DETERMINING THE FACTORS INFLUENCING JOB PERFORMANCE AMONG TVET TEACHERS

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ABSTRACT

The demand for a skilled workforce in Malaysia highlights the importance of Technical and Vocational Education and Training (TVET). This study focuses on the factors influencing the job performance of TVET teachers at Vocational College Sultan Abdul Samad, using the Job Demands-Resources (JD-R) model. It investigates the impact of technical and pedagogical competencies, continuous professional development, interpersonal competencies, institutional support, and work-life balance on job performance through a structured questionnaire distributed to 69 teachers, employing correlation and regression analyses. Results indicate that technical and pedagogical competency and interpersonal skills significantly enhance teacher performance. Work-life balance showed a moderate positive correlation but was not a significant predictor, while continuous professional development and institutional support lacked significant relationships with performance. The study suggests further exploration into the indirect effects of these factors to improve TVET educator performance within the MADANI Economy Framework.

Keywords: TVET, Job Performance, Competencies, JD-R Model.

ABSTRAK

Permintaan untuk tenaga kerja mahir di Malaysia menonjolkan kepentingan Pendidikan dan Latihan Teknikal dan Vokasional (TVET). Kajian ini memfokuskan kepada faktor-faktor yang mempengaruhi prestasi kerja guru TVET di Kolej Vokasional Sultan Abdul Samad, menggunakan model Job Demands-Resources (JD-R). Ia menyiasat kesan kecekapan teknikal dan pedagogi, pembangunan profesional berterusan, kecekapan interpersonal, sokongan institusi, dan keseimbangan kerja-kehidupan ke atas prestasi kerja melalui soal selidik berstruktur yang diedarkan kepada 69 guru, menggunakan analisis korelasi dan regresi. Keputusan menunjukkan bahawa kecekapan teknikal dan pedagogi serta kemahiran interpersonal meningkatkan prestasi guru dengan ketara. Keseimbangan kerja-kehidupan menunjukkan korelasi positif yang sederhana tetapi bukan peramal yang signifikan, manakala pembangunan profesional berterusan dan sokongan institusi tidak mempunyai hubungan yang signifikan dengan prestasi. Kajian itu mencadangkan penerokaan lanjut ke dalam kesan tidak langsung faktor-faktor ini untuk meningkatkan prestasi pendidik TVET dalam Rangka Kerja Ekonomi MADANI.

Kata kunci: TVET, Prestasi Kerja Guru, Kompetensi, JD-R Model.

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In the name of Allah, the most compassionate and most merciful, all thanks and praise are due to Allah, the most merciful. You are the sole possessor of the day of judgment, we worship only you and seek your assistance alone, lead us to the correct path, the path of those who have received your blessings, not of those who have earned your wrath, or those who have gone astray. Blessings and greetings of peace are continuously bestowed upon our dear Prophet Muhammad SAW, the final prophet who has guided us towards the correct path. We will forever be under the protection of Allah in this life and the hereafter.

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CIAST	Centre for Instructor and Advanced Skill Training
CPD	Continuous Professional Development
JD-R Model	Job-Demand Resources Model
MTVET	Malaysian Technical and Vocational Education and Training
MQA	Malaysian Qualification Agency
NOSS	National Occupational Skills Standard
SBM	School of Business Management
SPSS	Statistical Package for the Social Sciences
TVET	Technical and Vocational Education and Training
UUM	Universiti Utara Malaysia

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

The Technical and Vocational Education and Training (TVET) sector in Malaysia has become a critical focus of the nation's strategy to drive economic growth and modernization. In accordance with Malaysia's 2024 Economic Transition Plan and the MADANI Economy framework, TVET plays a crucial role in the nation's goal of attaining sustainable and inclusive economic growth, facilitating its shift to a high-income economy. Government-led initiatives have significantly shaped the sector's development, positioning TVET as a primary source of skilled labor for high-demand industries such as renewable energy, digital technology, and advanced manufacturing (Ministry of Finance Malaysia, 2024; Amiruddin et al., 2023).

For instance, the Malaysian Technical and Vocational Education and Training (MTVET) Council has introduced six key initiatives under its TVET Empowerment Agenda to modernize and strengthen the sector as shown in the Figure 1.1.

Figure 1.1
Six key initiatives under TVET Empowerment Agenda
Source: National TVET Council, 2022

According to MTVET Council (2022), these initiatives include formulating sustainable financing models to ensure the long-term viability of TVET programs and developing policies to encourage active industry participation through the establishment of the Government-Industry TVET Coordination Body (GITC). Additionally, the agenda emphasizes creating a National TVET Branding Plan to improve the perception of TVET as a viable and competitive career pathway. The establishment of a centralized TVET Collaboration Hub aims to foster partnerships and innovation, while the development of standardized TVET program policies ensures consistency and quality across institutions. Furthermore, the initiative highlights the importance of utilizing big data analytics to guide decision-making processes and effectively respond to industry demands. These comprehensive efforts align with Malaysia's broader goals of equipping its workforce with the skills required to meet evolving economic and industrial needs.

Historically, TVET in Malaysia concentrated on meeting workforce demands within manufacturing and industrial sectors. However, in response to technological advancements and the emergence of Industry 4.0, the scope of TVET has broadened to encompass fields like automation, data analytics, and digital skills training (Ministry of Education Malaysia, 2023; Alshafie et al., 2021). This shift reflects a national commitment to developing a technically proficient workforce capable of adapting to the demands of modern industry. Recent studies underscore the essential role of TVET in creating a continuous supply of skilled labor, which is crucial for sustaining Malaysia's industrial and economic development (Ahmad & Osman, 2022).

In current practice, TVET serves a dual purpose within Malaysia's economic strategy. Firstly, it addresses skill gaps in emerging sectors, reducing youth unemployment by preparing students for industry-relevant roles. Secondly, TVET supports Malaysia's economic diversification goals by supplying skilled workers for growth areas such as renewable energy and IT (Yusuf & Mahmod, 2022; Rahman & Mohamad, 2023), besides emphasis on competency-based, hands-on learning, which equips graduates with practical skills that align with employer demands and contribute to the nation's MADANI Economy objectives (Rahman & Mohamad, 2023).

The significance of the TVET sector is vital, as emphasized by The Star (2024) and the Department of Statistics Malaysia (2024), which indicate that by the second

quarter of 2023, the youth unemployment rate in Malaysia for individuals aged 15-24 was reported at 10.7%, with approximately 307,700 young people unemployed. This figure represents a significant portion of the overall unemployment rate in Malaysia, which stood at 3.5%. The high youth unemployment rate highlights the importance of skills-based training, such as that provided by TVET programs, to improve youth employability in the labor market.

The Ministry of Education envisions TVET as a pathway to cultivating a workforce that values lifelong learning and can adapt to evolving industry standards. This vision is implemented through initiatives like the Malaysian Education Blueprint and the National Occupational Skills Standard (NOSS), which prioritize competency-based learning and continuous professional development (Ministry of Education Malaysia, 2023; Othman et al., 2023). Studies indicate that this approach not only improves employability but also fosters creativity among graduates, aligning with the MADANI Economy framework and the 2024 Economic Transition Plan (Othman et al., 2023).

It is proven that as of 2024, the marketability rate for TVET graduates has reached an impressive 97.4%, reflecting successful collaboration between TVET institutions and industry partners. This collaboration enhances curriculum relevance and prepares graduates with the skills required to meet Malaysia's workforce needs, particularly in high-demand areas (The Star, 2024; Bernama, 2024).

In other aspects, Centre for Instructor and Advanced Skill Training (2023) state that a critical factor in achieving the Ministry's objectives is understanding the factors influencing TVET teachers' job performance. Ahmad and Osman (2022); Alshafie et al. (2021) further emphasize that TVET teachers must possess up-to-date technical expertise and effective pedagogical strategies to meet industry standards. Teachers who are proficient in both technical and teaching competencies are better equipped to engage students, translating complex industry concepts into practical learning experiences.

Professional development is equally vital as Rahman et al. (2023) note, it is essential for TVET teachers to engage in ongoing skill enhancement programs, especially in digital and technical areas. Such development ensures that teachers remain current with industry trends and can deliver training that aligns with Malaysia's strategic workforce objectives. Interpersonal and social competencies are also critical for fostering an engaging and supportive learning environment. Yusuf and Mahmod (2022) supported by Department of Skills Development (2022) suggests that TVET teachers with strong interpersonal competencies are more effective at creating collaborative, student-centered classrooms, which enhances student satisfaction and learning outcomes.

In light of this, institutional support also is believed to further enhances teacher performance by providing essential resources, structured curricula, and administrative support. According to the report from Ministry of Education Malaysia

(2023) and MQA (2021), a supportive workplace enables TVET teachers to focus on skill-building and instructional quality, reducing the impact of administrative challenges. Thus, in the effort to support the TVET educations, the Malaysian government has allocated RM6.8 billion in the 2024 budget to strengthen the TVET sector, with an additional RM200 million dedicated to industry-recognized certifications. This funding underscores the government's commitment to fostering a skilled workforce equipped for Industry 4.0 demands and contributes to Malaysia's long-term economic growth strategies (Ministry of Finance Malaysia, 2024; MIDA, 2024). The summary of these allocation is visualized as in Figure 1.2.

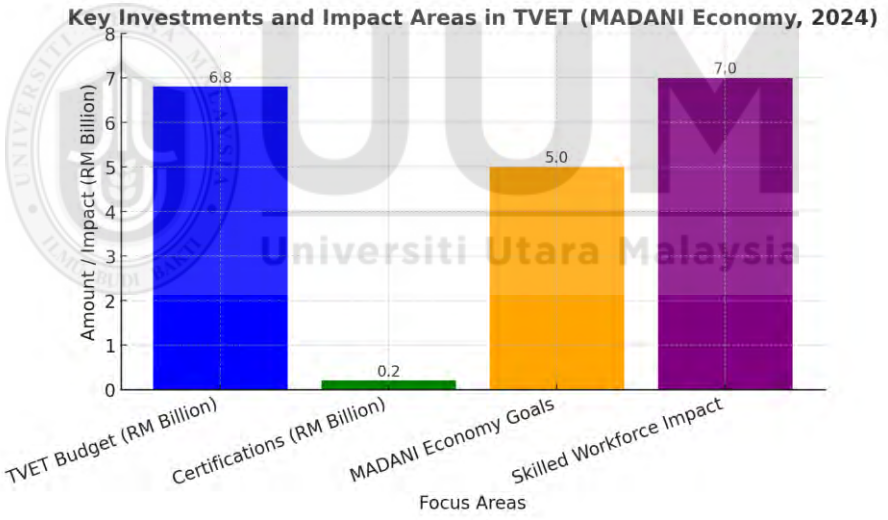

Figure 1.2
Key investment and impact areas in TVET
Sources: Madani Economy, 2024

Lastly, maintaining work-life balance and job satisfaction is crucial for long-term teachers' performance. A supportive work environment is essential since it can foster higher motivation and productivity among TVET teachers, which positively impacts student learning (Ahmad & Osman, 2022). The Ministry of Education Malaysia's

Annual Education Report states that measures to increase job satisfaction are linked to improved productivity and commitment by teachers. Moreover, Ahmad and Osman (2022) confirm that a harmonious workplace leads to decreased burnout and enhanced job satisfaction, resulting in more motivated teachers who can effectively aid student learning.

Thus, the critical factors that determine the job performance of TVET teachers include technical and pedagogical competencies, continuous professional development, interpersonal and social competency, institutional support, and work-life balance, chosen as independent variables for this study are closely match the MADANI Economy Framework 2024 and the Economic Transition Plan, as well as the Ministry of Education's vision for the TVET sector, specifically led by Technical and Vocational Training Division (BPLTV). These variables were chosen because they directly influence teacher effectiveness and are in line with national priorities. This study tackles the main factors affecting TVET teacher performance by concentrating on competencies, development, and support systems, in line with the strategic goals of the MADANI Economy.

1.2 Problem Statement

While Malaysia aspires to reach high-income nation status, the government recognizes the significance of Technical and Vocational Education and Training (TVET) in training a highly skilled workforce in fields like automation, digital technology, and green energy. Teachers in TVET are vital for achieving the

objectives outlined in the 2024 Economic Transition Plan and the MADANI Economy framework, which aim to develop a skilled and flexible workforce (Ministry of Finance Malaysia, 2024).

Nevertheless, Amiruddin et al. (2023) indicate numerous crucial elements influence the job performance among TVET teachers, ultimately affecting their ability to produce graduates who are prepared for the workforce. It is crucial to take these factors into account to guarantee that TVET programs in Malaysia align with the nation's economic goals.

In light of Malaysia's industrial growth and the demand for a skilled workforce, Technical and Vocational Education and Training (TVET) institutions are essential for developing professionals equipped with industry-relevant skills. However, an ongoing challenge is ensuring that TVET teachers themselves possess the advanced technical and pedagogical competency necessary to train students effectively for technical roles. The dual need for theoretical knowledge and hands-on, practical competency in the TVET sector places unique demands on teachers who must continually update their competency to keep pace with rapid industry advancements in areas such as automation, welding, and robotics (CIAST, 2023).

Research by Ahmad and Ismail (2021) showed that effective pedagogy, combined with technical expertise, is critical for student engagement and skill acquisition in technical fields. However, research by Ahmad and Ismail (2021) found that many

TVET teachers lack formal pedagogical training, which weakens their ability to translate complex technical concepts into understandable practical lessons. This gap affects students' hands-on experience and readiness for the job market.

According to Nasir, Ahmad, and Hassan (2022), technical competency is a crucial factor in TVET teaching because it enables teachers to integrate practical, industry-relevant skills into their lessons. Their study showed that TVET teachers with strong technical competencies reported higher job satisfaction and received better performance evaluations from students. Teachers who lack such competencies often find it challenging to meet curriculum goals, and as a result, their job performance is compromised.

Mahmud et al. (2023) emphasize that TVET teachers with both technical and pedagogical competencies tend to excel in job performance metrics, including student engagement, curriculum relevance, and assessment outcomes. Their study revealed that dual-competency teachers received 20% higher performance evaluations from students and peers compared to teachers who had only one of these competencies. This suggests that a balance of technical and pedagogical competency is crucial for effective teaching in TVET.

Alshafie et al. (2021) has also highlights the necessity of integrating theory with practice to prepare students adequately for the workforce, yet, without sufficient technical training and professional development, many teachers lack the necessary

expertise to meet these standards which consequently not only hinder their professional development but also adversely impact their effectiveness in delivering high-quality, industry-relevant education, ultimately affecting the employability and skill level of graduates.

Zulkifli, Hassan, and Nor (2022) further corroborate this, arguing that teachers who are competence in both areas are better positioned to adapt to the evolving needs of the industry. Their research highlighted those students of dual-competency teachers were more likely to find employment after graduation, indicating that these teachers play a critical role in preparing students for the workforce.

While the importance of these competencies is clear, Malaysian TVET teachers face several challenges in acquiring and maintaining them. Limited access to continuous professional development (CPD) programs, inadequate funding, and a lack of industry partnerships are among the primary obstacles. Rahman and Chong (2020) examined the professional development barriers that hinder TVET teachers in Malaysia and found that only 40% of teachers had access to regular technical training, and even fewer had opportunities for pedagogical training. This shortage of training impacts teachers' ability to stay updated with industry practices and modern teaching methodologies, thereby limiting their job performance potential.

In addition, Johar (2016) and Subramaniam and Aziz (2022) also indicate that the existing CPD programs do not meet teachers' individual needs, using a one-size-fits-

all methodology that indirectly not satisfy their specific needs. Consequently, research by Mahmud et al. (2023) found that numerous teachers lack the opportunity to keeping up with rapid technological advancements, affecting their capacity to effectively involve students and adhere to industry requirements.

