

**PROTEAN CAREER ORIENTATION AND  
INDIVIDUAL WELL-BEING AMONG  
PROFESSIONAL ENGINEERS IN MALAYSIA:  
MEDIATING ROLE OF PROACTIVE CAREER  
MANAGEMENT BEHAVIOURS**

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**By**

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## **LIST OF ABBREVIATION**

BEM	Board of Engineers Malaysia
CPD	Continuing Professional Development
DOSH	Department of Occupational Safety and Health
GDP	Gross Domestic Product
GNI	Gross National Income
GTP	Government Transformation Plan
IEM	Institution of Engineers Malaysia
MWI	Malaysian Well-Being Index
NKEA	National Key Economy Area
PAE	Professional Assessment Examination

**ORIENTASI KERJAYA PROTEAN DAN KESEJAHTERAAN INDIVIDU  
DALAM KALANGAN JURUTERA PROFESIONAL DI MALAYSIA:  
PERANAN PEMBOLEH UBAH PERANTARA TINGKAH LAKU  
PENGURUSAN KERJAYA PROAKTIF**

**ABSTRAK**

Kesejahteraan individu merujuk kepada penglibatan pekerja yang menjana kesan positif yang lebih kerap seperti kepuasan kerja, komitmen, kegembiraan, kepuasan, minat, dan kasih sayang. Bagaimanapun, bagi jurutera di Malaysia, konflik antara memenuhi tuntutan kerja yang distrukturkan oleh organisasi dengan hasrat mereka untuk berwawasan tinggi, bercita-cita, bermatlamat dan berharapan sendiri telah mempengaruhi kesejahteraan mereka. Berasaskan Teori Kerjaya Protean (Hall, 1976), kajian ini menyiasat kesan orientasi kerjaya protean terhadap tingkah laku proaktif pengurusan kerjaya dan kesejahteraan individu. Di samping itu, kajian ini telah menyiasat kesan pengantara tingkah laku pengurusan kerjaya proaktif ke atas hubungan antara orientasi kerjaya protean dengan kesejahteraan individu menggunakan Teori Penetapan Matlamat (Locke & Latham, 2004). Untuk menguji hipotesis yang disarankan, data dikumpulkan melalui soal selidik urus sendiri. Sampel kajian ini terdiri daripada 387 jurutera profesional yang berdaftar dengan Lembaga Jurutera Malaysia. Hipotesis telah dianalisis menggunakan pendekatan kuasa dua terkecil separa (PLS). Kajian ini telah berjaya memperoleh keputusan menarik yang berkaitan dengan kesejahteraan individu. Penemuan kajian menunjukkan orientasi kerjaya protean mempengaruhi tingkah laku pengurusan kerjaya proaktif. Orientasi kerjaya protean juga didapati mempengaruhi kepuasan kerjaya. Tingkah laku pengurusan kerjaya proaktif didapati mempengaruhi kepuasan kerjaya. Dan akhir sekali, kajian ini telah mendapati bahawa hubungan antara

orientasi kerjaya protean dengan kesejahteraan individu berhubung kait melalui pemboleh ubah perantara tingkah laku pengurusan kerjaya proaktif. Berdasarkan dapatan kajian, metodologi, implikasi teori dan praktikal kajian telah dibincangkan. Cadangan untuk penyelidikan masa depan juga kemukakan.

**PROTEAN CAREER ORIENTATION AND INDIVIDUAL WELL-BEING  
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ROLE OF PROACTIVE CAREER MANAGEMENT BEHAVIORS**

**ABSTRACT**

Individual well-being refers to employee engagement that generates higher frequency of positive affect such as job satisfaction, commitment, joy, fulfilment, interest, and caring. However, for the engineers in Malaysia, the conflict between fulfilling the work demand structured by the organization and their aspiration to be visionaries, ambitious, having their own goals and expectation, have influenced their well-being. Grounded in the Protean Career Theory (Hall, 1976), this study examined the impact of protean career orientation on proactive career management behaviours and individual well-being. In addition, this study examined the mediating effect of proactive career management behaviours on the relationship between protean career orientation and individual well-being using Goal Setting Theory (Locke & Latham, 2004). To test the proposed hypotheses, data were collected through self-administered questionnaires. The study sample consisted of 387 registered professional engineers with the Board of Engineers Malaysia (BEM). The hypotheses were analysed using the Partial Least Squares (PLS) approach. This study found interesting results related to individual well-being. The finding showed that protean career orientation has a positive influence on proactive career management behaviours. Protean career orientation also was found has a positive influence on career satisfaction. Proactive career management behaviours was found to have a positive influence on career satisfaction. Finally, study found that the relationship between protean career orientation and individual well-being are linked through the mediating variable of proactive career management behaviours. Based on the

findings, the methodology, theoretical and practical implications of the study are discussed. The suggestion for the future research is also offered.

# **CHAPTER 1**

## **INTRODUCTION**

### **1.0 Introduction**

This chapter provides an overview of the background of the study, the problem statement, the research questions and objectives, the significance of the study, and the scope of the study. Definitions of key terms are also given at the end of this chapter.

