

## Do Proactive Career Behaviours Enhance Individual Well-Being? An Empirical Study among Professional Engineers

*(Adakah Tingkah Laku Kerjaya Proaktif Meningkatkan Kesejahteraan Individu? Kajian Empirikal di kalangan Jurutera Profesional)*

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### ABSTRACT

*Engineers are very driven to go up the career tree, and they aim for psychological achievement. Nevertheless, the struggle between fulfilling the company's work demands and having their ambitions and expectations affected their well-being. In Malaysia, engineers are reported as one of the groups of unhappy employees. Consequently, this research examines the impact of proactive career management behaviours (PCMB) on the personal well-being of Malaysian engineers. The current research involved 387 registered professional engineers from a variety of fields and businesses. The hypotheses were tested via a path analysis using PLS. The findings indicated a positive effect of PCMB on individual well-being. Employers and industries may use the results to incentivise their unlicensed engineers to enrol as graduates and to pursue careers as professional engineers. For that reason, people will see their work as significant, thus increasing their work satisfaction.*

*Keywords: Proactive career management behaviours; job satisfaction; psychological well-being*

### ABSTRAK

*Jurutera sangat terdorong untuk memacu kerjaya, dan sasaran mereka ialah pencapaian psikologi. Walaupun begitu, perjuangan antara memenuhi tuntutan kerja syarikat dan mempunyai cita-cita serta harapan mereka telah menjejaskan kesejahteraan mereka. Di Malaysia, jurutera dilaporkan sebagai salah satu kumpulan pekerja yang tidak gembira. Oleh itu, kajian ini mengkaji kesan tingkah laku pengurusan kerjaya proaktif (PCMB) terhadap kesejahteraan individu di kalangan jurutera Malaysia. Sebanyak 387 jurutera profesional berdaftar mengambil bahagian dalam kajian ini dari pelbagai bidang tanpa mengira industri. Hipotesis diuji melalui analisis jalur menggunakan PLS. Hasil kajian menunjukkan kesan positif PCMB terhadap kesejahteraan individu. Para majikan dan industri boleh menggunakan hasil kajian ini untuk memberi insentif kepada jurutera mereka yang tidak berlesen untuk mendaftar sebagai graduan dan untuk mengejar kerjaya sebagai jurutera profesional. Dengan itu, orang akan melihat pekerjaan mereka penting, sehingga meningkatnya kepuasan kerja mereka.*

*Kata kunci: Tingkah laku pengurusan kerjaya proaktif; kepuasan kerja; kesejahteraan psikologi*

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### INTRODUCTION

The nature of work has undergone changes, and this has affected the concept of an individual's career in the current business world (Akkermans et al. 2018). Work is now more flexible because companies are flatter, and the career landscape's boundaries have widened. Thus, it is critical to change employees' attitudes about their career growth and job (Andresen et al. 2020). Workers who get acquainted with these labour markets and organisational structures see a shift in their work principles and behaviours. Additionally, they shoulder the majority of the burden of preparing for and managing their professions. According to Briscoe and Hall (2006a 2006b), the prospect of a fresh job necessitates the acquisition of new skills in self-management and career management behaviours (Park 2020). Those new skills are by which

individuals to collect information about values, interests, skills, strength, and weakness, identify a career goal and engage in career strategies that increase the probability of their career goals being achieved, which are known as Proactive Career Management Behaviours (PCMB). PCMB is a prospective competence that the individual should possess. Such behaviours become the navigation system that guides the workers (Weng et al. 2018). Individuals use PCMB to acquire information regarding their qualities, aspirations, expertise, capabilities, and vulnerabilities (career exploration), to establish a professional objective (career goal development), and to participate in career initiatives (career strategy implementation) that improve the likelihood of attaining their professional targets (Weng et al. 2018).

Displaying PCMB aimed at attaining personally valued objectives in the career domain might also

enhance a person's career satisfaction (CSAT) (Lent et al. 2019). Pursuing personally meaningful objectives enables people to contribute to their own well-being, which allows CSAT students to practise personal agency. Additionally, when people establish and work toward their goals and experience success, they may improve their CSAT. Individuals who take a proactive approach to career management will be more satisfied with their professions than those who take a passive approach (Spurk 2021). Bagdadli and Gianecchini (2019) have argued that career management behaviours affect workers' career success.

Besides attaining CSAT, achieving psychological well-being (PWB), namely, personal gratification consequential to the profession itself, is more crucial. PWB is predicted by meaningful work (Khan et al. 2020). According to Minkkinen et al. (2020), meaningful work causes eustress that can promote engagement, regardless of challenging situations. Eustress signifies the degree to which cognitive appraisal of the circumstance improves a person's well-being.