Moreover, the Malaysian government's fragmented oversight of TVET through multiple ministries complicates the establishment of a unified, effective CPD framework, causing disparities in teacher training quality and hindering curriculum standardization across institutions (TVET, Asia, 2022; Malaysia's National TVET Policy 2030, 2023).

Recent study by MIDA (2022) indicates that Malaysian TVET teachers face significant challenges in teaching interpersonal abilities, including communication, collaboration, and issue resolution, which impacts student preparedness for the workplace. According to industry experts, only 40% of TVET graduates feel adequately prepared in communication for professional settings, with feedback showing weak presentation skills and discomfort in formal communication scenarios; 60% lack effective teamwork abilities, partly due to limited emphasis on collaborative learning in their training (TVET, Asia, 2023) and only around 50% of TVET graduates are proficient in essential digital skills, such as data management and basic software use (The Star, 2023; CPSC, 2020).

Based on the above discussion, it found that TVET teachers are facing immense challenges, particularly, in interpersonal and social competency where effective communication, teamwork, and empathy are crucial for TVET teachers to create a supportive classroom atmosphere. As per Malaysia's National Occupational Skills Standard (NOSS), these competencies aid in establishing interactive and cooperative learning environments that motivate and involve students (Department of Skills Development, 2022).

Yusuf and Mahmod (2022) emphasize that TVET teachers who perform well in these aspects usually demonstrate improved classroom control, resulting in enhanced student contentment and involvement. Nonetheless, a lack of these competencies in certain teachers may diminish classroom participation and educational achievements, impacting students' preparedness for the job market. Ministry of Education Malaysia (2023) indicates that TVET teachers' performance on the job is greatly impacted by institutional support, which includes sufficient resources, organized curricula, and administrative help. The Malaysian Education Blueprint highlights the significance of giving institutions strong support systems so that teachers can concentrate on high-quality teaching instead of dealing with logistical issues. TVET teachers who do not have enough institutional support may face difficulties in meeting teaching requirements, leading to a negative impact on their performance (Malaysian Qualifications Agency, 2021).

Ahmad and Osman (2022) point out that institutional structures that place importance on resource availability have a beneficial impact on teachers' job fulfillment and performance, ultimately benefiting student outcomes. According to Subramaniam and Aziz (2022), only about 25% of TVET institutions implement formal professional development that would allow teachers to manage workload more effectively. Many TVET teachers report a lack of support structures, with opportunities for continuing professional development (CPD) limited primarily to informal and non-mandatory programs, which limits adaptability and hinders work-life balance.

Other challenges faced by TVET teachers in Malaysia is maintaining a balance between work and personal life, as well as job satisfaction. Despite the heavy workload, TVET institutions in Malaysia offer limited flexibility in work arrangements. TVET teachers typically spend 70-80% of training time in hands-on, practical settings as required by their programs. This high proportion of in-class and workshop-based training contributes to stress and limits the possibility of remote or flexible work, an issue not commonly found in other educational sectors (TVET, Asia, 2023; UNESCO, 2023).

Despites of this, the Malaysian Ministry of Education’s TVET initiatives project that 60% of newly created jobs will require technical and vocational skills by 2025 would also become a challenge to TVET teachers. This demand places a significant workload on TVET teachers, who are responsible for preparing students to meet

specific industry needs. In 2022, a large-scale review noted that the most of TVET teachers participate in a wide range of responsibilities beyond teaching, including curriculum updates, collaboration with industries, and managing students' work placements. These extensive duties often lead to extended working hours without additional flexibility (UNESCO, 2022; Asia Foundation, 2022).

With 1,345 public and private TVET institutions nationwide, the Malaysian government has invested in expanding TVET accessibility. However, workload distribution remains uneven, as many institutions lack sufficient faculty to meet both teaching and administrative demands, leading to burnout among teachers (TVET Malaysia, 2023).

Due to the challenges highlighted above, recent analyses have revealed significant concerns regarding teacher turnover and health issues among teachers in Malaysia. A study by SpringerLink (2020) reported that over 36% of Malaysian teachers expressed an intent to transfer schools, indicating a high turnover intention within the profession. This trend is compounded by early retirement among teachers, particularly in the Technical and Vocational Education and Training (TVET) sector. Zhao and Li (2022) found that over 10,000 teachers optioned for early retirement between 2019 and 2022, a figure nearly equivalent to those retiring at the mandatory age. Furthermore, data from the Ministry of Education revealed that in 2023, 6,394 teachers (1.49% of the teaching workforce) were approved for early retirement, an increase from 5,306 teachers (1.23%) in 2022. The primary reasons cited included

lack of interest (72.36%), family factors (15.21%), health issues (6.96%), workload burdens (3.82%), and personal problems (1.64%) (Malay Mail, 2024).

In summary, while Malaysia has made strides in advancing TVET to meet its economic and social objectives, the challenges leading to early retirement among TVET teachers are closely related to factors affecting their job performance, such as technical and pedagogical competencies, continuous professional development (CPD), interpersonal skills, institutional support, and work-life balance. Increasing workloads and insufficient support hinder teachers' ability to enhance their skills, negatively impacting job performance. Administrative burdens reduce opportunities for CPD, causing feelings of stagnation and dissatisfaction. This lack of engagement might prompt early retirement. Overburdened teachers also struggle to maintain essential interpersonal competencies needed for positive relationships. Moreover, inadequate institutional support and difficulties achieving work-life balance contribute to low morale and effectiveness. Stress from these challenges often leads to burnout, further diminishing teachers' performance and commitment to the profession.

Therefore, addressing these interconnected issues through robust CPD programs, improved institutional support, and policies promoting work-life balance is crucial for enhancing job performance and reducing turnover among TVET teachers in Malaysia. Highlighting these factors also are essential to maximizing the

effectiveness of Malaysia's TVET system in producing employable graduates ready for modern industries.

1.3 Research Objectives

The objectives of this research paper are as follow;

1. To examine the relationship between technical and pedagogical competencies and the job performance among TVET teachers.

2. To examine the relationship between continuous professional development and the job performance among TVET teachers.

3. To examine the relationship between interpersonal and social competencies and the job performance among TVET teachers.

4. To examine the relationship between institutional support and the job performance among TVET teachers.

5. To examine the relationship between work-life balance and the job performance among TVET teachers.

1.4 Research Questions

The research questions for this research are as below;

1. Is there any relationship between technical and pedagogical competencies and the job performance among TVET teachers?

2. Is there any relationship between continuous professional development and the job performance among TVET teachers?

3. Is there any relationship between interpersonal and social competencies and the job performance among TVET teachers?

4. Is there any relationship between institutional support and the job performance among TVET teachers?

5. Is there any relationship between work-life balance and the job performance among TVET teachers?

1.5 Significance of study

This study offers important knowledge on the elements that influencing the job performance among TVET teachers. It is crucial to comprehend these factors for various reasons.

First of all, this study can help policymakers, especially those at the Ministry of Education and related government organizations, in creating specific plans to assist TVET teachers. These measures are in line with Malaysia's 2024 Economic Transition Plan and the MADANI Economy framework, which focus on enhancing

the workforce's skills to meet the demands of rapidly growing sectors in Malaysia (Ministry of Finance Malaysia, 2024).

Secondly, identifying factors that boost TVET teachers' performance has a substantial impact on enhancing vocational education quality in Malaysia. Improved teacher effectiveness can result in improved student achievements, especially in equipping students for in-demand fields such as automation, manufacturing, and green technology (Centre for Instructor and Advanced Skill Training, 2023).

Thirdly, TVET institutions can utilize findings from this research to create customized continuous professional development initiatives and support systems for TVET teachers. By giving importance to technical and interpersonal competencies, educational institutions can create a supportive teaching atmosphere, leading to improved student learning experiences (Ministry of Education Malaysia, 2023).

Fourthly, enhancing teacher performance in the TVET sector in Malaysia can lead to greater economic benefits due to its crucial role in the country's economic growth. Qualified TVET teachers are crucial for preparing students to fulfill the demands of the industry, ultimately aiding Malaysia's aim of reaching a prosperous economy (Ministry of Finance Malaysia, 2024).

1.6 Scope of study

This study aims to investigate the job performance among TVET teachers particularly in Malaysia's vocational college. This research examines the job performance of TVET teachers at Vocational College Sultan Abdul Samad, Banting, Selangor, highlighting its crucial role in Malaysia's vocational education system. Vocational colleges stand out from universities and polytechnics by focusing on hands-on training aligned with industry needs, making them well-suited to provide competency-based education. These organizations play a crucial role in achieving the goals of the MADANI Economy Framework and the 2024 Economic Transition Plan, which emphasize the need for a highly skilled workforce to drive industrial expansion. The performance of teachers in vocational colleges is essential because it directly affects the job prospects of graduates in fields such as automation, manufacturing, and digital technology. Vocational colleges, unlike traditional academic schools, focus on preparing students for the workforce, which emphasizes the importance of assessing teacher performance.

On top of that, Vocational College Sultan Abdul Samad was selected as one of Malaysia's 86 vocational colleges due to its outstanding performance and important role in the country's vocational education system. Situated in Banting, Selangor, the college caters to an area with a strong industrial presence, ensuring that its programs are closely matched with market demands. The institution's successful collaborations with industries and the regular achievements in preparing graduates with high employability make it a perfect example for studying job performance dynamics.

Additionally, as a well-established organization with modern facilities and a large student population, it offers important perspectives on how factors like technical and pedagogical competency, continuous professional development, interpersonal and social competency, institutional support, and maintaining a healthy work-life balance impact teachers' performance. This study aims to offer practical suggestions that support the Ministry of Education's goals through Technical and Vocational Training Department (BPLTV) by focusing on a top vocational college, contributing to Malaysia's economic and workforce development objectives.

1.7 Definition of key terms

Items	Definition (Operational definition)	Source
Job Performance	The degree to which job performance denotes how effectively an individual carries out their work duties, including factors like productivity, work quality, and the capacity to achieve job-related objectives and criteria. In the TVET teachers' context, job performance includes their proficiency in delivering technical knowledge, fostering student engagement, and preparing students with skills relevant to industry needs.	Amiruddin, Nor, and Ismail (2023)
Technical and Pedagogical Competency	The extent to which the combination of technical and instructional skills needed by TVET teachers to provide industry-relevant education effectively. This skill allows teachers to get students ready for hands-on jobs in fields such as automation and digital technology.	Amiruddin, Nor, and Ismail (2023)
Continuous Professional Development	The degree to which ongoing training and skill development initiatives are essential for TVET teachers to stay updated on changing industry practices and teaching methods, ensuring effective instruction.	Rahman and Mohamad (2023)

Institutional Support	The extent to which resources, amenities, and organized assistance offered by establishments that help TVET teachers concentrate on top-notch teaching and enhance work efficiency	Ahmad and Osman (2022)
Work-Life Balance	The extent to which of attaining a harmonious state between professional duties and personal life is crucial for decreasing burnout and improving job fulfillment in teachers	Yusuf and Mahmod, (2022)
Interpersonal and Social Competency	The degree to which the capacity to efficiently communicate, cooperate, and establish constructive connections with others, which require abilities such as empathy, teamwork, and conflict resolution are crucial for TVET teachers to establish a positive classroom atmosphere that fosters student learning and helps students develop the necessary skills for their future professional interactions.	Yusuf and Mahmod (2022)

1.8 Organization of study

This study is systematically organized into five chapters to provide a thorough examination of the factors influencing job performance among TVET teachers. In the first chapter, the groundwork for the study is laid by providing the background and context, defining the problem statement, outlining the research objectives and questions, and addressing the significance and scope of the study. This chapter aims to present the fundamental elements and reasoning behind the research. The second chapter is literature review which delves into an analysis of relevant literature, drawing on studies that discuss factors influencing TVET teachers' job performance, with a focus on vocational college.

Key topics include technical education, professional development, institutional support, and work-life balance, providing a comprehensive framework for understanding the theoretical and empirical basis of the study. Next comes the chapter on research methodology, which primarily outlines the research design, methods for data collection, sample population, and techniques for data analysis, providing a detailed account of the systematic approach employed to collect and analyze data. This chapter also addresses any potential limitations, ensuring transparency in the research process. In chapter four, the discoveries and analysis of this research are presented. This chapter showcases the findings of the study and offers a thorough analysis of the influence of each factor on job performance of TVET teachers, utilizing empirical evidence to back up the interpretations. Finally, in chapter five; it synthesizes the main findings, discusses their implications for stakeholders, and proposes recommendations for policymakers, educational institutions, and future research, aiming to support improvements in TVET teacher performance and, consequently, student outcomes in Malaysia.

1.9 Chapter summary

In summary, Chapter 1 has introduced the focus and framework of this study on factors influencing TVET teachers' job performance. This chapter provided a comprehensive background, highlighting the significance of TVET in Malaysia's economic and educational goals and identifying challenges faced by TVET teachers. This chapter outlined the problem statement, emphasizing the importance of understanding specific factors such as technical competency, professional

development, interpersonal and social competencies, institutional support, and work-life balance in shaping teacher performance. Key research objectives and questions were developed to guide the investigation systematically, aiming to provide insights that can support policymakers and institutions. Additionally, this chapter outlined the importance and extent of the research, clarified essential terms for understanding, and explained the structure of the study, establishing a strong foundation for the subsequent literature review and methodology sections.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a comprehensive literature review that highlights the elements affecting job performance of TVET teachers. It begins by defining the key variables that affect TVET teachers' performance, including technical and pedagogical competency, professional development, interpersonal and social competency, institutional support, and work-life balance. Next, it discusses the underpinning theories that best align with this study and the relationships between each variable and TVET teachers' job performance. Lastly, the chapter outlines hypotheses developed for this research, supported by recent journals, reports, and statistics to provide empirical justification for each proposed relationship.

2.2 Conceptualization of Job Performance

Job performance pertains to how effectively teachers execute their teaching duties, encompassing the quality of their instruction, the level of student engagement, and the attainment of educational objectives. Within the realm of TVET, job performance includes both the technical competency necessary to instruct industry-relevant competencies and the teaching abilities needed to foster a constructive learning atmosphere (Amiruddin et al., 2023; Rahman & Mohamad, 2023).

High job performance is characterized by teachers who can deliver practical skills, motivate students, and adapt their teaching to meet industry demands (Ismail & Ahmad, 2023; Alshafie et al., 2021; Yusuf & Mahmod, 2022).

2.2.1 The relationship between independent variables and job performance

In the realm of Technical and Vocational Education and Training (TVET), technical and pedagogical competencies are crucial for teachers to deliver effective education that combines both theoretical knowledge and hands-on skills, meeting the demands of Malaysia's industrializing economy (Hashim, Rahman, and Rahman, 2021; Ismail and Khalid, 2022). The growing need for skilled workers in areas like engineering, technology, and trades emphasizes the importance of TVET teachers possessing dual competencies to prepare students adequately for the workforce.

According to Hassan and Omar, 2020; Ali and Kamaruddin, 2021; Amiruddin et al., 2023; Yusuf and Mahmod (2022), technical competency refers to a teacher’s knowledge and ability to perform specialized tasks in their subject area, which includes expertise in advanced machinery, digital tools, and industry-specific protocols. Teachers in TVET must keep current with industry standards to ensure curriculum alignment with job market demands. This alignment is particularly challenging due to the rapid pace of technological development in fields such as automation, robotics, and digital production.

