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WELCOME SPEECH FROM THE CHAIRMAN

RISM 17th International Surveying Conference for Undergraduates (ISCU 2025)

بسم الله الرحمن الرحيم السلام

عليكم ورحمة الله وبركاته

Greetings to all,

It is with great pleasure that I welcome you to the 17th RISM International Surveying Conference for Undergraduates (ISCU 2025), themed “*Embracing Construction Revolution 4.0: Transforming Malaysia’s Built Environment.*” On behalf of the Royal Institution of Surveyors Malaysia (RISM), I also wish to express our sincere appreciation to Universiti Teknologi MARA (UiTM), Perak Campus, for graciously hosting this significant event.

As we navigate the era of the Fourth Industrial Revolution (IR4.0)—or in our context, Construction Revolution 4.0 (CR4.0)—we are witnessing transformative advancements across the global construction sector. Technologies such as Building Information Modelling (BIM), the Internet of Things (IoT), artificial intelligence (AI), robotics, big data analytics, and cloud computing are redefining the way we build, manage, and interact with our built environment. For Malaysia, embracing CR4.0 is a strategic imperative to achieve our socio-economic and environmental goals.

This conference serves as a vital platform to unite surveying undergraduates from various disciplines, fostering critical dialogue on industry challenges, enhancing professional networking, and preparing a new generation of talent for the rapidly evolving construction landscape. It is also an opportunity for employers to engage with and inspire our future professionals.

I would like to extend my heartfelt thanks to all industry speakers, paper presenters, judges, and participants for their time, contributions, and support in making ISCU 2025 a success. I also commend the organising committee for curating a meaningful and dynamic conference experience.

May the knowledge gained, connections formed, and ideas exchanged during this event inspire all participants to lead and innovate in their future endeavours.

Wishing everyone a productive and memorable conference.

Prof. Ts Sr Dr. Adi Irfan Bin Che Ani'

Chairman, Universities' Partnering Committee

RISM Session 2024/2025

May 2025

WELCOME SPEECH FROM CO-CHAIRMAN

RISM 17th International Surveying Conference for Undergraduates (ISCU 2025)

Bismillahirrahmanirrahim.

السلام عليكم ورحمة الله وبركاته and greetings to all.

It is my great pleasure to welcome everyone to the 17th International Surveyor Conference for Undergraduates (ISCU 2025), proudly hosted by Universiti Teknologi MARA (UiTM) Perak Branch in collaboration with the Royal Institution of Surveyors Malaysia (RISM). This event is a meaningful platform for students in the built environment to share ideas, showcase innovations, and build professional networks. We are honoured by your presence and enthusiastic participation, with 135 accepted papers and 78 poster presentations this year.

UiTM Perak, home to the College of Built Environment, has long been a hub for academic excellence in architecture, planning, and surveying. Our commitment remains strong in nurturing competent graduates who meet industry demands and contribute to nation-building.

While you're here, we invite you to experience the heritage and culture of Perak Tengah from the architectural richness of Rumah Kutai to the historical towns of Pasir Salak, Bota, and Kampung Gajah.

To all presenters and winners, congratulations on your achievements. Let your work today be a catalyst for future success and academic growth. We hope this conference will inspire you to explore new ideas, foster collaboration, and make lasting memories.

My deepest thanks to the Royal Institution of Surveyors Malaysia (RISM) and the organising committee for making this event a success.

We hope your experience here will be rewarding and unforgettable.

Thank you. Selamat datang dan selamat berjaya.

Associates Professor Dr. Nur Hisham Ibrahim, *PMP*

Co-Chairman, Universities' Partnering Committee

RISM Session 2024/2025

May 2025

WELCOME SPEECH FROM THE PROJECT DIRECTOR

RISM 17th International Surveying Conference for Undergraduates 2025

Alhamdulillah, all praise to Allah S.W.T. for His guidance and blessings in making the RISM 17th International Surveying Conference for Undergraduates (ISCU) 2025 a reality.

It is with great honour and gratitude that I welcome all participants, guests, academicians, and industry professionals to this prestigious event, proudly organized under the Royal Institution of Surveyors Malaysia (RISM). This 17th edition of ISCU stands as a proud testament to our collective dedication toward academic excellence, professional collaboration, and youth empowerment in the field of surveying.

I extend my heartfelt appreciation to RISM for its unwavering support, to the hardworking ISCU 2025 Organising Committee, and to all 16 partnering universities across Malaysia for their commitment and contributions. Your efforts have shaped this conference into a dynamic platform for knowledge exchange, innovation, and professional growth.

