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THE ROLE OF WORK PLACEMENT IN SHAPING QUANTITY SURVEYING CAREERS

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Abstract:

This study examines the influence of work placement programs on the professional growth of quantity surveying students, focusing on their role in enhancing employability, acquiring practical and soft skills, and bridging the gap between academic learning and industry practices. The research aims to identify the implications of work placements, determine the barriers faced by students during placements, and investigate existing strategies to improve implementation. Using a quantitative approach, data were collected from 124 participants at various stages of their education and career. The findings reveal that work placements significantly benefit students by improving their skills and industry readiness, yet challenges such as limited opportunities, low wages, and short durations hinder their full potential. By analyzing these barriers and strategies, the study highlights the importance of robust collaboration between universities and industry stakeholders to optimize placement programs. These insights contribute to enhancing placement practices, ensuring the production of skilled and competent quantity surveyors.

Keywords:

Work Placement, Quantity Surveying, Career Development, Employability, Educational Strategies, Industry Partnership

Introduction

Work placement is a programme incorporated into the structure of an undergraduate programme to assist students in their career readiness and career path. A person's career path is shaped through the exploration and implementation process known as career development which comprises evaluations of their personality, interests, skills, and talents (McKay, 2020). Based on the definition by Goplani, Akash, and Jewel (2020), work placement refers to a limited work period put forward by an organisation and is usually undertaken by undergraduate students with the purpose of fulfilling academic requirements or obtaining first-hand experience in their future career field.

The concept of work placement existed in the 1920s but was largely adopted by universities starting from the 1960s (TRG, 2014). Since then, work placement has then assimilated itself into the programme structure of various undergraduate programme and become a pre-requirement for graduation. However, even until the year 2023, not all universities have followed in the footsteps of the majority (TRG, 2014). Since work placement is a newly added component, each Higher Education Institutions (HEIs) would have the ultimate authority to decide on its implementation. In the case of quantity surveying undergraduate programme, the same situation also applies.

Research had been conducted within the Dublin Institute of Technology regarding their decision not to implement work placement for QS undergraduate programme, titled “The Use of Internships as a Work Placement Option on Quantity Surveying Courses in Light of the Current Economic Downturn in the Irish Construction Industry”. From the research published, McDonnell (2013) found out that work placement is not implemented in the institute due to 3 beliefs. Firstly, the past record of the students for 20 consecutive years has shown that they were successful and managed to obtain employment without the hassle of work placement (McDonnell, 2013). Secondly, it would be hard to convince companies in the construction field to join in on the placement programme especially when there is a recession, and thirdly, it is believed that students would only be given menial or insignificant tasks that do not correlate to their career growth (McDonnell, 2013). Both the second and third points are also aligned with the research published by Auburn (2007) and Hancock and McDonnell (2011).

Work placement is recognized as a key element in enhancing the career development of Quantity Surveying (QS) students, as highlighted by research conducted in Malaysia and abroad. Studies by Rohana Mahbub (2017) and Izzati Afiqah (2017) demonstrate that work placements strengthen soft skills, expose students to practical knowledge beyond academic learning, and provide firsthand experience in QS operations. Similar findings are reported internationally, with research showing benefits such as improved employability, higher starting salaries, and the acquisition of practical skills (Brooks & Youngson, 2016; Delis & Jones, 2023; Anjum, 2020). Additionally, work placement fosters career confidence, goal-setting, and innovation, as seen in studies conducted in Hong Kong, Nigeria, Indonesia, New Zealand, and Australia. However, existing research exhibits notable gaps, including a lack of recent local studies, a narrow focus on specific aspects of work placement, and limited exploration of barriers and strategies for implementation. Addressing these gaps is essential to comprehensively analyze the implications, barriers, and strategies associated with work placement, as this integrated approach provides a clearer understanding of its effectiveness and helps promote its adoption in Higher Education Institutions (HEIs). Therefore, this research

focusing on the influence of work placement programs on the professional growth of quantity surveying students.

Literature Review

University-To-Work Transition Through Work Placement

Work placement removed the emphasis on mark-based assessment and prioritise on learning opportunities (Chesterton, Deane and Moore, 2023). Many view work placement as a method to ease the transition from university to work due to its various benefits and the way it acts as the bridge that links present academic learning to future professional careers (Martin et al., 2019). To successfully make this transition, young professionals must accomplish a number of tasks, such as learning the job, comprehending organisational rules and norms, assimilating to the organisational culture, analysing their fit within the chosen profession and firm, increasing their competence, developing specialty and team skills, and determining their long-term goals (Oliveira et al., 2016). The transition process heavily depends on one's capacity for swift adjustment. Given the challenging labour market realities of today, such as elevated unemployment rates and global competition for the few available job openings, this is even more crucial (Baluku et al., 2021). Given its influence on future careers, not all quantity surveying students have access to this opportunity through their undergraduate programme. Furthermore, many university-organized placements are competitive, resulting in a substantial amount of fail rate in securing placement (Smith et al., 2018).