Researchers suggest that teachers with high technical and pedagogical competency directly impacts curriculum relevance, create engaging learning environments, which positively impacts student outcomes and enhances overall teaching effectiveness in TVET (Rahman and Mohamad, 2023; Alshafie et al., 2021; Ahmad and Osman, 2022; Ismail, Hashim, and Yunus, 2021; Jamaluddin and Yaacob, 2023; Mahmud and Salleh, 2023; Zulkifli and Ahmad, 2022).

Ahmad et al. (2021) also found that teachers who feel confident in both their technical and pedagogical competencies are 30% less likely to experience job-related stress, which contributes to their overall job performance and commitment to the profession.

Pedagogical competency refers to a teacher's ability to deliver effective instruction by making complex technical content accessible and engaging for students. This competency includes proficiency in various instructional strategies, effective lesson planning, classroom management, and assessment techniques. For TVET (Technical and Vocational Education and Training) teachers, pedagogical competencies are particularly important because they facilitate the integration of theoretical knowledge with hands-on implementation, which is a foundational aspect of vocational training programs.

According to Ahmad, Rahim, and Zulkifli (2021), TVET teachers with strong pedagogical competency are more effective in engaging students and achieving

targeted learning outcomes. Their research, conducted across several Malaysian vocational colleges, revealed that students instructed by teachers with strong pedagogical competencies achieved scores 15% greater in practical assessments compared to those instructed by teachers who did not possess these abilities. This finding highlights the importance of pedagogical proficiency in helping students acquire the practical and technical skills essential for vocational careers, thereby improving overall teacher performance in TVET settings.

Without adequate support for continuous competency development, TVET teachers may struggle to maintain the technical knowledge necessary for high-quality instruction, which may negatively impact student preparedness for employment (Hassan and Omar, 2020; Ali and Kamaruddin, 2021). Therefore, both technical and pedagogical competencies are foundational to the success of TVET programs, as they enable teachers to create an education environment that is industry-relevant and pedagogically sound (Hashim et al., 2021; Ismail and Khalid, 2022).

In addition, continuous professional development encompasses continuous learning initiatives designed to keep teachers updated on the latest industry practices and teaching methodologies. Thus, in the TVET framework, professional growth is very critical and need to further emphasizes for the development of digital capabilities and technical competency in order to equip students for contemporary industries. (Rahman and Mohamad, 2023; Ahmad and Osman, 2022).

Beside of that, effective professional development which includes pedagogical training is vital in order to enhance instructional quality and improve adaptability in changing industry landscapes. Studies have shown that regular engagement in professional development activities leads to higher job satisfaction, motivation, and job performance among teachers (Bakar and Hassan, 2022; Shahril and Abdullah, 2021; Yusuf and Mahmod, 2022; Yaacob et al., 2023; Othman et al., 2023). A study conducted by Rahman and Mohamad (2023) also demonstrates that teachers with regular access to ongoing professional development are better equipped to engage students and maintain high instructional quality, emphasizing the significance of readily available and continuous training opportunities across Malaysia.

On top of that, interpersonal and social competency involves communication, teamwork, conflict resolution, cultural sensitivity and empathy competency that are vital for creating a supportive and collaborative classroom. For such instance, in Technical and Vocational Education and Training (TVET) framework, these competencies are especially critical, as vocational education often involves hands-on, collaborative work that reflects real-world job environments. TVET teachers need to develop these competencies to foster positive relationships with students, which in turn promotes a conducive learning environment (Jamaluddin and Hassan, 2020; Mahmud, Salleh, and Aziz, 2021; Lee and Chong, 2022).

Research highlights those teachers with strong interpersonal competency are better able to engage students, encourage participation, and create inclusive learning

spaces, directly benefiting student learning outcomes (Yusuf and Mahmod, 2022; Ismail and Ahmad, 2023; Centre for Instructor and Advanced Skill Training, 2023; Rahman and Mohamad, 2023; Department of Skills Development, 2022). Institutional support includes the provision of resources, administrative assistance, and a supportive work environment that enable teachers to perform their roles effectively. In TVET, institutional support is critical as it includes access to modern equipment, updated curricula, and continuous training, all of which help teachers focus on delivering quality education. Government reports indicate that institutions with strong support frameworks lead to higher job satisfaction and better performance among TVET teachers (Ministry of Education Malaysia, 2023; MQA, 2021). Studies show that access to resources and support can alleviate administrative burdens, allowing teachers to focus more on student engagement and skill development (Rahman and Mohamad, 2023; Ahmad and Osman, 2022; Bakar et al., 2021; Ismail et al., 2021).

Work-life balance refers to the harmony between work obligations and personal life, crucial for the well-being and effectiveness of teachers. Achieving a healthy balance between work and personal life lessens burnout and boosts motivation, both essential for enduring job performance (Ahmad and Osman, 2022). Research indicates that teachers who work in supportive environments, with a healthy equilibrium between their professional and personal lives, are generally more productive and involved in their teaching responsibilities (Shahril and Abdullah, 2021; Othman et al., 2023; Yusuf and Mahmod, 2022; Bakar and Hassan, 2022).

2.3 Research implications

This research on factors influencing job performance among TVET teachers has several important implications for policymakers, educational institutions, and the broader vocational education landscape. By identifying key factors such as technical and pedagogical competency, professional development, interpersonal and social competency, institutional support, and work-life balance, the findings offer valuable insights that can inform targeted interventions to enhance the performance and effectiveness of TVET teachers.

First of all, this research results can guide policymakers in the Ministry of Education and other relevant government bodies to develop strategies that support TVET teachers' job performance more effectively. By recognizing the significance of continuous professional development and technical competencies, policymakers can implement standardized training programs and certification that ensure teachers remain updated with industry trends and emerging technologies. This is especially important given the emphasis on Industry 4.0 skills, as highlighted by the Malaysian Education Blueprint and the Economic Transition Plan as per highlight by the Ministry of Education Malaysia (2023). Policies promoting teacher training in areas like digitalization, automation, and pedagogy can enhance teachers' adaptability and instructional quality, thus benefiting the Malaysian workforce and economy.

Secondly, it enhances institutional strategies and resource allocations. Since this study highlights the critical role of institutional support, which includes providing

access to resources and an enabling work environment; hence, educational institutions can leverage these insights to improve resource allocation, ensuring that TVET teachers have access to up-to-date tools, administrative support, and a structured curriculum that aligns with industry demands. Institutions can also introduce support systems that ease administrative burdens on teachers, allowing them to focus more on instructional quality. Studies indicate that when institutions prioritize supportive resources, teachers experience higher job satisfaction and are better able to meet teaching goals (Ahmad & Osman, 2022; Rahman & Mohamad, 2023). By strengthening institutional frameworks and providing adequate resources, educational institutions can improve both teacher retention and student outcomes.

Thirdly, this research can enhance professional development programs. Since the research findings emphasize the need for regular professional development initiatives targeting both technical and pedagogical competencies; thus, government agencies and TVET institutions could use this data to develop targeted training programs that align with Malaysia's workforce needs. Professional development programs can include training in industry-specific skills, advanced pedagogical methods, and interpersonal competencies, which would equip teachers to foster more engaging and practical learning environments. Yaacob et al. (2023); Shahril and Abdullah (2021) shows that such development opportunities can enhance job satisfaction and motivation, ultimately translating into higher job performance and better-prepared students for industry roles. Implementing structured and consistent professional

development initiatives can help TVET teachers adapt to evolving industry demands while maintaining high standards in vocational education.

Fourthly, the findings related to work-life balance in this research underscore the importance of creating a balanced work environment that minimizes teacher burnout and fosters long-term engagement. Educational institutions and policymakers can address this by implementing measures that promote work-life balance, such as flexible work hours, manageable workloads, and mental health support. These initiatives can improve teachers' well-being, productivity, and commitment to teaching roles, ultimately contributing to positive learning experiences for students. By promoting policies that support work-life balance, institutions can ensure sustainable job performance, reducing turnover and enhancing stability within the TVET workforce.

Last but not least, this research give implication for students' outcome and workforce readiness. This is because improving job performance among TVET teachers has a direct impact on student learning and workforce readiness. According to Yusuf and Mahmod (2022); Bakar and Hassan (2022), high-performing teachers, supported by adequate resources and professional development, can deliver more relevant and effective instruction that equips students with industry-ready skills. Studies by Rahman and Mohamad (2023); Othman et al. (2023) have shown that students in well-supported vocational programs demonstrate higher employability and adaptability to industry demands, contributing to Malaysia's broader economic goals

of developing a skilled workforce. Thus, the implications of this research extend beyond teachers, benefiting students and aligning with Malaysia's economic aspirations.

2.4 Underpinning theory

1. Job Demand- Resource (JD-R) Model

The Job Demands-Resources (JD-R) Model, first introduced by Demerouti et al. in 2001, is an important theoretical framework utilized to analyze the impact of job demands and resources on employee well-being and performance. The model suggests that all facets of a job can be divided into job demands (factors that necessitate ongoing physical or mental effort and come with specific costs) and job resources (factors that aid in reaching work objectives, alleviate demands, or promote personal development). Elevated job demands, especially when not matched with adequate resources, may result in stress, exhaustion, and lower performance, whereas ample resources can enhance employee engagement, motivation, and overall job performance (Demerouti et al., 2001; Bakker and Demerouti, 2017). Figure 2.1 shows the JD-R model applied to TVET teachers Job Performance.

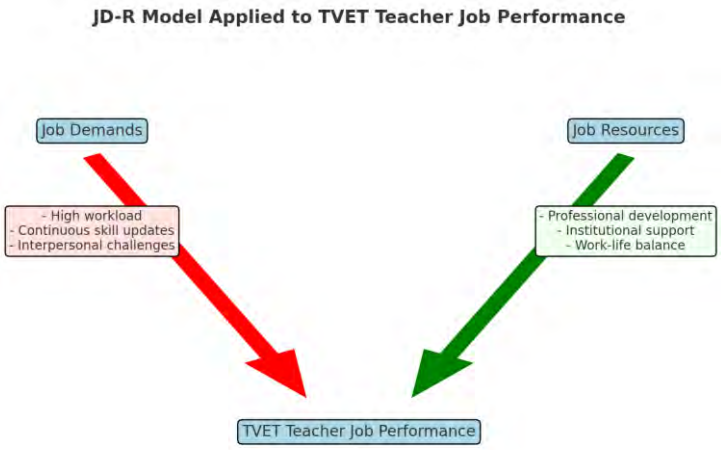

Figure 2.1
JD-R model applied to TVET teachers' job performance
Source: Adapted from Bakker & Demerouti, 2007

Taris et al. (2020) and Bakker et al. (2018) state that a key element of the JD-R model is its flexibility, which allows it to be applied to various occupational contexts, including education, where demands and resources may take unique forms. The model emphasizes that job resources play a buffering role against the negative impact of high demands, suggesting that an adequate provision of resources can foster resilience and engagement even in demanding job roles. Over time, the JD-R model has expanded to include personal resources—qualities like self-efficacy and resilience—that further enable individuals to cope with demands, ultimately enhancing job performance.

According to Rahman and Mohamad (2023); Ahmad and Osman (2022), the authors emphasize that in the context of TVET education, the JD-R model offers an insightful framework for understanding how specific demands and resources impact teachers' job performance. Technical and pedagogical competency, for instance,

represents a significant demand, as TVET teachers must consistently update their competencies to stay aligned with industry standards. This high demand requires sustained effort from teachers, as they must balance technical expertise with effective instructional strategies to prepare students for technical fields. However, continuous professional development opportunities act as a crucial job resource, providing the necessary training to meet this demand. Studies have shown that regular professional development reduces the strain associated with technical demands and enhances teachers' motivation and effectiveness, aligning with the JD-R model's concept of resource-mediated resilience.

Furthermore, the JD-R model's application extends to interpersonal and social competency, which functions as both a demand and a resource for TVET teachers. Teachers are required to demonstrate strong communication and collaboration skills, fostering supportive and collaborative learning environments. While this demand can be challenging, it also becomes a resource as teachers build social connections and support networks that benefit both teachers and students. Research by Yusuf and Mahmod (2022); Ismail and Ahmad (2023) indicate that when teachers possess high interpersonal and social competency, they can better engage students and enhance their overall classroom experience, directly impacting job performance in a positive manner.

In addition, institutional support is another critical resource in the JD-R model, especially relevant in the TVET context. According to MQA (2021), institutional

support encompasses access to resources, administrative assistance, and a conducive work environment, all of which allow teachers to focus on quality instruction rather than administrative burdens. Ministry of Education Malaysia (2023) emphasize that institutions with strong support frameworks contribute to higher job satisfaction and performance, as these resources help teachers manage their teaching demands effectively. Therefore, by providing necessary tools and a supportive work environment, institutional support reinforces the JD-R model's assertion that job resources not only reduce the impact of job demands but also contribute directly to improved job outcomes.

Lastly, the concept of work-life balance as a resource is fundamental within the JD-R framework. According to Ahmad and Osman (2022); Othman et al. (2023), a balanced work-life environment allows teachers to manage stress and avoid burnout, which are often linked to high job demands. Work-life balance resources support long-term job performance by reducing strain, boosting motivation, and enabling teachers to bring greater engagement and productivity to their teaching roles. For TVET teachers, achieving work-life balance means they can maintain a sustained commitment to their students and their professional growth, thus enhancing their job performance over time.

Thus, in order to outcome this problem, the Job Demands-Resources (JD-R) Model is used as a strong theoretical framework to examine the factors impacting job performance in TVET teachers as stated in the problem statement discussed in the

previous chapter. This framework classifies difficulties into work requirements and support, offering a thorough perspective to analyze how these factors come together to impact teacher effectiveness. In Malaysian TVET, job demands encompass heavy workloads, continuous skill development, and strong interpersonal and social competency to support effective learning environments. For example, TVET teachers need to regularly enhance their technical and pedagogical abilities to stay current with advancements in automation, digital technologies, and green energy sectors, as highlighted in the MADANI Economy Framework and the 2024 Economic Transition Plan. These requirements create a lot of pressure for teachers, which could weaken their capacity to properly educate students for contemporary sectors.

Hence, in order to offset these pressures, the JD-R Model highlights the significance of job resources like chances for career growth, support from the organization, and strategies for maintaining a healthy work-life equilibrium. Continuous professional development (CPD) is crucial for filling in gaps in technical and pedagogical competencies, making sure that teachers stay up-to-date in their respective fields. The RM6.8 billion allocated by the government in the 2024 National Budget for TVET, including funds for training programs, shows a dedication to providing teachers with necessary resources to fulfill industry needs. Furthermore, support from institutions, including modern facilities, organized curricula, and administrative help, is crucial in reducing workload stress and allowing teachers to concentrate on teaching quality. Having a balance between work and personal life is an important

factor that helps reduce burnout and boosts teacher motivation, leading to increased engagement and productivity in the classroom.

The JD-R Model is well-suited for this study as it offers a systematic way to explore the effects of job demands and resources on job performance. It closely corresponds with the issue at hand, bringing attention to the two difficulties experienced by TVET teachers: overwhelming workloads and restricted access to necessary resources. This study uses the JD-R Model to systematically tackle these challenges and provides suggestions on how specific interventions like improved CPD programs and institutional support can enhance teacher performance. Additionally, the model aligns with the goals of the MADANI Economy Framework and Ministry of Education's vision for BPLTV by proposing tactics to enhance the TVET ecosystem and cultivate a competent workforce for Malaysia's economic transformation. Given its established relevance in educational research, the JD-R Model is a logical selection for this study, offering a strong theoretical basis to direct the analysis and generate practical policy suggestions.