To the academicians and practitioners present, your insights are invaluable in bridging the gap between academic theory and real-world practice. To our undergraduate participants, your passion, curiosity, and commitment are the very foundation of our future. May this conference not only deepen your academic journey but also ignite a spirit of leadership, integrity, and sustainable thinking.

Let this gathering serve as more than an academic milestone. May it foster lifelong networks, inspire transformative ideas, and chart new directions in our shared professional journey.

Wishing everyone a rewarding and inspiring conference experience.

Sr Dr. Nurul Fadzila Zahari

Project Director

RISM 17th ISCU 2025

SOFT SKILLS DEFICIENCIES IN QUANTITY SURVEYING GRADUATES AS PERCEIVED BY CONTRACTORS IN MALAYSIAN CONSTRUCTION INDUSTRY

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ABSTRACT

The construction industry demands not only technical proficiency but also strong soft skills among Quantity Surveyors to ensure project success and effective collaboration. This study aims to identify the key soft skills deficiencies in Quantity Surveying students from the perspective of contractors and explore strategies to enhance these skills for better employability in the construction sector. The research is guided by three objectives: (i) to assess contractors' perceptions of the most critical soft skills needed by Quantity Surveyors in the construction industry; (ii) to analyse the impact of soft skills deficiencies on contractors' operations and project success; (iii) to propose practical strategies to bridge the soft skills gap in Quantity Surveying student through educational and industry collaboration. The research data was collected from literature review and questionnaires distribution to gain insights into the specific soft skills gaps and their consequences on project performance. A total of eighty-four (84) respondents who are the Quantity Surveyors working under Grade 7 contractor firms in Johor Bahru. The analysis of the effective soft skills which influence the construction project achievement by the performance of fresh graduate Quantity Surveyors. It discovers top 3 soft skills which are: (1) collaboration and teamwork; (2) communication skills; (3) ethics and integrity, whereas the top 3 impacts of soft skills deficiencies are: (1) miscommunication; (2) frustration, friction, tense environment and demotivation; (3) independent action. As for the findings on the strategies bridging the soft skills gap effectively, top 3 strategies are: (1) industrial training; (2) combining hard skills and soft skills in course structure; (3) collaboration between the Higher Education Institution (HEI) and the employer. This research benefits future Quantity Surveying graduates by offering practical strategies to enhance soft skills before entering the industry. For broader insights, future studies should expand beyond Johor Bahru to include perspectives from other states or across Malaysia.

Keywords: Soft Skills, Quantity Surveying Graduates, Construction Industry, Contractors' Perspective, Project Success

I. INTRODUCTION

In Malaysia's dynamic and competitive construction industry, Quantity Surveyors play an important role. They are in charge of cost management, project valuation, and ensuring that the financial and contractual aspects of construction projects are properly managed. Aside from technical proficiency, soft skills such as communication, teamwork, problem-solving, adaptability and so on, are increasingly recognized as essential for the successful performance of these roles. Contractors, who rely heavily on Quantity Surveyors' expertise for cost control and efficient project delivery, have expressed concerns about new graduates' soft skills. These deficiencies can result in miscommunication, conflicts, and delays, all of which have an impact on project outcomes.

Today's young graduates may have the most up-to-date technical skills, but they often lack the crucial characteristics for workplace success, referred to as "soft skills" (Oni & Aina, 2020). Some of the employers prefer to recruit

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graduates based on their soft skills and other positive attributes rather than their academic achievement and technical skills (Wafa, 2020).

What is soft skills? According to Oxford Dictionary, soft skills are personal attributes that enable someone to interact effectively and harmoniously with other people. Soft skills are interpersonal and intrapersonal abilities that help individuals master performance in particular social contexts (Poláková et al., 2023). Interpersonal is about interactions between people, such as external relationships and communication. Intrapersonal is about inner processes within an individual, such as self-awareness and personal development. Soft skills are described as being intangible, nontechnical, personality-specific skills that help ascertain one's strengths in leadership, facilitating, mediating and negotiating (Lahope et al., 2020).