There are existing terms such as apprenticeship, work-study, and internship that carry analogous meaning with work placement. However, each of them is different from each other and is applicable under different situations. Table 1 below tabulated their definitions and corresponding meanings according to the Cambridge Dictionary.

Table 1: Definition of Different Terms

Term	Definition
Work placement	"A limited time period, usually forming part of a course or study, during which someone works for a company or organization in order to get experience, which may be paid or not paid." (Cambridge Dictionary, n.d.)
Internship	"A period of time which someone works for a company or organization in order to get experience in a particular type of work." (Cambridge Dictionary, n.d.)
Work-study	"A situation where someone work for only some of the day or the week and also go to school." (Cambridge Dictionary, n.d.)
Apprenticeship	"Someone who has agreed to work for a skilled person for a particular period of time and often for low payment, in order to learn that person;s skills." (Cambridge Dictionary, n.d.)

Among the different types of terms mentioned in the above table, work placement tends to get mixed up with another term which is referred to as internship where both words tend to be used concurrently, signifying that the public views them as words with the same meaning. Even though work placement and internship have the similar nature of getting job experience, their duration and how they are implemented is entirely different from one another (Smith, 2021). Table 2 below illustrates the key differences between an internship and work placement.

Table 2: Differences between Work Placement and Internship

Work Placement	Internship
Incorporated into programme structure	Standalone programme
Involvement from university	No involvement from university
Assessment based	Non-assessment based
Carried out during the study year	Carried out during holidays or out of university calendar
Accredited	Not accredited
Duration from a few months to a maximum of a year	Duration from a few weeks to a few months
Carried out by undergraduate students	Carried out by undergraduate students or adults

Work placement is included within the undergraduate programme itself, which means that work placement is part of the programme rather than a standalone one. Hence, work placement itself is accredited if it is compulsory and there would be an assessment method to it such as the completion of certain tasks or writing of report. The companies are usually pre-assigned to students but there are also situations where the students are required to search for their own placement (Smith, 2021). The duration for work placement varies between a few months to a maximum of a year (Williamson, 2022). Other factors such as the undergraduate programme taken, requirements of regulation bodies, and the university itself would also influence the duration of the work placement (Smith, 2021).

Work Placement for Quantity Surveying Undergraduate Programme

Work placement is common if the undergraduate programme taken emphasizes heavily on practical knowledge and abilities, and the Quantity Surveyor undergraduate programme is one of those on the list (Hafiza Abu Bakar, 2019). Work placement provides students with the opportunity to obtain real working experience. The job scopes a placement would be exposed to during work placement is related to his future profession in quantity surveying career, including but not limited to project and tender estimation, measurement, progress claim, variation order, and dealing with financial and even legal problems (Rowland, 2023a). Table 3 includes a combination of 10 randomly chosen local and international universities and their requirement for work placement for Bachelor of Science (Honours) Quantity Surveying.

Table 3: Universities with their requirements for work placement

Universities that offer Quantity Surveying programme	Requirement for work placement		
	Compulsory	Optional	Not needed
University of Portsmouth		✓	
Dublin Institute of Technology			✓
University of Cape Town	✓		
University of South Australia	✓		
Robert Gordon University	✓		
Universiti Tunku Abdul Rahman	✓		
Taylor's University	✓		
Curtin University Malaysia	✓		
UCSI University	✓		
Universiti Teknologi Malaysia	✓		

Table 3 includes a combination of 10 randomly chosen local and international universities, and a study of their course structure shows that the work placement requirement of their respective quantity surveying undergraduate programme varies among each other. The majority of the universities included work placement in their programme structure with the exception of the Dublin Institute of Technology where work placement is not required. In the case of the University of Portsmouth, work placement is also included in the programme structure but credit hours would only be given to those who chose to proceed with it.