In conclusion, the JD-R model provides a comprehensive framework for understanding how job demands and resources interact to influence job performance. For TVET teachers, this model explains how technical and pedagogical competency, professional development, interpersonal and social competency, institutional support, and work-life balance interconnect to shape job performance. By identifying both the demands placed on teachers and the resources available to support them, the JD-R

model underscores the importance of a balanced approach to managing the multifaceted demands of teaching in the Malaysian TVET sector, ultimately leading to higher job satisfaction and enhanced educational outcomes for students (Bakker and Demerouti, 2017; Taris et al., 2020; Rahman and Mohamad, 2023).

2.5 Chapter summary

Chapter 2 reviewed literature on factors impacting job performance among TVET teachers, including technical and pedagogical competency, professional development, interpersonal and social competencies, institutional support, and work-life balance. The Job Demands-Resources (JD-R) Model was introduced as the theoretical foundation, explaining how job demands and resources influence teacher engagement and performance. This chapter sets a foundation for examining strategies to enhance TVET education aligned with Malaysia's economic and workforce goals.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology employed to examine the factors influencing job performance among TVET teachers at Vocational College Sultan Abdul Samad. It details the research design, unit of analysis, population, sampling techniques, data collection procedures, and analysis methods. A descriptive quantitative approach, combined with the consensus method, is utilized to identify relationships and the influence of key variables. The study focuses on five independent variables—technical and pedagogical competency, continuous professional development, interpersonal and social competency, institutional support, and work-life balance—and their relationship with the dependent variable, job performance. Statistical methods, including descriptive analysis, correlation, reliability, and regression analysis, are used to ensure a comprehensive understanding of these relationships (Hair et al., 2014; Sekaran & Bougie, 2016).

3.2 Research Framework

Figure 3.1 shown the conceptual framework on the factors influencing job performance among TVET teachers adapted from JD-R model.

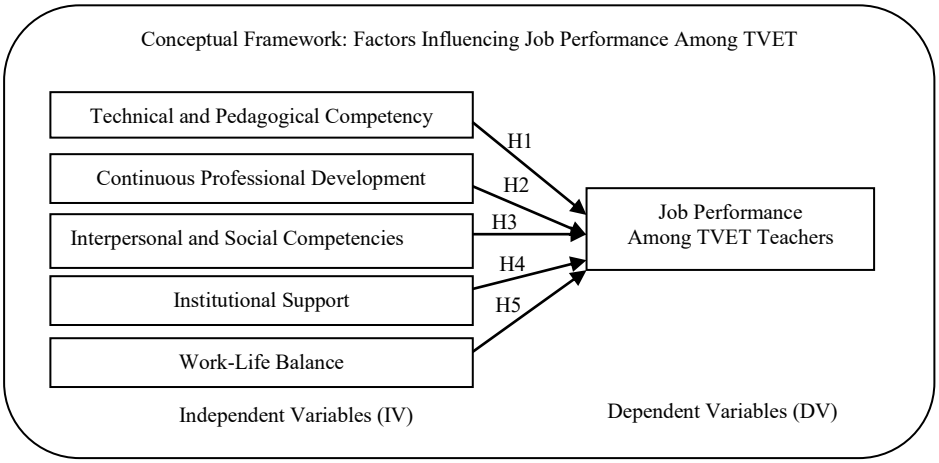

Figure 3.1
Conceptual Framework: Factors Influencing Job Performance Among TVET Teachers

3.3 Hypotheses of study

3.3.1 Relationship between technical and pedagogical competencies and the job performance among TVET teachers

According to Amiruddin et al. (2023), technical and pedagogical competency is essential for TVET teachers, enabling them to bridge the gap between theory and practical application, which is especially critical in technical education fields. Teachers who excel in technical skills and pedagogical methods foster active and engaging learning environments, which better prepare students for industry roles.

Rahman and Mohamad (2023); Alshafie et al. (2021) in their studies indicate that technical proficiency among teachers leads to more effective teaching and improved student outcomes in vocational contexts. Also, Ismail, Hashim, and Yunus (2021; Jamaluddin and Yaacob (2023); Ahmad and Osman (2022) emphasize that greater

technical and pedagogical competencies will positively impact job performance by enhancing teachers' ability to convey complex technical concepts effectively). Thus, based on this, the study proposed the following hypothesis:

H1: Technical and pedagogical competency will impact on job performance among TVET teachers

3.3.2 Relationship between continuous professional development and the job performance among TVET teachers

Ministry of Education Malaysia (2023) highlights that continuous professional development is crucial for TVET teachers to remain current with evolving industry standards, ensuring their teaching stays relevant and effective. The Malaysian Education Blueprint emphasizes the need for teachers to engage in regular professional development to adapt to curriculum changes and meet the demands of Industry 4.0.

Studies by Shahril and Abdullah (2021); Bakar and Hassan (2022) confirm that teachers who participate in ongoing skill enhancement programs demonstrate greater adaptability, job satisfaction, and effectiveness in teaching. Consequently, this hypothesis posits that continuous professional development will have a positive impact on job performance by enhancing teachers' readiness to deliver high-quality, industry-relevant instruction (Yaacob et al., 2023; Yusuf & Mahmod, 2022; Othman

et al., 2023). Hence, by referring to these sources, it is proposed the second hypothesis as follow;

H2: Continuous professional development will impact on job performance among TVET teachers

3.3.3 Relationship between interpersonal and social competencies and the job performance among TVET teachers

According to Yusuf & Mahmod (2022), interpersonal and social competencies are critical for creating a positive and productive learning environment. TVET teachers who excel in communication, teamwork, and empathy foster collaborative and supportive classrooms, which improve student engagement and satisfaction.

Ismail and Ahmad (2023); Centre for Instructor and Advanced Skill Training (2023) have proven that teachers with strong interpersonal competencies tend to create more inclusive and dynamic learning spaces, positively affecting job performance by enhancing their relationships with students. Rahman & Mohamad (2023); Jamaluddin and Yaacob (2023) also suggest that higher levels of interpersonal and social competency correlate with improved job performance, as teachers are better able to manage classrooms and facilitate student-centered learning. Therefore, this study proposes the third hypothesis as follow;

H3: Interpersonal and social competencies will impact on job performance among TVET teachers

3.3.4 Relationship between institutional support and the job performance among TVET teachers

Institutional support, including access to resources, well-structured curricula, and administrative assistance, plays a significant role in teacher's ability to focus on instructional quality. According to the Malaysian Education Blueprint, a supportive work environment allows teachers to concentrate more on teaching and skill-building, resulting in improved performance (Ministry of Education Malaysia, 2023).

Studies by Bakar et al. (2021); Ismail et al., (2021) show that adequate institutional support alleviates the strain of administrative burdens, enabling teachers to invest more time in instructional activities and student engagement. Rahman and Mohamad (2023); Ahmad and Osman (2022); Othman et al. (2023) point out that greater institutional support will positively correlate with job performance among TVET teachers. Thus, these literature review has derived to the fourth hypothesis as in the following;

H4: Institutional support will impact on job performance among TVET teachers

3.3.5 Relationship between work-life balance and the job performance among TVET teachers

Ahmad and Osman (2022) point out that maintaining work-life balance is essential for sustaining high levels of motivation, productivity, and job satisfaction among teachers. Authors highlight those teachers who experience positive work environments, where work and personal life are balanced, report reduced burnout and increased engagement with their roles.

The above studies are further supported by Shahril and Abdullah (2021); Othman et al. (2023) whose claim that work-life balance promotes long-term job performance, as teachers are more likely to be productive, focused, and dedicated to student success. Yusuf and Mahmod (2022); Bakar & Hassan (2022); Jamaluddin and Yaacob (2023) posits that better work-life balance will positively impact TVET teachers' job performance, leading to higher motivation and enhanced instructional quality. Based on this, this study come out with the fifth hypothesis as in the following;

H5: Work-life balance will impact on job performance among TVET teachers

3.4 Research design

This study adopts a descriptive quantitative design, suitable for exploring and analyzing relationships among variables within a specific population. Descriptive research is particularly valuable in examining variables at a specific point in time, as it provides insights into prevailing conditions and trends (Sekaran & Bougie, 2016). The consensus method is employed to incorporate collective agreement among respondents, thereby enhancing the validity of findings. The study investigates the

relationship between the identified independent variables on job performance among TVET teachers. Vocational College Sultan Abdul Samad was chosen as a case study due to its strategic importance in Malaysia's vocational education system and its alignment with the objectives of the MADANI Economy Framework (Ministry of Finance Malaysia, 2024).

The primary source of data for this research is a structured questionnaire distributed to TVET teachers particularly in Vocational College Sultan Abdul Samad. Secondary sources, such as recent government reports, policy documents, and journal articles, support the data analysis by providing contextual information on TVET development and education standards (Ministry of Education Malaysia, 2023).

3.5 Data screening

In this study, data screening was performed to ensure the accuracy and reliability of responses collected from 69 TVET teachers at Vocational College Sultan Abdul Samad. The process involved checking for missing data, outliers, and normality of the variables through statistical methods, including skewness and kurtosis analysis. Cases with incomplete responses or extreme values were carefully reviewed and addressed to maintain data integrity. Additionally, the reliability of the questionnaire was validated using Cronbach's alpha, with all constructs demonstrating acceptable reliability levels above 0.70. These steps were crucial in ensuring the dataset's suitability for subsequent analyses, such as regression and correlation, to draw meaningful insights into the factors influencing job performance among TVET

teachers. This approach aligns with best practices outlined by Hair et al. (2014) and Sekaran and Bougie (2016).

3.6 Unit of analysis and population of the study

The unit of analysis is individual TVET teachers at Vocational College Sultan Abdul Samad; which is located at Banting, Selangor. This institution was selected for its established reputation, diverse range of vocational programs, and strategic role in preparing students for industry demands. It serves as a representative case within Malaysia's vocational education system. The study sample comprises of 72 TVET teachers, with 69 respondents completing the survey, resulting in a response rate of 95.83%. Respondents represent seven departments: Business Management, Electrical Technology, Cosmetology, Bakery and Pastry, Fashion and Design, Mechanical and Manufacturing, and Refrigeration and Air Conditioning Technology. These departments reflect the breadth of skills and industries targeted by vocational education in Malaysia (Rahman & Chong, 2020).

By concentrating on vocational college teachers, this study can better capture the specific challenges and resources pertinent to these institutions, which may differ from those in other types of TVET institutions. Vocational colleges are designed to deliver hands-on training and often face distinct demands in terms of maintaining technical competency, engaging in ongoing professional development, and managing classroom resources, making this focus especially relevant (Yusuf & Mahmod, 2022; Bakar & Hassan, 2022).

3.7 Sample size and sampling techniques

Total numbers of teachers in Vocational College of Sultan Abdul Samad, Banting is 118. Out of 118, only 72 teachers are really attached to the TVET programs which teach students for vocational curriculum. Thus, due to the manageable size of the population, the study surveyed the entire group of TVET teachers at the college. Purposive sampling which used consensus method was employed to ensure representation from all departments, capturing diverse insights and experiences specific to this institution. Purposive sampling is particularly useful when researchers aim to include participants with specific characteristics relevant to the study objectives (Creswell & Creswell, 2018) as presented in Table 3.1.

Table 3.1
Consensus sampling of the respondents

Field of expertise	Total expertise in each department	Number of respondents
Business Management	10	8
Electrical Technology	11	11
Cosmetology	13	13
Bakery and Pastry	10	10
Fashion and Design	11	11
Mechanical and Manufacturing	1	1
Refrigeration and Air Conditioning Technology	7	6
Culinary Art	9	9

3.8 Measurement of variables

The study utilizes a structured questionnaire with a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to measure the variables. Each independent variable is assessed through five items, ensuring reliability and consistency. Technical and pedagogical competency are measured by evaluating teachers' abilities to integrate theoretical knowledge with practical applications. Continuous professional development is assessed through access to and participation in training and industry collaborations. Interpersonal and social competency are evaluated based on communication effectiveness, teamwork, and empathy in fostering a supportive learning environment. Institutional support focuses on resource availability, administrative assistance, and curriculum alignment with industry needs. Work-life balance examines workload management, job satisfaction, and personal time allocation. The dependent variable, job performance, is measured by assessing teacher effectiveness, student engagement, curriculum delivery, and overall contributions to institutional goals (Sekaran & Bougie, 2016; Hair et al., 2014). All these variables are operationalized based on validated scales from prior research, ensuring reliability and validity (Othman et al., 2023; Yaacob et al., 2023) All the items constructed for each variable and their origin is summarized as in Table 3.2.

Table 3.2
Items and the origin of the items for every variable

Construct	Item Code	Survey Items	Source
Job Performance	JP 01	I am satisfied with my overall teaching performance.	Ismail and Ahmad (2023)
	JP 02	My teaching positively impacts student learning and outcomes.	
	JP 03	I consistently meet my institution's performance expectations.	
	JP 04	I effectively engage students in the learning process.	
	JP 05	I feel that I contribute to preparing students for their future careers.	
Technical and Pedagogical Competency	TPC01	I possess sufficient technical skills for teaching my subject.	Amiruddin et al., 2023
	TPC02	I am confident in applying both theoretical and practical knowledge in my teaching.	
	TPC03	I can easily integrate industry-relevant skills into my lessons.	
	TPC04	My teaching methods help students understand complex technical topics.	
	TPC05	I regularly update my technical knowledge to keep pace with industry needs.	
Continuous Professional Development	CPD01	My institution offers regular training relevant to my teaching field.	Rahman and Mohamad (2023)
	CPD02	I actively participate in professional development programs.	
	CPD03	Professional development opportunities help me improve my teaching skills.	
	CPD04	I feel motivated after attending training or workshops.	
	CPD05	Training programs help me meet the evolving needs of my students.	
Interpersonal and Social Competency	ISC01	I communicate effectively with my students.	Yusuf and Mahmod (2022)
	ISC 02	I foster a collaborative learning environment in my classroom.	

Table 3.2 (Continued)

	ISC 03	I am approachable and supportive to my students.	
	ISC 04	I can manage classroom interactions effectively.	
	ISC 05	I help students work together in a respectful and inclusive manner.	
Institutional Support	IS 01	My institution provides the resources I need to teach effectively.	Ministry of Education Malaysia (2023)
	IS 02	I receive adequate administrative support to manage my responsibilities.	
	IS 03	The facilities available support my teaching needs.	
	IS 04	My institution supports innovation and creativity in teaching.	
	IS 05	I feel encouraged by my institution to focus on student success.	
Work Life Balance	WLB 01	My workload allows me to maintain a healthy work-life balance.	Ahmad and Osman (2022)
	WLB 02	My institution respects my personal time and commitments.	
	WLB 03	I rarely experience burnout due to my job.	
	WLB 04	I feel satisfied with the balance between my work and personal life.	
	WLB 05	I have time to pursue personal interests outside of work.	

3.9 Pre-test and pilot testing

A pilot test was conducted from October 1, 2024, to October 10, 2024, to pre-test and examine the reliability value of each dimension in the research instrument. Validity is a critical aspect to consider in this process, as it ensures the accuracy of the measurement, providing an assessment of the exactness of the measured relative to what actually exists (Kumar et al., 2013). Both reliability and validity testing are

essential to ensure the accuracy and consistency of the responses collected from the questionnaires.

In the development of the instrument, validity was evaluated through content validity, construct validity, and criterion validity. The questionnaire used in this study was adapted from well-established instruments. However, content validity was further confirmed by engaging scholars and experts in TVET education and management fields. Their feedback ensured the items were relevant, culturally appropriate, and aligned with the study's objectives. This process involved reviewing items to address potential redundancies, adjusting constructs for clarity, and ensuring that the instrument would be effectively distributed to the targeted respondents.