Realising the crucial role of well-being, it has been incorporated by the government into nearly every development plan, for example, the Government Transformation Plan (GTP), the 2020 Budget, and the Eleventh Malaysia Plan. Nevertheless, firms are not left behind in showing that their best level of enthusiasm as the same level of enthusiasm as the government. Engineers were identified as one of the most dissatisfied employees in Malaysia by Job Central Malaysia's 2013 Work Happiness Survey (Boo Su-Lyn 2014), owing to their displeasure with development prospects, job independence, and job requests. Being visionary, determined, and having objectives and expectations do not necessarily match those of the organisations in which engineers work. Engineers, for example, become dissatisfied when provided with inadequate prospects of applying skills or developing potential to the fullest. Moreover, the absence of potential growth could result in stress or even burnout (Yokouchi & Hashimoto 2020).

Engineers provide a significant contribution to Malaysia's economic development as key actors in a variety of sectors, including construction, manufacturing, and agriculture. They add value via the utilisation of suitable technology and processes. Nevertheless, if their welfare is not addressed, their critical position as the engine of wealth creation by assisting the country in becoming active participants in the global economy would be jeopardised. Thus, it is necessary to ascertain the degree of well-being among engineers in Malaysia by using PCMB as the predictive factor. As such, it is worthwhile to conduct a study to investigate PCMB influence CSAT and PWB among Malaysian engineers. The subsequent research questions are presented to explore the subject in depth which is a) Do PCMB influence CSAT among Malaysian engineers? and b) do PCMB influence PWB among Malaysian engineers?

This work is crucial from a theoretical aspect is expected to contribute to the body of knowledge about the direct correlations between PCMB, CSAT, and PWB. The relationship is unique as it has never been studied or tested before, in helping the engineers in Malaysia to facing challenges that can jeopardise their individual well-being. The expected findings of this current study differ from those in previous studies since it was performed amongst Malaysian professional engineers in the country. Furthermore, the intention is to suggest ways for BEM to expand educational possibilities for its graduate engineers for them to achieve the position of professional engineers. Moreover, companies and sectors may possibly assist unlicensed engineers with registering as graduate engineers.

The remaining sections of this paper are organised into several sections. The literature section pertaining to the influence of PCMB on CSAT, and PWB is discussed, and the development of the hypotheses and framework for this study are fleshed out within the same section. Next, the empirical methods employed in this study will be explained. The findings section presents the results from the statistical tests performed in the previous section. The discussion of the findings will then follow. Finally, the conclusion of the study will end the paper.

## LITERATURE REVIEW

### PROACTIVE CAREER MANAGEMENT BEHAVIOURS (PCMB)

Numerous scholars have highlighted the importance of being proactive in managing one's career. For instance, Guan et al. (2019) claimed that the progressive career landscape shifts the responsibility of identifying one's career progress to the individual instead of the company. These behaviours are collectively referred to as career self-management, individual career management, or career competency (Park 2020). DiRenzo (2010) defines proactive career management as an individual's expected behaviours that regularly have a favourable effect on his or her professional growth and accomplishments. On the other hand, De Stobbeleir et al. (2020) argued that proactive career behaviours are more likely to occur in situations with characteristics such as, for example, responsibility, ambiguity, and autonomy. Numerous studies have noted these characteristics as the new career landscape within the career research field.

According to Briscoe and Hall (2006a 2006b), workers must be in charge of their career progress to effectively face the current career setting. Proactive behaviour may take many forms, including anticipating, planning, and attempting to create an impression (De Stobbeleir et al. 2020). Thus, the primary factor for determining proactive behaviour includes finding out if a person can expect, plan, and try to produce future outcomes with a substantial impact on themselves or

their surroundings. According to De Stobbeleir et al. (2020), proactive activities in the workplace may assist workers in becoming more aware of the steps necessary to change their environment (Guan et al. 2019). Thus, proactive behaviours may be differentiated from more broadly driven activities and more reactive, submissive behaviours that need proactive actions to emphasise the desired result.

Briscoe and Hall (2006a 2006b) indicated a new career as a person's capacity to be mainly in charge of his or her career growth. The literature on careers has revealed that this notion has sparked a change of attention amongst the organisations to back their workers in making informed individual proactive career decisions. Proactive career behaviour denotes the thoughtful choices that workers make in pursuit of their professional objectives (King 2004). As a result, they tailor their proactive career behaviours to their unique career management environment.

#### CAREER SATISFACTION (CSAT)

CSAT is a qualitative perception of professional achievement for the obvious reason that it accurately mirrors a worker's subjective responses to one's job. Due to its strong focus on human agency in defining and assessing professional success, this paradigm is linked with the boundaryless career view. Consistent with previous research, CSAT is assessed using either satisfaction with global career success (Chen & Zhang 2020) or contentment with the intrinsic and extrinsic elements of one's job, such as salary, promotion, and developmental chances (Xu & Yin 2020; Greenhaus et al. 1990). The boundaryless career idea necessitates a subjective career strategy in which employees outline and evaluate their professional accomplishments on their own.

