning, moving toward more meaningful, responsive, and transformative quality enhancement.

#### **4.5. Limitations and Future Research**

This study collected data from business students at two European universities, yielding 165 valid responses from Poland and 77 from Norway. In the Polish sample ( $N = 165$ ), the average age was 22.06 years ( $SD = 2.80$ ), ranging from 18 to 36 years. The gender distribution showed a female majority (64.8%), with males comprising 34.5% and 0.6% preferring not to specify. Most participants were undergraduate students (73.9%), followed by postgraduate students (26.1%), with the majority in their second (50.3%) or third year (42.4%). Most were full-time students (78.2%), and the majority identified as Polish nationals (92.7%), with small representations from Ukraine, Belarus, Indonesia, and other countries. The Norwegian sample ( $N = 77$ ) had a mean age of 22.9 years ( $SD = 2.6$ ), ranging from 19 to 32. The gender distribution was nearly balanced: 50.6% female and 49.4% male. Most participants were undergraduate students (92.2%), primarily in their second (44.2%) or third year (31.2%). All were full-time students, and 94.8% identified as Norwegian, with a few participants from other countries including Sweden, Denmark, and Thailand.

Despite this cross-cultural sample, several limitations should be acknowledged when interpreting the results. Although the total sample size exceeds the minimum requirement for partial least squares structural equation modelling (PLS-SEM), and the modelling follows best practice guidelines (Hair et al., 2011; Kock, 2022), the reliance on self-reported student data introduces potential bias, particularly common method variance (P. M. Podsakoff et al., 2003). Including a bigger Norwegian subsample would have increased the comparison dimension and

allowed for more statistically balanced cross-cultural findings.

A theoretical limitation lies in the usage of AP as a single outcome variable. The understanding of students as both service recipients and engaged community members within the educational system is greatly advanced by this study; nevertheless, it might be reinforced even more by taking into account concepts pertaining to student effort, learning methodologies, and self-regulated behaviour. Recognising that academic accomplishment is influenced not just by institutional variables such as educational quality, but also by individuals' motivation and agency, including these aspects may offer a more complete picture. Future research should incorporate mediating or moderating variables such as self-efficacy, learning effort, or engagement to better reflect the full scope of student academic success (Chang et al., 2016; Gunuc, 2014; Honicke & Broadbent, 2016; M. H. Hwang et al., 2016; Lei et al., 2018; Motlagh et al., 2011; Northey et al., 2018; Olivier et al., 2019; Reyes et al., 2012).

Another potential limitation concerns the use of national-level cultural values based on Hofstede's framework. As prior research has shown (Au & Cheung, 2004; Straub et al., 2002), while national culture scores offer a useful starting point, individuals within the same national context may differ considerably in their adherence to particular cultural values. Thomas (2001) also highlights that country-level averages may not accurately reflect how individuals interpret culture dimensions. Therefore, although national culture indices can provide a reference point during the research design phase, this study has adopted validated individual-level cultural scales to better capture personal orientations. This individual-level approach enhances the accuracy of moderation analyses and may help explain why certain hypothesized effects (e.g., power distance moderating the UEQ and SL relationship) were not statistically significant or deviated from theoretical expectations.

In addition to quantitative data, the study employed semi-structured interviews to explore quality assurance practices from the student perspective. While these qualitative insights added contextual richness, the number of student interviewees was limited—three from NTNU and two from NCU. This narrow qualitative sample constrains the diversity of perspectives represented and limits generalizability. Future studies should expand the number of interviewees, ideally including students across multiple faculties, levels of study, and

demographic groups.

Building on these limitations, future research could pursue several fruitful directions. First, scholars should expand the measurement of student academic outcomes by including variables such as learning engagement, self-regulated learning, or perceived learning gain to better capture the role of student. Second, future studies should operationalize cultural values at the individual level rather than relying solely on national averages, enabling a more precise understanding of how cultural orientation moderates students' perceptions and behaviours. Third, qualitative inquiry could be extended through larger and more diverse student samples.

The institutional scope of this study also represents a limitation. Both universities are European and operate within the Bologna Process framework. While this provides useful comparability, it restricts insights into how QASs operate under different governance logics or cultural regimes outside Europe. Future comparative research could include institutions in non-European contexts to explore how political, cultural, or economic systems shape quality assurance structures and student engagement practices. Additionally, comparative research should be extended to include universities beyond the European Higher Education Area, examining how quality assurance mechanisms function under different political, cultural, and regulatory environments. Inclusion of non-Bologna Process countries and diverse institutional types (private, specialized, teaching-focused) would provide valuable insights into the adaptability and effectiveness of quality assurance approaches across varied contexts. This expanded scope would help identify universal principles and context-specific practices in higher education quality assurance.

As higher education continues to undergo digital transformation, future research should investigate how technology-enhanced quality assurance methods influence student experiences and outcomes. The COVID-19 pandemic accelerated the adaption of digital technologies in higher education, fundamentally altering how educational services are delivered, experienced, and evaluated. This transformation introduces several critical research areas requiring systematic investigation: learning analytics and quality measurement. The integration of learning analytics offers unprecedented opportunities to capture real-time data on student engagement, progression, and achievement. Future studies should explore how these data-

driven insights can complement traditional quality assessment tools and provide more nuanced, timely feedback on educational effectiveness. Besides, the growing role of Artificial Intelligence (AI) in education introduces new possibilities for automating aspects of quality assurance, from analysing student feedback to identifying patterns in educational outcomes. Research should investigate the effectiveness, ethical implications, and cultural acceptability of AI-driven quality assurance mechanisms, particularly regarding how they might complement rather than replace human judgment in quality assessment. Universities with the financial and research and development resources to do so could consider introducing QAS autoresponder bots, which can be effective in directing students to the appropriate channels for providing feedback on their questions, as well as solving the problem of not knowing how to provide feedback on their questions and determining the results of their feedback.

Based on the findings of this study, future research might adopt a variety of useful approaches. Several appealing possibilities for additional research have surfaced as a result. Researchers should investigate the efficacy of continuous assessment techniques against one-time evaluations in educational quality assurance systems, statistically evaluating how varied feedback collecting frequencies influence instructional improvement outcomes. The strong influence of comprehensive “student feedback - implementation of improvements-communication” cycles call for additional exploration, specifically how different methods of communication affect student engagement rates in quality procedures. Research should focus on how universities may effectively incorporate quality assurance methods into their institutional identity, including the relationship between official acknowledgement of student representation roles and stakeholder views of system efficacy. The link between cultural context and quality assurance efficacy is an ideal foundation for research, specifically how varied representation in student feedback groups affects outcomes in individualistic vs collectivist academic institutions. Future study should look at new incentive systems that foster a balance between research and teaching excellence, as well as how different recognition schemes influence faculty involvement with educational quality in achievement-oriented academic settings. The move from documentation-focused to learning-centred quality assurance requires further investigation, with academics establishing frameworks for assessing tangible

educational outcomes under various quality assurance theories. Finally, future research should look at how quality assurance systems might be developed to align with institutional cultural values while being successful, as the degree of cultural alignment has a major impact on system acceptability and overall effectiveness.

Quality assurance in higher education involves multiple stakeholders with potentially divergent perspectives and priorities. As this study has already identified the communication gap between multiple stakeholders (head of the QAS, teachers and students), further research could examine the alignment (or misalignment) between student perceptions, faculty assessments, employer expectations, and institutional quality metrics, with particular attention to how cultural contexts influence these relationships.

This study demonstrated that cultural dimensions significantly moderate relationships between educational quality and outcomes. Future research could explore whether these cultural factors also influence which aspects of quality different stakeholders prioritize. For example, in masculine cultures, do employers place greater emphasis on competitive achievement, while in feminine cultures they might value collaborative skills more highly? Understanding these cultural variations in stakeholder priorities would enable more contextually appropriate quality assurance approaches. Building on stakeholder alignment research, studies could develop and test integrated quality frameworks that meaningfully incorporate diverse perspectives while remaining culturally sensitive. Such frameworks might identify core quality dimensions that resonate across stakeholder groups while allowing for contextual adaptation based on cultural and institutional factors.