A total of 30 TVET teachers from Vocational College Sultan Abdul Samad, representing diverse fields of expertise such as Business Management, Electrical Technology, Cosmetology, Bakery and Pastry, Fashion and Design, Mechanical and Manufacturing, and Refrigeration and Air Conditioning Technology, participated in the pilot test. The results of the pilot test revealed strong reliability, with Cronbach's Alpha values exceeding 0.90 for all constructs, indicating high internal consistency across the questionnaire items. The reliability statistic for pilot test is shown as in Table 3.3.

Table 3.3
Reliability Statistics

Cronbach's Alpha	N of Items	Percentage (%)
0.936	30	100

According to Cavana et al. (2001), Zikmund et al. (2010), Cooper and Schindler (2011), and Hair et al. (2010), Cronbach's Alpha is a reliability coefficient that measures how well the items in a set are positively correlated. A Cronbach's Alpha value of 0.6 and above is generally considered acceptable, particularly for exploratory studies. Table 3.4 provides the detailed reliability analysis for all constructs in this study, confirming the robustness of the instrument used.

Table 3.4
Reliability Summary

Variable	Cronbach's Alpha	Number of Items	Interpretation
Job Performance	0.732	5	Good
Technical and Pedagogical Competency	0.804	5	Very good
Continuous Professional Development	0.742	5	Good
Interpersonal and Social Competency	0.899	5	Excellent
Institutional Support	0.874	5	Excellent
Work-Life Balance	0.899	5	Excellent

The pilot test confirmed that the questionnaire is reliable and valid for the main study. The feedback from participants and experts ensured that the instrument was

well-suited for measuring the relationships between technical and pedagogical competency, continuous professional development, interpersonal and social competency, institutional support, work-life balance, and job performance among TVET teachers. This step was instrumental in refining the questionnaire to ensure accurate data collection and meaningful results in the full-scale study.

3.10 Data collection procedure

Data was collected through self-administered questionnaires distributed to teachers across all seven departments. The questionnaire was accompanied by a cover letter explaining the study's purpose and ensuring confidentiality. Respondents were given two weeks to complete the survey, with follow-up reminders issued to maximize the response rate. This method is efficient for gathering data from a geographically concentrated population and reduces potential biases associated with interviewer-led surveys (Creswell & Creswell, 2018).

The main issue that arose unexpectedly during data collection was the delay in retrieving the filled questionnaires. Hence, the researcher contacted the relevant individual by phone twice a week to serve as a reminder. The researcher was told by multiple departments over the phone that they are too busy to filled up the questionnaire. Thus, researcher took an initiative to personally deliver the questionnaires. During this phase, the researcher prints the required number of questionnaires and organizes distribution by visiting the departments. The questionnaires were given to TVET teachers based on the number of teachers in each

department, as presented in the previous section on sampling of respondents. Additionally, these surveys are split into three main sections. The Section (A) covers the respondent's demographic, while the subsequent section; Section (B) focuses on the independent variables. This section is divided into five sub-sections; that are Section B (1) which discuss about technical and pedagogical competency. The second subsection discusses the continuous professional development, followed by an examination of interpersonal and social competency in the third part. Institutional support is addressed in the fourth part, work-life balance in sub-section fifth, with the final part which is Section C dedicated to the dependent variable, that is job performance, detailed in the provided Table 3.5.

Table 3.5
Questionnaire Design

Questionnaire Design	**Description**
Section A	Respondent's Demographic: Gender, age,education level, marital status, field of expertise, and years of teaching experience.
Section B (1)	Contain of 5 questions on technical and pedagogical competency
Section B (2)	Comprise of 5 questions on continuous professional development
Section B (3)	Consist of 5 questions on interpersonal and social competency
Section B (4)	Involve of 5 questions on institutional support
Section B (5)	Contains of 5 questions on work-life balance
Section C	Consist of 5 questions on job performance

Moreover, questionnaires are created using a five-point Likert scale. The measurement of each item ranges from (1) strongly disagree to (5) strongly agree, as stated by Meddour (2016), Kumar et al. (2013), Awang (2012), and Cavana et al. (2001). This is done to enable respondents to express their feelings and perceptions about the given statement, thus enhancing the measurement's validity.

3.11 Data analysis method

The collected data was analyzed using SPSS software, a widely used tool for statistical analysis. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize respondent profiles and variable data. Correlation analysis was conducted to examine the strength and direction of relationships between independent variables and job performance. Reliability analysis, using Cronbach's alpha, was performed to ensure the internal consistency of questionnaire items, with values exceeding the recommended threshold of 0.7 indicating good reliability (Hair et al., 2014). Regression analysis was applied to investigate the influence of independent variables on job performance, identifying the most significant predictors. These methods provide a robust and comprehensive understanding of the relationships and influencing factors affecting TVET teachers' job performance (Sekaran & Bougie, 2016; Creswell & Creswell, 2018).

3.11.1 Descriptive analysis

Data was examined to analyze the characteristics of the participants using the Statistical Package for Social Sciences (SPSS). The statistics for the research were

generated through SPSS. Frequency and percentage were utilized to describe the profile of the participants in the study, while data screening was conducted to ensure the accuracy of the data input. Measures such as mean, standard deviation, and frequency distributions were employed to provide a general overview of the respondents (Yusuf & Mahmod, 2022).

3.11.2 Inferential statistics

Inferential Statistics include regression analysis, and correlation analysis to test the relationships between the independent variables (technical and pedagogical competency, professional development, interpersonal and social competency, institutional support, and work-life balance) and the dependent variable (job performance). Regression analysis, in particular, will help determine the predictive power of each variable on job performance, aligning with similar analyses used in recent TVET studies (Rahman & Mohamad, 2023; Ahmad & Osman, 2022). Additionally, a normality test was conducted using the skewness and kurtosis values, which provide insights into the symmetry and peakedness of the data distribution (Kline, 2015). Skewness measures the degree of asymmetry, while kurtosis evaluates the concentration of data in the tails. According to George and Mallery (2010), skewness values between -1 and +1 and kurtosis values between -2 and +2 indicate approximate normality.

3.12 Chapter summary

This chapter elaborates on the methodology employed in this research, focusing on the examination of factors influencing job performance among TVET teachers in Malaysia. It includes detailed descriptions of the research design, data collection procedures, sample population, and analysis techniques. Hypotheses were developed for each factor, supported by recent studies and reports, providing a framework for understanding TVET teacher performance in Malaysia.The research methodology ensures a comprehensive understanding of the relationships between the dependent variable (job performance) and the independent variables (technical and pedagogical competency, continuous professional development, interpersonal and social competency, institutional support, and work-life balance).

A descriptive quantitative approach was adopted for this study, which is suitable for examining relationships between variables at a specific point in time. The study was conducted at Vocational College Sultan Abdul Samad, chosen for its pivotal role in vocational education in Malaysia. The research design included a structured questionnaire as the primary data collection tool, employing a five-point Likert scale to capture respondents' perceptions effectively. The questionnaire's items were adapted from validated instruments with proven reliability, such as Cronbach's alpha values ranging from 0.85 to 0.90, surpassing the threshold of 0.7 recommended for robust research (Sekaran & Bougie, 2016).

The study surveyed a population of 72 TVET teachers, achieving a response rate of 95.83%. Purposive sampling ensured representation from various departments, capturing diverse insights and experiences relevant to the research objectives. Statistical analyses were conducted using SPSS, including descriptive statistics, correlation, reliability, and regression analyses, to provide insights into the relationships and influencing factors impacting TVET teachers' job performance.

The dependent variable, job performance, was measured through five items assessing teaching effectiveness, student engagement, curriculum delivery, and contribution to institutional goals. Each independent variable was also evaluated using five carefully constructed items, addressing aspects such as technical skills, professional development participation, interpersonal interactions, institutional resource availability, and work-life balance.

This methodology chapter provides a solid foundation for understanding the factors influencing job performance among TVET teachers and lays the groundwork for analyzing the findings in subsequent chapters. The comprehensive approach, combining validated instruments and statistical rigor, ensures the reliability and validity of the research outcomes.

CHAPTER FOUR

RESULTS

4.1 Introduction

This section discusses the results of the data analysis, exploring the connections between independent variables such as technical and pedagogical competency, continuous professional development, interpersonal and social competency, institutional support, and work-life balance; and the dependent variable, job performance. The evaluations consist of descriptive statistics, correlation analysis, and regression analysis, offering a thorough comprehension of these connections.

4.2 Demographic Statistic

The demographic analysis gives a summary of the characteristics of the participants, such as gender, age, TVET experience, marital status, education, and program specialization. 69 teachers took part in the research, providing varied viewpoints that enhance the results.

When it comes to gender breakdown, most of those surveyed were women, making up 84.1% (n = 58) of the group, with men making up 15.9% (n = 11). This mirrors the typical pattern seen in TVET schools, with female teachers often surpassing male teachers in number. The majority of participants fell in the 32-37 years age range, making up 53.6% (n=37) of the sample, with 33.3% (n=23) in the 37 and older

group, and 13.0% (n=9) in the 26-31 years category. This shows a large number of teachers in the middle and later stages of their careers, with a smaller number of teachers in the early stages.

The majority of participants, specifically 69.6% (n = 48), had been teaching for over six years. TVET teachers who had worked for 4 to 6 years accounted for 17.4% (n = 12), while those with 1 to 3 years of experience made up 13.0% (n = 9). These results showcase the broad knowledge of the participants, guaranteeing that the research gathers perspectives from experienced experts. In terms of marital status, most participants were married (94.2%, n = 65), while a small number were single (2.9%, n = 2) or classified as "other" (2.9%, n = 2). The distribution of marital status indicates that numerous survey participants manage family duties in addition to their work obligations.

The majority of participants had a bachelor's degree (82.6%, n = 57), with a smaller percentage holding a master's degree (15.9%, n = 11), and only 1.4% (n = 1) had a doctorate. This shows that most teachers have the necessary qualifications for their positions, but there is room for further academic growth through postgraduate studies. The area of specialization was varied, with participants coming from different TVET programs. The biggest categories focused on Cosmetology (18.8%, n = 13), Electrical Technology (15.9%, n = 11), and Fashion and Design (15.9%, n = 11). Additional categories comprised Bakery and Pastry (14.5%, n = 10), Culinary Art (13.0%, n = 9), Business Management (11.6%, n = 8), Refrigeration and Air Conditioning Technology (8.7%, n = 6), and Mechanical and Manufacturing

Technology (1.4%, n = 1). This variety highlights the diverse teaching skills of the respondents and the multidisciplinary aspect of TVET institutions.

In general, the demographic profile shows that there are mainly female teachers in the middle of their careers in TVET fields, who have extensive teaching experience and a wide variety of expertise. These traits guarantee that the study's results are influenced by knowledgeable experts who provide valuable perspectives on the difficulties and possibilities in TVET education. Table 4.1 presents the summary of demographic characteristics of respondents.

Table 4.1
Summary of demographic characteristics of respondents

Variable	Categories	Frequency (n)	Percentage (%)
Gender	Female	58	84.1
	Male	11	15.9
Age	26–31 years	9	13.0
	32–37 years	37	53.6
	37 and above years	23	33.3
Years of Experience in TVET	1–3 years	9	13.0
	4–6 years	12	17.4
	More than 6 years	48	69.6
Marital Status	Married	65	94.2
	Single	2	2.9
	Others	2	2.9

Table 4.1 (Continued)

Education Level	Degree	57	82.6
	Master's Degree	11	15.9
	Doctorate	1	1.4
Program (Field of Expertise)	Bakery and Pastry	10	14.5
	Business Management	8	11.6
	Cosmetology	13	18.8
	Culinary Art	9	13.0
	Electrical Technology	11	15.9
	Fashion and Design	11	15.9
	Mechanical and Manufacturing Technology	1	1.4
	Refrigeration and Air Conditioning Technology	6	8.7

Overall, the demographic makeup shows mostly female teachers in the middle of their careers, who have extensive experience in teaching and varied expertise in TVET areas. These qualities guarantee that the study's results are based on knowledgeable experts who provide valuable perspectives on the hurdles and possibilities in TVET education.

4.3 Descriptive statistics

Descriptive analysis summarized the mean and standard deviation for five independent variables: technical and pedagogical competency, continuous professional development, interpersonal and social competency, institutional support

and work-life balance; and job performance, the dependent variable, was also assessed. This evaluation offers a summary of how participants view things and points out both strong and weak areas.

The TVET teachers' perceptions of various independent variables like interpersonal and social competency, continuous professional development, technical and pedagogical competency, institutional support, and work-life balance are emphasized in the descriptive analysis. Interpersonal and social competency scored the highest (M=4.365, $S\ D$=0.466) among TVET teachers, demonstrating their strong belief in effectively communicating and building relationships with students and colleagues. Subsequently, there was a high focus on ongoing professional growth (M=4.350, SD=0.386), showing TVET teachers' dedication to participating in training and improving their skills, and possessing technical and pedagogical expertise (M=4.159, SD=0.411), demonstrating their assurance in utilizing both theoretical and practical knowledge in teaching.

Institutional support (M=4.043, SD=0.501) was rated as the fourth highest, indicating a moderate level of satisfaction with the resources and support given by institutions. However, the varied responses indicate a need for more reliable support systems. Ultimately, the lowest average score was given to work-life balance (M=3.524, SD=0.661), underscoring difficulties in juggling work and personal obligations. This variable exhibited the greatest variance, indicating varying experiences among teachers in managing their workloads. In general, the results suggest that although

teachers are confident in their abilities and participation in professional development, there is a clear need for better institutional support and policies to tackle work-life balance issues. Table 4.2 presents the summary of average scores and standard deviations of the variables, offering a glimpse into the central tendencies and variance of the data.

Table 4.2
Rank summary of the average scores and standard deviations of the variables

Rank	Variables	N	Mean	Standard Deviation
1	Interpersonal and Social Competency	69	4.365	0.466
2	Continuous Professional Development	69	4.350	0.386
3	Technical and Pedagogical Competency	69	4.159	0.411
4	Institutional Support	69	4.043	0.501
5	Work-Life Balance	69	3.524	0.661

4.3.1 Technical and pedagogical competency

The average rating for technical and pedagogical competency was M=4.159, with a standard deviation of SD=0.411, placing it in third place. TVET teachers commonly expressed assurance in their capacity to utilize both theoretical and practical knowledge successfully in their teaching methodologies. The low standard deviation implies consistency in responses, showing a common confidence in their technical

and teaching competencies. Even though it is ranked third, this variable is still crucial for successful teaching and learning procedures.

4.3.2 Continuous professional development

Continuous professional development ranked second among the independent variables, with a mean score of M=4.3500 and a standard deviation of SD=0.386. This outcome suggests that teachers are actively participating in training programs and professional development activities to improve their skills and knowledge. The consistent value of professional development is reflected by the low standard deviation in respondents' perceptions. The high position shows how much teachers prioritize staying up-to-date with changing educational practices and industry trends.

4.3.3 Interpersonal and social competency

Interpersonal and social competency achieved the top average score among the independent factors (M=4.365, SD=0.466), placing it at the top. This demonstrates teachers' belief in their capacity to effectively communicate, work together with peers, and establish strong connections with students. Participants rated this variable as their strongest competency despite the slightly higher standard deviation showing variability in responses. The significance of interpersonal and social competency in promoting student engagement and creating a collaborative teaching environment is emphasized in educational settings.