Subjective measurements of professional success have grown more significant in recent years (Guan et al. 2019), where CSAT is among the most important predictors of career success. As such, this research focuses on workers' CSAT. CSAT is seen broadly in this article in terms of work satisfaction and, therefore, is applied as an attitude variable to indicate a person's opinion that his or her profession is meeting career-related principles, requirements, and outlooks (Spurk et al. 2020). Since work contentment is defined as a pleasant or favourable emotional condition as a result of an assessment of a person's employment or work experiences (Matsuo 2020), career satisfaction is represented as a worker's optimistic emotion following an appraisal of one's professional experience. Subjective professional accomplishment, generally, defines an individual's sense of accomplishment and fulfilment in his or her work (Stauffer et al. 2019). When employees evaluate their subjective professional success, they also consider their self-defined criteria, requirements, values, career phases, and ambitions (Cha et al. 2017). With the exception of

a few studies, the term CSAT has been employed as the only indicator of subjective career success.

#### PSYCHOLOGICAL WELL-BEING (PWB)

Well-being, marital stability, household status, employment, economics, academic prospects, self-confidence, ingenuity, and confidence in other people, all contribute to an individual's quality of life, which is a holistic evaluation of one's physiological, psychological, and social well-being that encompasses notions such as joy and satisfaction (Ashleigh et al. 2018). Apart from the subjective and positive measurement and thorough evaluation of every area of an individual's life, these are critical elements of subjective well-being. Hedonic and eudemonic are the two components of PWB. First, hedonic refers to experiencing pleasing feelings in one's life that form a high state of happiness that cultivates positive emotions. Conversely, eudemonic philosophy maintains that well-being is not really about maximising pleasurable experiences, but about living fully or using resources to maximise individual capabilities (Ryan et al. 2008). As such, the concept of eudemonic is understood as undergoing enriching activities and individual development.

Hedonic philosophy is derived from Greek philosophy. Hedonism emphasises attaining one's life goals via as much pleasure centred on enjoyment and honourable actions as possible (Ryan et al. 2018). Hence, contentment can be associated with the intensity of pleasing instances. According to current psychology, the important concept developed from a hedonic viewpoint is subjectively associated with well-being, typically consisting of two components. The first component is emotional equilibrium, determined by the subtraction of the negative emotion rate from the positive emotion rate, whereas the subsequent component involves the observation of life's pleasures, deemed more reliable as an enhanced cognitive component, as clarified by Diener et al. (2018). Additionally, life's pleasure is a general judgement towards life, implying that emotional equilibrium is proportional to the frequency or intensity of pleasurable or painful events; as such, these ideas are inextricably linked to the hedonistic viewpoint (Ryff 2018).

On the contrary, according to Sheldon et al. (2010), the concept of eudemonic demonstrates that well-being includes acting in accordance with core values, implying an unshakable obligation to cause other people to feel alive and authentic. Additionally, determining if human eudemonic perception can be quantified or whether it exists as a rhetorical and immeasurable aspect may be fitting. A well-known researcher, Sun (2017), has conducted extensive studies on the eudemonic method. She noted the absence of a theoretical foundation for assessing the concept of well-being and that most have glossed over significant problems with its beneficial functions. Therefore, the term PWB is different from

subjective well-being, which represents the hedonic concept more. Joshanloo (2019) attempted to overcome these constraints by defining well-being as the progression of an individual's genuine potential. Thus, rather than pleasure or PWB, an individual's primary motivation would be to have a well-lived life.

At the same time, eudemonic emphasis underscores the importance of achieving a particular objective or of achieving certain good consequences, in addition to a healthy sense of fulfilment with an individual's life (Ryan et al. 2018). Nonetheless, throughout time, researchers' perspectives have shifted, and the framework of PWB is now more holistic, rather than philosophical. Consequently, PWB may be described as the total effectiveness of an individual's cognitive states (Berkman 1971a 1971b). Theoretical and empirical investigations have shown the importance of PWB. Researchers have often underscored the need to distinguish and characterise the PWB construct's primary characteristics. Nevertheless, elucidating the configuration of PWB is neither easy nor straightforward. This is reflected in the several terminologies that define the construct, e.g., emotional, mental, and affective well-being (Jibeen 2019), along with the numerous conceptual methodologies employed.

#### RESEARCH MODEL

Figure 1 depicts the study's framework, as well as the independent variable, i.e., proactive career management behaviours, and the dependent variables, i.e., career satisfaction and work psychological well-being.

#### HYPOTHESES DEVELOPMENT

In agreement with the previously outlined research framework, the following hypotheses are suggested for evaluation in this study:

#### THE EFFECT OF PCMB ON CSAT

As per studies on individuals of all ages, such as the one undertaken by Guan et al. (2019), career management strategy optimisation is connected with life and happiness. This is also supported by Park's (2020) meta-analysis, which established a positive correlation between individual career management behaviours and CSAT, whereas Minkkinen et al. (2020) established a significant correlation between a worker's feelings toward job stability and one's career satisfaction. Meanwhile, Greenhaus et al. (1990) have reported that people tend to pursue their aspirations and display more fulfilment in their jobs as they self-manage their careers. As a result, proactive individuals will have a higher chance of progressing along their chosen career path, as they are inclined to seize proactive measures to shape and select a more favourable work setting (Bravo et al. 2017). With these considerations, PCMB is expected to positively influence CSAT. As such, the following hypothesis is put forth:

H<sub>1</sub> PCMB has a direct effect on CSAT.