Career Development of a Quantity Surveyor

A degree in quantity surveying positions the degree holder for employment in the property and construction sectors. Typical firms and companies with the needs of quantity surveyors include quantity surveying consultancies, contractor/subcontractor firms, local construction authorities, specialist contractor firms, construction contract/cost consultant firms, and property firms/developers (Tkach, 2022). All fresh graduates started as junior quantity surveyors and worked their way up through gathering work experience to the position of an intermediate quantity surveyor and then proceeded to become senior quantity surveyors (Charles, 2022). A senior quantity surveyor usually requires more than 5 years of experience in the industry depending on the company's rules and regulations (Tkach, 2022). Further promotion would place a quantity surveyor in managerial positions such as commercial manager, contract manager, and managing quantity surveyor (Tkach, 2022).

Other than the abovementioned typical quantity surveyor career path, a quantity surveyor can also take the position of a specialist quantity surveyor specializing in either post-tensioning, internal design, earthwork and such. Securing employment in construction authorities such as BQSM and RICS is also an option where the job scope focuses on governing the well-being and the profession of quantity surveyors. Besides that, construction contract/cost consultant is another alternative where quantity surveyors provide consultancy services to construction firms in the case of litigation or arbitration (Tkach, 2022). However, such a position requires a quantity surveyor to have proficiency in construction contracts and law. A career as a project management consultant is also possible with career progression leading to project manager. Figure 1 below shows the career development of quantity surveyors in detail.

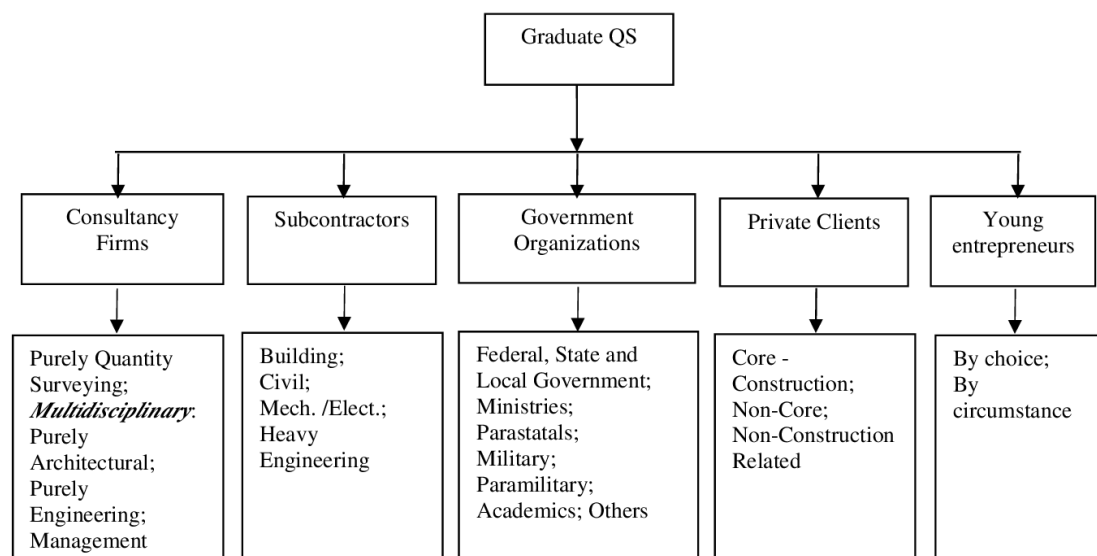


Figure 1: Quantity Surveyor Career Path

Role of Work Placement in Shaping Quantity Surveying Students

Quantity Surveying is a practical-based undergraduate programme where hands-on approaches have the best results in extracting the inherent potential in students. Work placement itself is one of the approaches that has existed for more than 60 years. With its traits of being time tested and encouraged by quantity surveying professional bodies and regulators, it would not be long before it became a must for the implementation of work placement for each Quantity Surveying undergraduate programme around the world.

Work Experience

Based on different sources of dictionaries such as the Cambridge and Collin Dictionary, work experience can be referred to as the practical wisdom gained after working on a particular job for a decent amount of time. For decades, the debate between work experience versus the level of education during the hiring season has been going on and has no sign of diminishing, especially in the modern competitive market. Mueller (2022) asserted that the type and nature of the job itself would determine whichever of the two is more important. Placement students are exposed to a more diversified and unexpected environment through work placements, gaining the knowledge they desire and ultimately building their professional experience (Chesterton, Deane and Moore, 2023). The new learning platform also resulted in students being more open-minded through encounters with different types of people (Ulvund, Dadi and Sundal, 2023).