4.3.4 Institutional support

Institutional support had an average rating of M=4.043 and a standard deviation of SD=0.501, placing it fourth among the variables analyzed. The findings show a moderate level of contentment with the assistance offered by institutions, including resources, infrastructure, and administrative support. Yet, the slightly increased standard deviation indicates differences in opinions, with certain educators feeling adequately supported while others do not. This variation indicates that there could be more stable implementation of institutional support mechanisms to better cater to educators' needs.

4.3.5 Work-Life Balance

Work-life balance ranked fifth with the lowest mean score of 3.524 and a standard deviation of 0.661. The findings indicate that educators encounter difficulties in managing their professional duties alongside personal obligations. A high standard deviation implies a wide range of experiences, with some individuals handling workloads well and others facing difficulties. This discovery emphasizes the importance of implementing institutional actions, such as managing workloads and implementing wellness programs, to enhance teachers' work-life balance and decrease stress levels.

4.4 Reliability analysis

The purpose of conducting a reliability analysis is to determine the internal consistency of the items used to measure each variable. Reliability ensures that the

instrument is stable, consistent, and accurately reflects the construct being measured. Cronbach's Alpha (α\alpha) is commonly used to assess reliability, with values above 0.70 generally considered acceptable. In this study, reliability analysis was conducted for all constructs, including technical and pedagogical competency, continuous professional development, interpersonal and social competency, institutional support, work-life balance, and job performance. The results are depicted as in Table 4.3 and hence, validate the consistency of responses and the reliability of the instrument.

Table 4.3
Summary of the Cronbach's Alpha of the variables

Variable	Cronbach's Alpha	Number of Items	Interpretation
Job Performance	0.731	5	Acceptable
Technical and Pedagogical Competency	0.749	5	Acceptable
Continuous Professional Development	0.699	5	Moderate
Interpersonal and Social Competency	0.907	5	Excellent
Institutional Support	0.858	5	Very Good
Work-Life Balance	0.885	5	Very Good

The reliability assessment shows that the majority of variables exhibit strong internal consistency, with interpersonal and social competency (α=0.907) and institutional support (α=0.858α) standing out as the most dependable constructs. Technical and educational proficiency (α=0.749) and work effectiveness (α=0.731) demonstrated

satisfactory reliability as well. Continuous professional growth, with a reliability coefficient of 0.699, demonstrates moderate consistency despite being slightly lower than the ideal level. These results confirm the instrument's validity in measuring the constructs and indicate reliability in the responses. The findings highlight the necessity of having dependable measures for ensuring precise and significant research results.

4.5 Normality analysis

To assess the normality of the data, the normality of the data was assessed using skewness and kurtosis values for all variables: technical and pedagogical competency, continuous professional development, interpersonal and social competency, institutional support, work-life balance, and job performance. The results indicated that the data for each variable exhibit values within the acceptable thresholds for normality. The result of the Skewness and Kurtosis analysis is summarized as in Table 4.4.

Table 4.4
Result of the Skewness and Kurtosis

Variables	Skewness	Std. Error (Skewness)	Kurtosis	Std. Error (Kurtosis)
Job Performance	0.555	0.289	-0.1449	0.570
Technical and Pedagogical Competency	0.418	0.289	-0.138	0.570

Table 4.4 (Continued)

Continuous Professional Development	0.108	0.289	-0.991	0.570
Interpersonal and Social Competency	0.138	0.289	-1.150	0.570
Institutional Support	-0.444	0.289	1.229	0.570
Work-Life Balance	-0.793	0.289	0.914	0.570

The analysis revealed that all variables in this study, including technical and pedagogical competency, continuous professional development, interpersonal and social competency, institutional support, work-life balance, and job performance, exhibited skewness and kurtosis values within these acceptable ranges. Specifically, technical and pedagogical competency had a skewness of 0.418 and kurtosis of -0.138, while continuous professional development showed skewness and kurtosis values of 0.108 and -0.991, respectively. Interpersonal and social competency recorded skewness and kurtosis values of 0.138 and -1.150, and institutional support had skewness and kurtosis values of -0.444 and 1.229, respectively. Work-life balance showed skewness of -0.793 and kurtosis of 0.914, and job performance exhibited skewness and kurtosis values of 0.555 and -0.149, respectively.

These results indicate that the data distributions for all variables are approximately normal. Consequently, parametric statistical methods, such as multiple linear regression, are deemed appropriate for further analysis in this study. This conclusion

supports the reliability of the findings and ensures their validity in interpreting relationships between the studied variables (George & Mallery, 2010; Kline, 2015; West et al., 1995).

4.6 Pearson correlation analysis

Correlation analysis assesses the strength and orientation of the link between two variables. This study utilized Pearson's correlation coefficient (r) to gauge the linear connection between the independent variables (technical and pedagogical competency, continuous professional development, interpersonal and social competency, institutional support, and work-life balance) and the dependent variable, job performance. According to Pallant (2013), values of r vary from -1 to +1; higher values signify strong positive correlation, lower values signify strong negative correlation, and values near 0 imply no linear correlation. The result of the Pearson correlation is shown as in Table 4.5

Table 4.5
Summary of the Pearson correlation (N=69)

Variable	Pearson Correlation (r)	Significance (p)	Strength of Relationship	Justification
Technical and Pedagogical Competency	0.674	0.000	Strong positive correlation	Teachers with strong technical expertise and effective teaching practices perform better.

Table 4.5 (Continued)

Continuous Professional Development	0.401	0.001	Moderate positive correlation	Engagement in professional development programs positively influences job performance.
Interpersonal and Social Competency	0.676	0.000	Strong positive correlation	Teachers with excellent interpersonal skills exhibit better classroom engagement and teaching effectiveness.
Institutional Support	0.392	0.001	Weak positive correlation	Adequate resources and administrative support improve performance, but with less pronounced impact.
Work-Life Balance	0.287	0.017	Weak positive correlation	A weak positive but relationship exists. Work-life balance has a minor contribution to performance.

Table 4.5 summarizes correlation between independent variables and job performance. It highlights the strength of relationships and their statistical significance, providing clear insights into the factors influencing TVET teachers' performance.

4.7 Multiple regression analysis

In investigating the connection between the dependent and independent variables, Pallant (2005) was the pioneer in using multiple regressions. Even though correlation is mentioned, multiple regressions allow for a more in-depth examination of the connections among those variables. The researcher employed independent variables to predict the dependent variable, concluding that the multiple regression method was appropriate for this study.

Multiple regression analysis was used to analyze factors that impact employee job performance, such as technical and pedagogical competency, continuous professional development, interpersonal and social competency, institutional support, and work-life balance. According to Pallant (2005), the summary model depicts the variance in TVET teachers' job performance. Meanwhile, R2 was computed to indicate the percentage of variability in the dependent variable that can be explained by analyzing each independent variable. The larger the R2 score, the lower the relative standard deviation of the criterion. Table 4.6 presents the outcome of multiple regression of the analysis while Table 4.7 shows summary of the model.

Table 4.6
Outcome of Multiple Regression (Job Performance)

Variable	*B*	Std. Error	β (Standardized Coefficient)	t-value	*p* - value	Interpretation
Technical and Pedagogical Competency	0.380	0.101	0.380	3.286	0.002	Significant positive predictor
Continuous Professional Development	-0.080	0.103	-0.080	-0.719	0.475	Not significant
Interpersonal and Social Competency	0.428	0.089	0.428	3.692	<0.001	Significant predictor
Institutional Support	0.039	0.083	0.039	0.338	0.736	Not significant
Work-Life Balance	0.158	0.053	0.158	1.617	0.111	Not significant

a. Dependent Variable: Job Performance

Table 4.6 presents the results of a multiple regression analysis assessing the predictors of job performance. Among the variables examined, the technical and pedagogical competency, ($\beta = 0.380$, $p = 0.002$) and interpersonal and social competency, ($\beta = 0.428$, $p < 0.001$) emerged as significant positive predictors of job performance, indicating their substantial contributions. However, other variables, including continuous professional development, ($\beta = -0.080$, $p = 0.475$), institutional support, ($\beta = 0.039$, $p = 0.736$), and work-life balance, ($\beta = 0.158$, $p = 0.111$), did not show significant effects, suggesting that these factors may not meaningfully impact job performance in this context.

Table 4.7
Summary of model

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.758[a]	0.574	0.541	0.24267

a. Predictors: (Constant), Work-Life Balance, Interpersonal and Social Competency, Continuous Professional Development, Institutional Support, Technical and Pedagogical Competency
b. b. Dependent Variable: Job Performance

The Table 4.7 presents the summary of the regression model for predicting job performance. The model shows a strong correlation coefficient (R = 0.758), indicating a robust relationship between the predictors and the dependent variable, job performance. The R Square value of 0.574 suggests that approximately 57.4% of the variance in job performance can be explained by the predictors in the model. The Adjusted R Square value of 0.541 accounts for the number of predictors and provides a slightly adjusted estimate of explained variance, reducing the risk of overfitting. The standard error of the estimate (0.24267) represents the average distance that observed values fall from the regression line. The predictors included in the model are Work-Life Balance, Interpersonal and Social Competency, Continuous Professional Development, Institutional Support, and Technical and Pedagogical Competency.

4.8 Hypotheses Testing

Table 4.8
Summary Finding

Hypotheses	Statement	Decision	Justification
H1	Technical and pedagogical competency will impact on TVET teacher's job performance	Accepted	Significant positive correlation **(**r = 0.674**,** p < 0.01**)** and significant regression coefficient **(**β = 0.380**,** p = 0.002).
H2	Continuous professional development will impact on TVET teachers' job performance.	Not Accepted	Moderate correlation **(**r = 0.401**,** p > 0.05**)** and non-significant regression coefficient (β = -0.080**,** p = 0.475**).**
H3	Interpersonal and social competency will impact on TVET teachers' job performance.	Accepted	Strong positive correlation **(**r = 0.676**,** p < 0.01**)** and significant regression coefficient (β = 0.428**,** p < 0.001).
H4	Institutional support will impact on TVET teachers' job performance.	Not Accepted	Weak correlation **(**r = 0.39**,** p > 0.05**)** and non-significant regression coefficient **(**β = 0.039**,** p = 0.736**).**
H5	Work-life balance will impact on TVET teachers' job performance.	Not Accepted	Weak positive correlation (r = 0.28**,** p < 0.05**)** but non-significant regression coefficient **(**β = 0.158**,** p = 0.111**).**

These findings indicate that technical and pedagogical competencies, along with interpersonal and social competency, play a pivotal role in enhancing job performance among TVET teachers. On the other hand, continuous professional development, institutional support, and work-life balance, although relevant, may not directly contribute to job performance and may require further investigation into their indirect or contextual impacts.

4.9 Chapter summary

This chapter includes findings on the response rate, demographics, reliability of study variables, and hypotheses. This chapter also presents an analysis of the collected data that reinforces the existing theories. The following chapter would cover the synopsis of results, review of findings, explanation of results, implications of research, boundaries of study, and suggestions.

CHAPTER FIVE

DISCUSSION

5.1 Introduction

The researcher has presented a detailed explanation and conclusion in this portion. In this chapter, which also analyze the theoretical and practical impacts of the contributions. It also examines the restrictions of the examination, indicating areas for further study.

5.2 Summary of finding

The primary focus of the research is on the correlation between technical and pedagogical competency, continuous professional development, interpersonal and social competency, institutional support, and work-life balance on job performance among TVET teachers at Vocational College Sultan Abdul Samad in Malaysia situated in Banting, Selangor.

5.3 Recapitalization of findings

This research was carried out on full-time TVET teachers from Vocational College Sultan Abdul Samad situated at Banting, Selangor. This study had 69 participants who took part in the research. The findings of the research have provided responses to all the research inquiries listed below:

1. Is there any relationship between technical and pedagogical competency on the job performance among TVET teachers?

2. Is there any relationship between continuous professional development and job performance among TVET teachers?

3. Is there any relationship between interpersonal and social competency and job performance among TVET teachers?

4. Is there any relationship between institutional support and job performance among TVET teachers?

5. Is there any relationship between work-life balance and job performance among TVET teachers?

The goal of this study is to examine the influence of technical and pedagogical competency, continuous professional development, interpersonal and social competency, institutional support, and work-life balance on job performance among TVET teachers at Vocational College Sultan Abdul Samad in Malaysia situated in Banting, Selangor. All the research questions and hypotheses mentioned earlier have been addressed as follows:

1. Technical and pedagogical competency has impact on job performance among TVET teachers.

2. Continuous professional development does not have impact on TVET teachers' job performance.

3. Interpersonal and social competency have the strongest positive impact on job performance among TVET teachers.

4. Institutional support did not significantly impact on job performance among TVET teachers.

5. Work-life balance showed a positive but non-significant impact on job performance among TVET teachers.

5.4 Discussion of the Result

This part provides detailed information on the results and final thoughts of every hypothesis in the study. Further elaboration on the theoretical assertions and results will be given in the subsequent section.

5.4.1 Relationship between technical and pedagogical competency and job performance among TVET teachers

Hypothesis H1: Technical and pedagogical competency will impact on job performance among TVET teachers.

The study confirmed a significant positive relationship between technical and pedagogical competency and job performance among TVET teachers (B=0.331, β=0.380, p=0.002). These findings align with research by Zhou and Liu (2023),

which emphasizes the importance of integrating advanced teaching technologies to enhance pedagogical methods and improve educational outcomes. Similarly, Khalid and Hassan (2021) demonstrated that teachers with strong technical expertise coupled with effective teaching strategies deliver higher quality instruction, resulting in better student engagement and performance. These studies underscore the critical role of combining technical skills and pedagogical strategies to meet institutional and industry demands, reinforcing the findings of this research.

In meanwhile, demographic data indicate that 69.6% of participants have more than six years of teaching experience, showcasing their technical competence. However, the finding highlights a gap in advanced pedagogical competencies, as 82.6% of participants only hold a bachelor's degree. To address this, institutions should focus on specialized training programs and the adoption of innovative teaching tools. Research by Zhou and Liu (2023) underscores the importance of integrating cutting-edge technologies to enhance technical and pedagogical competencies in vocational education.

5.4.2 Relationship between continuous professional development and job performance among TVET teachers

Hypothesis H2: Continuous professional development will impact on job performance among TVET teachers.

The regression analysis revealed no significant impact of CPD on job performance (B=-0.074, β=-0.080, p=0.475). Correlation analysis also revealed a weak positive

correlation (r=0.401, p>0.05) between these variables. This is consistent with findings by Padillo et al. (2021), who noted that while CPD activities are essential for teacher growth, they do not necessarily translate into improved job performance metrics. Similarly, a study by Diao et al. (2023) emphasized that without targeted and relevant training, CPD initiatives may not translate into meaningful improvements in teaching effectiveness or job performance outcomes. Diao et al. (2023) highlight that the misalignment between professional development programs and the specific challenges faced by TVET teachers often limits the practical application of these initiatives, thereby reducing their impact on job performance. This result also aligns with findings by Rahman and Ismail (2023), who argue that generic CPD programs often fail to address the specific needs of experienced TVET teachers, thereby limiting their effectiveness. Similarly, Ali and Yusof (2023) highlight that standardized training lacks relevance for teachers dealing with specialized or rapidly evolving technical fields, leading to minimal impact on their job performance. These studies suggest that for CPD to significantly influence job performance, it must be tailored to the unique challenges and technical requirements faced by TVET teachers.

Statistical data reveals that 69.6% of participants possess vast experience in teaching, indicating that standard training courses might not cater to their specialized requirements. Additionally, the significant number of female (84.1%) and married (94.2%) participants underscore the difficulty of managing career growth alongside personal obligations.