#### THE EFFECT OF PCMB ON PWB

Countless studies, such as those by Barnett and Bradley (2007), have been conducted to ascertain the effect of PCMB on work performance and career achievement. Nonetheless, such career behaviours may have negative consequences because they cause unnecessary stress among workers (Cangiano et al. 2019). For example, when an individual adopts proactive professional behaviours, the likelihood that their time, mental, and physical capabilities will put their mental and physical resources to the test rises. This is because such behaviours often include completing activities or taking on obligations that are not explicitly demanded of them.

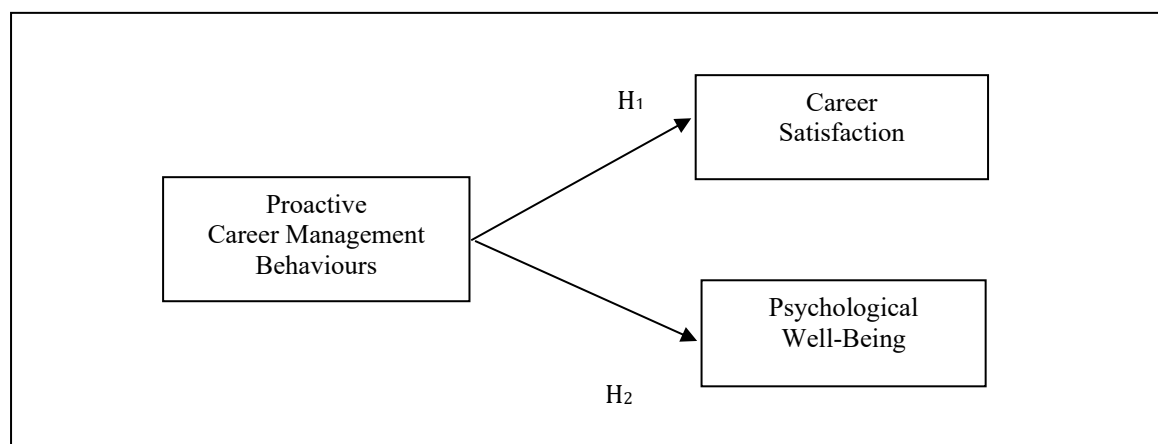


FIGURE 1. Research model

Subsequently, a person's work pressure rises because such behaviour typically adds more burden to his or her usual work demands. Spurk et al. (2020) explained that proactive career behaviours may be promoted by a role model that places an excessive emphasis on personal career development in order to pursue personal interests rather than the company's well-being. Such people can apply new recommendations that take advantage of the prevailing systems, which can increase the burden of the other workers since they must spend additional time familiarising themselves with the new system. Consequently, the following hypothesis is put forth:

H<sub>2</sub> PCMB has a direct effect on PWB.

## METHODOLOGY

### SAMPLING TECHNIQUE AND DATA COLLECTION

A self-administered questionnaire was employed as the data collection instrument. The unit of analysis was comprised of professional engineers registered under the Malaysian Board of Engineers (BEM). In order to maintain their practising certificate, engineers must complete approximately 50 hours of Continuous Professional Development (CPD) initiatives annually. The Institution of Engineers Malaysia (IEM) organises these continuing professional development events. Additionally, the IEM organises seminars, exhibits, site visits, and other events to promote the engineering profession. As a result, the IEM was asked for authorisation to disseminate the surveys to professional engineers according to the scheduled CPD activities that were retrieved from the IEM's website. Prior to each of the CPD activity, the researcher made an initial contact with the venue management to explain about the research objectives. On the day of the activities, the researcher distributed the questionnaires between 10 to 15 minutes prior to the start of CPD activity.

### POPULATION AND SAMPLE SIZE

This study's intended demographic consisted of professional engineers listed under the BEM. Hair et al. (2010)'s rule of thumb determined the minimal sample size for practical data collection. The minimum sample size requirement is five times the number of variable items to be examined. Nevertheless, a ratio of 10:1 is a more appropriate sample size, i.e., ten respondents for each observed variable item. For assessing all variables, the total number of items used in this study was 24. As such, a minimal sample size of ten multiplied by twenty-four was considered acceptable, resulting in 240 respondents.

## MEASURES

Each item for this study was chosen based on those previously reported in research with satisfactory reliability. To gauge 11 proactive career management behaviour items, this study employed scales developed by previous researchers (Stumpf et al. 1983; Noe 1996; Zikic & Klehe 2006). Meanwhile, five items were applied to gauge career satisfaction (Greenhaus et al. 1990). Finally, to evaluate psychological well-being, this study employed Berkman's (1971a 1971b) 8-item Index of Psychological Well-being. A 5-point Likert scale was employed to rate each characteristic (1 = strong disagreement; 5 = strong agreement).