Employability

According to Tomlinson (2008), as more and more students pursue study in universities, the value of higher education credentials is no longer the way it used to be. Due to this fact, students are becoming more insecure with their employability and constantly seeking to add personal value and gain competitive advantages over their peers. Work placement provides the perfect training ground for students which allows them to gain a significant competitive edge against other non-placement rivals (Delis and Jones, 2023). The increment in terms of employability through work placement adds a lot more value compared to traditional degree courses (Inceoglu et al., 2019). For those who are just entering the workforce, the employability idea is more crucial than ever. This is because the labour market is changing quickly due to problems like rising unemployment, job instability, globalisation, and workplace mechanisation (Baluku et al., 2021).

Soft Skills

The implementation of work placement, even only for a short period of time, have the capability to improve students' personal skills (Knight and Yorke, 2003). Such a statement is also consistent with the findings provided by Inceoglu et al. (2019) and Bennett et al. (2008) that work placement experiences could improve the confidence of students in their self-rated skills, especially communication and English-speaking skills. With greater confidence, students can have better judgment without doubting themselves and are equipped with the mindset to reflect on mistakes constructively (Chesterton, Deane and Moore, 2023). Furthermore, Awoyemi, Aje and Olanipekun (2014) expressed that the achieved soft skills from work placement could be used to overcome the shortage of work experience when a fresh graduate first enters the field of work. With modern development going on, employers would have different expectations of quantity surveyors compared to the way it used to be. Work placement provided a solution to close the gap between students' soft skills and employers' expectations (Shafie, Syed Khuzzan and Mohyin, 2014). With excellent soft skills, quantity

surveyors could be assigned to attend meetings and negotiations which helps in career development.

Technical Skills

When compared to soft skills, technical skills are given more attention in the syllabus of quantity surveying undergraduate programme. Even so, the development of technical skills in universities is still limited due to the lack of real-work environment and construction projects that can be integrated into the syllabus (Brooks and Youngson, 2016). Rohana Mahbub (2017) specified that work placement allows quantity surveying students to link software with actual projects on-site, enabling them to experience and gain exposure to the technology-based system. Brooks and Youngson (2016) also claim that technical skills are better developed in the real work environment. The transition from using software for pure assessment to completing job tasks in a company challenges students to improve and re-evaluate their software skills (Chesterton, Deane and Moore, 2023). The constant daily exposure during a work placement also deepens the software proficiency to a level above academic exposure (Bennett et al., 2008). The society perceives that work experience has a positive relationship with the performance. However, Awoyemi, Aje and Olanipekun (2014) have proven otherwise in their study with the findings that technical and soft skills are the key criteria which determine a quantity surveyor's performance instead of work experience. Yahya and Iskandar (2017) further asserted that technical proficiency is the key determinant of a person's ability to operate independently and efficiently.

Salary

Statistics showed about 70% of firms offer their placement students full-time positions, and placement students are less likely to experience early unemployment following graduation due to the experience they gained (Milenkovic, 2022). The non-existence or small unemployment gap during the transition from university to work maximise the accumulated salary of placement students compared to non-placement students. This is referred to as the reduction in the future potential loss of earnings by Smith et al. (2018). As mentioned, work placement experience allows fresh graduates to gain access to a higher starting salary. Such a situation would increase the perceived social recognition of a fresh graduate as a qualified quantity surveyor, leading to higher work performance (Oliveira et al., 2016). Okolie et al. (2022) also emphasized the importance of work placement in providing intellectual development to prepare for future paid employment. Arsenis and Flores (2021) provided additional support for the claim by pointing out that placement students had a lesser chance of landing fixed-term employment which makes for a more reliable source of income and career development opportunities.

Career Path

According to Bennett et al. (2008), exposure to a work placement setting that simulates the real working environment enables students to plan their careers sensibly in light of their experiences. This is associated with a meaningful job and a sense of accomplishment during a work placement as they are equally valuable, and it has a significant impact on how placement students choose their career path (Levit, 2011). The knowledge gained through work placement could be used to pursue their pre-set employment goals. The ability to plan for employment goals allows placement students to experience success along the way by making little progress toward bigger objectives (Oliveira et al., 2016). Furthermore, Okolie et al. (2022) argued the tendency of placement students to view self-employment as their end goal due to early

exposure to the working environment. Work placement allows placement students to set their goals and plan their career development even before they step into the working society.

Degree Outcome

According to Inceoglu et al. (2019), there is evidence that students' views towards their degree programme as a whole and their careers changed as a result of placements, which may be a sign of a change brought on by a change in fundamental self-understandings after experiencing work placement. The change in attitudes towards undergraduate programme is in a positive way where placement students would have a better motivation and initiation in study (Green, 2012). Brooks and Youngson (2016) revealed that students who had undergone a placement would stand out in the classroom due to their improved attitudes to work, demonstrating better levels of enthusiasm and a more effective and mature approach to learning. Work placement itself also enables placement students to conduct self-directed learning that can enhance their understanding and apply what has been learned to campus learning (Chesterton, Deane and Moore, 2023). Such a situation is possible as there is a learning gap between workplace learning and institutional learning, and work placement creates a bridge where both sides can communicate. According to a study by Delis and Jones (2023), work placement boosts students' chances of graduating with a degree from the upper second class by 30%.