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## Appendices List

### Appendix 1

CASE STUDY PROCOTOL	
PART	Characteristics of the activities undertaken
<b>Project Overview</b>	<p>1.General characteristics of the case study - description of the selected case study and characteristics of the interview respondents</p> <p>2. Title and research objectives of the case study:            Title: The role of the education quality assurance system in shaping relationships among university education quality, academic citizenship behaviour and academic performance</p> <ul style="list-style-type: none"> <li>• <b>Background:</b> This study aims to evaluate the implementation effects of the Quality Assurance System (QAS) at NCU and NTNU, as well as its impact on student learning outcomes, student satisfaction rate and faculty teaching practices.</li> <li>• <b>Purpose:</b> To determine the role of QAS in enhancing educational quality, student satisfaction rate, promoting continuous improvement, and meeting accreditation requirements at NCU and NTNU.</li> <li>• <b>Key Research Questions:</b> <ol style="list-style-type: none"> <li>1. What measurements are implemented in the educational quality assurance system of this university?</li> <li>2. What procedures for improving educational quality, student satisfaction, and the educational quality assurance system are used at this university?</li> <li>3. To what extent does the educational quality assurance system contribute to improving educational quality and student satisfaction in this university?</li> <li>4. How does this university handle educational quality assurance system?</li> <li>5. How the student perceived the quality assurance system?</li> <li>6.What are the similarities and differences between the QAS of the two universities?</li> </ol> </li> <li>• <b>Relevant Literature:</b> Review theories and empirical studies related to higher education quality assurance, evaluation, and accreditation.</li> </ul>
<b>Scenario</b>	Evaluation of Quality Assurance System Implementation at NCU and NTNU

	<ul style="list-style-type: none"> <li>• <b>Background:</b> NCU and NTNU Ålesund campus has initiated a Quality Assurance System (QAS) aimed at ensuring systematic evaluation and development of NCU's and NTNU's study programs, with the students' learning as the core value. The system will contribute to a collective quality culture and ensure transparency and documentation of any development work.</li> <li>• This study will assess the system's effectiveness and its impact across various dimensions of the university's operations.</li> <li>• <b>Research Setting:</b> Research activities will occur primarily at NCU Torun campus and NTNU's Ålesund campus. These activities aim to facilitate in-depth interviews and direct observations within the academic setting.</li> <li>• <b>Participants:</b> Interviews will be conducted with key stakeholders, including QAS chairs, head of the department, study program leaders and students. These participants represent a comprehensive view of the university community's engagement with the QAS.</li> <li>• <b>Data Collection Methods:</b> The study will employ individual in-depth interviews, on-site observations, and review of extensive documentation related to NCU's and NTNU's QAS, including public reports, internal documents, and archival materials. This multi-source data collection strategy is designed to provide a holistic understanding of the QAS's implementation and outcomes.</li> <li>• <b>Research Objectives and Questions:</b> The research aims to dissect the structure, processes, and effects of NCU's and NTNU's QAS. It will explore the system's design, its alignment with higher education standards, faculty and staff's involvement, feedback mechanisms, challenges encountered, support for academic program development, and its impact on faculty professional growth and student learning outcomes.</li> <li>• <b>Anticipated Challenges:</b> A potential obstacle is gaining access to the comprehensive archives of NTNU's educational quality system. And analysing and interpreting qualitative data from interviews and documents can be subjective. Establishing a robust framework for data analysis will be essential to minimize bias and ensure reliability. Besides, Assessing the long-term effects of the QAS on student outcomes and faculty practices may go beyond the scope of the initial study, requiring longitudinal approaches to fully understand its impact.</li> <li>• <b>Outcome:</b> This scenario is expected to yield critical insights into the operational efficacy of NCU's and NTNU's QAS, identifying areas</li> </ul>
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	<p>of strength and opportunities for improvement. Recommendations will be formulated to enhance the system's contribution to educational quality, faculty development, and student satisfaction at NCU and NTNU.</p>
<b>Interview Plan</b>	<p><b>A. Interview Objectives</b></p> <ul style="list-style-type: none"> <li>- QAS chairs</li> </ul> <p>It aims to provide insights into the overarching strategy, development, and implementation challenges of the QAS, highlighting leadership's perspective on successes and areas for improvement.</p> <ul style="list-style-type: none"> <li>- Head of the department</li> </ul> <p>It focuses on the operational impact of the QAS, discussing its effects on curriculum design, delivery, and the broader educational goals from an institute management viewpoint.</p> <ul style="list-style-type: none"> <li>- Study Program Leaders</li> </ul> <p>It will shed light on the QAS's application within specific programs, exploring quality assurance measures, feedback mechanisms, and the impact on teaching and learning.</p> <ul style="list-style-type: none"> <li>- Students at Bachelor and Master Levels</li> </ul> <p>They are expected to offer first-hand accounts of the QAS's effectiveness, sharing their educational experiences, satisfaction, and providing feedback on strengths and potential enhancements.</p> <p><b>B. Respondent Identification</b></p> <ul style="list-style-type: none"> <li>-Interviews with QAS chairs may take place virtually or in-person, depending on time considerations, to explore high-level QAS strategies and challenges.</li> <li>-Study Program Leaders (with teaching roles), and Students will be interviewed in person at the Torun campus and Ålesund campus, ensuring detailed discussions on the operational aspects of the QAS, its program-specific implementations, and its direct impact on the student body.</li> </ul> <p><b>C. Interview Formats</b></p> <ul style="list-style-type: none"> <li>- In-person Interviews: Scheduled during the visit on Torun campus and NTNU's Ålesund campus, utilizing university meeting rooms equipped for confidentiality and potentially recorded conversations, with prior consent.</li> <li>- Virtual Interviews: Considered for QAS chairs to accommodate their schedules, using reliable video conferencing tools and ensuring all technical requirements are met ahead of the interview.</li> </ul>

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#### **D. Questionnaire Development**

Interview question teachers' version 1-26 for the QAS chairs and teachers, and 1-19 students' version for students.

For QAS Chairs, head of the department and study program leaders, questions would be focus on 1. the structure, alignment with standards, and challenges in QAS implementation. 2. Regarding faculty involvement, feedback utilization, and faculty development within the QAS framework. 3. Related to educational quality assurance implementation, alignment with standards, feedback mechanisms, program development, and challenges specific to their programs.

For students questions will be focus on their perception of the QAS's effectiveness, feedback collection and analysis, and the role of student representatives in the QAS.

#### **E. Consent and Ethical Considerations**

- Ethical compliance and participant confidentiality will be prioritized, with informed consent obtained for recording interviews and strict data handling protocols in place.

#### **F. Documentation Review**

- Prior to interviews, a thorough review of existing QAS documentation at NCU and NTNU will be conducted to inform the interview process and provide a basis for informed discussions.

#### **G. Data Management Plan**

- Interviews will be securely stored and transcribed by the research team, with data anonymized and analysed to identify themes and patterns.

#### **H. Contingency Planning**

- Strategies to address potential challenges include offering flexible scheduling, preparing for technical issues in virtual interviews, ensuring clarity in communication to prevent misunderstandings, and maintaining strict ethical standards throughout the research process.

#### **I. Debrief and Analysis**

- Immediate debriefing sessions will follow each interview, with transcription review. Summaries of key points and themes will be developed for each interview, facilitating cross-interview analysis and reflection on the study's objectives.

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<b>Field Procedures</b>	<ol style="list-style-type: none"> <li>1) The data collection procedures adopted are based on data collection principles in line with the case study methodology according to Yin (2008): <ol style="list-style-type: none"> <li>1. Prepare a list with contact details of interview respondents</li> <li>2. Once the protocol, scenario and interview questionnaire are ready, prepare the information and send to interviewees in advance so they can better prepare.</li> <li>3. Data collection plan: <ol style="list-style-type: none"> <li>1) Development of an individual in-depth interview (IDI, Individual in-Depth Interview) scenario including an interview plan</li> <li>2) Development of an in-depth interview questions for the respondent</li> <li>3) Review of available documentation including publications, reports of QAS in NCU and NTNU in order to increase the reliability of the case study conducted.</li> <li>4) Analysis of archival materials, including documentation</li> <li>5) Participatory observation - visits to NTNU campus</li> <li>6) Development of a schedule for the activities to be performed (schedule of the interviews set, schedule of the documentation review)</li> </ol> </li> </ol> </li> <li>• <b>Access Permissions:</b> Establish contact with university administration, the QAS office, and relevant colleges to obtain necessary access and support.</li> <li>• <b>Data Sources:</b> Include QAS policy documents, self-assessment reports, student and faculty feedback, course materials, and teaching practices.</li> <li>• <b>Human Subject Protection:</b> Ensure informed consent from all participants, adhere to privacy protection regulations, and anonymize sensitive information.</li> </ol>
<b>Case Study Questions</b>	<p><b>Research Questions:</b></p> <ul style="list-style-type: none"> <li>• 1. What measurements are implemented in the educational quality assurance system of this university?</li> <li>• 2. What procedures for improving educational quality, student satisfaction, and the educational quality assurance system are used at this university?</li> <li>• 3. To what extent does the educational quality assurance system contribute to improving educational quality and student satisfaction in this university?</li> <li>• 4. How does this university handle educational quality assurance system?</li> <li>• 5. How the student perceived the quality assurance system?</li> <li>• 6. What are the similarities and differences between the</li> </ul>