### **1.1 Background of the Study**

Recently, new economy careers have emerged in response to economic and labour market changes brought about by rapid technological advances, globalization, competitive pressures, and trade deregulation (Grimland, Vigoda-Gadot & Baruch, 2012; Lips-Wiersma & Hall, 2007). These economic developments have forced changes in working careers and spawned a new career model (Feldman & Ng, 2007). Subsequently, the current careers tend to be dynamic, less predictable, and boundaryless (Grimland et al., 2012; Lips-Wiersma & Hall, 2007) in contrast to the traditional linear, static, and rigid view of careers (Grimland et al., 2012; Greenhaus, Callanan, & Godshalk, 2000). To meet the challenges of the competitive global market, many organisations have undergone a series of massive transformation and experienced critical changes in their structure (Park, 2009; Nicholson, 1996). For example, organisations have adopted strategies such as massive restructuring, rapid downsizing, as well as management programmes like reengineering, as an effort to trim costs, increase efficiency, and boost productivity (Park, 2009). Briscoe, Henagan, Burton, and Murphy (2012) and Hall (2002) proposed that speed and

complexity are the two key qualities of organisational transformation in the contemporary business world.

The changes in the nature of work have influenced the notion of the individual's careers in the contemporary business world (Park, 2009; Greenhaus et al., 2000). Work has become more flexible as organisations become flatter. In addition, the boundaries of career landscapes are also becoming wider (Park, 2009; Arthur, Inkson, & Pringle, 1999). For this reason, changing the attitude of employees towards their career development and their own role is needed (Zafar & Mat, 2012; Briscoe & Hall, 2006). Employees adapting to these labour markets and organisational structure changes modify their work values and behaviours, and no longer expect to have the same job for life (Hall, 2004). Individuals also bear most of the responsibility for planning and managing their own careers. Researchers and practitioners agreed that the successful navigation of the current career scenario requires the development of a distinct mind-set and this is called as protean career orientation (Briscoe et al., 2012; Hall, 1976, 2002, 2004).

Within the context of a protean career orientation, individuals, rather than their employing organisations, become the architects of their own careers, development, and vocational destiny (Hall, 2004). This orientation represents internally self-directed and values-driven perspectives in managing one's career that reflects values such as freedom and adaptability (Briscoe et al., 2012; Hall, 2002). Individuals with protean career orientation experience greater responsibility for their career choices and opportunities (Briscoe et al., 2012; Hall, 1976, 2002). Protean careerists' self-esteem is not based on salary or job title; rather, they derive their satisfaction from their career and their level of professionalism, no matter what they

do. In fact, referring to Lorsch (1995), managers who enjoy prosperous careers in large corporations may even choose to be executives in other companies. For them, psychological success is important. Their own happiness is the key benchmark. Thus, the hallmarks of a protean career orientation are freedom and growth, professional commitment, the attainment of psychological success through the pursuit of meaningful work, and the discovery of a calling (Grimland et al., 2012; Hall & Chandler, 2005). Moreover, it has been argued that taking responsibility for managing one's own career development could deliver positive psychological outcomes, including career and life satisfaction, enhanced self-efficacy and well-being, as well as extrinsic career progression, if desired career outcomes are achieved (Crant, 2000; King, 2004; Seibert, Kraimer, & Crant, 2001).

Despite the established relationship between protean career orientation and its outcomes, researchers still have some reservations about the factors influencing it. However, they share a common view that protean careerists are those who are more particular about their own career goals. They tend to craft their own career path. Briscoe and Hall (1999, 2006) and Hall (2002), who are among the pioneers of protean career, concluded that the potential of the new career is that an individual must develop new competencies related to the management of self and career (Zafar & Mat, 2012; Eby, Butts, & Lockwood, 2003; Hall & Moss, 1998). Inherent to the notion of protean career is primarily responsible for managing one's career. Therefore, a strong sense of identity and values are important for guiding career decisions (Briscoe & Hall, 1999, 2006; Hall, 2002). This is because they meet the current job requirements and they are also more adaptable and optimistic in unforeseen career situations such as downsizing or labour market changes (Hall, 2002). Hall (2002) postulated that individuals with protean career orientation strive

for psychological success. To achieve such success, they set themselves challenging goals and invest a lot of efforts. The findings of De Vos and Soens (2008) have supported Hall's (2002) above statement that individuals with protean career orientation are engaged in proactive career management behaviours. These behaviours can function as a navigation system that guides individuals (Weng & McElroy, 2010). They use proactive career management behaviours as the process by which individuals collect information about values, interests, skills, strength, and weakness (career exploration), identify a career goal (career goal development), and engage in career strategies (career strategy implementation) that increase the probability of their career goals being achieved (Weng & McElroy, 2010; Greenhaus, 1987). These behavioural components are within the control of the individuals. It builds on the notion of proactivity and it refers to the concrete actions undertaken by the employees to realize their career goals. These actions can focus on improvement in one's current job or on moving within or outside the company (De Vos & Soens, 2008; Kossek, Roberts, Fisher, & Demarr, 1998). Several authors such as De Vos and Soens, (2008); Sturges, Conway, and Davey, (2002) have studied the relationship between proactive career management behaviours with individual and career-related outcomes. Their studies revealed the importance of a wide range of self-management behaviours such as data collection information about existing or possible career opportunities, searching for feedback about one's performance and competencies, and creating career opportunities through networking, and taking actions aimed at enhancing one's visibility.