Networking

Networking is viable through work placement to build career networks and relationships (Okolie, 2022). Baluku et al. (2021) further mentioned the importance of networking by stating it as a form of engagement with the work industry which can help to seize career opportunities. This statement is supported by Brooks and Youngson (2016) through their findings that most placement students are welcomed back to their placement company after graduation through the professional network built prior. Furthermore, it is found that high network intensity would lead to more job offers and a shorter duration of unemployment, according to Obukhova and Lan (2013). This allows a quantity surveyor to seize his desired career opportunities for his career development.

Barriers Faced by Quantity Surveying Students During Work Placement

Lack of Placement Opportunities

The participation and support of the construction industry are crucial for securing placements. Economic conditions like recessions, digitalization of work, and competition with fresh graduates reduce available opportunities. International students face additional barriers like cultural and visa issues, further limiting their chances.

Low Salary

Companies are not obligated to pay minimum wages to placement students, leading to underpaid placements. The cost of transportation and accommodation often outweighs the salary, making placements economically unviable for many students. Some companies take advantage of the lack of regulation, assigning full-time workloads for low pay, and exploitation is common.

Menial or Unrelated Tasks

Placement students often perform basic tasks, like measuring or document handling, instead of gaining valuable experience. Some employers assign menial work to avoid disclosing sensitive

company information or to minimize investment in training. This reduces students' confidence and hinders their skill development.

Short Duration

Placement periods are typically too short to provide comprehensive learning experiences. Shorter placements limit the opportunity for students to build professional networks and gain the depth of knowledge needed in their field. Longer placements, while more beneficial, are often disliked as they delay graduation. The ideal solution is a more structured and focused shorter placement period.

These barriers hinder students' ability to gain meaningful work experience, impacting their career prospects and development of essential skills.

The Existing Strategies To Improve Work Placement Implementation For Quantity Surveying Students

Workplace Supervisor

The supervisor's role is vital in guiding students, particularly those facing challenges like low problem-solving skills or stress tolerance. Supervisors are essential for providing mentorship, teaching, and fostering real-world experiences that help students transition into professionals. Positive outcomes include enhanced employability, skill application, and career progression. Peer supervising is also encouraged, where students can support each other, boosting leadership skills and reducing anxiety.

University-Industry Collaboration (UIC)

UIC involves a partnership between universities and businesses to exchange resources, knowledge, and talent, benefiting both parties. This collaboration ensures that students gain up-to-date professional knowledge and real-world exposure, enhancing their job readiness. It also improves university prestige and provides students with access to internships and job opportunities with reputable companies. UIC encourages the creation of dual study programs that combine academic learning with industry experience.

Virtual Placement

Virtual placements offer remote work opportunities, bridging the gap between academic education and practical experience. They provide flexibility and reduce the need for relocation or travel, making placements more accessible, particularly for students from low-income backgrounds. Virtual placements also offer international exposure, creating diverse learning environments. While initially, students may feel less satisfied compared to in-person placements, many find value in the experience, improving transferable skills and self-confidence.

Together, these strategies aim to enhance the quality and accessibility of work placements for Quantity Surveying students, contributing to their professional development and employability.

Methodology

The target population for this study consists of three categories of Quantity Surveying students: those pre-work placement, those currently undergoing or post-work placement, and graduated

students in Selangor. Given the variation in the availability of Higher Education Institutions (HEIs) and organizations requiring quantity surveying services across different regions, determining a precise sample size is challenging. To ensure the reliability of the sample, the Central Limit Theorem (CLT) will be applied, which postulates that as the sample size increases, the distribution of the data will approximate a normal distribution. A minimum sample size of 30 respondents from each category is considered sufficient for CLT to apply and provide reliable results, with a larger sample size leading to more accurate estimates of the population mean.

The instrument used for data collection is a structured questionnaire designed to capture the experiences and perspectives of Quantity Surveying students regarding work placement. The instrument was developed and has undergone validity checks, including pilot testing, to ensure that it accurately measures the intended constructs. The questionnaire contains 5 sections covering various aspects of the work placement experience, such as skill development, challenges faced, and career prospects. A Likert scale ranging from 1 to 5 is employed to measure responses, allowing participants to indicate their level of agreement or disagreement with different statements. The scores are interpreted by calculating the mean for each item, with higher scores indicating stronger agreement or more positive perceptions of the work placement experience. These results will be used to draw conclusions about the implications of work placement on Quantity Surveying students.