	<p>QAS of the two universities?</p> <ul style="list-style-type: none"> <li>• <b>Level 1:</b> Collect direct experiences and perceptions of faculty and students regarding the implementation of QAS through interviews.</li> <li>• <b>Level 2:</b> Analyse QAS policy documents and self-assessment reports to assess the consistency between system design and implementation.</li> <li>• <b>Level 3:</b> Explore the impact of QAS on university accreditation and external evaluations.</li> </ul>
<b>Case Study Report Guide</b>	<ul style="list-style-type: none"> <li>• <b>Report Outline:</b> Include introduction, literature review, research methodology, data analysis, discussion, and conclusion.</li> <li>• <b>Data Format:</b> Use charts and graphs to present quantitative data and include quotations and appendices for qualitative data and interview excerpts.</li> <li>• <b>Additional Documents:</b> Include interview guides, questionnaire samples, and data collection forms.</li> </ul>
<b>Flexibility and Adjustment</b>	<ul style="list-style-type: none"> <li>• Researchers will remain sensitive to new information during data collection and analysis, and adjust research strategies as needed, such as adding new data sources or modifying analytical methods.</li> </ul>
<b>Data Collection Principles</b>	<p>Questions at the data collection stage: the questions in the interview questionnaire will be built on a five-level structure, following the methodology proposed by Yin (2008):</p> <p>Level 1: Questions about the procedures of QAS in NCU and NTNU and the interviewee.</p> <p>Level 2: Questions about the case study according to the funnel method - from the general to the specific (topics indicated above – case study questions).</p> <p>Level 3: Questions on the regularities (cross-patterns) found in multiple cases (when several cases are examined) - this item does not apply to us.</p> <p>Level 4: Questions about information that extends and supplements the data collected during the in-depth interview, e.g. from documents, publications that should be consulted.</p> <p>Level 5: Questions relating to practical recommendations and conclusions, going beyond the case study framework.</p> <ul style="list-style-type: none"> <li>• Use multiple sources of evidence: Combine document analysis, interviews, observations, and questionnaires for data collection.</li> <li>• Create a case study database: Systematically store and</li> </ul>

	<p>manage all collected data for easy analysis and review.</p> <ul style="list-style-type: none"> <li>• Maintain a chain of evidence: Ensure logical consistency from research questions to data collection, analysis, and conclusions.</li> </ul>
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## Appendix 2

### English, Polish, Norwegian version Questionnaire

English version:

Filter questions before the actual survey begins:

1. Are you a business student?

Yes

No

2. Does the university you are studying at have an educational quality assurance system in place?

Yes

No

I don't know.

**Name of the university:**

☐ \_\_\_\_\_

**Gender:**

☐ Male

☐ Female

**Age:**

☐ \_\_\_\_\_

**Level of study:**

☐ Bachelor's level

☐ Master's level

☐ Doctoral level

**Year of study:**

☐ 1<sup>st</sup> Year

☐ 2<sup>nd</sup> Year

☐ 3<sup>rd</sup> Year

☐ 4<sup>th</sup> Year

**How many years have you been studying at this university?**

\_\_\_\_\_

**Major:**

☐ Economics

☐ Finance and Accounting

☐ Communication and Psychology in Business

☐ Logistics

☐ Management

☐ Business Administration

☐ Business and Management

- ☐ Marketing, Innovation and Leadership
- ☐ International Business and Marketing
- ☐ Innovation and Entrepreneurship
- ☐ Shipping management
- ☐ Biomarin Innovation
- ☐ Other, (please specify) .....

**In which mode do you study?**

- ☐ full-time studies
- ☐ part-time studies

**What country are you from?**

\_\_\_\_\_

**Is there an educational quality assurance system (QMS) in place at the university where you study?**

- ☐ Yes
- ☐ No

**If yes, what elements of the educational QMS do you know at the university where you study? You can select more than one answer.**

- ☐ Course evaluation questionnaire
- ☐ Student Satisfaction survey
- ☐ Improvement suggestions system
- ☐ Survey of student expectations
- ☐ Graduate career survey

☐ Other, (please specify) .....

**Which elements of the educational QMS at the university do you participate in?**  
**You can select more than one answer.**

- ☐ Course evaluation questionnaire
- ☐ Student Satisfaction survey
- ☐ Improvement suggestions system
- ☐ Survey on student expectations
- ☐ Graduate career survey
- ☐ Other, (please specify) .....

**How far do you agree or disagree with the following statements?**

Please use a 7-point scale, where 1 means “strongly disagree”, 2 – “disagree”, 3 – “rather disagree”, 4 – “nor agree nor disagree”, 5 – “rather agree”, 6 – “agree” and 7 “strongly agree”.

Academic staff deal with me in a caring and courteous manner
When I have a problem, academic staff show a sincere interest in solving it
Academic staff show positive attitude towards students
Academic staff communicate well in the classroom
Academic staff provide feedback about my progress
Academic staff allocate sufficient and convenient time for consultation
The institution runs excellent quality programmes
The institution offers highly reputable programmes
The institution’s graduates are easily employable
When I have a problem, administrative staff show a sincere interest in solving it
Administrative staff provide caring and individual attention
Inquiries/complaints are dealt with efficiently and promptly
Administrative staff are never too busy to respond to a request for assistance
Administration offices keep accurate and retrievable records
When the staff promise to do something by a certain time, they do so
Administrative staff show positive work attitude towards students
Administrative staff communicate well with students

Administrative staff have good knowledge of the systems/procedures
Students are treated equally and with respect by the staff
Students are given fair amount of freedom
The staff respect my confidentiality when I disclosed information to them
The staff ensure that they are easily contacted by telephone
The institution operates an excellent counseling service
The institution values feedback from students to improve service performance
The institution has a standardized and simple service delivery procedures
The institution offers a wide range of programmes with various specialisations
The institution offers programmes with flexible syllabus and structure

**How far do you agree or disagree with the following statements?**

Please use a 7-point scale, where 1 means “From 1 “strongly disagree”, 2 – “disagree”, 3 – “rather disagree”, 4 – “nor agree nor disagree”, 5 – “rather agree”, 6 – “agree” and to 7 “strongly agree”.

I willingly give of my time to help other students who have school-related problems.
I am willing to take time out of my own busy schedule to help students with their schoolwork.
I check with other students before initiating actions that might affect them (e.g., in team projects).
I take steps to try to prevent problems with other students in my classes.
I attend special classes or other meetings that students are encouraged but not required to attend.
I attend and actively participate in school meetings.
I always find fault with what the school/team is doing.
I always focus on what is wrong with my situation rather than the positive side of it.
I turn in homework, projects, reports, etc. earlier than is required.
I return phone calls from students/faculty and respond to other messages and requests for information promptly.

I feel proud to study at this University
I care about the university
I will refer this university to my Friends/Family
I prefer to study Higher Studies in this University

What were your grades/GPA for each course in the last semester?

(A-B-C-D-E-F)

Course 1 .....

Course 2 .....

Course 3 .....

Course 4 .....

**How far do you agree or disagree with the following statements?**

Please use a 7-point scale, where 1 means “From 1 “strongly disagree”, 2 – “disagree”, 3 – “rather disagree”, 4 – “nor agree nor disagree”, 5 – “rather agree”, 6 – “agree” and to 7 “strongly agree”.

People in higher positions should make most decisions without consulting people in lower positions.
People in higher positions should not ask the opinions of people in lower positions too frequently.
People in higher positions should avoid social interaction with people in lower positions.
People in lower positions should not disagree with decisions by people in higher positions.
People in higher positions should not delegate important tasks to people in lower positions.
Individuals should sacrifice self-interest for the group.
Individuals should stick with the group even through difficulties.
Group welfare is more important than individual rewards.
Group success is more important than individual success.
Individuals should only pursue their goals after considering the welfare of the group.
Group loyalty should be encouraged even if individual goals suffer.
It is more important for men to have a professional career than it is for women.
Men usually solve problems with logical analysis; women usually solve problems with intuition.
Solving difficult problems usually requires an active, forcible approach, which is typical of men.
There are some jobs that a man can always do better than a woman.

Polish version:

1. Czy studiujesz na kierunku związanym z biznesem?

Tak

Nie

2. Czy uczelnia, na której studiujesz, posiada system zapewniania jakości kształcenia?

Tak

Nie

Nie wiem.

**Nazwa uczelni:**

\_\_\_\_\_

**Płeć:**



Mężczyzna

Kobieta

**Wiek:**

---

**Poziom studiów:**

Licencjat

Magisterskie

Doktoranckie

**Rok studiów:**

1 rok

2 rok

3 rok

4 rok

**Od ilu lat studiujesz na tej uczelni?**

---

**Kierunek studiów:**

Ekonomia

Finanse i Rachunkowość

Komunikacja i psychologia w biznesie

Logistyka

Zarządzanie

Inne (jakie?) .....

**W jakim trybie studiujesz?**

Studia stacjonarne

Studia niestacjonarne

**Z jakiego kraju pochodzisz?**

---

**Czy na uczelni, na której studiujesz, istnieje system zapewnienia jakości kształcenia?**

**Tak**

**Nie**

**Jeżeli tak, które z elementów systemu zapewnienia jakości kształcenia spotykasz na uniwersytecie, na którym studiujesz? Możesz wybrać więcej niż jedną odpowiedź.**

Ocena zajęć dydaktycznych

Badanie satysfakcji studentów

System zgłaszania propozycji usprawnień

Badanie oczekiwań studentów

Badanie losów absolwentów

Inne, jakie? .....

**W których elementach systemu zapewnienia jakości kształcenia uczestniczysz? Możesz wybrać więcej niż jedną odpowiedź.**

Ocena zajęć dydaktycznych

Badanie satysfakcji studentów

System zgłaszania propozycji usprawnień

Badanie oczekiwań studentów

Badanie losów absolwentów

Inne, jakie? .....

**W jakim stopniu zgadzasz się lub nie zgadzasz z poniższymi stwierdzeniami?**

Prosimy o użycie 7-stopniowej skali ocen, gdzie 1 oznacza "zdecydowanie się nie zgadzam", 2 - "nie zgadzam się", 3 - "raczej się nie zgadzam", 4 - "ani się zgadzam, ani się nie zgadzam", 5 - "raczej się zgadzam", 6 - "zgadzam się" i 7 "zdecydowanie się zgadzam".