Problem Statement

The gap between employers' expectations and the reality of what today's graduates bring to the labour market is widening (Sekak et al., 2023). The current issue with the skills of Quantity Surveying graduates in Malaysia is lack of development of soft skills, which lacking soft skills will be considered unmarketable (Oni & Aina, 2020). Employers deem soft skills as employability skills while blaming higher education for not equipping graduates with the skills needed, and continuously highlighting students' lack of soft skills (Hurrell, 2016). Quantity Surveying graduates may have strong technical knowledge in areas such as cost estimation, contract management, and project valuation. To maintain and enhance competitive advantage and profitability, the wide array of Quantity Surveyors' responsibilities means that they have to be educated, trained, and highly skilled in diverse subjects (Ling, 2014). Unfortunately, many graduates including Quantity Surveyors lack employability skills (R.Chithra & M. Banumati, 2014). These shortcomings limit their ability to collaborate with diverse stakeholders, manage conflicts, and adapt to the dynamic challenges of construction projects.

In addition, there are also a number of studies that have found that there is a discrepancy between the perceptions of students of the skill required and expectations of the employers which may be contributing to factors such as economic downturn and the high rate of graduate unemployment in various countries particularly in developing countries such as Malaysia (Tagulwa et al., 2023). This statement addresses a critical issue: the mismatch between students' perceptions of the skills required and employers' expectations, particularly in developing countries such as Malaysia. Many academics and researchers agree that there is an increasing gap between soft skills expected by employers and the level of soft skills possessed by graduates (Asefer & Abidin, 2021). Poor soft skills may compromise professional relationships and undermine trust. Quantity Surveying graduates may not have had enough opportunities during their education to apply their technical skills in real-world, collaborative settings, despite the fact that soft skills are essential. Quantity surveyors need to adopt advanced, modern and some pertinent strategies to improve their capability of gaining employment in the industry (Seidu et al., 2021).

I. SOFT SKILLS

Soft skills are interpersonal and intrapersonal abilities that enhance technical expertise, essential for career success (Ritter et al., 2018; Hirudayaraj et al., 2021). They are developed through experience rather than formal education (Kovarik & Warren, 2020; Bataklar & Toy, 2023). Universities play a role in fostering these skills (Bullen et al., 2018). Soft skills include communication, teamwork, adaptability, critical thinking, and time management, integrating cognitive and affective aspects like decision-making, empathy, and resilience (Matteson et al., 2016; Touloumakos, 2020). They go beyond people skills, encompassing personality traits and attributes vital for workplace effectiveness.

II. SOFT SKILLS REQUIRED OF GRADUATES IN QUANTITY SURVEYING

Negotiation and Conflict Resolution

Negotiation is the art of reaching a mutual agreement through discussion and compromise. It's a vital skill in both personal and professional life for achieving win-win outcomes (Katie, 2024). Negotiation skills are effective when they achieve negotiation goals or when they grow out of an understanding of the process that surpasses minimal performance (Greene & Burleson, 2003). In order to effectively advocate for their position while preserving positive relationships, Quantity Surveyors must strike a balance between assertiveness and diplomacy.

Collaboration and Teamwork

Collaboration and teamwork are essential for Quantity Surveying because the job necessitates efficient coordination with a variety of stakeholders, such as clients, architects, engineers, contractors, and project managers. Collaboration has been defined as the process by which two or more persons engage in a joint activity to achieve a shared goal (Bedwell et al., 2012). Collins Dictionary describes teamwork as the ability of a group of individuals to work effectively together. Teamwork refers to the enactment of teamwork processes that support effective team performance; precisely, teamwork has been termed "the integration of individuals' efforts toward the accomplishment of a shared goal" (Driskell et al., 2018).

Problem-Solving and Critical Thinking

Collins Dictionary shows that problem-solving is the act or process of finding solutions to problems, especially by using a scientific or analytical approach. According to Oxford Languages, critical thinking is the objective analysis and evaluation of an issue in order to form a judgement. Critical thinking and problem-solving require situation analysis, problem identification, and the creation of workable solutions. This involves the use of logic, imagination, and the capacity to weigh options. (Hafidz & Mohamad, 2021) underscore that critical thinking helps Quantity Surveyors to solve problems immediately and efficiently. (Shukery & I-Chee, 2024) defines problem solving skills as involving careful observation and critical thinking to identify suitable solutions to attain desired objectives. For Quantity Surveyors, problem-solving and critical thinking are fundamental abilities that help them deal with the difficulties and complexities of building projects.

Time Management

Time management is defined as “behaviours that aim at achieving an effective use of time while performing certain goal-directed activities (Claessens et al., 2007). Time management is the process of planning, organising, and controlling how much time is spent on specific tasks in order to increase productivity and efficiency. It facilitates timely task completion, stress reduction, and performance enhancement for both individuals and teams. Setting deadlines to keep on track, avoiding procrastination, controlling distractions, and effectively allocating time for various activities are all components of time management. One of the objectives of the university is to prepare students for their labour insertion, time management becomes an essential competence for the link of formation with the professional world (Alvarez Sainz et al., 2019).