Participating in proactive career management behaviours that are directed at achieving personally valued goals in the career domain can also be expected to promote an individual's career satisfaction (Kong, Cheung, & Song, 2012; Lent &

Brown, 2006). Pursuing personally relevant goals is a key way that people can contribute to their own well-being and enables the exercise of personal agency in career satisfaction. To meet the extent that individuals can set and work towards their goals and perceive that they are making progress, they would be able to promote their own career satisfaction (Lent & Brown, 2006). Individuals who are proactively managing their careers are more satisfied with their career, compared with individuals with passive career attitude (Volmer & Spurk, 2011). Orpen (1994) found that career management behaviours influence employees' career success. Meta-analysis has also supported the positive relationship between individual career management behaviours and career satisfaction (Ng, Sorensen, Eby, & Feldman, 2005). Self-managing individuals strive more actively to attain their desired career goals, which in turn would make them feel more successful in their career (Arthur, Khapova, & Wilderom, 2005). Employees with high level of career self-management seek for opportunities that allow them to change their scope or to make career progress towards desired positions or job within their organisation (Crant, 2000).

In addition to the aim of achieving career satisfaction, what is more important is the personal satisfaction derived from the career itself, that is, psychological well-being. Psychological well-being is predicted by meaningful work (Arnold, Turner, Barling, & McKee, 2007). According to Nelson and Simmons (2003), meaningful work leads to eustress, which would promote engagement, even if the situation is demanding. Eustress reflects the extent to which cognitive appraisal of the situation is seen to either benefit or enhance an individual's well-being. Engineers who focus on their work, experience their job as important and meaningful (Rothman & Malan, 2006). When they experience their job as meaningful, they enjoy working and they do not see it as effort. However, if engineers struggle with the complexity of their

jobs, they may experience their job as meaningless (Schaufeli & Bakker, 2001). Supported by Jahoda (1982), employment serves not only the manifest function of providing income, but also the valuable experiences, social interactions, and opportunities for personal development and skill use to the individual. The potential loss of such psychologically important factors would imply to reduce individual well-being (Lazarus & Folkman, 1984). Factors such as skill utilization, professional development and social support have consistently been shown to be related to functional well-being related outcomes such as engagement, job satisfaction, and health (Halbesleben, 2010). In contrast, the job demand faced by the engineers has led to adverse psychological outcomes to the engineers.

Since the engineer's key performance areas are structured by the organisation according to the business needs, the increasing in productivity and change in the workplace has become an integral part of the engineer's working life (Malan, 2004). The challenge is always on continuous improvement. Projects are driven with a very strong focus on quality, costs, and time. At the same time, the companies are operating in a highly competitive market with relatively low-profit levels (Malan, 2004). Adding to the difficulties in managing time demand in the industry is the location of the projects in remote sites or in areas that take time away from families because travelling make engineers' life more hectic. Malan (2004) agreed that the most common ailments among engineers are related to excessive workloads such as constant tiredness and stress.

Research found that lack of potential development may lead to stress or even to burnout (Malan, 2004). This is because when the employees lack the opportunities to use their acquired skills or to develop full potential abilities, the employees will be

frustrated (Cooper, Dewe, & O'Driscoll, 2001). In addition to potential development, Karesek and Theorell (1990) indicated that organisational structure of work also plays a role in determining the stress-related illness. This is indeed the dilemma that is faced by the engineers nowadays. Among other occupations, engineers are viewed as fast track individuals who have great expectations and ambitions for their careers because of their specialised knowledge and expertise. This prolonged exposure to such job demands will result in strain (Taris, Schreurs, & Ven Iersel-Van Silfhout, 2001). Unfortunately, their goals and expectations are sometimes not aligned with those of the companies they work for. Consequently, they could develop health problems. Beaton, Murphy, Johnson, Pike, and Corneil (1999) viewed this scenario as the possibility of facing psychological well-being issues. Among the indicators of psychological well-being or distress are depression, fatigue, sleep disorders, and the use of drugs (Pelfrene, Kittel, Mark, Kornitzer, & De Backer, 2002).

For the engineers, they often do not have enough time to do their work well because of unmanageable workloads. The total number of hours that a person works can produce strain (Malan, 2004). Engineers are often required to work overtime, even over weekends. This could interfere with an engineer's home and personal life. In some fields of engineering, there is a continual need for safety; and in some cases the engineers themselves are legally responsible for that. A continued emphasis on the need for safety in a hazardous environment may constitute even a greater source of strain than the hazards themselves. Too much responsibility for other people's lives and safety are the major sources of psychological strain (Malan, 2004).

Research by Rothmann and Malan (2006) found that the engineers in South Africa experience work-life balance as the major stress in the job. Besides, role

conflict results from competing demands of work and family obligations. The stress work-life balance includes the fact that engineers feel that they have to work long hours. Most of the engineers also feel that they spend too much time travelling in their jobs. One reason for this finding is that most of the engineers are consultants and they travel a lot, which interferes with their home and personal lives. Work overload may be stressful if engineers have little control on that. According to Kareseks's (1997), work characteristics may suggest a different process. A high-job demand, which is work overload may exhaust employees' mental and physical resources and may therefore lead to health problems or burnout. This, in turn, could lead to withdrawal from work and reduced motivation or commitment. Another finding from the study revealed that job characteristics are also related to ill-health because engineers who experience their physical working conditions as unpleasant are more prone to ill-health. This is also true for people who experience their jobs as dull and repetitive. Engineers who work with difficult customers and clients could experience ill-health.