Nauczyciele akademicy traktują mnie uprzejmie i z szacunkiem.
Kiedy mam problem, nauczyciele akademicy wykazują szczerze zainteresowanie jego rozwiązaniem.
Nauczyciele akademicy wykazują pozytywne nastawienie do studentów.
Nauczyciele akademicy dobrze komunikują się na zajęciach.
Nauczyciele akademicy udzielają informacji zwrotnych dotyczących moich postępów.
Nauczyciele akademicy przeznaczają wystarczająco dużo dogodnego dla mnie czasu na konsultacje.
Uczelnia prowadzi kierunki studiów o doskonałej jakości.
Uczelnia oferuje wysoko cenione kierunki studiów.
Absolwenci tej uczelni łatwo znajdują zatrudnienie.
Kiedy mam problem, pracownicy administracyjni wykazują szczerze zainteresowanie jego rozwiązaniem.
Personel administracyjny zapewnia troskliwą i indywidualną opiekę.
Zapytania/skargi są rozpatrywane sprawnie i szybko.
Pracownicy administracyjni nigdy nie są zbyt zajęci, aby odpowiedzieć na prośbę o pomoc.
Biura dziekanatu prowadzą dokładną i dostępną dokumentację.
Kiedy personel dziekanatu obieca zrobić coś w określonym czasie, rzeczywiście dotrzymuje słowa.
Pracownicy administracyjni wykazują pozytywne nastawienie do studentów.
Pracownicy administracyjni dobrze komunikują się z studentami.
Pracownicy administracyjni mają dobrą znajomość obowiązujących na uczelni procedur.
Studenci są traktowani przez personel równo i z szacunkiem.
Studenci mają wystarczająco dużo swobody.
Personel szanuje moją poufność, gdy ujawniam mu informacje.
Personel zapewnia łatwy kontakt telefoniczny.
Uczelnia zapewnia doskonałe usługi doradcze.
Uczelnia ceni informacje zwrotne od studentów dostarczane w celu poprawy jakości usług.
Uczelnia posiada ustandaryzowane i proste procedury świadczenia usług.
Uczelnia oferuje szeroki zakres kierunków studiów z różnymi specjalnościami.
Uczelnia oferuje kierunki studiów z elastyczną strukturą i programem nauczania.

**W jakim stopniu zgadzasz się lub nie zgadzasz z poniższymi stwierdzeniami?**

Prosimy o użycie 7-stopniowej skali ocen, gdzie 1 oznacza "zdecydowanie się nie zgadzam", 2 - "nie zgadzam się", 3 - "raczej się nie zgadzam", 4 - "ani się zgadzam, ani się nie zgadzam", 5 - "raczej się zgadzam", 6 - "zgadzam się" i 7 "zdecydowanie się zgadzam".

Chętnie poświęcam swój czas, aby pomóc innym studentom mającym problemy związane z nauką.
Jestem gotowy/a poświęcić czas z mojego napiętego harmonogramu, aby pomóc studentom w ich pracach zaliczeniowych.
Konsultuję się z innymi studentami, zanim podejmę działania, które mogą ich dotyczyć (np. w projektach zespołowych).
Staram się podejmować działania mające na celu zapobieganie konfliktom pomiędzy studentami na zajęciach, w których uczestniczę.
Uczęszczam na dodatkowe zajęcia lub inne spotkania, do których zachęca się studentów, ale nie są one obowiązkowe.
Biorę udział w uczelnianych spotkaniach i aktywnie się w nie angażuję.
Zawsze doszukuję się błędów w tym, co robi uczelnia/grupa.
Zawsze skupiam się na tym, co jest złe w mojej sytuacji, zamiast patrzeć na jej pozytywne strony.
Oddaję prace domowe, projekty, raporty itp., wcześniej niż jest to wymagane.
Oddzwaniam na telefony od studentów/pracowników wydziału i niezwłocznie reaguję na inne wiadomości i prośby o informacje.

Jestem dumny/a, że studiuje na tej uczelni.
Zależy mi na tej uczelni.
Polecę tę uczelnię moim przyjaciołom/rodzinie.
Wolę kontynuować studia magisterskie na tej uczelni.

### Wyniki w nauce:

Jaka jest Twoja średnia ocen z ostatniego semestru na Twoim kierunku studiów?.....

### W jakim stopniu zgadzasz się lub nie zgadzasz z poniższymi stwierdzeniami?

Prosimy o użycie 7-stopniowej skali ocen, gdzie 1 oznacza "zdecydowanie się nie zgadzam", 2 - "nie zgadzam się", 3 - "raczej się nie zgadzam", 4 - "ani się zgadzam, ani się nie zgadzam", 5 - "raczej się zgadzam", 6 - "zgadzam się" i 7 "zdecydowanie się zgadzam".

Osoby na wyższych stanowiskach powinny podejmować większość decyzji bez konsultacji z osobami na niższych stanowiskach.
Osoby na wyższych stanowiskach nie powinny zbyt często pytać o zdanie osób na niższych stanowiskach.
Osoby na wyższych stanowiskach powinny unikać kontaktów społecznych z osobami na niższych stanowiskach.
Osoby na niższych stanowiskach nie powinny nie zgadzać się z decyzjami osób na wyższych stanowiskach.
Osoby na wyższych stanowiskach nie powinny delegować ważnych zadań osobom na niższych stanowiskach.
Jednostki powinny poświęcać własne interesy dla dobra grupy.
Jednostki powinny trzymać się grupy nawet w trudnych dla niej sytuacjach.
Dobro grupy jest ważniejsze niż indywidualne nagrody.
Sukces grupowy jest ważniejszy niż sukces indywidualny.
Jednostki powinny realizować swoje cele tylko po uwzględnieniu dobra grupy.
Należy zachęcać do lojalności wobec grupy, nawet jeśli ucierpią na tym cele indywidualne.
Dla mężczyzn kariera zawodowa jest ważniejsza niż dla kobiet.
Mężczyźni zazwyczaj rozwiązują problemy używając logicznej analizy; kobiety zazwyczaj rozwiązują problemy intuicyjnie.
Rozwiązywanie trudnych problemów zazwyczaj wymaga aktywnego, siłowego podejścia, co jest typowe dla mężczyzn.
Istnieją zawody, w których mężczyzna zawsze poradzi sobie lepiej niż kobieta.

Norwegian version:

1. Studerer du økonomisk administrative fag?

Ja

Nei

2. Har det universitetet der du studerer et system for sikring av kvalitet?

Ja

Nei

## Spørreskjema

**Navn på universitet:**

☐ \_\_\_\_\_

**Kjønn:**

☐ Mann

☐ Kvinne

**Alder**

☐ \_\_\_\_\_

**Studienivå:**

☐ Bachelor nivå

☐ Master nivå

☐ PhD nivå

**Studieår:**

☐ 1. År

☐ 2. År

☐ 3. År

☐ 4. År

**Hvor mange år har du studert ved dette universitetet?**

\_\_\_\_\_

**Studieretning:**

- ☐ Samfunnsøkonomi
- ☐ Regnskap og Revisjon
- ☐ Kommunikasjon og Psykologi i Business
- ☐ Logistikk
- ☐ Ledelse
- ☐ Økonomi og Administrasjon (BØA)
- ☐ Økonomi og Ledelse (ØL)
- ☐ Markedsføring, Innovasjon og Ledelse (MIL)
- ☐ International Business and Marketing
- ☐ Innovasjon og Entreprenørskap
- ☐ Shipping management
- ☐ Biomarin Innovasjon
- ☐ Annen studieretning (spesifiser) .....

**Studerer du på full tid?**

- ☐ fulltids studium
- ☐ deltids studium

**Hvilket land kommer du fra?**

---

**Er det et system for sikring av kvalitet på utdanningen (Education Quality System (QMS)) på universitetet der du studerer?**

- ☐ Ja

☐ Nei

**Dersom det finnes et slikt system for sikring av kvalitet, hvilke elementer av dette systemet kjenner du til? Du kan velge mer enn et alternativ.**

- ☐ Spørreskjema for kursevaluering
- ☐ Undersøkelse av studenttilfredshet
- ☐ System for forslag om forbedringer
- ☐ Undersøkelse av studentenes forventninger
- ☐ Kandidatundersøkelse (etter uteksaminering)
- ☐ Referansegrupper
- ☐ Andre (spesifiser).....

**Hvilke element av dette kvalitetssikringssystemet har du deltatt i? Du kan velge mer enn et svar.**

- ☐ Spørreskjema for kursevaluering
- ☐ Undersøkelse av studenttilfredshet/Studiebarometret
- ☐ System for forslag om forbedringer
- ☐ Undersøkelse av studentenes forventninger
- ☐ Kandidatundersøkelse (etter uteksaminering)
- ☐ Deltagelse i referansegruppe(r)
- ☐ Andre (spesifiser).....

**Hvor enig er du i følgende utsagn?**

Bruk en 7-punkts skala, der 1 “helt uenig”, 2 – “uenig”, 3 – “noe uenig”, 4 – “hverken enig eller uenig”, 5 – “noe enig”, 6 – “enig” and 7 “helt enig”.