Adaptability

According to Oxford Dictionary, adaptability is the quality of being able to adjust new conditions, and the capacity to be modified for a new use or purpose. Previous study to employee adaptability have depicted that the individual employee capacity for adaptation varies in such dynamic work situations (Sony & Mekoth, 2022). Besides, the capability to modify behaviour according to the requirements of new environments, situations or events is a prime requirement for employee adaptability (Charbonnier-Voirin & Roussel, 2012). Unexpected changes such as weather-related or supply chain-related delays in projects, and changes in material prices that affect budgets are common in the construction industry. A successful Quantity Surveyor must be able to quickly adjust to these changes while still managing contracts, making decisions, and estimating costs accurately and efficiently.

Communication Skills

Communication skills refer to the ability of an individual to effectively convey messages or information from one party to another party that are appropriately and completely understood by both parties (Das, 2023). What exactly they understand to be communication skills, one will receive a wide range of answers, because communication skills include a lot of different aspects (Schulz, 2008). The ability to effectively communicate through speaking, writing, and listening is referred to as communication skills. In both personal and professional contexts, effective communication guarantees clarity, minimizes misunderstandings, and fosters relationship development. Whether negotiating contracts, preparing reports, or resolving disputes, effective communication ensures that messages are understood, expectations are aligned, and collaboration flows smoothly.

Ethics and Integrity

Ethics has been defined as conforming to accepted professional standards of conduct (Othman, 2012). “Ethics” comprises the rules of conduct, against which human behaviour and the moral principles portrayed by an individual can be judged accordingly (Delbridge, 2000). Ethical practices have to include respect for intellectual property, engaging in fairer competition, avoiding monopolies, nepotism, bribery and crony capitalism, not abusing government relationships, providing accurate information to the market, respect for the environment, and honouring contracts, promises and other commitments as a profession body in construction industry (Donaldson, 2001).

Market Awareness

Market awareness is defined as the ability to understand current industry trends, pricing, competition, and economic factors affecting a profession or business. Making educated decisions requires keeping up with emerging technologies, market conditions, and regulatory changes. (Quach et al., 2020) define market awareness as a management personal ability to accurately perceive, comprehend and predict elements in the marketplace. As a Quantity Surveyor, understanding the market makes it easier to forecast labour and material costs. The effect of market awareness on performance is strengthened when people have a high degree of agreement about what tactics to pursue going forward (Bonney et al., 2016).

III. EFFECTS OF SOFT SKILLS DEFICIENCIES

Ineffective, poor and substandard communication among construction parties leads to many undesirable sequences, such as dispute and failure of the project (Hossain, 2009). Frustration, friction, tense environment and demotivation are among the negative impacts of soft skills deficiencies (Zulch, 2012). Soft skills considered as a core competency, and if it is not executed correctly and connected every member of the project team to a set of consistent strategies and procedures then project outcomes are jeopardized, and the budget incurs unnecessary risk (Andrew et al., 2007). Effective soft skills competencies are able to assist smoothly organize the collective actions of team members and the vast amount of information, which further avoid independent actions that lead to incompatibility and mismatched with project objectives and coordinated outcomes (Armstrong & Michael, 2020). Soft skills deficiencies significantly resulted in many negative consequences to the construction project and further has been confirmed that the less rate of communication among parties during the project can cause time, cost overruns (Badu et al., 2010), rework and a range of other construction performance deficiency (Emuze & James, 2013). In 21st century workplace, lack of soft skills can undermine the technical ability of individuals and can cost them their job and/or potential career growth (Klaus, 2010).

IV. STRATEGIES TO BUILD SOFT SKILLS GAP

The interdisciplinary approach to soft skills development fosters collaboration across fields, enhancing both theoretical and practical knowledge (Mandro et al., 2024). Universities play a crucial role in ensuring graduates possess both technical and soft skills for workforce success (Bullen et al., 2018). Engaging in university clubs and leadership roles helps Quantity Surveying students develop interpersonal skills, improving career readiness (Kovarik & Warren, 2020; Smith & Chenoweth, 2015). However, many graduates still lack essential soft skills (Gurvinder & Sharan, 2008).

To bridge this gap, universities should strengthen industry collaborations, enabling students to gain hands-on experience (Omar et al., 2012). Industrial training provides real-world exposure, allowing students to apply learned skills, build confidence, and develop teamwork, problem-solving, and communication abilities (Neuman, 1999; Pillai et al., 2012; Lai et al., 2011).