Results

Demographic Data of Respondent

A total of 124 sets of questionnaire surveys were received through social media channels such as Facebook, WhatsApp, WeChat, and Instagram. The details of the respondents' attributes are summarised and tabulated in Table 4.

Table 4: Demographic Data of Respondents

General Information	Frequency (n)	Percentage (%)
<i>Gender</i>		
Male	62	50%
Female	62	50%
<i>Currently/formerly a QS student?</i>		
Yes	124	100%
No	0	0%
<i>Undergone work placement?</i>		
Yes	89	71.77%
No	35	28.23%
<i>Current status?</i>		
Studying/Pre-work placement	35	28.23%
Undergoing/Post-work placement	53	42.74%
Graduated and working	36	29.03%
<i>Years of work experience?</i>		
0 years	35	28.23%
1-5 years (including work placement)	73	58.87%
6-10 years	12	9.68%
>10 years	4	3.22%

In this research, there are 3 groups of respondents that are being targeted which are QS students who are studying/pre-work placement (Category 1), QS students who are currently conducting/post work placement (Category 2), and graduated QS students who are currently working (Category 3). Based on the Central Limit Theorem (CLT), the number of respondents for each targeted group must be at least 30 for the data to be accurate. The demographic data showed that 28.23 % of the respondents (n=35) are from Category 1, 42.74% of them (n=53) are from Category 2 and the remaining 29.03% of them (n=36) are included in Category 3. The number of respondents for each category is sufficient and hence their data are considered accurate as it represents the population more closely.

Research Findings

Mean Ranking of the Influence of Work Placement on Quantity Surveying Students

Table 5: Overall Mean Ranking of the Influence of Work Placement on Quantity Surveying Students

Code	Implications	Mean	Rank
L1	Work Experience	4.65	1
L8	Networking	4.44	2
L3	Soft Skills	4.43	3
L4	Technical Skills	4.26	4
L5	Career Path	4.23	5
L2	Employability	4.23	6
L6	Salary	4.17	7
L7	Degree Outcome	4.06	8

Based on Table 5 illustrated above, work experience has the highest mean ranking (mean value = 4.65) among the 8 implications being researched. It showed that work experience is the most crucial, and it is expected to be equipped once a quantity surveying student has undergone work placement. This result is consistent with the findings by Smith and Hodge (2019), and Helyer and Lee (2014) where work experience during work placement is identified as the most important factor that can help quantity surveyors in securing their first employment and in further career progression. Acquiring a higher education simply validates your ability to thrive in the classroom, not in a real-world work setting. A verifiable work experience on the other hand provides additional information about your qualifications to potential companies (Mueller, 2022). Due to the perception that expertise results in more decisive action and lowers risk, managers frequently choose to employ experienced people (Ziwewe, 2022). Such a trend can be seen from any job searching site where a minimum work experience threshold needs to be fulfilled in order to apply for any quantity surveying-related job. In short, work placement aids in bypassing the initial hurdle of securing first employment, thus facilitating the start of one's career progression.

In addition, the second highest mean ranking is networking (mean value = 4.44). This revealed that work placement is also seen as a method to garner a network and blend into the social circle of industry professionals among the respondents. Brooks and Youngson (2016) and Eatough (2023) both provided the data that more than 30% of job seekers refer to their networking for employment, indicating its effectiveness. In fact, it is documented by Winkler (2023) that employee referral program is often used within the construction industry as a

method to search for qualified candidates. In some large companies, employee referral can even be the main method for recruitment, and hence having a network of relationships allows for a smoother career progression and a better transition into a higher position or role. Networking with industry professionals during work placement boosts the likelihood of securing employment opportunities (Winkler, 2023). This is especially true for quantity surveying students who have undergone work placement as employers tend to recruit these students as their full-time employees.

The third highest mean ranking is soft skills (mean value = 4.43). Muimi (2020) and van Heerden et al. (2023) argued the importance of soft skills in the line of work of quantity surveyors and the result from this research aligned with it. It showed that the respondents did have the same perception and belief that soft skills are significant and that it is attainable through work placement. As stated by Shafie, Syed Khuzzan and Mohyin (2014), this is due to the job nature of quantity surveyors who have to constantly maneuver and liaise themselves between different parties to solve problems. According to the book titled “The Philosophy of Management” authored by Sheldon (2003), as one advance in their careers and transitions into roles such as contract managers or project managers, their technical proficiency may diminish. However, this decline is often counterbalanced by a corresponding enhancement in soft skills. This underscores the significance of soft skills during the later stages or peak of a quantity surveyor's career. In essence, the soft skills accumulated during work placements can be further sharpened in real-world settings, thereby facilitating the career progression of quantity surveyors.