Foreleserne behandler meg med omsorg og respekt
---



Når jeg har et problem er foreleserne oppriktig interessert i å løse dette
Foreleserne viser en positive holdning til studentene
Foreleserne kommuniserer godt i klasserommet
Foreleserne gir meg tilbakemelding (feedback) på min framgang
Foreleserne setter av nok tid for å samtale med studentene
Institusjonen har fremragende studieprogram
Institusjonen tilbyr studieprogram med et godt rykte
Tidligere studenter ved denne institusjonen har lett for å skaffe seg arbeid
Når jeg har et problem, vil administrativt ansatte vise oppriktig interesse i å løse dette
Administrativt ansatte gir omsorgsfull og individuell oppmerksomhet
Spørsmål og klager blir behandlet raskt og effektivt
Administrativt ansatte er aldri for opptatt til å kunne gi svar på spørsmål og eller gi nødvendig hjelp
Administrasjonen har nøyaktig og riktige informasjon
Når staben lover å gjøre noe innenfor et gitt tidsrom, så blir det gjort
Administrasjonen har en positive innstilling til studenter
Administrasjonen kommuniserer godt med studentene
Administrasjonen har god kunnskap om prosedyrer og systemer
Studentene blir behandlet med likhet og respekt av staben
Studentene blir gitt en rimelig grad av frihet
Staben håndterer mine opplysninger konfidensielt
Staben sikrer at de er enkle å nå via telefon
Institusjonen har utmerkede rådgivings/veiledningstjenester
Institusjonen verdsetter tilbakemelding fra studentene for å forbedre sine tjenester
Institusjonen har standardiserte og enkle prosedyrer for sine tjenester
Institusjonen tilbyr en hel rekke studieprogrammer med ulike spesialiseringer
Institusjonen tilbyr studieprogrammer med fleksible innhold og struktur

Bruk en 7-punkts skala, der 1 “helt uenig”, 2 – “uenig”, 3 – “noe uenig”, 4 – “hverken enig eller uenig”, 5 – “noe enig”, 6 – “enig” and 7 “helt enig”.

Jeg er villig til å bruke av min egen tid for å hjelpe andre studenter som har studierelaterte problemer
I en hektisk hverdag er jeg villig til å bruke av min tid for å hjelpe andre studenter med deres skolearbeid
Jeg undersøker med andre medstudenter før jeg gjør ting som kan påvirke dem (i eksempelvis gruppearbeider og prosjekter)
Jeg griper inn for å prøver og unngå problemer med de andre studentene i min klasse
Jeg møter opp på ekstra forelesinger og arrangementer som ikke er obligatoriske
Jeg er tilstede og deltar i møter på skolen
Jeg finner alltid feil ved det som skolen /teamet gjør
Jeg fokuserer alltid på hva som er galt med min situasjon, heller enn på de positive sidene
Jeg leverer inn hjemmearbeid, prosjekter, rapporter og lignende før tidsfristen

Jeg svarer raskt på telefoner, meldinger og andre forespørsler fra studenter/forelesere og administrasjonen
---

Jeg føler meg stolt av dette universitetet
--

Jeg bryr meg om universitetet
-------------------------------

Jeg vil anbefale dette universitetet til mine venner/familie
--

Jeg foretrekker å studere ved dette universitetet
---

76. Hva var karakterer dine siste semester?

(A-B-C-D-E-F)

Fag 1.....

Fag 2.....

Fag 3.....

Fag 4.....

Bruk en 7-punkts skala, der 1 “helt uenig”, 2 – “uenig”, 3 – “noe uenig”, 4 – “hverken enig eller uenig”, 5 – “noe enig”, 6 – “enig” and 7 “helt enig”.

Personer i høyes posisjonene skulle ta de fleste beslutninger uten å rådføre seg med personer i lavere posisjoner
---

Personer i høye posisjoner skulle ikke spørre om meningene til personer i lavere posisjoner for ofte
--

Personer i høye posisjoner skulle unngå sosial kontakt med personer i lavere posisjoner
---

Personer i lavere posisjoner skulle ikke være uenige med beslutningene til personer i høyere posisjoner
---

Personer i høye posisjoner skulle ikke delegere viktige arbeidsoppgaver til personer i lavere posisjoner
--

Enkeltpersoner skulle sette til sides egeninteresse til fordel for gruppen
--

Enkeltpersoner skulle stå sammen med gruppen, selv i vanskeligheter
---

Gruppens beste er viktigere enn individuell belønning
---

At gruppen lykkes er viktigere enn at enkeltpersoner lykkes
---

Enkeltpersoner skulle bare forfølge sine mål etter å ha vurdert hvordan dette påvirker velferden i gruppen
--

Det bør oppmuntres til lojalitet til gruppen, selv om dette fører til at individers egne mål blir satt til side
---

Det er viktigere for menn, enn kvinner å ha en profesjonell karriere
--

Menn vil vanligvis løse problemer gjennom logisk analyse; kvinner vil vanligvis løse problemer ved bruk av intuisjon
Løsning av vanskelige problemer vil vanligvis kreve en aktiv handlende tilnærming, som er typisk for menn.
Det er noen jobber som men alltid kan gjøre bedre enn kvinner

## Appendix 3

### CASE STUDY SCHEDULE

This schedule is proposed according to the timeline, the final schedule is depended on the interviewees' time

#### NTNU

#### Pre-Interview Phase: February - Early April 2024

- Develop and refine interview questions following Yin's multilevel structure.
- Prepare interview materials, including guides.
- Contact participants to provide options within the available dates and await confirmation emails to schedule interviews.
- Review relevant documentation and QAS reports to inform the interview process.

#### Arrival and Preparation: 22nd April 2024

- **22nd April (Monday):** Arrive in Ålesund. Use this day to adjust, review final preparations, and confirm the week's schedule.

#### 23rd April - 30th April 2024 interview schedule

- 23/04 with head of department
- 24/04 with head of the institutional level of QAS
- 24/04 with study program leader
- 25/04 with study program leader
- 25/04 with study program leader
- 29/04 with one master student
- 30/04 with QAS chair
- 30/04 with one international master student
- 30/04 with one student representative from bachelor level

#### Departure and Initial Analysis: 1st May 2024

- **1st May (Wednesday):** Depart from Ålesund. Begin organizing interview materials and transcription and initial analysis and planning for interviews in NCU.

## NCU

### **4<sup>th</sup> June- 14<sup>th</sup> August interview schedule**

- 04/06 with chair of the faculty-level QAS
- 25,26/06 with chair of the university-level QAS
- 14/06 with master student (5 year studying experience at NCU)
- 22/06 with master student
- 01/07 with chair of the university-level QAS
- 15/08 with head of the university level QAS
- 15/08 with head of the university-level QAS

## **Appendix 4**

### **Interview Plan**

#### **A. Interview Objectives**

Interviewees are chair of the QAS, head of the department, program leaders and students.

There are two versions of the interview questions. For the chair of the QAS and facilities with teaching roles, the interview questions aim to ask them to provide insights into the overarching strategy, development, and implementation challenges of the QAS, highlighting leaderships perspective on successes and areas for improvement. Besides these questions also focuses on the operational impact of the QAS, discussing its effects on curriculum design, delivery, and the broader educational goals from an institute management viewpoint. Then, it also focuses on the operational impact of the QAS, discussing its effects on curriculum design, delivery, and the broader educational goals from an institute management viewpoint, QASs application within specific programs, exploring quality assurance measures, feedback mechanisms, and the impact on teaching and learning. The student's version

interview questionnaire aims to obtain the first-hand accounts of the QASs effectiveness, sharing their educational experiences, satisfaction, and providing feedback on strengths and potential enhancements.

#### B. Respondent Identification

- Be prepared to conduct online interviews with these interviewees due to their limited availability and geographic constraints.
- Be prepared to in person interview ensuring detailed discussions on the operational aspects of the QAS, its program-specific implementations, and its direct impact on the student body.

#### C. Interview Formats

- In-person Interviews: Scheduled during the visit to NTNUs Ålesund campus and NCU campus, utilizing university meeting rooms or faculties office rooms equipped for confidentiality and potentially recorded conversations, with prior consent.
- Virtual Interviews: Considered for interviewees availability to accommodate her schedule, using reliable video conferencing tools and ensuring all technical requirements are met ahead of the interview.

#### D. Interview Question Development

Each interviewee will be asked all the standard questions corresponding to their version of the interview. However, depending on their identity or role, some questions may be extended or elaborated upon to explore relevant topics in more depth.

#### E. Consent and Ethical Considerations

- Ethical compliance and participant confidentiality will be prioritized, with informed consent obtained for recording interviews and strict data handling protocols in place.

#### F. Documentation Review

- Prior to interviews, a thorough review of existing QAS documentation at NTNU will be conducted to inform the interview process and provide a basis for informed discussions.

#### G. Data Management Plan

- Interviews will be securely stored and transcribed by the research team, with data anonymized and analysed using qualitative data analysis software to identify themes and patterns.

#### H. Contingency Planning

- Strategies to address potential challenges include offering flexible scheduling, preparing for technical issues in virtual interviews, ensuring clarity in communication to prevent misunderstandings, and maintaining strict ethical standards throughout the research process.