International mobility programs also help students enhance cultural awareness, adaptability, and intercultural communication skills (Chieffo & Griffiths, 2004; Roy et al., 2018). While hard skills involve technical expertise, soft skills focus on interpersonal effectiveness, and a balanced approach integrating both fosters innovation and employability (Barbara, 2016; Torres et al., 2020). Academic programs should be continuously updated to reflect evolving industry needs, ensuring graduates are well-rounded professionals (Ang, 2015).

V. RESEARCH METHODOLOGY

In this research, the goal is to identify the key soft skills lacking in Quantity Surveying students from the contractors' perspective and the strategies to enhance these skills for better employability in the construction industry. The study's primary data will be gathered by a questionnaire survey, and secondary data will be gathered using a review of the literature. The Grade 7 contractor firms in Johor Bahru, Johor, will make up the sample size or respondents in this study.

Based on the data provided by Official Website of CIDB, 2024, there are six hundred fourteen (614) number of Grade 7 contractor firms in Johor Bahru, Johor. With a margin of error of 10% and a confidence level of 95%, the sample size for this study, calculated using a sample size calculator, will be eighty-four (84) samples. This means that in order to have a 95% confidence level in the study, at least eighty-four (84) respondents must be included. This study used a structured research approach to ensure that the findings were reliable and valid. Both primary and secondary data were collected as part of the methodology. Questionnaires and interviews with contractors were used to collect primary data regarding their opinions of the soft skills of graduates in quantity surveying. To give background information and bolster the study's conclusions, secondary data was gathered from industry reports, scholarly journals, and earlier research projects.

The gathered data was compiled and interpreted using a descriptive statistical method for data analysis. Additionally, based on contractors' responses, the relative importance of various soft skills deficiencies was ranked using the Relative Importance Index (RII).

VI. DATA ANALYSIS & DISCUSSION OF FINDINGS

This study has studied the importance of soft skills as perceived by Contractors among eight soft skills. According to the results, the most concerned soft skills are collaboration and teamwork (RII: 0.902), communication skills

(0.879), and ethics and integrity (0.876). These three soft skills scored the highest weightage of a relative importance index, which are the most important and valued soft skills required by the construction industry.

The consequences are faced by the construction professionals if the fresh graduates are lack in soft skills. Miscommunication (91.7%), which will lead to cost overrun and project delays that need to be bear by the construction professionals. Frustration, friction, tense environment and demotivation (90.5%), and independent action (89.3%) brought by the fresh graduates will also negatively impact teamwork and decision-making process. Furthermore, with the required soft skills and impacts of lacking soft skills, there come with solutions, which are the possible ways and strategies to let the fresh graduates bridge the soft skills gap in university, also before they start working in the construction industry. The first three strategies are industrial training (RII: 0.900), combination of hard skills and soft skills in course structure (0.895), and collaboration between HEIs and the employer (0.848).

A summary of the chapter is given above. In the meanwhile, maybe advanced strategies can be implemented to boost the involvement of construction professionals and raise the industry's productivity. The construction industry needs to improve continuously.

VII. CONCLUSION & RECOMMENDATION TO FUTURE STUDY

By employing an online questionnaire, all of the study's objectives were methodically investigated under the heading of Data Analysis, provides a thorough explanation of the results obtained from this questionnaire. The online survey was diligently shared only to the targeted respondents, which are Johor Bahru Grade 7 contractor firms. The questionnaire has been divided into four sections: Section A covered the background of the respondents, and Sections B, C, and D covered the three research objectives.

Based on the respondents' perspective from the questionnaire, the professionals in contractor firms believes that collaboration and teamwork is the most critical and necessary soft skill that needed from Quantity Surveying fresh graduates, while market awareness is rated as the least critical soft skill among all of these soft skills.

Miscommunication is the most common and needed to be avoid by fresh graduates Quantity Surveyors once they join into the construction industry, while jeopardized is rated as the least significant impact among all identified impacts, as fresh graduates typically work under the guidance of a senior mentor.

The respondents in this study thought that the best way to help fresh graduates develop their soft skills before joining the construction industry would be through internships or industrial training. Moreover, the interdisciplinary approach is rated as the least critical strategy among all of these strategies. Overall, all three objectives of the study have been achieved.

The recommendations for further research are conducting the same research by collecting the data from other states in Malaysia in order to compare the Quantity Surveyors and construction professionals' perception from other states with Johor Bahru. Further study can explore the soft skills and solutions to bridge the existing soft skills gap between fresh graduates and the industry requirement.

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