EFFECT OF MONETARY MOTIVATION AND DEMOGRAPHIC FACTORS ON EMPLOYEE JOB SATISFACTION AND PERFORMANCE IN MALAYSIAN OIL AND GAS INDUSTRY

MAK ANAK MET

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ABSTRACT

Oil and gas industry in Malaysia is facing shortage of skilled workforce compounded by attrition of skilled employees. Hence, the need to increase employee motivation, job satisfaction and performance in order to attract, retain and motivate them in the organisation. While monetary reward has been used to increase employee job satisfaction and performance, extant literature provides scanty and divergent views on the effect of monetary motivation and moderating demographic factors on employee job satisfaction and performance in Malaysian oil and gas industry. Thus, this quantitative study investigated the effect of monetary motivation and moderating demographic factors (age, gender, education level, tenure and job level) on employee job satisfaction and performance in Malaysian oil and gas industry. Data were collected using self-administered 46-item survey questionnaire from 341 convenience sampled employees of the four selected companies in Malaysia. The Statistical Product and Service Solution version 21 was used to conduct data analysis. At the .05 level, the results of the general linear model univariate analysis of variance showed that there was a significant positive effect of monetary motivation on employee job satisfaction and performance. Age, gender and job level showed a significant moderating effect on the relationship between monetary motivation and employee job satisfaction while tenure showed a weak moderating effect. Tenure and job level have a significant moderating effect on the relationship between monetary motivation and employee job performance while age and education level showed a weak moderating effect. Managers and supervisors scored a significantly higher level of job satisfaction and performance than technicians. Recommendations for future research were also given.

APPROVAL PAGE

I hereby certify that I have supervised / read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in quality and scope, as a dissertation for the partial fulfilment of the requirements for the degree of Doctor of Business Administration.

.....

Adjunct Professor Dr Ibrahim Ali
Supervisor

.....

Assoc Professor Dr Azman Ismail
External Examiner 1

.....

Professor Dr Hj. Hazman Shah Abdullah
External Examiner 2

.....

Dr. Oo Yu Hock
Internal Examiner 1

.....

Professor Dr Siow Heng Loke
Chairman, Examination Committee

This dissertation was submitted to the School of Management, Asia e University and is accepted as partial fulfilment of the requirements for the degree of Doctor of Business Administration.

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Professor Dr Juhary Hj. Ali
Dean, School of Management

DECLARATION

I hereby declare that this dissertation, which is submitted in partial fulfilment of the requirements for the degree of Doctor of Business Administration is my own work and that all contributions from any other persons or sources are properly and duly cited. I further declare that the material has not been submitted either in whole or in part, for a degree at this or any other university. In making this declaration, I understand and acknowledge any breaches in this declaration constitute academic misconduct, which may result in my expulsion from the programme and/or exclusion from the award of the degree.

Name: Mak anak Met

Signature of Candidate: ..... Date: 14 May 2015

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CHAPTER 1—INTRODUCTION

This chapter contains eight sections. It presents a brief background of the study, problem statement, research purpose and objectives, research questions, research hypotheses, significance of the research, operational definitions of the main concepts and variables, and summary.

1.1. Background of the Study

This section provides background information about oil and gas (O&G) industry. Firstly, global industry outlook is outlined followed by outlook of the industry in Malaysia. Issues facing employees in Malaysian O&G industry are also provided in this section.

1.1.1. Global O&G Industry Outlook

Global O&G industry is growing rapidly to meet world energy demand, which is estimated to be approximately 800 exajoules per year (about 9.5 times energy demand in 2000 for North America) by 2050 (Shell International BV, 2008).

World energy demand increases as a result of population and economic growths especially in developing nations with population giants China and India leading the pack. World population is expected to reach over 9.5 billion by 2050 from just over 7.2 billion in 2013 with increases largely come from developing nations (from 5.9 billion in 2013 to 8.2 billion in 2050) while population of developed nations remains unchanged at 1.3 billion (United Nation, 2013). Consequently, developing nations account for more than 90% of net energy demand growth to 2035 (International Energy Agency, 2013). In short, increase in world energy demand is primarily driven by the need to propel economic growth in developing nations, where mankind strive to gratify their natural propensity to gather wealth in order to improve standard of living.

Industry experts have suggested a number of possible scenarios that attempt to forecast futuristic energy demand. For example, according to Shell International BV (2008), there are two possible scenarios of energy demand—the Scramble and Blueprint scenarios.

The Scramble scenario (Table 1) shows world energy demand based on the assumption that every nation drives its own energy agenda with focus on national energy security.

Table 1

World Energy Demand—Scramble Scenario

Source of Energy	Year					
	2000	2010	2020	2030	2040	2050
Oil	147	176	186	179	160	141
Gas	88	110	133	134	124	108
Coal	97	144	199	210	246	263
Nuclear	28	31	34	36	38	43
Biomass	44	48	59	92	106	131
Solar	0	0	2	26	62	94
Wind	0	2	9	18	27	36
Other Renewables	13	19	28	38	51	65
Total primary energy	417	531	650	734	815	880

Note. Figures are in exajoule per year. Adapted from Shell International BV (2008).