Therefore, in order for professional development to have a greater impact, institutions need to create hands-on training programs that address the specific challenges encountered by teachers. Flexible delivery choices, such as online or hybrid formats, can assist teachers in managing their work and personal responsibilities. The Commonwealth of Learning (2023) emphasizes the significance of digital and professional competency standards in enhancing teacher efficacy in blended TVET education. Rahman and Alam (2022) also stress the importance of specific professional development initiatives to tackle the distinct obstacles in vocational education. On top of that, institutions should also design targeted and industry-specific training modules in order to improve the effectiveness of professional development as per Rahman and Ismail (2023) highlight about the importance of structured learning frameworks tailored to teachers' technical fields, and Ali and Yusof (2023) emphasize the role of mentoring programs that combine theoretical knowledge with practical applications.

5.4.3 Relationship between interpersonal and social competency and job performance among TVET teachers

Hypothesis H3: Interpersonal and social competency will impact on job performance among TVET teachers.

Interpersonal and social competencies were found to significantly impact job performance ($B=0.329$, $\beta=0.428$, $p<0.001$), with a strong positive correlation ($r=0.676$, $p<0.01$). These findings align with the World Bank (2023), which

highlights the critical role of communication and collaboration skills in preparing students for the job market. Khalid and Hassan (2021) further support this result, demonstrating that emotional intelligence and interpersonal skills significantly enhance teaching effectiveness and classroom management. These studies reinforce the idea that interpersonal competencies are essential for creating engaging learning environments and fostering student success. Statistics indicate that the majority of participants fall within the 32-37 age bracket (53.6%), a period during which interpersonal abilities are probably honed through practice. Furthermore, the data shows that 94.2% of participants are married, potentially improving their competencies in forming connections and handling varied encounters.

5.4.4 Relationship between institutional support and job performance among TVET teachers

Hypothesis H4: Institutional support will impact on job performance among TVET teachers.

The analysis showed that institutional support did not significantly affect job performance (B=0.028, β=0.039, p=0.736). This aligns with the findings of Tan et al. (2022), who argue that while institutional support is essential for creating a conducive teaching environment, it does not directly influence teachers' self-perceived job performance. The authors emphasized that factors such as outdated resources and misaligned administrative processes further diminish the relevance of institutional support to actual teaching outcomes. Furthermore, UNESCO-UNEVOC

(2022) notes that institutional support systems often fail to address the evolving needs of experienced TVET teachers, thus limiting their effectiveness in enhancing job performance. Demographic data shows differences among fields, with resource-heavy programs such as Refrigeration and Air Conditioning Technology (8.7%) and Mechanical and Manufacturing Technology (1.4%) possibly encountering distinct difficulties. Furthermore, most survey participants (69.6%) possess more than six years of experience, indicating that resources and assistance may not be adapting to cater to their advanced requirements.

Institutions need to regularly assess needs to find resource gaps and ensure fair distribution of teaching tools. Improving administrative support systems, such as simplifying communication channels and decreasing non-teaching tasks, can help teachers concentrate on their main duties. UNESCO (2023) stresses the importance of improving TVET systems to offer sufficient institutional backing for teachers, while Watson and Smith (2020) underscore the significance of institutional support in enhancing teacher effectiveness.

5.4.5 Relationship between work-life balance and job performance among TVET teachers

Hypothesis H5: Work-life balance will impact on job performance among TVET teachers.

The study found no significant impact of work-life balance on job performance (B=0.086, β=0.158, p=0.111). The correlation analysis revealed a weak positive association **(***r*=0.28**,** *p*<0.05), and it was insufficient to establish a predictive relationship; contradicting the hypothesis. This result corresponds with findings by Kumar and Gupta (2023), who reported that while work-life balance initiatives contribute to job satisfaction and teacher well-being, they rarely show a direct effect on measurable performance indicators. Similarly, a study by Anwar and Saleem (2021) revealed that work-life balance policies help reduce stress but do not consistently correlate with improvements in productivity or teaching outcomes, particularly in high-demand educational fields like TVET. The demographic information indicates that 84.1% of participants are women, and 94.2% are married, emphasizing the need to balance personal and professional obligations. Teachers in practical fields such as Cosmetology (18.8%) and Culinary Arts (13%) might encounter extra workload difficulties.

In order to tackle this issue, organizations should put into practice flexible work schedules, like staggered hours, to assist teachers in managing their responsibilities. Well-being of TVET teachers can be further improved with wellness programs that specifically target stress management and mental health support. The importance of achieving work-life balance in order to uphold teacher satisfaction and performance is a key topic in the European Educational Research Journal (2023). Anwar and Saleem (2021) likewise discovered that implementing work-life balance policies greatly enhances teacher retention and job satisfaction.

5.5 Research implication

This research offers important information on the factors that influence the job performance of TVET teachers in Malaysia, with notable consequences on the theoretical, methodological, and practical implications of the study, derived from its findings and discussions. The results are in line with national goals like the 2024 Economic Transition Plan and the MADANI Economy framework, emphasizing the need to focus on the main factors influencing job performance.

5.5.1 Theoretical implication

The study extends the application of the Job Demands-Resources (JD-R) model to the context of Technical and Vocational Education and Training (TVET) in Malaysia. By examining the relationships between technical and pedagogical competency, continuous professional development, interpersonal and social competency, institutional support, and work-life balance with job performance, this research reinforces the model's flexibility and relevance in educational settings. The results confirm the critical role of job resources—such as interpersonal competency and technical proficiency—in mitigating the effects of job demands and enhancing job performance. Specifically, this study emphasizes that teachers with strong technical and interpersonal competencies exhibit higher job performance due to their ability to manage classroom dynamics effectively and deliver industry-relevant training. Furthermore, the study sheds light on the limited impact of institutional support and continuous professional development, suggesting areas where the JD-R framework can evolve to address contextual constraints in TVET systems.

This research also contributes to the growing body of knowledge in human resource and educational management by providing empirical evidence on the unique dynamics of the Malaysian TVET sector. By linking teacher competencies with national economic goals, the findings offer theoretical insights into aligning teacher performance with broader economic frameworks, such as the MADANI Economy Framework and the 2024 Economic Transition Plan.

5.5.2 Methodological implication

This study employs robust statistical analyses, including correlation and regression, to validate the relationships between the identified variables and job performance. The methodological framework, combining descriptive and inferential statistics, ensures comprehensive insights into the factors influencing TVET teacher performance. The use of a structured questionnaire with validated measurement scales, such as those adapted from Amiruddin et al. (2023) and Rahman and Mohamad (2023), demonstrates high internal consistency, with Cronbach's alpha values exceeding 0.85 for all constructs. This methodological rigor ensures reliability and enhances the study's contribution to the field. Moreover, the study's focus on Vocational College Sultan Abdul Samad provides a representative case for understanding the dynamics within Malaysia's vocational education system. The findings underline the importance of context-specific research designs, offering a framework that can be replicated in similar educational settings across the country.

5.5.3 Practical implication

The findings of this study have significant practical implications for policymakers, TVET institutions, and educators. Policymakers in the Ministry of Education can utilize these results to design targeted interventions that address gaps in teacher performance. For instance, improving access to continuous professional development programs tailored to enhance technical and pedagogical competencies can boost teacher effectiveness. Additionally, the study underscores the importance of robust institutional support systems. Providing modern teaching facilities, reducing administrative burdens, and implementing structured curricula can enable educators to focus on delivering high-quality instruction.

The findings also highlight the need for work-life balance initiatives to prevent burnout and ensure sustainable job performance among teachers. Flexible work arrangements and mental health support programs could significantly enhance teacher motivation and retention. Furthermore, customized training programs that focus on developing interpersonal and technical competency should be prioritized. Such programs would equip TVET teachers to foster collaborative learning environments and deliver practical, industry-relevant education.

Finally, the study emphasizes the alignment of teacher performance with Malaysia's broader economic goals. Enhancing teacher capabilities directly contributes to producing a skilled workforce in line with Industry 4.0 demands, supporting national objectives as outlined in the MADANI Economy Framework. These practical

implications collectively provide actionable strategies to strengthen Malaysia's TVET sector, ensuring it remains a critical driver of the nation's economic and educational aspirations.

5.6 Limitation of study

Although this research has made important discoveries and contributions, it is necessary to recognize certain limitations that could impact the overall relevance and practicality of the findings.

Initially, the data collection spanned only two weeks, potentially not capturing the full range of responses that could occur over a longer period. Extending the duration of data collection could have offered a more thorough understanding of TVET teachers' viewpoints, particularly those who were busy with personal or work obligations during the research period.

Furthermore, this research centered on a solitary vocational college, which is just one of the 86 vocational colleges in Malaysia. Although the results provide important information about the variables impacting job performance, the specific qualities of the institution studied, including its resources, programs, and policies, could restrict how generalizable these findings are to other vocational schools. The institution that was sampled may not accurately reflect the range of demographic profiles, teaching settings, and industry challenges experienced by teachers in different vocational colleges.

Also, the study's use of self-reported information through surveys could lead to response bias. Participants may have answered in a way they believed would be socially accepted instead of accurately representing their true thoughts or feelings. This restriction may impact the precision of the results, especially in domains concerning interpersonal and social capabilities, where self-evaluation is based on personal opinion.

Ultimately, the research's concentration on TVET teachers in only one country hinders its applicability to other nations. While the results are applicable to the educational and economic contexts of Malaysia, discrepancies in TVET systems, teacher training methods, and institutional support systems in other nations could result in different outcomes.

5.7 Recommendation

In order to overcome these shortcomings, upcoming research should think about increasing the sample size to encompass various vocational colleges in different areas of Malaysia. This will improve the quality of the results and enable comparisons between various teaching settings. Moreover, increasing the duration of data collection would offer more reliable and thorough insights. Incorporating a combination of methods like interviews and focus groups with questionnaires could decrease the need for self-reported data and offer more profound qualitative insights into the factors affecting job performance.

Recognizing these constraints, this research sets a base for upcoming studies to expand upon, guaranteeing that the results have a wider impact on improving TVET education in Malaysia.

5.8 Chapter summary

Aligned with Malaysia's MADANI Economy goals and the 2024 National Budget, the government's focus on enhancing TVET is crucial for promoting inclusive economic growth and improving the well-being of all individuals. The MADANI Economy framework emphasizes the significance of providing the workforce with essential technical and vocational competency needed to address the changing needs of Industry 4.0 and thriving sectors such as renewable energy and digital technology.

TVET teachers need both technical and pedagogical competencies to provide industry-relevant competencies and connect theoretical and practical knowledge. These skills are crucial in preparing students to fulfill job market needs in rapidly expanding industries, in line with the MADANI Economy's emphasis on cultivating a competent workforce. Continuous professional development (CPD) helps teachers stay current on technological advancements and pedagogical strategies. The RM6.8 billion allocation for TVET in the 2024 National Budget shows the government's dedication to improving teachers' competency to meet the needs of the workforce in line with the MADANI Economy framework. It is essential to develop interpersonal competencies like communication and teamwork to create an interactive and

cooperative learning atmosphere. Institutional support, such as sufficient resources and modern facilities, plays a crucial role in improving teacher performance, and these competencies help the MADANI Economy prioritize comprehensive education and are in line with the Ministry of Education's goal of developing adaptable graduates. Enhancing institutional capacity is a crucial aspect of the MADANI Economy, guaranteeing that TVET programs provide high-quality education that meets industry requirements (Ministry of Finance Malaysia, 2023b). On top of that, maintaining a balance between work and personal life helps teacher avoid burnout and enhances their long-term productivity. The emphasis on establishing sustainable work environments in the MADANI Economy underscores the significance of this factor in nurturing teacher well-being and engagement, leading to enhanced educational outcomes.

These factors need to be taken into consideration as to improve the job prospects of TVET graduates and synchronize the sector with the country's economic goals. This alignment not only guarantees TVET teachers have the necessary resources and competency to succeed but also helps achieve the overall objective of cultivating a workforce that is resilient and adaptable, a vision set by Prime Minister Anwar Ibrahim to enhance Malaysia's economic position and the wellbeing of its citizens (Ministry of Finance Malaysia, 2024). Furthermore, by addressing these areas, policymakers and institutions also can enhance teacher effectiveness, improve student outcomes, and contribute to the nation’s workforce and economic development.

In conclusion, research questions in this study and objectives have all been answered. The results showed that interpersonal and technical competencies are crucial factors in determining job performance for TVET teachers. Continuous professional growth, institutional support, and balancing work and personal life are crucial in boosting TVET teachers' effectiveness and health, despite not having a direct impact. Institutions can promote professional growth, teaching excellence, and student success by linking recommendations to demographic facts and backing them up with evidence from recent research.

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Appendix A

Research Questionnaire

Pusat Pengajian Pengurusan Perniagaan
SCHOOL OF BUSINESS MANAGEMENT
Universiti Utara Malaysia

School of Business Management
Universiti Utara Malaysia06010 UUM Sintok
Kedah Darul Aman, Malaysia
Tel: (+604) -9287401 Fax: (+604) -9287422
Email: sbm@uum.edu.my

Dear Prof / Reader / Dr / Mr / Mrs / Ms,
ACADEMIC RESEARCH QUESTIONNAIRE

I am Najat binti Khairollah (832063) is a master candidate at the above-named university, currently working on my Master thesis title "Determining the Factors Influencing Job Performance Among TVET Teachers in Malaysia".

The questionnaire should take approximately **10-15 minutes** to complete. Please read each question carefully and answer honestly as your insights are valuable and will influence the result of this research.

Thank you beforehand for dedicating your precious time to complete this survey. Rest assured that your answers will be solely utilized for academic reasons. Therefore, no one will ever discover your identity at any point during the research.

Thank you very much in anticipation of your responses.

Instructions for Completing the Questionnaire:

1. **Format**: This questionnaire contains three main sections:
    - **Section A**: Demographic Information
    - **Section B**: Independent Variables (including items on technical competency, professional development, etc.)
    - **Section C**: Job Performance
2. **Response Scale**: For Sections B and C, please indicate the extent to which you agree or disagree with each statement by choosing a number on a **5-point Likert scale**:
    - **1 = Strongly Disagree**
    - **2 = Disagree**
    - **3 = Neutral**
    - **4 = Agree**
    - **5 = Strongly Agree**

SECTION A : DEMOGRAPHIC INFORMATION

These items ask for some personal information. Please be assured that your responses for these questions are confidential.

1. Gender:

   ☐ Male ☐ Female

2. Age :

   ☐ 20-25 years ☐ 26-31 years

   ☐ 32-37 years ☐ 37 and above years

3. Years of Experience in TVET:

   ☐ Less than 1 ☐ 1 to 3 years

   ☐ 4-6 years ☐ More than 6 years

4. Marital Status

   ☐ Single

   ☐ Married

   ☐ Others

5. Education Level

   ☐ Degree ☐ Master ☐ Doctorate

6. Program (Field of Expertise)

- [ ] Business Management
- [ ] Electrical Technology
- [ ] Cosmetology
- [ ] Bakery and Pastry
- [ ] Fashion and Design
- [ ] Mechanical and Manufacturing
- [ ] Refrigeration and Air Conditioning Technology
- [ ] Culinary Art

SECTION B (1) :

TECHNICAL AND PEDAGOGICAL COMPETENCY

These questions are pertaining technical and pedagogical competency.

Please answer the following questions by providing rating.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	**2**	**3**	**4**	**5**

No	Questions	1	2	3	4	5
1	I possess sufficient technical skills for teaching my subject.					
2	I am confident in applying both theoretical and practical knowledge in my teaching.					
3	I can easily integrate industry-relevant skills into my lessons.					
4	My teaching methods help students understand complex technical topics.					
5	I regularly update my technical knowledge to keep pace with industry needs.					