## DATA ANALYSIS

The Partial Least Squares (PLS) approach was applied to analyse the research model. The approach was selected because it possessed a number of benefits over other earlier alternatives from the first generation. Additionally, as a variance-based SEM, PLS is favourable due to the fact that a covariance-based SEM presupposes observable measures to possess random error discrepancies and evaluates particular discrepant components that are theoretically insignificant by removing them from the measurement model. Nevertheless, PLS-SEM is desirable to account for all observable and measurable discrepancies.

## RESULTS

### PROFILE OF RESPONDENTS

The respondents' demographic profile is given below. Male respondents accounted for 319 (82%) of the total, whereas female respondents accounted for the remaining 68 (18%). Most of the respondents (212; 55%) are master's degree holders, followed by those with bachelor's degrees (147; 38%) and those with doctoral degrees (28; 7%). All respondents are listed as professional engineers under the BEM (387; 100%). Meanwhile, the accumulated CPD hours that they collected in 2019 were above 50 hours (100%) per person. Table 1 summarises the respondents' demographic profile.

### DESCRIPTIVE STATISTICS

The term "descriptive analysis" denotes the process of transforming raw data into a more understandable and interpretable format (Sekaran 2003). All research variables were developed using a 5-point Likert-type scale, with 1 showing strong disagreement and 5

TABLE 1. Demographic Profile of the Respondents

Demographics	Category	Frequency	Percentage (%)
Gender	Male	319	18
	Female	68	38
Level of Education	Undergraduate/Bachelor	147	55
	Master	212	7
	PhD	28	100
Registered as a Professional Engineer (PE) under BEM	Yes	387	100
Total CPD hours accumulated in 2019	More than 50 hours	387	18

TABLE 2. Descriptive Statistics of the Study Variables

Items	N	Min	Max	Mean	SD
Proactive Career Management Behaviour	387	2.00	5.00	4.10	0.78
Career Satisfaction	387	1.00	5.00	3.68	0.68
Psychological Well-Being	387	1.00	5.00	3.99	0.82

showing strong agreement. However, responses to five negatively-phrased questions in psychological well-being assessments (items 1–5) were reverse-coded so that higher scores showed a more favourable opinion toward these items. The mean values of all variables were determined to be higher than the 2.50 midpoint value. Proactive Career Behaviour (4.10) had the greatest mean value, whereas Career Satisfaction had the lowest mean value (3.68). Meanwhile, as shown in Table 2, standard deviation statistics indicate that Psychological Well-Being has the greatest and lowest dispersion values at 0.92, and Career Satisfaction has the lowest at 0.68.

#### ASSESSMENT OF MEASUREMENT MODEL

This research evaluated the model by estimating the parameters in the inner and outer models using Smart PLS 3.0 M3. Besides that, the nonparametric bootstrap method was employed to figure out the estimates' standard errors for 500 replications (Chin 1998a; Wetzels et al. 2009).

The first step of the PLS analysis included evaluating the validity and reliability of measurement models. Validity and reliability are the two primary standards applied to assess a measure's suitability. Reliability is the degree to which a measuring instrument assesses the notion being evaluated, while validity is an indicator of how well an instrument is constructed to measure the concept being evaluated (Sekaran 2003). The whole research model for this study is depicted in Figure 2.

#### CONSTRUCT VALIDITY

Construct validity denotes the extent to which the findings acquired via the application of the measure conform to the ideas upon which the test was based

(Sekaran 2003). The concept validity of this research was determined using two methods: convergent validity and discriminant validity. To begin with, the numerous loadings and cross loadings were analysed to rule out the likelihood of any specific items posing complications. As Hair et al. (2010) recommended, the cut-off value (0.5) for loadings is important. All items in this study showed loadings higher than the suggested cut-off value of 0.5. As a result, construct validity was confirmed. All elements measuring a specific construct had a high loading on that construct, but a low loading on the others. The loadings and cross loadings for all indicators are depicted in Table 3.

#### CONVERGENT VALIDITY

As shown in Table 2, the extracted average variance (AVE), cross-loadings, and composite reliability were evaluated to establish the convergent validity. The AVE statistic is a summary measure of convergence since it represents the average variance retrieved for the items' loading on a construct (Fornell & Larcker 1981). According to Goetz et al. (2009), a minimal score of 0.5 for convergent validity indicates that, on average, a latent variable may account for more than half of the variation in its indicators. The composite reliability is a measure of convergent validity that needs to be greater than 0.7 in order for a scale to be precise (Nunnally & Bernstein 1994). As a result of the acceptable composite reliability values reported in Table 4, it can be stated that the measures used offered sufficient dependability. The factor loadings, AVE, and composite reliability statistics all showed that there was enough evidence of convergent validity. To corroborate the concept validity, findings on discriminant validity will be reviewed next.