The second lowest mean ranking is salary (mean value = 4.17). This data showed that respondents have the perception that work placement wouldn't have much implication on the starting salary of fresh graduates from the quantity surveying programme. This result conflicts with research conducted by Arsenis and Flores (2021) where their findings supported the conclusion that work placement did provide fresh graduates with higher starting salaries. It is believed that such contrast in data occurred due to economic differences in different regions. According to Mohamad Zaifulzaki Kamde et al. (2021), quantity surveyors in Malaysia are now one of the underpaid professions due to the static trend of wage increases when compared to the workload performed by other professions in the construction sector. Much of it is influenced by the introduction of Industrial Revolution 4.0 (BIM software) which reduces the competencies of quantity surveyors. With the status of being underpaid applied, a quantity surveyor's salary couldn't be used as an indicator to determine his or her competencies and subsequent career development.

The lowest mean ranking is degree outcome (mean value = 4.06). This indicated that degree outcome is not the priority and that academic achievement is not the main concern or factor in whether they can secure a job or make a career progression. According to Pinto and Ramalheira (2017), a degree in a relevant field does provide you with an entry ticket but doesn't necessarily guarantee employment or career progression. Upon a short survey on various job search sites, it can be seen that only less than 5% of recruiting construction companies actually list a minimum requirement for academic achievements in terms of CGPA. Most of them only require the applicant to have a relevant degree and work experience. This aligns with the analysis of the implication with the highest mean ranking, where employers prioritize practical expertise over academic excellence. Similarly, the analysis of the second most significant factor highlights the diminishing technical skills as a quantity surveyor advances in their career.

Academic achievements primarily contribute to technical skills, and thus employers anticipate fresh graduates in quantity surveying to possess these foundational competencies (Mautushi, 2022). However, for career advancement, soft skills are favored over technical expertise.

Mean Ranking of the Barriers faced by Quantity Surveying Students during Work Placement

Table 6: Overall Mean Ranking of the Barrier of Work Placement on Quantity Surveying Students

Code	Barriers	Mean	Rank
B2	Low Salary	4.33	1
B4	Menial or Unrelated Task	4.32	2
B3	Short Duration	4.08	3
B1	Lack of Placement	4.00	4

Based on Table 6, low salary is the barrier with the highest mean ranking (mean value = 4.33). This indicated that low salary is the main difficulty that quantity surveying placement students faced during the work placement. As analysed previously, quantity surveyors in Malaysia are underpaid. This statement still holds its ground and applies to the quantity surveying placement students. In Malaysia, placement students are not covered under the Employment Act 1955 hence there are no specific rules or guides governing the salary given to placement students (Rowland, 2023b). Due to this very reason, the salary given to placement students is referred to as allowance rather than salary. According to Nicholas (2021), the minimum allowance for work placement at federal government departments had been fixed at RM900 per month as of 2019. However, such a situation is not reflected in any industries in the private sector where there is a specific guideline for the amount of compensation paid to placement students. This situation has worsened with the underpaid situation of quantity surveyors in the construction industry. Under such circumstances, placement students are only able to meticulously review the terms of their work placement agreements before commencing placements with companies (Mohamad Zaifulzaki Kamde et al., 2021).

The barrier with the second highest mean ranking is menial or unrelated tasks (mean value = 4.32). This is consistent with the research conducted by Smith et al. (2018), and Ferrández-Berrueco and Sánchez-Tarazaga (2020) where similar problems are identified. Placement students are not taken seriously and asked to do things that do not add any value to their learning. Such a condition would hinder their ability to obtain the most important knowledge which is work experience. Staribratov (2019) noted that discrepancies may arise between tasks that lead to employer satisfaction and those that satisfy placement students. In such cases, employers would often prevail by finding satisfaction in assigning tasks that others may avoid to placement students. From the perspective of the student, they would feel like they are being taken advantage of as they do not achieve any kind of satisfaction from it.