Results by Yip and Rowlinson (2009) conducted among the construction engineers in Hong Kong showed that burnout attributed largely to stress is associated with job conditions and working environment. Specifically, work overload and lack of promotion prospects are found to be the major predictors of job burnout among the engineers. However, long working hours, role conflict, role ambiguity, and lack of job security accounted mostly for the burnout among engineers. Similarly, among the civil engineers in Australia, the culture of long working hours has been linked to increase experience of marital type relationship conflict, poor psychological adjustment, and desire to find alternative employment (Lingard & Sublet, 2002). Most construction sites operate on a six-day week basis. The nature of the work is

also stressful, with tight deadlines and severe financial penalties if targets are not met. Working on small projects for small companies has been linked to an increased level of stress and anxiety (Lingard, 2003).

Research by Ranjit and Mahespriya (2012) revealed that the job demand of software engineers in India has a negative impact on the employee's physical and mental health. Their work tends to be high pressure and the software engineers are always struggling to meet unrealistic deadlines. As a result, these scenarios have created issues of suicides, divorces, ailments, and depression. Besides, the access to international travel and the ability to mingle with people from different cultures have also resulted in the deep isolation till late hours, no social life outside the family, no hobbies, and few vacations. There is also the loss of job security. Employees have to perform and deliver projects on time to retain their hold on their jobs. They also have to refresh their skills constantly, often under the pressure of an immediate deadline.

From the discussion and examples given in background of the study, the engineers around the world are facing a challenges that can jeopardize their individual well-being. The following section discussed about engineers in Malaysia, and the issue pertaining to individual well-being in the engineering profession in Malaysia are elaborated.

### **1.1.1 Engineers in Malaysia**

In Malaysia, the practice of engineers is regulated by the Registration of Engineers Act 1967 and the Registration of Engineers Regulations 1990. Under these Acts, the Board of Engineers Malaysia (BEM) was established with the following functions:

- (1) To keep and maintain the register of engineers in three parts:
  - a) professional engineers;
  - b) graduate engineers; and
  - c) temporary engineers;
- (2) To approve or reject applications for registration under the Act;
- (3) To cancel, remove or reinstate any names in the Register;
- (4) To fix the scale of fees to be charged to professional engineers;
- (5) To regulate the professional conduct and ethics of the engineering profession;
- (6) To hear and determine dispute relating to the professional conducts or ethics of engineers; and
- (7) Generally, to do necessary to carry out the provisions of the Act.

No one is allowed to practice, carry on business or to take up employment as an engineer, or to collect any fee, charge or remuneration for professional advice or services rendered as an engineer, unless he is registered with BEM as a professional engineer. An exception to this restriction is for registered graduated engineers to take up employment as engineers with the written approval of the BEM. The Act also provides that only registered professional engineers may submit plan, drawings, scheme, proposal, reports, designs or studies to any person or authority in Malaysia. Meanwhile, all foreign engineers who are registered with BEM are known as temporary engineers. Referring to BEM's website, the statistics of total engineers registered with BEM as of 6<sup>th</sup> September 2013 was 95,016. The breakdown of types of engineers are shown in Table 1.1.

Table 1.1  
*Statistics of total engineers registered with BEM*

No	Types of Engineers	Total	Percentage (%)
1.	Professional Engineers	11,108	12 %
2.	Graduate Engineers	83,897	88%
3.	Temporary Engineers	11	Less than 1%
<b>TOTAL</b>		<b>95,016</b>	<b>100%</b>

Adapted from: Board of Engineers Malaysia.  
<http://www.bem.org.my/v3/index.html>, accessed 6<sup>th</sup> September 2013.

The statistics shown in Table 1.1 shows that graduate engineers are found to be the largest cohort (88%), compared to professional engineers (12%) and temporary engineers (less than 1%). Although graduate engineers representing the largest cohort of the registered engineers with BEM, but they were not chosen as the respondents for this study. This is due to graduate engineers are just individuals who have obtained the academic qualifications to be registered as a graduate engineer with BEM, and may take up employment as engineers with the written approval of BEM. Their status is in contrast to the idea proposed by Hall (1976) about protean career orientation. According to Hall (1976), protean career orientation consists of all the person's verified experience in education, training, and working in several organisations, which includes changes in the occupational fields. Based on the above consideration, the research has been conducted among professional engineers only.

## 1.2 Problem Statement

“The nation's prosperity does not only depend on economic progress, but also the well-being of the employees” is a statement made by the Malaysian Prime Minister - Dato' Seri Mohd Najib Tun Abdul Razak (The 2014 Budget Speech). He further mentioned that ensuring the well-being of the employee is an important element in achieving Malaysia's economic and societal development objectives.

Better healthcare leads to more productive workforce (The Tenth Malaysia Plan 2011-2015). In this view, the Malaysian Well-Being Index (MWI, 2012) was developed, and the government will continue to formulate policies and strategies to improve the well-being of employees (The 2014 Budget Speech). In addition, RM264.2 million has been allocated to implement programmes and projects for the nation's well-being and national development under The 2014 Budget.