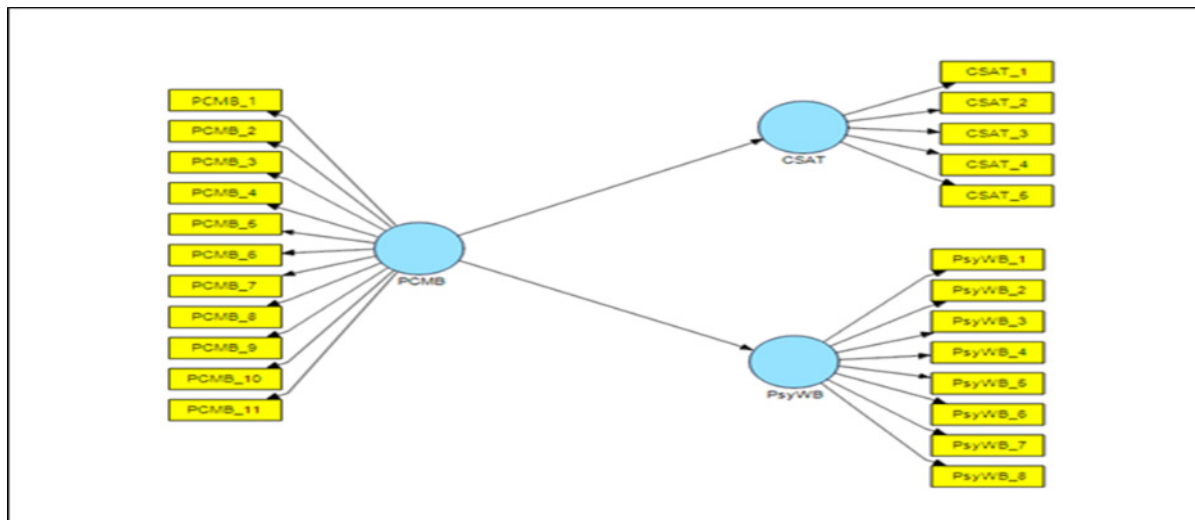


FIGURE 2. Research model (inner and outer model)

TABLE 3. Loadings and Cross Loadings

Items	CSAT	PCMB	PsyWB
CSAT_1	0.845	0.549	0.191
CSAT_2	0.888	0.523	0.122
CSAT_3	0.894	0.572	0.132
CSAT_4	0.774	0.445	0.086
CSAT_5	0.825	0.473	0.138
PCMB_1	0.121	0.628	0.423
PCMB_2	0.641	0.618	0.089
PCMB_3	0.722	0.648	0.159
PCMB_4	0.194	0.700	0.476
PCMB_5	0.167	0.711	0.498
PCMB_6	0.164	0.639	0.460
PCMB_7	0.173	0.688	0.516
PCMB_8	0.177	0.683	0.476
PCMB_9	0.045	0.670	0.435
PCMB_10	0.652	0.637	0.137
PCMB_11	0.682	0.634	0.128
PsyWB_1	0.114	0.460	0.705
PsyWB_2	0.171	0.268	0.617
PsyWB_3	0.170	0.226	0.625
PsyWB_4	0.125	0.206	0.627
PsyWB_5	0.121	0.386	0.801
PsyWB_6	0.059	0.371	0.802
PsyWB_7	0.076	0.333	0.770
PsyWB_8	0.137	0.438	0.809

Note. Bold values are loadings for items which are above the recommended value of 0.5.

CSAT = Career Satisfaction

PCMB = Proactive Career Management Behaviour

PsyWB = Psychological Well-Being

TABLE 4. Results of Items Reliability, Internal Consistency and Convergent Validity

Construct	Factor loadings, AVE, and CR
Proactive Career Management Behaviours (PCMB)	CR = 0.885; AVE = 0.616
1. I usually search for detailed information about the vocational area and jobs in which I am interested.	0.628
2. I usually consider how to combine my early work experience with my future career development.	0.618
3. I often try to play new roles at work to explore whether I am suitable for them.	0.648
4. My career goal is very definitive.	0.700
5. I have established detailed career development plans.	0.711
6. I am very clear about how my present position is related to my career objectives.	0.639
7. I am very clear about what efforts are needed to realize my career goals.	0.688
8. I always attempt to learn more new knowledge and skills to realize my career objective.	0.683
9. I try to let my boss know about what I am doing to pursue my career and career objectives.	0.670
10. I have established a helpful interpersonal network inside my company which can promote my career development.	0.637
11. I usually consult with my boss and experienced colleagues for helpful career guidance.	0.634
Career Satisfaction (CSAT)	CR = 0.926; AVE = 0.717
1. I am satisfied with the success I have achieved in my career.	0.845
2. I am satisfied with the progress I have made toward meeting my overall career goals.	0.888
3. I am satisfied with the progress I have made toward meeting my goals for income.	0.894
4. I am satisfied with the progress I have made toward meeting my goals for advancement.	0.774
5. I am satisfied with the progress I have made toward meeting my goals for the development of new skills.	0.825
Psychological Well-Being (PWB)	CR = 0.897; AVE = 0.624
1. I often feel very lonely or remote from other people. (R)	0.705
2. I often feel depressed or very unhappy. (R)	0.617
3. I often feel bored. (R)	0.625
4. I often feel so restless; I couldn't sit long in a chair. (R)	0.627
5. I often feel vaguely uneasy about something without knowing why. (R)	0.801
6. I often feel on top of the world.	0.802
7. I often feel particularly excited or interested in something.	0.770
8. I often feel pleased about having accomplished something.	0.809