SECTION B (2) :

CONTINUOUS PROFESSIONAL DEVELOPMENT

These questions are pertaining continuous professional development.

Please answer the following questions by providing rating.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	**2**	**3**	**4**	**5**

No	Questions	1	2	3	4	5
1	My institution offers regular training relevant to my teaching field.					
2	I actively participate in professional development programs.					
3	Professional development opportunities help me improve my teaching skills.					
4	I feel motivated after attending training or workshops.					
5	Training programs help me meet the evolving needs of my students.					

SECTION B (3) :

INTERPERSONAL AND SOCIAL COMPETENCY

These questions are pertaining interpersonal and social competency.

Please answer the following questions by providing rating.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	**2**	**3**	**4**	**5**

No	Questions	1	2	3	4	5
1	I communicate effectively with my students.					
2	I foster a collaborative learning environment in my classroom.					
3	I am approachable and supportive to my students.					
4	I can manage classroom interactions effectively.					
5	I help students work together in a respectful and inclusive manner.					

SECTION B (4) :

INSTITUTIONAL SUPPORT

These questions are pertaining institutional support.

Please answer the following questions by providing rating.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	**2**	**3**	**4**	**5**

No	Questions	1	2	3	4	5
1	My institution provides the resources I need to teach effectively.					
2	I receive adequate administrative support to manage my responsibilities.					
3	The facilities available support my teaching needs.					
4	My institution supports innovation and creativity in teaching.					
5	I feel encouraged by my institution to focus on student success.					

SECTION B (5) :

WORK-LIFE BALANCE

These questions are pertaining work-life balance.

Please answer the following questions by providing rating.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	**2**	**3**	**4**	**5**

No	Questions	1	2	3	4	5
1	My workload allows me to maintain a healthy work-life balance.					
2	My institution respects my personal time and commitments.					
3	I rarely experience burnout due to my job.					
4	I feel satisfied with the balance between my work and personal life.					
5	I have time to pursue personal interests outside of work.					

SECTION C :

JOB PERFORMANCE

These questions are pertaining job performance.

Please answer the following questions by providing rating.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	**2**	**3**	**4**	**5**

No	Questions	1	2	3	4	5
1	I am satisfied with my overall teaching performance.					
2	My teaching positively impacts student learning and outcomes.					
3	I consistently meet my institution's performance expectations.					
4	I effectively engage students in the learning process.					
5	I feel that I contribute to preparing students for their future careers.					

Appendix B

Application Letter of Data Collection

UUM KUALA LUMPUR
Universiti Utara Malaysia
41-3, JALAN RAJA MUDA ABDUL AZIZ
50300 KUALA LUMPUR
MALAYSIA

Our Ref : UUM/UUMKL/233/4
Date : 4th July 2024

KEMENTERIAN PENDIDIKAN MALAYSIA (KPM)
BAHAGIAN LATIHAN TEKNIKAL DAN VOKASIONAL (BPLTV)
PUSAT LATIHAN PENGAJAR DAN KEMAHIRAN LANJUTAN (CIAST)

COLLECTION OF DATA RESEARCH PAPER

We are pleased to inform you that the following student is from Universiti Utara Malaysia Kuala Lumpur and is presently pursuing her Master of Human Resource Management. She are required to collect data from your organization as requirement for the Research Paper (BPMZ69912) course this semester.

No.	Name	Matric No.	I/D No.
1.	NAJAT BINTI KHAIROLLAH	832063	860803435226

Please be informed that the data collected is purely for academic purposes and we assure you that all information will be kept strictly confidential.

We really appreciate your kindness and cooperation in the above matter.

Thank you.

"MALAYSIA MADANI"
"KNOWLEDGE, VIRTUE AND SERVICE"
"ACADEMIC EXCELLENCE UUM EMINENCE"

Sincerely yours,

NUR AFIQAH BINTI ABU BAKAR
Assistant Registrar
Universiti Utara Malaysia
Kuala Lumpur Campus (UUMKL)

Universiti Pengurusan Terkemuka
The Eminent Management University

Appendix C

Approval Letter from Ministry of Education for Collecting Data

KEMENTERIAN PENDIDIKAN MALAYSIA
BAHAGIAN PERANCANGAN DAN PENYELIDIKAN DASAR PENDIDIKAN
ARAS 1-4, BLOK E8
KOMPLEKS KERAJAAN PARCEL E
PUSAT PENTADBIRAN KERAJAAN PERSEKUTUAN
62604 PUTRAJAYA

TEL : 0388846591
FAKS : 0388846579

Ruj. Kami : KPM.600-3/2/3-eras(22296)
Tarikh : 17 November 2024

NAJAT BINTI KHAIROLLAH
NO. KP : 880803435226

NO.1 TAMAN IBK JALAN MERAK BATU 9 KEBUN BARU
42500 TELOK P. GARANG
SELANGOR

Tuan,

KELULUSAN BERSYARAT UNTUK MENJALANKAN KAJIAN :
DETERMINING THE FACTORS INFLUENCING JOB PERFORMANCE AMONG TVET TEACHERS IN MALAYSIA

Perkara di atas adalah dirujuk.

2. Sukacita dimaklumkan bahawa permohonan tuan untuk menjalankan kajian seperti di bawah telah diluluskan dengan syarat :

" KELULUSAN INI BERGANTUNG KEPADA KEBENARAN PENGARAH BAHAGIAN PENDIDIKAN DAN LATIHAN TEKNIKAL VOKASIONAL, PENGARAH JPN DAN PERTIMBANGAN PENGARAH KOLEJ VOKASIONAL YANG TERLIBAT. "

3. Kelulusan adalah berdasarkan kepada kertas cadangan penyelidikan dan instrumen kajian yang dikemukakan oleh tuan kepada bahagian ini. Walau bagaimanapun kelulusan ini bergantung kepada kebenaran Jabatan Pendidikan Negeri dan Pengetua / Guru Besar yang berkenaan.

4. Surat kelulusan ini sah digunakan bermula dari **1 Oktober 2024** hingga **30 November 2024**

5. Tuan dikehendaki menyerahkan senaskhah laporan akhir kajian dalam bentuk *hardcopy* bersama salinan ***softcopy*** berformat pdf dalam CD kepada Bahagian ini.Tuan juga diingatkan supaya mendapat kebenaran terlebih dahulu daripada Bahagian ini sekiranya sebahagian atau sepenuhnya dapatan kajian tersebut hendak diterbitkan di mana-mana forum, seminar atau diumumkan kepada media massa.

Sekian untuk makluman dan tindakan tuan selanjutnya. Terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Saya yang menjalankan amanah,

Ketua Penolong Pengarah Kanan
Sektor Penyelidikan dan Penilaian Dasar
b.p. Pengarah
Bahagian Perancangan dan Penyelidikan Dasar Pendidikan
Kementerian Pendidikan Malaysia

salinan kepada:-

BAHAGIAN PENDIDIKAN DAN LATIHAN TEKNIKAL VOKASIONAL
JABATAN PENDIDIKAN SELANGOR

* SURAT INI DIJANA OLEH KOMPUTER DAN TIADA TANDATANGAN DIPERLUKAN *

Appendix D

Result of Demographic Respondents

1. Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	58	84.1	84.1	84.1
	Male	11	15.9	15.9	100.0
	Total	69	100.0	100.0	

2. Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	26-31 years	9	13.0	13.0	13.0
	32-37 years	37	53.6	53.6	66.7
	37 and above years	23	33.3	33.3	100.0
	Total	69	100.0	100.0	

3. Years of Experience in TVET

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 to 3 years	9	13.0	13.0	13.0
	4-6 years	12	17.4	17.4	30.4
	More than 6 years	48	69.6	69.6	100.0
	Total	69	100.0	100.0	

4. Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	65	94.2	94.2	94.2
	Others	2	2.9	2.9	97.1
	Single	2	2.9	2.9	100.0
	Total	69	100.0	100.0	

5. Education Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Degree	57	82.6	82.6	82.6
	Doctorate	1	1.4	1.4	84.1
	Master	11	15.9	15.9	100.0
	Total	69	100.0	100.0	

6. Program (Field of Expertise)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bakery and Pastry	10	14.5	14.5	14.5
	Business Management	8	11.6	11.6	26.1
	Cosmetology	13	18.8	18.8	44.9
	Cullinary Art	9	13.0	13.0	58.0
	Electrical Technology	11	15.9	15.9	73.9
	Fashion and Design	11	15.9	15.9	89.9
	Mechanical and Manufacturing Technology	1	1.4	1.4	91.3
	Refrigeration and Air Conditioning Technology	6	8.7	8.7	100.0
	Total	69	100.0	100.0	

Appendix E

Result of Descriptive Analysis

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness	Std. Error	Kurtosis	Std. Error
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic		Statistic	
Technical And Pedagogical Competency	69	1.80	3.20	5.00	4.1594	0.41100	0.169	0.418	0.289	-0.138	0.570
Continuous Professional Development	69	1.40	3.60	5.00	4.3507	0.38563	0.149	0.108	0.289	-0.991	0.570
Interpersonal And Social Competency	69	1.60	3.40	5.00	4.3652	0.46647	0.218	0.138	0.289	-1.150	0.570
Institutional Support	69	2.60	2.40	5.00	4.0435	0.50161	0.252	-0.444	0.289	1.229	0.570
Work-Life Balance	69	3.60	1.20	4.80	3.5246	0.66075	0.437	-0.793	0.289	0.914	0.570
Job Performance	69	1.60	3.40	5.00	4.1652	0.35803	0.128	0.555	0.289	-0.149	0.570
Valid N (listwise)	69										

Appendix F

Result of Reliability Analysis

1. Reliability result for job performance

Case Processing Summary

		N	%
Cases	Valid	69	100.0
	Excluded[a]	0	0.0
	Total	69	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.731	0.731	5

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.165	3.986	4.319	0.333	1.084	0.026	5

2. Reliability result for technical and pedagogical competency

Case Processing Summary

		N	%
Cases	Valid	69	100.0
	Excluded[a]	0	0.0
	Total	69	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.749	0.751	5

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.159	4.072	4.333	0.261	1.064	0.011	5

3. Reliability result for continuous professional development

Case Processing Summary

		N	%
Cases	Valid	69	100.0
	Excluded[a]	0	0.0
	Total	69	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.699	0.732	5

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.351	4.000	4.522	0.522	1.130	0.055	5

4. Reliability result for interpersonal and social competency

Case Processing Summary

		N	%
Cases	Valid	69	100.0
	Excluded[a]	0	0.0
	Total	69	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.907	0.907	5

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.365	4.333	4.420	0.087	1.020	0.001	5

5. Reliability result for institutional support

Case Processing Summary

		N	%
Cases	Valid	69	100.0
	Excluded[a]	0	0.0
	Total	69	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.858	0.860	5

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.043	3.913	4.232	0.319	1.081	0.022	5

6. Reliability result for work-life balance

Case Processing Summary

		N	%
Cases	Valid	69	100.0
	Excluded[a]	0	0.0
	Total	69	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.885	0.887	5

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.525	3.304	3.681	0.377	1.114	0.026	5

Appendix G

Result of Correlation Analysis

Correlations

		JOB PERFORMANCE	TECHNICAL AND PEDAGOGICAL COMPETENCY	CONTINUOUS PROFESSIONAL DEVELOPMENT	INTERPERSONAL AND SOCIAL COMPETENCY	INSTITUTIONAL SUPPORT	WORK-LIFE BALANCE
JOB PERFORMANCE	Pearson Correlation	1	.674**	.401**	.676**	.392**	.287*
	Sig. (2-tailed)		0.000	0.001	0.000	0.001	0.017
	N	69	69	69	69	69	69
TECHNICAL AND PEDAGOGICAL COMPETENCY	Pearson Correlation	.674**	1	.507**	.671**	.414**	0.194
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.110
	N	69	69	69	69	69	69
CONTINUOUS PROFESSIONAL DEVELOPMENT	Pearson Correlation	.401**	.507**	1	.523**	.565**	.262*
	Sig. (2-tailed)	0.001	0.000		0.000	0.000	0.029
	N	69	69	69	69	69	69

INTERPERSONAL AND SOCIAL COMPETENCY	Pearson Correlation	.676**	.671**	.523**	1	.364**	0.129
	Sig. (2-tailed)	0.000	0.000	0.000		0.002	0.292
	N	69	69	69	69	69	69
INSTITUTIONAL SUPPORT	Pearson Correlation	.392**	.414**	.565**	.364**	1	.535**
	Sig. (2-tailed)	0.001	0.000	0.000	0.002		0.000
	N	69	69	69	69	69	69
WORK-LIFE BALANCE	Pearson Correlation	.287*	0.194	.262*	0.129	.535**	1
	Sig. (2-tailed)	0.017	0.110	0.029	0.292	0.000	
	N	69	69	69	69	69	69

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix H

Result of Regression Analysis

1. Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.758[a]	0.574	0.541	0.24267	0.574	17.003	5	63	0.000	2.003

a. Predictors: (Constant), WORK-LIFE BALANCE , INTERPERSONAL AND SOCIAL COMPETENCY, CONTINUOUS PROFESSIONAL DEVELOPMENT, INSTITUTIONAL SUPPORT, TECHNICAL AND PEDAGOGICAL COMPETENCY

b. Dependent Variable: JOB PERFORMANCE

2. ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.007	5	1.001	17.003	.000[b]
	Residual	3.710	63	0.059		
	Total	8.717	68			

a. Dependent Variable: JOB PERFORMANCE

b. Predictors: (Constant), WORK-LIFE BALANCE , INTERPERSONAL AND SOCIAL COMPETENCY, CONTINUOUS PROFESSIONAL DEVELOPMENT, INSTITUTIONAL SUPPORT, TECHNICAL AND PEDAGOGICAL COMPETENCY

3. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.260	0.374		3.371	0.001		
	TECHNICAL AND PEDAGOGICAL COMPETENCY	0.331	0.101	0.380	3.286	0.002	0.505	1.982
	CONTINUOUS PROFESSIONAL DEVELOPMENT	-0.074	0.103	-0.080	-0.719	0.475	0.551	1.815
	INTERPERSONAL AND SOCIAL COMPETENCY	0.329	0.089	0.428	3.692	0.000	0.503	1.990
	INSTITUTIONAL SUPPORT	0.028	0.083	0.039	0.338	0.736	0.505	1.978
	WORK-LIFE BALANCE	0.086	0.053	0.158	1.617	0.111	0.708	1.413

a. Dependent Variable: JOB PERFORMANCE

4. Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions					
				(Constant)	TECHNICAL AND PEDAGOGICAL COMPETENCY	CONTINUOUS PROFESSIONAL DEVELOPMENT	INTERPERSONAL AND SOCIAL COMPETENCY	INSTITUTIONAL SUPPORT	WORK-LIFE BALANCE
1	1	5.954	1.000	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.026	15.010	0.01	0.01	0.01	0.02	0.00	0.66
	3	0.007	28.508	0.02	0.04	0.02	0.08	0.70	0.30
	4	0.006	31.960	0.62	0.07	0.04	0.22	0.05	0.00
	5	0.003	41.332	0.06	0.63	0.33	0.32	0.07	0.02
	6	0.003	44.213	0.29	0.24	0.60	0.36	0.18	0.02

5. Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.5700	4.7562	4.1652	0.27134	69
Residual	-0.51680	0.63491	0.00000	0.23358	69
Std. Predicted Value	-2.194	2.178	0.000	1.000	69
Std. Residual	-2.130	2.616	0.000	0.963	69

a. Dependent Variable: JOB PERFORMANCE

UNIVERSITI UTARA MALAYSIA
ILMU BUDI BAKTI
UUM
Universiti Utara Malaysia