Realizing the important role of well-being, the Malaysian government has injected this element into almost all Malaysia's development plans such as The Government Transformation Plan (GTP), The 2014 Budget, The 2015 Budget, and The Tenth Malaysia Plan 2011-2015. For example, as stated in The Government Transformation Plan (GTP), the government is committed to increase the well-being of the police. The demands made by police personnel to reduce crime and to ensure public safety, the police performance must be supported by initiatives that enable them to live comfortable lives and perform their duties without fear or favour. Thus, an important way to achieve this is by improving their overall well-being. Some of the methods being considered include providing adequate houses and allowances (geography-based), arranging for counselling services, and offering potential insurance policies (e.g., life and disabilities insurance). All these initiatives are concerted efforts to support and protect their families. In addition, their career prospects will also be improved to motivate them to perform better. A sum of RM2.4 billion has been allocated for this programme during the Tenth Malaysia Plan 2011-2015 period.

Recently, under The 2015 Budget, the government continues with an effort to improve the well-being of the employees. The Malaysian Prime Minister - Dato' Seri

Mohd Najib Tun Abdul Razak, said in his budget speech that to safeguard the welfare of the employees, the Employment Act 1955 and related labour acts will be reviewed, to include better terms and conditions of employment, appointment and dismissal, flexible working arrangement, and terminations benefits. Additionally, the JobsMalaysia portal will be improved to meet the needs of an increasingly dynamic labour market. Interestingly, the government is also concerned with the well-being of women, particularly in terms of safety. As a result, the government will buy the premises for the Women Special Protection Homes in Eastern, Northern and Central zone (The 2015 Budget Speech).

Based on research, only a few studies that have been conducted in Malaysia tackling the well-being among professional groups. For example, Mahajar (2011) found that PTD officers in the government sector can live a healthy life and are able to balance in almost every aspect, provided that their psychological well-being is well taken care of. Another study by Panatik et al. (2012) suggested that it is important for the university to manage and protect the well-being of its academic staff to reduce their level of stress. This shows that studies on well-being are relatively new in Malaysia. As for the government, there is great emphasis on the employees' well-being. On the other hand, companies are still really not into the spirit. Therefore, safety for both physical and mental aspects is not part of the agendas of companies. As a result, the Department of Occupational Safety and Health (DOSH) recorded 2,813 occupational accidents in 10 sectors by December 2013. Those 10 sectors are: manufacturing; mining & quarrying; construction; agriculture, forestry, logging & fishing; utility; transport, storage & communication; wholesale & retail trade; hotel & restaurant; financial, insurance, real estate & business service; and public services & statutory bodies. From 2,813 records, 175

were fatal cases, 162 were permanent disability cases, and 2,476 were nonpermanent disability cases. Figure 1.1 shows the occupational accidents in 10 sectors as of December 2013 as reported by DOSH.

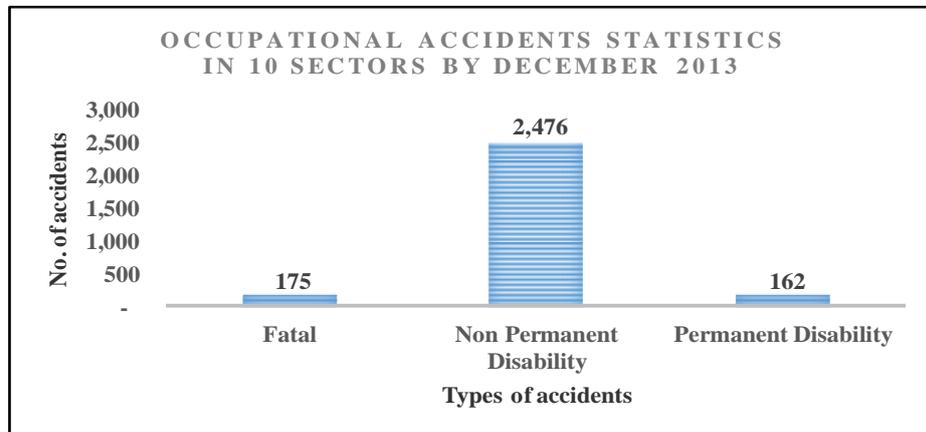


Figure 1.1. Occupational accidents in 10 sectors by December 2013. Adapted from Department of Occupational Safety and Health (DOSH).

Among the 10 sectors, the manufacturing sector recorded the highest number of occupational accidents at 59% with 1,655 cases, comprising 58 fatal cases, 128 permanent disability cases, and 1,469 nonpermanent disability cases. Figure 1.2 depicts the occupational accidents in the manufacturing sector as reported by DOSH.