TABLE 5. Discriminant Validity: HTMT Criterion

Construct	(1)	(2)	(3)
(1) Proactive Career Management Behaviours			
(2) Career Satisfaction	0.609		
(3) Psychological Well-being	0.160	0.488	

## DISCRIMINANT VALIDITY

In accordance with Hair et al. (2010), discriminant validity denotes the extent where a concept is entirely dissimilar from additional constructs. It is examined to see how much the model's measurements deviate from those of other models. The discriminant validity of the AVE is evaluated by comparing it to the correlations between the variables. The discriminant validity

requires that the AVE's square root be higher than the correlations (Chin 2010). Table 5 shows the square root of the AVE diagonally. The correlations between each concept are lower than the AVE's square root, as determined by the indicators, showing that the concepts have excellent discriminant validity. Thus, the measuring model supported the construct validity based on the data. Following that, hypotheses were tested and the research model was established.



## RELIABILITY ANALYSIS

Table 6 shows the range of loadings in the reliability test and each construct's number of items. The composite reliability ratings varied from 0.885 and 0.926, above the 0.70 cut-off value, as advised by Hair et al. (2010).

## ASSESSMENT OF STRUCTURAL MODEL

Subsequent to the analysis of the measurement model, the structural model is assessed in PLS analysis. The suggested structural model was evaluated for determining the degree and importance of path coefficients as well as the model's overall fit. The structural model was evaluated using hypothesis testing. According to Chin (2010), the variance explained ( $R^2$ ) of the endogenous constructs and the significance of all path estimations attest to the theoretical model's goodness. Collectively, both  $R^2$  and path coefficients show the extent to which the data supports the hypothesised model (Chin 1998). The path coefficients between exogenous and endogenous variables are shown in Figure 3.

## HYPOTHESES TESTING

Two hypotheses explaining the direct correlation between PCMB, occupational satisfaction, and individual well-being were presented (CSAT and PWB). Both hypotheses are backed up by the findings. PCMB showed a positive effect on CSAT ( $\beta = 0.106$ ,  $p < .1$ ) and PWB ( $\beta = 0.352$ ,  $p < .01$ ). Table 7 presents the findings.

Additionally, a process known as "blindfolding" was employed to ascertain the predictive relevance (Q2) of the model fit. The blindfolding findings for cv-communality and cv-redundancy are recapped in Table 8. As depicted in Table 8, all blocks have an adequate cross-validated communality and cross-validated redundancy index that is greater than 0 (Fornell and Cha 1994). As a result, the model developed in this research may be deemed relevantly predictive.

The study computed the Goodness of Fit (GoF) values, which may be used as cut-off values for global validation of PLS models, using the criteria provided by Wetzels et al. (2009). The entire (main effect) model in this research has a GoF value of 0.445, which surpassed the cut-off value of 0.36 for a significant effect size of  $R^2$ . As a consequence, the model's predictive capacity is greater than the baseline value (GoF small = 0.10, GoF medium = 0.25, GoF big = 0.36), as shown in Table 9.

## DISCUSSION

The primary purpose of this research is to examine if PCMB has an effect on CSAT and PWB. Based on empirical findings, PCMB seems to have a positive impact on CSAT. This corresponds to past studies (Weng et al. 2018; Guan et al. 2019; Gianecchini 2019), which indicated that individuals who take proactive measures to achieve professional objectives (engage in career management behaviours) have the tendency to experience CSAT. Since professional engineers, this study's respondents, are always attempting to gain more new knowledge and to develop new skills from the CPD activities they attend, they progressively aim to meet their goals. Professional engineers gain professional skills, technical abilities, and new information via participation in CPD events. As such, during the CPD activities, the engineers enjoy networking and forming professional connections with the different societies, which then makes them feel content with their career. Therefore, this research has established that proactive career behaviours positively influence CSAT.