On the other hand, the Blueprint scenario (Table 2) depicts an energy scenario where nations would cooperate and converge into a common framework that aims to address energy demand in the most efficient and effective manner. In both scenarios, O&G is expected to provide a significant amount of approximately 30-50% of world energy demand.

In view of its significant role in providing energy for the world, O&G industry is growing strong spanning the entire value chain activities from upstream activities that involve exploration and production of hydrocarbon right to its downstream activities that involve refining and transporting petroleum products to end users.

Table 2

World Energy Demand—Blueprints Scenario

Source of Energy	Year					
	2000	2010	2020	2030	2040	2050
Oil	147	177	191	192	187	157
Gas	88	109	139	143	135	122
Coal	97	137	172	186	202	208
Nuclear	28	30	30	34	41	50
Biomass	44	50	52	59	54	57
Solar	0	1	7	22	42	74
Wind	0	1	9	17	28	39
Other Renewables	13	18	29	40	50	62
Total	417	523	629	693	739	769

Note. Figures are in exajoule per year. Adapted from Shell International BV (2008).

This strong growth is faced with a myriad of issues, among them, shortage of skilled workforce and escalating costs. Shortage of skilled workforce is largely due to heated labour market where demand outstrips supply. Escalating costs is primarily attributable to, among others, manpower cost. Manpower cost continues to escalate as companies continue to compete for scarce workforce by increasing monetary reward in order to attract, motivate and retain skilled workforce. Typically, manpower cost accounts for about 40% of total operating cost in manufacturing organisation, and as high as over 70% in service organisation (Lawler, 1983, p. 4)

while Campbell (2007, p. 39) noted that component rewards make up about 80% of an organisation's total operating costs.

Having the right level of skilled and motivated workforce is essential for O&G companies to operate and maintain complex technologies and sophisticated equipment and facilities. And because the industry is facing shortage of skilled workforce, companies are poaching from each other by leveraging their deep pocket, that is, they are willing to pay more money to attract, motivate and retain skilled workforce. This practice is not sustainable especially for developing countries such as Malaysia where the majority of skilled professionals and semi-professionals are always on the lookout for job opportunities that entice them with lucrative economic offering. Unfortunately, such job opportunities are generally available outside Malaysia—a situation that would only aggravate the shortage of skilled workforce in the O&G industry in Malaysia.

1.1.2. Malaysia O&G Industry Outlook

O&G industry in Malaysia started way back in 1910 when the first oil was discovered in Miri, Sarawak. Under the Petroleum Development Act 1974, Petroliam Nasional Berhad (PETRONAS) was formed on 6th September, 1974 by the Malaysian Government. PETRONAS acts as the sole regulator and the licensing authority for the Malaysian upstream O&G industry. On behalf of the Malaysian Government, PETRONAS is authorised to award the license to eligible companies for the exploration and production of O&G typically under the Production Sharing Contract (PSC).

Currently, there are over ten international and local companies (e.g., Shell, Exxon, Hess, Talisman, Nippon, Murphy, Carigali) that are actively participating in the exploration and production of O&G under the PSC terms and conditions. These

companies are called PSC Operators. There are also several major contractor and services companies (e.g., Schlumberger, Halliburton, Baker Hughes, Technip, Petrofac, Aker Solutions, Dayang Enterprise, Petra Resources) that provide technical services to the PSC Operators. A comprehensive list of O&G companies in Malaysia is given in Appendix A.

Since its inception in Malaysia over a century ago, O&G industry has contributed tremendously to the development of Malaysian economy. The industry is still growing to meet national energy demand, which is estimated to grow up to 98 million tonnes oil equivalent by 2020, that is, 34% increase compare to consumption in 2010 (Siu & Adams, 2012). According to TalentCorp's (2012) report, Malaysia's proven oil reserves of 5.8 billion barrel (about 0.4% of the world proven oil reserves) is predicted to decline to 4.9 billion barrel by 2016. However, new oil discoveries in early 2000s by Talisman, Shell, and Murphy in the Malay Basin (offshore Terengganu), deepwater Gumusut and Kikeh (offshore Sabah) respectively will extenuate oil reserves decline. The national oil production of an estimated average 651,700 barrel per day (bpd) in 2010 is expected to rise over the medium term attributable to the development of new fields and supplemented by additional production from applications of enhanced oil recovery technology. Table 3 shows Malaysia's O&G production, consumption and exports from 2009 to 2015.