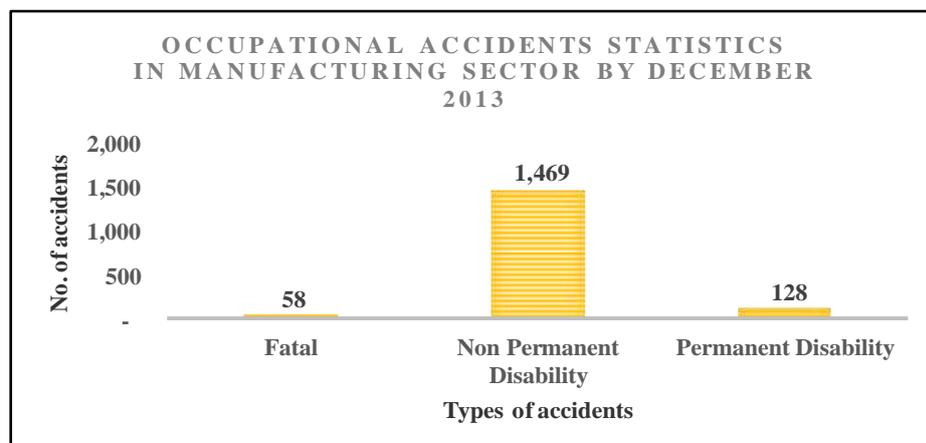


Figure 1.2. Occupational accidents in manufacturing sector as of December 2013. Adapted from Department of Occupational Safety and Health (DOSH).

Among the entire professional group, engineers are highly contributed to Malaysia's economy development. This is because they are the key players in many industries such as construction industry, manufacturing industry, and agriculture based-industry. Engineers add values through the use of appropriate technology and process (Malan, 2004). Table 1.2 represents the Gross Domestic Product (GDP) by sectors from 2012 to 2014, which underlines the significant contribution of construction industry, manufacturing industry, and agriculture based-industry to the GDP growth.

Table 1.2  
*Gross Domestic Product (GDP) by sectors 2012-2014 (at constant 2005 prices)*

Sectors	Change (%)			Share of GDP (%)			Contribution to GDP growth (percentage point)		
	2012	2013 <sup>1</sup>	2014 <sup>2</sup>	2012	2013 <sup>1</sup>	2014 <sup>2</sup>	2012	2013 <sup>1</sup>	2014 <sup>2</sup>
<b>Agriculture</b>	1.0	2.7	3.0	7.3	7.2	7.0	<b>0.1</b>	<b>0.2</b>	<b>0.2</b>
Mining	1.4	2.2	3.1	8.4	8.2	8.1	0.1	0.2	0.3
<b>Manufacturing</b>	4.8	3.2	3.8	24.9	24.5	24.2	<b>1.2</b>	<b>0.8</b>	<b>0.9</b>
<b>Construction</b>	18.1	10.6	9.6	3.5	3.7	3.9	<b>0.6</b>	<b>0.4</b>	<b>0.4</b>
Services	6.4	5.5	5.7	54.6	55.0	55.4	3.5	3.0	3.1
Add. Import duties	15.6	9.6	1.0	1.3	1.4	1.4	0.2	0.1	0.1
<b>GDP</b>	5.6	4.5-5.5	5.0-5.0	100.0	100.0	100.0	5.6	4.5-5.0	5.0-5.5

*Notes.* Adapted from Department of Statistics and Ministry of Finance, Malaysia, (2012).

Note that total may not add due to rounding.

<sup>1</sup> Estimate

<sup>2</sup> Forecast

Furthermore, engineering field will be the key engine to support the country's economic transformation goal (Kelly Services, 2012). In 2010, the government has made an investment of RM58 billion for the engineering field. National Key Economy Area (NKEA) targets 5% of annual growth of this investment from 2010 to 2020. This would deliver an estimated RM131 billion in Gross National Income (GNI), with an additional 52,300 new jobs, will be created. A significant proportion

of these jobs will be highly-skilled jobs with an estimated 21,000 jobs for qualified professionals such as engineers.

Cited by Abdull Rahman (2012), the contributions and the importance of engineers in Malaysia are summed up in the following remarks by the President of the Institution of Engineers Malaysia (IEM), Datuk Keizrul Abdullah. He has suggested that the role of engineers in Malaysia is undoubtedly very critical for the growth of Malaysia:

...Engineers were the nation builders. They literally made this country what it is today. Malaysia's poverty rate was 57 per cent during independence. Today, it has dropped tenfold to 5.7 per cent. Even back then, engineers were developing plantations and operating mines and dredges. They built roads, railways, and new townships. They brought electricity and clean water to towns and the countryside. These helped to improve the quality of life and reduce the poverty level. During industrialisation, engineers built factories and operated machinery. They expanded the national grid to meet the energy demands of industries. They strengthened highways, ports, and airports. Then, they helped to move the nation into the information era. Almost every aspect of modern Malaysia is due to the effort of engineers... (New Straits Times, 2008)

*Note.* Adapted from Abdull Rahman (2012).

This statement indicates that engineers are playing an important role in developing Malaysia's technological advancements. They also act as the key to wealth creation and they help the country become active players in the global economy (Abdull Rahman, 2012). However, the influence of engineers on the lives of people comes with a tremendous responsibility. All engineering works must be safe and beneficial to their users (Engineers in Nation Building, 2002). Oversights in the course of work or slips in professional conduct are equivalent to failure of duty, which can sadly result in tragic consequences. Indeed, there is usually a high price to

pay for the collapse of bridges and buildings, poorly-designed roads and vehicles, and faulty installations of electrical and mechanical equipment; lives are lost, victims maimed, and properties damaged often beyond repair (Engineers in Nation Building, 2002).