#### I. Debrief and Analysis

- Immediate debriefing sessions will follow each interview, with transcription review and initial coding conducted soon after. Summaries of key points and themes will be developed for each interview, facilitating cross-interview analysis and reflection on the study's objectives.

## **Appendix 5**

### **Privacy and Data Protection Policy for UMK/NTNU Quality**

#### **Assurance System Case Study Interviews**

##### **Introduction**

This Privacy and Data Protection Policy informs participants about the management of their personal information in relation to the UMK/NTNU Quality Assurance System Case Study. Our commitment is to uphold the privacy and security of participant data in alignment with applicable data protection laws.

## Data Collection

Data will be collected through interviews as a part of the research on UMK's and NTNU's Quality Assurance System. This includes participants' responses, personal insights, and any information shared during the interviews.

## Purpose of Data Collection

The data is collected to analyze the effectiveness and impact of UMK's/NTNU's Quality Assurance System, aiming to gather insights from students, faculty, and staff. This information will solely be used for academic research purposes.

## Recording of Conversations

Interviews will be recorded to ensure accurate transcription and analysis. These recordings are strictly for research use and will be kept confidential.

## Data Protection and Confidentiality

We guarantee the protection of your personal information. Access to collected data and recordings is limited to the case study research. Data will be securely stored, and personal identifiers will be anonymized in any research output, unless explicit consent is provided.

## Data Retention and Deletion

Collected data and interview recordings will be kept until the research analysis and reporting are completed, not exceeding January 2025. Post this term, or when data is deemed unnecessary, it will be securely deleted or destroyed. Requests for earlier data deletion will be accommodated, respecting any legal requirements for data retention.

## Participant Rights

Participants have rights to:

- Understand the use of collected data.
- Withdraw from the study at any time or refuse to answer specific questions.

- Access, correct, or request deletion of their personal data.

### Consent

Participation is voluntary. Agreeing to participate and the recording of interviews indicate consent to data use as outlined. Consent can be withdrawn anytime without consequence.

### Contact Information

For queries or concerns regarding this policy or your participation, please contact:

[Researcher's Name]

Mengyu Cao

[Position, Department]

PhD student, Doctoral School of Social Sciences – Academia Rerum Socialium

Nicolaus Copernicus University in Torun

ul. Gagarina 13A

87-100 Torun

[Contact Information]

[503308@doktorant.umk.pl](mailto:503308@doktorant.umk.pl)

### Declaration

I, [Participant's Name], acknowledge and consent to the terms outlined in this Privacy and Data Protection Policy.

---

Participant's Signature

---



Date

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## **Appendix 6**

### **Interview questions for QAS chairs and faculties and students**

1. Can you please explain the beginnings of UMK/NTNU's Quality Assurance System (QAS)? When was it founded, and what were the primary motives for its creation?

What is the three-level organisational chart of quality assurance system at UMK/NTNU?

2. Over time, how has UMK's Quality Assurance System (QAS) been adapted to align with educational quality standards both at the national and international levels?

What are the procedures of the PKA's university peer review check?

What reports and documentations they will ask for check?

3. What are the accreditations or organizations with which UMK/NTNU must align, and could you provide some examples of how the university maintains active compliance?
4. What processes does UMK /NTNU use to ensure that its Quality Assurance System (QAS) fulfils the expectations of external standards?
  - Compares QAS against national/international standards.
  - improvement areas for alignment.
  - Follows detailed processes for meeting accreditation criteria, including self-assessment and hosting accreditation site visits.
  - Provides training to keep faculty and staff updated with the latest quality assurance, educational technologies, and teaching methods.

- Utilizes feedback from stakeholders to inform and drive improvements in the QAS and academic programs.
- Maintains detailed records of QAS activities and outcomes for internal review and demonstrating external compliance.
- Other, (please specify) .....

Students can send information send their information to PKA directly?

**5. What is the shape of the QAS: structure (this may be taken from documents), procedures?**

- systematic measurements (specified below – point 6),
- communicating measurement results,
- creating a plan for corrections and improvements,
- introducing corrections and improvements,
- communicating about the corrections and improvements introduced,
- systematic review of academic programs,
- ongoing evaluation and updating of the curriculum,
- training programs for faculty and administrative staff on quality assurance processes,
- .....
- other (please specify) .....

**6. What is the shape of the QAS: evaluations/measurements carried out in the system?**

To students:

- course evaluation questionnaire,
- student satisfaction survey,
- survey of student expectations,
- graduate career survey,
- improvement suggestions system,

To employees:

- employee satisfaction survey,

- observations of teaching classes,
- stakeholder satisfaction survey (mainly employers),
- .....
- other (please specify) .....

7. What is the shape of the QAS: **measures and indicators carried out in the system?**

- teaching quality index,
- response rate in the course evaluation,
- student satisfaction index,
- response rate in the student satisfaction survey,
- .....
- .....
- other (please specify) .....

8. What is the shape of the QAS: **what are the values of individual measures for each study carried out in the system?** e.g. 4.5/5 score

To students:

- course evaluation questionnaire,
- student satisfaction survey,
- survey of student expectations,
- graduate career survey,
- improvement suggestions system,

To employees:

- employee satisfaction survey, red/ yellow
- .....
- .....
- other (please specify) .....

9. What is the shape of the QAS: **what are the trends in measures over the past three years for each study carried out in the system, are the indicators compared to benchmarks?**

To students:

- course evaluation questionnaire,
- student satisfaction survey,
- survey of student expectations,
- graduate career survey, good
- improvement suggestions system,

To employees:

- employee satisfaction survey,
- .....
- .....
- other (please specify) .....

10. What is the current response rate for each of the surveys under the QAS, and do you consider it sufficient? At what level do you aim for the response rate to be?
11. What strategies are in place to enhance the survey response rate? Could you provide examples of initiatives or campaigns to increase participation (e.g. activities with respect to students, employees, etc.)?

To students:

- Through university newsletters and videos on social media,
- Small rewards for students who participate in,
- Slogans and locations on campus during the survey,
- Email invitations,
- Work with students' organizations,

To employees:

- Encouragement from lectures,
- Other, (please specify) .....

12. Is the evaluation of lectures and classes conducted anonymously? How do you ensure students trust this anonymity?
13. Are there any specific solutions or approaches adopted at UMK/NTNU to convince students about the anonymity of their evaluations?
14. How are lecturers and faculty members encouraged to engage with and value the

QAS, especially regarding the evaluation of their own classes?

15. Is there a system in place for lecturers to encourage student evaluations, and are they involved in other aspects of the QAS?
16. Are best practices or outstanding teaching efforts recognized or rewarded based on the results of teaching evaluations?
17. How do lecturers and faculty respond to the survey findings from the QAS, particularly those related to the evaluation of their courses?
18. What specific actions are taken in response to lectures or classes that receive poor evaluations? Are there examples of support provided to lecturers in such cases, or are there any negative consequences?
19. How are measurement results communicated (in each evaluation)? results presented on the website, mailing of survey results, annual meetings with faculty, staff, and students to discuss the outcomes of QAS surveys and the subsequent action plans, other (please specify)?
20. How plans for corrections and improvements are created?
  - By faculty committees for the quality of education, then approved by the dean's councils at each of the faculties, other (please specify).
21. Can you give examples of corrective actions or improvements that have been implemented based on survey feedback? e.g. course evaluation feedback or student satisfaction survey feedback.
22. How are these improvements and actions communicated to students, and have you observed any impact on the survey response rate as a result? Does this communication strategy help in building their confidence in the QAS?
23. Can you please discuss the degree to which UMK/NTNU 's educational QAS has contributed to the enhancement of educational practices and the satisfaction levels of students? Can you give examples of improvement actions taken?
24. What are the primary obstacles UMK /NTNU has encountered during the implementation or maintenance of its Quality Assurance System (QAS)?
25. Can you describe the main challenges encountered in the implementation of the Quality Assurance System (QAS) at UMK/NTNU? How have these challenges

been addressed?

- (please specify) .....

26. What are the further directions of development of the QAS? (please specify) .....

### **Interview Question for Students**

1. What kind of evaluations do you know in the educational QAS at UMK/NTNU?

Please describe them. Have you ever participated in one?

- Course evaluation questionnaire
- Student Satisfaction survey
- Improvement suggestions system
- Survey of student expectations
- Graduate career survey

2. How does UMK/NTNU collect your feedback, and how is it used to make the quality assurance system better?

3. How does UMK/NTNU get feedback from you on your courses? How are you encouraged to participate? Are there ways to make it easier for you to give feedback on all your courses?

does the university check how many students fill out feedback surveys

4. How does the university check how many students fill out feedback surveys?

Do you think enough students participate, and what could make more students want to give their feedback?

5. How are measurement results communicated (results presented on the website, mailing of survey results, annual meetings, other (please specify)?