The barrier with the lowest mean ranking is lack of placement (mean value = 4.00). From the perception and experience of respondents, worries are not placed on finding a placement spot. This can be due to the nature of work placement that is incorporated into the programme structure, making it significantly easier to secure a placement with the help of universities (Williamson, 2022). However, research from Vu and Ananthram (2022) found that situations of lack of placement do exist especially for international students and it is mostly due to

language barrier and cultural differences. Most employers are scouting for potential employees through work placement hence the offer of placement positions is becoming more and more common as compared to decades ago (Caspersen and Smeby, 2021). This could also explain the difficulties met by international students as companies prefer not to waste any resources on employees who are non-retainable and require more training than local students.

Mean Ranking of Existing Strategies to Improve Work Placement Implementation for Quantity Surveying Students

Table 7: Overall Mean Ranking of Existing Strategies to Improve Work Placement Implementation for Quantity Surveying Students

Code	Strategies	Mean	Rank
S2	University-Industry Collaboration	4.40	1
S3	Virtual Placement	4.19	2
S1	Workplace Supervisor	4.16	3

According to Table 7, UIC is the strategy with the highest mean ranking (mean value = 4.40). One of the main problems faced by quantity surveying students and graduates nowadays is their competencies in Industrial Revolution 4.0 (Mohamad Zaifulzaki Kamde et al., 2021). This problem is also acknowledged by both Shayan et al. (2019) and Zainon et al. (2018) in their findings. The preparation of a framework for university-industry collaboration can serve to rectify this issue. According to Awasthy et al. (2020), there is a need to cultivate a win-win relationship prior to the establishment of the collaboration. This can be achieved where the industry provides up-to-date knowledge and training to quantity surveying students and in exchange, the companies will be supplied with top-tier placement students or even employees. Despite the benefits, Šereš et al. (2019) argued that tools to gauge the effectiveness of such collaboration were scarce. In addition, measures of collaboration should be based on the many stages of the cooperation, including input, process, output, and effect (not solely based on the effect). This is supported by the research conducted by Awasthy et al.(2020) that has established a framework to improve the effectiveness and success of university-industry collaboration.

The strategy with the second highest mean ranking is virtual placement (mean ranking = 4.19). The benefits of virtual placement have been recognized in countries like the United States and were adopted in their programme structure around the 2010s (Ruggiero and Boehm, 2016). However, the mass adoption of virtual placement in Malaysia did not see its light until the occurrence of the COVID-19 pandemic. This drives education institutions in Malaysia to explore virtual placement as an alternative to traditional placement (Irene, 2021). Virtual placements could be used to address the issue of lack of placement as stated by Vu and Ananthram (2022) and the problem of low placement salary as stated by Delis and Jones (2023). COVID-19 accelerated digitalisation, leading to the acceptance of virtual placement by quantity surveying students who are gadget-proficient (Jeske, 2019). However, there is a lack of procedures or experiences in managing virtual placement in both the companies as well as the universities (García-Peñalvo et al., 2016). As a result, it can be seen that employers and universities reverted back to traditional placement right after the pandemic. This problem can be tackled by establishing a guideline for virtual placement within companies as well as HEIs, similar to what is being adopted by universities overseas such as York University and Western Sydney University.

The strategy with the lowest mean ranking is workplace supervisor (mean value = 4.16). Placement students are usually supervised by experienced individuals like contract managers or senior quantity surveyors throughout their work placement. However, due to their busy schedules and existing responsibilities, supervisors may not always prioritize the guidance of placement students. Research from Martin et al. (2019) revealed that supervisors who were placement students in the past are more likely to know how to successfully support and direct the learning process of a placement student. This is supported by the argument of Brooks and Youngson (2016) in their findings that when tasks are allocated differently than students' competency levels, it can lead to inconsistent fulfillment of placement expectations. This could be the consequence of supervisors making incorrect assessments. Zhang, Chen and Yuen (2021) further identified that informational support and emotional support are the two main factors contributing to and enhancing the placement students' career-related behaviour and it can only be achieved through communication. When supervisors are preoccupied with their own tasks, students may struggle to achieve successful work placement implementation.

Conclusion

In conclusion, the implications of work placement towards quantity surveying students had been identified which are work experience, employability, soft skills, technical skills, career path, salary, degree outcome, and networking. Each of the implications is analyzed in detail with the help of literature review to show their relationship with the career development of quantity surveying students once they have graduated and how these implications can benefit them in the long run. It is revealed work experience is regarded as the biggest effect on the career development of quantity surveyors, followed by soft skills, networking, technical skills, career path, employability, salary, and degree outcome. Significant differences are identified from all of the implications among the 3 different categories of respondents. It is also provided the data that QS students who are currently conducting/post-work placement hold the most positive viewpoint towards all the implications researched, followed by pre-work placement QS students and graduated QS students.

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