Regardless of being the key engine to support the country's economic transformation goal, Malaysian statistics of Human Resource Department's third quarter report (2008) indicated that the performance of engineers in the electronics sector has shown a drop of 20% to 25% (as compared with those of previous years) in their task and contextual performance. The task performances are product knowledge, product design knowledge, and the ability to ensure that all designs have considered inputs from various counterparts. Meanwhile, the contextual performances are time management, prompt decision making, being assertive, and human relations such as voluntary behaviours. Failure in meeting task performance has caused engineers' performance to drop significantly and eventually, resulted in deficiencies in the final product. Other consequences are delayed project completion and failure to meet customer deadlines and requirements (Mat Desa, 2009).

Furthermore, reasons of time, cost, and quality have always been the main factors considered ahead of safety. Many employers have not established comprehensive accident prevention policies, while they have maximized profits instead. Statistics showed that the accident rate in the Malaysian construction sector is high (Hamid, Majid, Zaimi, & Singh, 2008). For instance, in the construction sector, falling from high places is the number one accident type that contributed to the highest workplace fatalities (34%) from 2004 to 2009, followed by struck by falling objects (25%), and strike against or by objects (10%). These conditions

showed that the construction industry has failed to provide the condition known as physical safety, which affects both the employees' physical and their psychological well-being. Such an issue may constitute a significant problem if poor well-being is demonstrated to be associated with accidents, poor health and safety (Sang, Dainty, & Ison, 2004).

The situation becoming more critical when the survey conducted by Job Central Malaysia's Work Happiness Survey 2013 found that engineers, doctors and lawyers are the group of the unhappy workers in Malaysia (Boo Su-Lyn, 2014). This is due to dissatisfaction with advancement opportunities, work autonomy, and work demand. As protean careerist, the professional employees such as engineers, doctors and lawyers must be able to be their own career managers and keep themselves constantly equipped with new knowledge and skills that make them attractive to employers. Surprisingly, the findings indicated that the professional degree holders (including engineers, doctors and lawyers) scored work happiness rating at 53%, compared with higher rating given by preuniversity/STPM/A-Levels graduates, which was at 61%. The happiest workers were those earning the lowest from RM999 a month and below, ranking 53%, whereas those who recorded the poorest job satisfaction at 47% were people with monthly salaries of between RM8,000 and RM8,999. In addition, the findings revealed that advancement opportunities are considered as the most important factor in job satisfaction, as well as, acceptable work demands. Figure 1.3 and Figure 1.4 illustrate the work happiness score and job satisfaction score as reported by Job Central Malaysia in the work happiness survey, 2013, respectively.

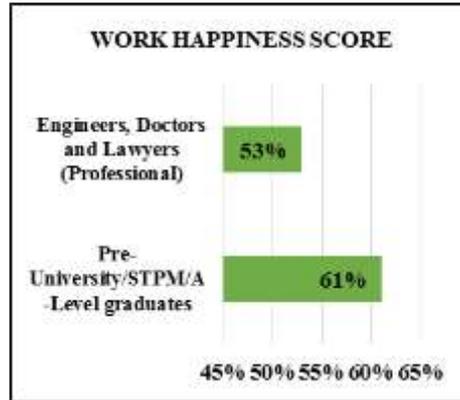


Figure 1.3. Work happiness score. Adapted from Job Central Malaysia (2013).

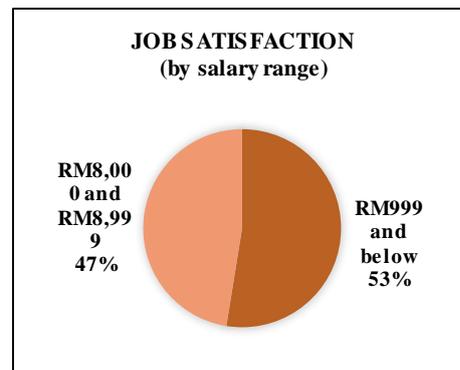


Figure 1.4. Job satisfaction score. Adapted from Job Central Malaysia (2013).

The above findings are in line with the opinion given by Ferrara (1998) in his study that the nature of work load, unorganised working hours, unmanaged work load, and other work-related factors decreased the level of engineers' well-being. This scenario would become worse if less attention is given to research on the engineer's individual well-being. In addition to catching up with technology, shortening design cycles, and computerising designs, engineers also have to cope with the demand that arises from the nature of their work, as well as increasing pressure to perform (Malan, 2004; Ferrara, 1998). To cater for their work, engineers

need to be equipped with ways to build and capitalise on their strength to maintain their excellent performance.

Engineers are fast-track individuals who have special knowledge and expertise. Thus, they have great expectations and ambitions for their career (Malan, 2004). This suits the definition of protean career orientation. Engineers are also known to be energetic in climbing their career ladder. Being protean careerists, they strive for psychological success. To achieve success, they set themselves challenging goals by engaging in proactive career management behaviours (Hall, 2002). These behavioural components are within the control of the individuals. Unfortunately, the combination of being visionaries, ambitious, having own goals and expectations are sometimes not aligned with those of the companies they are working for (Taris et al., 2001). Schaufeli and Bakker (2001) emphasized that if engineers struggle with the complexities of their jobs, they may experience their job as meaningless. For example, when engineers lack of opportunities to use their acquired skills or to develop their potential abilities to the full, they will be frustrated (Cooper et al., 2001). The lack of potential development may also lead to stress or even to burnout (Malan, 2004). The conflict between fulfilling the work demand structured by the organisation and being visionaries, ambitious, having own goals and expectations, all have an influence on the well-being of the engineers. Hence, this study intends to examine the impact of protean career orientation on the individual well-being among professional engineers in Malaysia. This study also aims to examine the mediating effect of proactive career management behaviours practiced by the professional engineers.