6. How are you informed about what the university learns from the surveys?

7. How is information about the corrections and improvements introduced communicated?

do you feel your feedback on surveys impacts your education

8. How do you feel your feedback on surveys impacts your education? Are you told how your feedback is used?
9. When you give feedback on courses, are you confident it's anonymous? How does UMK make sure you feel your responses are private?
10. How are you assured that your feedback remains anonymous?
11. How does UMK /NTNU recognize great teaching based on feedback? Do teachers encourage you to participate in giving feedback?
12. Can you mention any changes that happened because of student feedback? How did the university let students know about these changes?
13. What changes have been made because of feedback from students like you? How have these changes made student satisfaction better?
14. Can you give examples of how your feedback led to actual improvement?
15. What do you think about the effectiveness of the quality assurance system in being open, responding to feedback, and making real changes to your education?
16. How often do university leaders discuss feedback outcomes with students and teachers? Does it take place during meetings? Do students attend such meetings in large numbers? If feedback is negative, how is this handled, and how are you told about it?
17. How do student representatives help in collecting feedback and improving the quality assurance system?
18. Can you share any times when student involvement led to changes in how things are done at UMK/NTNU?
19. What ways can you, as a student, offer your thoughts to the quality assurance system?

## Appendix 7

### Case study theme-subtheme-code

NCU's teachers' s theme	Subtheme	Code
<b>Theme 1. Foundations and Evolution of QAS</b>	Origins and Motivations for Establishing the Quality Assurance System (QAS)	initial establishment and regulatory framework; major institutional reforms in 2012 (including measurement tools); external accreditation and compliance with PKA standards
	Evolution of QAS to Meet National and International Standards	integration with polish national accreditation standards (PKA); alignment with European higher education standards; limited but growing adoption of international accreditation standards; continuous monitoring and system adjustments
	Accreditation and Compliance with National and International Standards	compliance with the polish accreditation committee (PKA); international accreditation for business and specialized fields; regular accreditation reviews and continuous improvement; comprehensive QAS That supports accreditation compliance
	Processes for Ensuring Compliance with External Quality Standards	Adhering to National Educational Standards (PKA and Government Regulations); periodic accreditation and self-assessment reviews; training and development for faculty and staff; stakeholder feedback and continuous improvement; comprehensive documentation and reporting
<b>Theme 2. Structure, Measurements, and Indicators in QAS</b>	Structure and Procedures of the QAS	systematic measurements; communicating measurement results; creating a plan for corrections and improvements; introducing corrections and improvements; communicating about the corrections and improvements introduced; systematic review of academic programs; ongoing evaluation and updating of the curriculum; training programs for faculty and administrative staff on quality assurance processes



	Evaluation and Measurement Processes within the QAS	student-focused evaluations and surveys; employee and stakeholder evaluations; graduate career surveys for long-term assessment
	Quality Indicators and Measurement Metrics Used in the QAS	response rate in course evaluations and student satisfaction surveys; student satisfaction index and benchmarking; tracking trends in teaching quality
	Values and Metrics Used in the QAS	course evaluation scores; student satisfaction levels; employee satisfaction challenges; graduate career surveys and other indicators
	Trends in Quality Assurance Measurements Over the Past Three Years	course evaluation scores are stable or improving; student satisfaction remains relatively stable; employee satisfaction has declined; graduate career survey trends are positive; pandemic impact on QAS measures; increase in survey response rates
<b>Theme 3. Surveys, Participation, and Trust in QAS</b>	Response Rates in QAS Surveys and Target Levels	course evaluation survey response rates are improving but still below target; student satisfaction survey response rates are stable; Employee Satisfaction Survey Response Rates Are slightly declined; graduate career surveys have high response rates; response rate trends indicate progress but room for improvement
	Strategies to Enhance Survey Response Rates	leveraging student organizations and university governance; encouragement from faculty members; digital communication and social media promotion; use of reminders and strategic timing; reducing survey length to encourage participation; transparency and communication about survey impact; reservations about prioritizing response rate growth
	Ensuring Anonymity in Surveys Under QAS	commitment to anonymity and institutional trust; system design to prevent identification; restricted access to sensitive comments; modifications to give students more control over comments; challenges in overcoming student distrust
	Student Trust in the Anonymity of Evaluations	multimedia communication campaigns; printed posters in addition to digital media; hidden comment option for small groups;

		transparency about what faculty can see
	Faculty Engagement with the QAS	institutional communication and reminders; cultural and hierarchical barriers to engagement; legal and policy-driven participation; efforts to increase buy-in through awareness campaigns; employees' awareness of engaging in
	Lecturer Involvement in Encouraging Student Evaluations and QAS Participation	limited formalization of lecturer responsibilities in QAS; use of reminders and guidelines; incentive-based models at other universities (not implemented at NCU); focus on student awareness instead of lecturer-led promotion; student working during studying; Faculty resistance to engaging with and communicating
<b>Theme 4. Feedback Utilization and Continuous Improvement</b>	Recognition and Rewarding of Outstanding Teaching Efforts Based on Evaluations	teaching awards consider multiple factors beyond evaluations; faculty-level recognition varies; university-wide selection of best teaching practices; teaching evaluations play a role in promotions and rector's education awards; challenges in using evaluation scores for awards
	Faculty Responses to Survey Findings in the QAS	structured review and discussion of survey findings; selective implementation of recommendations; faculty engagement in teaching improvements varies; administrative interventions for negative feedback
	Institutional Responses to Poor Teaching Evaluations in the QAS	faculty-level interventions and monitoring; potential consequences for repeated poor evaluations; investigation and legal considerations; support and training for improvement; institutional emphasis on research over teaching
	Communication of Measurement and Evaluation Results	publication of results via online platforms and reports; email notifications and rector's communications; annual meetings to discuss results and action plans; challenges in student engagement and participation; potential solutions to improve communication
	Processes for Creating Corrections and Improvement	formalized system for approving changes; faculty committees develop recommendations and action plans; dean's council and department heads review and approve plans; evaluation of study program

		changes by various NTNU bodies; annual review of implementation progress
	Corrective Actions and Improvements Based on Survey Feedback	modifications to study programs and teaching methods; improvements in faculty development and evaluation; creation of student-centred spaces; strengthening mental health and support services; addressing workplace issues for staff
	Communication of Improvements and Impact on Survey Response Rate	faculty meetings and online reports; university-wide communication strategies; direct student engagement and strategic meetings; the role of faculty leadership in encouraging engagement; need for more direct communication on changes
	Impact of the QAS on Educational Practices and Student Satisfaction	increased awareness and adaptation to student needs; collaborative discussions on teaching quality; maintaining high teaching standards and satisfaction levels; building a culture of feedback and quality awareness; concrete improvements based on student feedback
<b>Challenges and Future Directions</b>	Challenges and Obstacles in the Implementation of the QAS and Strategies for Overcoming Them	resistance and attitudinal barriers among academic staff and authorities; communication and trust issues; resource constraints and structural challenges; bureaucracy and the slow pace of change
	Future Directions for the QAS Development	shifting focus from data collection to actionable results; expanding the process-based approach; strengthening quality culture and faculty engagement; enhancing communication and transparency

<b>NTNU's teachers' s theme</b>	<b>Subtheme</b>	<b>Code</b>
<b>Theme 1. Foundations and Evolution of QAS</b>	Origins and Motivations for Establishing the QAS	external influences and regulatory requirements; quality assurance as the central motive
	Evolution of QAS to Meet	national alignment through external reviews and structural adaptations; continuous

	National and International Standards	adaptation to changing standards; international benchmarking and accreditation
	Accreditation and Compliance with National and International Standards	national alignment through adherence to NOKUT requirements; pursuit of international accreditation standards (AACSB); internal quality assurance mechanisms supporting continuous compliance
	Processes for Ensuring Compliance with External Quality Standards	Compares QAS against national/international standards; improvement areas for alignment; Follows detailed processes for meeting accreditation criteria, including self-assessment and hosting accreditation site visits; Provides training to keep faculty and staff updated with the latest quality assurance, educational technologies, and teaching methods; Utilizes feedback from stakeholders to inform and drive improvements in the QAS and academic programs; Maintains detailed records of QAS activities and outcomes for internal review and demonstrating external compliance.
<b>Theme 2. Structure, Measurements, and Indicators in QAS</b>	Structure and Procedures of the QAS	systematic measurements; communicating measurement results; creating a plan for corrections and improvements; introducing corrections and improvements; communicating about the corrections and improvements introduced; systematic review of academic programs; ongoing evaluation and updating of the curriculum; training programs for faculty and administrative staff on quality assurance processes
	Evaluation and Measurement Processes within the QAS	student evaluations and feedback mechanisms; faculty and staff evaluations
	Quality Indicators and Measurement Metrics Used in the QAS	teaching quality index; response rates in evaluations and satisfaction surveys; student satisfaction index
	Values and	student-based measures; employee-based