This investigation also revealed that PCMB positively influenced PWB. One reason for this result could be the CPD activities that helped the engineers form definitive career goals. They know where to focus their efforts when they have precisely determined what they want to attain. Additionally, by establishing precise, well-defined objectives, experienced engineers may

TABLE 6. Results of the Reliability Test

Construct	Measurement Items	Composite Reliability	Loading Range	No of Items
Proactive Career Management Behaviours (PCMB)	PCMB_1, PCMB_2, PCMB_3, PCMB_4, PCMB_5, PCMB_6, PCMB_7, PCMB_8, PCMB_9, PCMB_10, PCMB_11	0.885	0.618 - 0.711	11
Career Satisfaction	CSAT_1, CSAT_2, CSAT_3, CSAT_4, CSAT_5	0.926	0.774 - 0.894	5
Psychological Well-Being	Psy_WB_1, Psy_WB_2, Psy_WB_3, Psy_WB_4, Psy_WB_5, Psy_WB_6, Psy_WB_7, Psy_WB_8	0.897	0.617 - 0.809	8

TABLE 7. Path Coefficient for Proactive Career Management Behaviours and Individual Well-Being

No.	Correlation	Path coefficient ( $\beta$ )	Std. error	t-value	Decision
H <sub>1</sub>	PCMB ---> CSAT	0.106	0.069	1.533*	Supported
H <sub>2</sub>	PCMB ---> PsyWB	0.352	0.076	3.511***	Supported

Note: \*\*\* $p < .01$  (2.33), \*\* $p < .05$  (1.645), \* $p < .1$  (1.28) (based on one-tailed test)

TABLE 8. Blinding folding results

Construct	CV red	CV comm
Career Satisfaction	0.256	0.571
Psychological Well-Being	0.116	0.528

TABLE 9. Goodness of Fit (GoF)

Construct	AVE	R <sup>2</sup>
Proactive Career Management Behaviour	0.616	-
Career Satisfaction	0.717	0.370
Psychological Well-Being	0.624	0.239
Average	0.652	0.304
GOF	0.445	-

keep track of and be pleased with their accomplishments. Additionally, people may see the evolution of what was originally viewed as a lengthy, fruitless slog. Such professional behaviour will also increase their confidence, as CPD initiatives may broaden and upgrade engineers' expertise, capabilities, and assessment, allowing them to comprehend and apply improvements in engineering, arts, and sciences, modify career pathways, become extra productive, and better serve the community. As a result, recognising their capacity to accomplish the objectives they have set will result in their pleasure. Additionally, experienced engineers may use their knowledge and abilities in the fields of medicine and law. Similarly, skilled engineers may become politicians and use their scientific and technological expertise to help shape critical legislation. Finally, professional engineers may choose to pursue entrepreneurial endeavours in adjacent areas such as building and manufacturing. When professional engineers see their work as significant, they will appreciate their work, which will increase their level of pleasure. Accordingly, this new research outcome contributes to the body of knowledge by indicating that PCMB has a beneficial effect on PWB.

#### CONCLUSION

This research aimed to investigate the influence of PCMB towards CSAT and PWB among Malaysian engineers. This investigation has added to the literature in terms of the significant direct associations between PCMB and CSAT and PWB. The findings indicated a positive effect of PCMB on CSAT. In addition, this study highlighted a positive effect of PCMB on PWB. The conclusions of this study varied from those of prior studies due to the fact that it was conducted among professional engineers in a Malaysian environment. As a result, professional engineers with a greater extent of proactive career strategies would modify their employment behaviours, such as exerting more effort to achieve excellence.

Workers who accomplish great outcomes continuously set goals since career goals are the motivational tool for them to hunt for effective strategies to efficiently attain their desired career goals. Proactive career behaviours are positive attitudes that generate a tough sense of individuality and principles.

With regards to practical involvement, graduate engineers are strongly urged to continue their education in order to become professional engineers with the BEM, owing to the many benefits that await them. Professional engineers' requirements help them to programme their work behaviour. Hence, they can establish a detailed career development plan. Additionally, the engineers would understand how their current job is germane to their career goals. Therefore, they know what they must do to attain their career objectives.

Moreover, another practical contribution is making recommendations to BEM on how to expand educational possibilities for its graduate engineers in order for them to achieve the position of professional engineers. Additionally, companies and sectors may assist unlicensed engineers with registering as graduate engineers. Then, using BEM, these engineers may graduate to become professional engineers. Indirectly, they may get a sense of purpose from their work, which improves their degree of work satisfaction.

Dependence on self-reported data has been this study's primary constraint. As a consequence, Harman's single-factor test quantified the potential tendency to misinterpret the outcomes. Furthermore, as a cross-sectional study, long-term results from this study may vary. Moreover, this study did not include demographic criteria in the data analysis, e.g., age, duration of service in the current firm, or total duration of work.

As for the suggestion for the future research, comprehensive interviews and focus groups among Malaysian engineers are appropriate to identify other aspects that can lead to proactive career strategies, CSAT, and PWB development. Since longitudinal research offers more robust conclusions and evidence

for each research methodology, it would be useful if this research was conducted longitudinally. Furthermore, a comparison of studies conducted by public and private organisations should be conducted to ascertain the more prominent culture. Finally, upcoming studies may ascertain if the findings of this present study can be generalised outside of the engineering sector in Malaysia is also recommended.

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