### **1.3 Research Questions (RQs)**

This study aims to investigate the impact of protean career orientation (self-directed and values-driven) on the individual well-being (career satisfaction and psychological well-being) mediated by proactive career management behaviours (career exploration, career goal development, and career strategy implementation) among professional engineers in Malaysia. Therefore, this study attempts to answer the following research questions:

RQ1: Does protean career orientation (self-directed and values-driven) influence proactive career management behaviours (career exploration, career goal development, and career strategy implementation) among professional engineers in Malaysia?

RQ2: Do proactive career management behaviours (career exploration, career goal development, and career strategy implementation) influence the individual well-being (career satisfaction and psychological well-being) among professional engineers in Malaysia?

RQ3: Does protean career orientation (self-directed and values-driven) influence the individual well-being (career satisfaction and psychological well-being) among professional engineers in Malaysia?

RQ4: Do proactive career management behaviours (career exploration, career goal development, and career strategy implementation) mediate the relationship between protean career orientation (self-directed and values-driven) and the individual well-being (career satisfaction and psychological well-being) among professional engineers in Malaysia?

#### **1.4 Research Objectives (ROs)**

The main objective of the study is to have a better understanding on the impact of protean career orientation (self-directed and values-driven) on the individual well-being (career satisfaction and psychological well-being) mediated by proactive career management behaviours (career exploration, career goal development, and career strategy implementation) among professional engineers in Malaysia. In so doing, the study will focus on the following research objectives:

RO1: To investigate the influence of protean career orientation (self-directed and values-driven) on proactive career management behaviours (career exploration, career goal development, and career strategy implementation) among professional engineers in Malaysia.

RO2: To investigate the influence of proactive career management behaviours (career exploration, career goal development, and career strategy implementation) on the individual well-being (career satisfaction and psychological well-being) among professional engineers in Malaysia.

RO3: To investigate the influence of protean career orientation (self-directed and values-driven) on the individual well-being (career satisfaction and psychological well-being) among professional engineers in Malaysia.

RO4: To investigate the mediating effect of proactive career management behaviours (career exploration, career goal development, and career strategy implementation) between protean career orientation (self-

directed and values-driven) and the individual well-being (career satisfaction and psychological well-being) among professional engineers in Malaysia.

## **1.5 Significance of the Study**

This study provides a significant contribution from the perspective of methodology, theoretical and practical levels, in the areas of protean career orientation and the individual well-being. Specifically, the contributions are:

### **1.5.1 Methodology Contribution**

The concept protean career orientation has become increasingly relevant as the economic and social pressures have led to changes in the psychological relationship between employers and employees (DiRenzo, 2010). DiRenzo (2010) added that whether by choice or out of necessity, individuals are currently experiencing greater career autonomy than at any time in the past, suggesting that a protean approach will offer tremendous benefits to individuals' work and personal lives. Although research on protean career orientation has a great impact on adding to our understanding of 21<sup>st</sup> century careers, DiRenzo (2010) has revealed that an empirical examination of its influence on individual career processes and outcomes has only just begun.

Up till now, the majority of the work pertaining to the protean career has been purely conceptual (DiRenzo, 2010). Much of the protean career research has taken a qualitative approach to understand how and why individuals develop a protean career orientation throughout their careers (Crowley-Henry, 2007; Crowley-Henry & Weir, 2007; Sargent & Domberger, 2007). In previous studies, there has been a lack of

empirical examinations of the consequences of protean career orientation (self-directed and values-driven) and the processes through which a protean career orientation may lead individuals to experience greater well-being. Furthermore, very little empirical work has actually tested the implications of the protean career towards individuals and organisations (DiRenzo, 2010).

Nevertheless, recent scholars have shifted their focus to the protean career orientation, which is characterized by the preference for a self-directed and values-driven career in the pursuit of career success (Colacoglu, 2005). This change has allowed research to nurture by focusing on the attitudes, thoughts, and the philosophy of protean career (DiRenzo, 2010). DiRenzo (2010) further stated that this mark is a turning point for researchers to empirically test the impact of protean career orientation towards individuals' work-related outcomes. Thus, this study intends to test the impact of protean career orientation on the individual well-being.

### **1.5.2 Theoretical Contributions**

First, the study examines the impact of protean career orientation on individual well-being among professional engineers in Malaysia. The study also aims to examine the mediating effect of proactive career management behaviours practiced by the professional engineers. From the theoretical perspective, this study enhances the understanding of the individual well-being by examining the specific forms of well-being among professional engineers in Malaysia, namely career satisfaction and psychological well-being. This work corroborates the views from the previous researchers such as Colacoglu (2005) and DiRenzo (2010) who have acknowledged the insufficiency of research with the combination of the selected individual well-being components.