	Metrics Used in the QAS	measures
	Trends in Quality Assurance Measurements Over the Past Three Years	overall positive trends in key measures; impact of covid-19 on trends; variability across departments
<b>Theme 3. Surveys, Participation, and Trust in QAS</b>	Response Rates in QAS Surveys and Target Levels	current response rates for student surveys; desired target response rates for student surveys; current response rates and targets for employee surveys
	Strategies to Enhance Survey Response Rates	strategies targeting students; strategies targeting employees
	Ensuring Anonymity in Surveys Under QAS	anonymous surveys; reference group feedback
	Student Trust in the Anonymity of Evaluations	reliance on systemic anonymity and high trust levels; lack of additional specific measures; reference group feedback concerns
	Faculty Engagement with the QAS	information and communication through committees and meetings; mandatory evaluation requirements and high response targets; professional development and acceptance of the QAS as a tool; seminars and collaborative discussions; inner motivation and understanding the value of evaluations; meetings and reminder systems to ensure completion
	Lecturer Involvement in Encouraging Student Evaluations and QAS Participation	mandatory student feedback collection; involvement in broader quality assurance activities; perception of the process as inherent to professional development; additional approaches for collecting feedback
<b>Theme 4. Feedback Utilization and Continuous</b>	Recognition and Rewarding of Outstanding Teaching Efforts Based	departmental and university-level awards; formal award processes involving nominations and committees; student-initiated recognition

<b>Improvement</b>	on Evaluations	
	Faculty Responses to Survey Findings in the QAS	active use of feedback for course improvement; variability in engagement and adaptation; structured and cooperative revision process; direct responsibility for incorporating feedback
	Institutional Responses to Poor Teaching Evaluations in the QAS	consultative and department-level discussions; targeted support and remedial actions; peer mentoring and professional development; direct intervention by program leaders; potential negative consequences; curricular adjustments and continuous improvement
	Communication of Measurement and Evaluation Results	communication through formal meetings and committees; online platforms and public access; multiple communication channels; availability versus active dissemination; public availability of national surveys
	Processes for Creating Corrections and Improvement	regular committee reviews and reporting; course-level adjustments and individual feedback; staggered and multi-level correction process; departmental structure and involvement of study program heads; major revisions through dedicated committees
	Corrective Actions and Improvements Based on Survey Feedback	curriculum adjustments and course offerings; changes to teaching methods and course structure; adjustments to exam formats and assessment methods; structural changes in course delivery; policy-level reforms based on long-term evaluations; enhanced student expectations and communication
	Communication of Improvements and Impact on Survey Response Rate	direct communication at the start of the semester; explicit linkage between feedback and changes; initial roadmap presentation; public availability of information; regular meetings to reinforce the message; communication through experience and future comparison
	Impact of the QAS on Educational Practices and Student Satisfaction	course content and sequencing adjustments; enhanced teacher awareness and quality teaching; systematic overview through the QAS specific improvement actions (e.g., exam formats); aggregate impact on student satisfaction

<b>Challenges and Future Directions</b>	Challenges and Obstacles in the Implementation of the QAS and Strategies for Overcoming Them	documentation burden and faculty workload; faculty engagement and participation; balancing standardization with course specificity; technical and process-related issues; diversity across courses and student bodies; ongoing evolution and continuous improvement
	Future Directions for the QAS Development	international accreditation (AACSB); decentralization and local adaptation; transforming into a learning system; streamlining documentation and reducing bureaucracy

<b>NCU's Students' Theme</b>	<b>Subtheme</b>	<b>Code</b>
<b>Theme1. Feedback Collection and Evaluation Methods</b>	Student Awareness and Participation in QAS Evaluations	course evaluation questionnaires are well-known and used; limited awareness of other surveys; poor advertisement of the student satisfaction survey; lack of a formal improvement suggestions system; recognition of the graduate career survey
	Methods of Collecting Feedback and Their Impact	course evaluation questionnaires as the main feedback tool; professors sometimes seek oral feedback; uncertainty about whether feedback leads to changes; low participation in surveys due to lack of obligation
	Encouragement and Accessibility in Providing Feedback	lack of active encouragement from professors; newsletter notifications are ineffective; use of visual participation indicators on USOS; inconsistent encouragement from professors; feedback may influence course availability
	Monitoring Participation and Strategies to Increase Engagement	tracking survey participation through the USOS system; low awareness and engagement in surveys; lack of motivation to participate; potential solutions to increase participation
	Ways for Students to Offer Feedback to the QAS	structured and timely questionnaire-based feedback; direct engagement and observational feedback; make survey

		obligatory
<b>Theme 2. Communication and Transparency</b>	How Measurement Results Are Communicated	students do not know how to access survey results; uncertainty about whether feedback leads to action; students feel excluded from discussions about feedback outcomes; greater transparency could increase student participation
	How Students Are Informed About the University's Response to Surveys	uncertainty about access to result; limited public information on survey participation and trends; students do not feel informed about how feedback is used
	Communication of Corrections and Improvements	no communication about implemented changes
	Examples of Changes Resulting from Student Feedback	lack of clarity and formal communication about feedback outcome; changes driven by informal or individual initiatives versus systemic inaction
	Discussion of Feedback Outcomes with Students and Teachers(frequency)	lack of awareness about feedback meetings; implications for communication and engagement
<b>Theme 3. Impact of Feedback and System Effectiveness</b>	Perceived Impact of Survey Feedback and Communication	limited accessibility and transparency of feedback information; individual-level impact through professor responsiveness
	Changes from Student Feedback and Effects on Satisfaction	uncertainty regarding direct impact of feedback; observable physical improvements driven by aggregated feedback
	Concrete Examples of Improvements from Feedback	uncertainty regarding personal impact of feedback; tangible improvements possibly linked to student feedback
	Overall Effectiveness of the QAS in Being Open, Responsive, and Making Real Changes	need for increased transparency and communication; call for a more systemic and responsive approach
<b>Theme 4. Anonymity and Privacy Protection</b>	explicit anonymity cues and trust in the system; need for more transparent and accessible anonymity information	



<b>Theme 5. Incentives, Recognition, and Student Involvement</b>	Recognition of Great Teaching and Encouragement to Participate	recognition through positive special comments; evaluation based on syllabus alignment and instructional clarity
	Role of Student Representatives in Feedback Collection	uncertainty about formal promotional efforts; informal collection of feedback
	Instances of Student Involvement Leading to Change	uncertainty and hesitance in classroom feedback; tangible changes in physical infrastructure

<b>NTNU's Students' Theme</b>	<b>Subtheme</b>	<b>Code</b>
<b>Theme 1. Feedback Collection and Evaluation Methods</b>	Student Awareness and Participation in QAS Evaluations	familiarity with evaluation methods; participation in formal evaluations; alternative feedback mechanisms
	Methods of Collecting Feedback and Their Impact	email and meetings with professors; paper-based and electronic evaluations; online surveys and platforms
	Encouragement and Accessibility in Providing Feedback	reference groups as an effective feedback mechanism; lack of incentives for participation; challenges in recruiting students for reference groups; preference for verbal over written feedback; potential improvements to the feedback process
	Monitoring Participation and Strategies to Increase Engagement	tracking student participation; concerns about low participation rates; effectiveness of surveys; marketing strategies and incentives; mandatory participation as a solution
	Ways for Students to Offer Feedback to the QAS	various feedback channels available; importance of professors' availability and communication; need for improved communication about feedback outcomes perception of success based on graduate employability
<b>Theme 2. Communication</b>	How Measurement Results Are	annual meetings for university-wide results; course-specific feedback

<b>and Transparency</b>	Communicated	reflected in future semesters; publication of results on blackboard and <b>INNSIDA</b>
	How Students Are Informed About the University's Response to Surveys	limited awareness of implemented changes; information channels: emails and informal conversations; low engagement with results on <b>INNSIDA</b>
	Communication of Corrections and Improvements	reference groups and course websites; delays in implementing changes; communication through professors and class representatives
	Examples of Changes Resulting from Student Feedback	adjustments to course content based on student needs; changes in exam and assignment structures; improvements in teaching methods and classroom dynamics; reporting to supervisors for further action; implicit vs. explicit communication of changes
	Discussion of Feedback Outcomes with Students and Teachers(frequency)	regular meetings for feedback discussions; limited student participation in discussions; role of the reference group in feedback communication; professors seeking immediate feedback in class
<b>Theme 3. Impact of Feedback and System Effectiveness</b>	Perceived Impact of Survey Feedback and Communication	importance of response rates and feedback quality; belief in the impact of feedback; lack of communication on how feedback is used
	Changes from Student Feedback and Effects on Satisfaction	reference group documentation of changes; mixed impact on student satisfaction; adaptation of teaching methods based on student preferences; increased sense of student impact
	Concrete Examples of Improvements from Feedback	adjustments to exam structures; evaluation of feasibility before implementation; improvements in lecturer-student interactions
	Overall Effectiveness of the QAS in Being Open, Responsive, and Making Real Changes	surveys help identify trends, but meetings enable deeper discussions; the system learns from mistakes and promotes progress; lack of communication about implemented changes
<b>Theme 4.</b>		anonymity in surveys and large sample

<b>Anonymity and Privacy Protection</b>		sizes; reference groups as a safe space for feedback; trust in the university's commitment to privacy
<b>Theme 5. Incentives, Recognition, and Student Involvement</b>	Recognition of Great Teaching and Encouragement to Participate	importance of continuous feedback for course improvement; reference groups as a key feedback mechanism; balancing positive and negative feedback; opportunities to nominate teachers for recognition
	Role of Student Representatives in Feedback Collection	distinction between reference groups and student representatives; challenges in engagement and organizational differences; informal and structured methods of collecting feedback; use of anonymous feedback and digital channels
	Instances of Student Involvement Leading to Change	direct influence on teaching methods; enhancements in learning resources