The report (Talentcorp, 2012) also predicted that Malaysia's natural gas reserves would stabilise around 2,397 billion cubic metre (bcm), representing 1.3% of the world's natural gas, over the near term albeit steady increase in natural gas production from 61 bcm in 2010 to 72 bcm in 2015 (Table 3). This scenario represents a continuing growth in Malaysia's natural gas production supported by exploration and production activity in the Malaysia-Thailand Joint Development

Area (located in the lower part of the Gulf of Thailand) and at offshore Sarawak waters. In terms of export, natural gas is exported in the form of liquefied natural gas (LNG) to long-term customers primarily to Japan, South Korea, and Taiwan. Currently, Malaysia supplies approximately 13% of world LNG exports and this level is likely to be, at the least, maintained owing to extensive expansion of LNG facilities in Bintulu and the construction of new LNG facility in Melaka.

Table 3

Oil and Gas Production and Consumption in Malaysia

Details / Year	2009	2010	2011*	2012*	2013*	2014*	2015*
Oil production ('000 bpd)	679.9	651.7	632.2	632.2	663.2	743.3	786.0
Oil consumption ('000 bpd)	525.3	523.9	538.2	547.2	564.7	581.6	599.0
Refining capacity ('000 bpd)	514.8	514.8	514.8	514.8	514.8	514.8	514.8
Gas production (bcm)	60.4	61.0	62.8	64.0	65.5	68.0	72.0
Gas consumption (bcm)	31.1	32.4	34.6	36.2	38.2	40.0	41.8
Gas exports (bcm)	29.3	28.6	28.1	27.8	27.3	28.0	30.2

Note. * Forecasted value. Adapted from TalentCorp (2012).

Indubitably, O&G industry plays a significant role in fuelling Malaysian economy. It is one of the 12 National Key Economic Areas (NKEAs) under the Economic Transformation Programme (ETP). ETP is Malaysia's roadmap towards becoming a high-income nation by the year 2020 (Pemandu, n.d.). Under the ETP, production of O&G in Malaysia is envisaged to grow to meet the increasing energy consumption in Malaysia (Table 4).

The material contributions and importance of O&G industry to Malaysian economy has been reported in a number reports. For example, the Minister in the Prime Minister's Department and the CEO of Performance Management and Delivery Unit (Pemandu), Dato Seri Idris Jala (2012) reported that O&G contributes 20% of Malaysia Gross Domestic Product and in terms of revenue to the

Government, the national oil corporation PETRONAS accounts for about 40% of tax revenue.

Table 4

Malaysia Energy Consumption versus International

Year	2010	2011	2012	2013	2014	2015	2016	2020
Malaysia	73	74	76	78	80	83	87	98
US	2,216	2,209	2,216	2,246	2,266	2,284	2,305	2,383
China	2,417	2,596	2,694	2,837	2,977	3,120	3,268	3,841
India	693	732	764	803	845	891	936	1,135
Russia	702	717	734	750	767	788	807	904
Japan	497	484	491	511	532	547	558	590
Germany	327	325	328	331	334	335	338	346
World aggregate	11,654	11,950	12,277	12,641	12,905	13,285	13,685	15,311

Note. Figures are in million tonnes oil equivalent. Adapted from Siu & Adams (2012).

Siu and Adams (2012) reported that O&G makes up around 75% of the energy sources for Malaysia (Table 5) and contributes approximately 20% of total export earnings. TalentCorp (2012) noted that O&G and energy NKEA was expected to achieve an annual growth of 5% from 2010 to 2020 hence, generating RM131.4 billion gross national income and creating 52,300 new jobs. And most recently, the Prime Minister of Malaysia, Dato' Seri Najib stated that 40% of the government's revenue comes from O&G ("GST needed," 2014).

In short, O&G industry in Malaysia is growing, at least in the medium term, to live up to the expectation as one of the primary drivers for the ETP. Integrated efforts from both the government and corporate players are being harnessed to maximise the gains that come directly from the sales of O&G products and the multipliers effects that results from indirect or ancillary activities associated with O&G. Ensuring employees are motivated and rightly skilled is one of the integrated

efforts that O&G companies are expected to deliver in order to demonstrate their role as a responsible corporate citizen to the government and good business steward to the shareholders.

Furthermore, it is essential that O&G companies take every measure to ensure a safe and reliable production of O&G otherwise their revenue will be adversely impacted and collectively the ETP will be jeopardised. And employee motivation, job satisfaction and performance are among the key measures that link to safe and reliable production. Safe and reliable production means O&G is produced without unplanned interruptions and in full compliance with safety and environmental requirements.

Table 5

Energy Sources to Meet Malaysia Consumption

Year	2010	2011	2012	2013	2014	2015	2016	2020
Total energy	72,645	73,682	75,552	78,193	80,327	82,962	87,075	97,915
Oil & Gas	54,087	56,059	57,432	59,044	60,607	62,243	64,600	71,614
Coal	14,601	13,553	13,887	14,596	14,993	15,405	16,959	19,468
Hydro	557	557	557	812	812	1,192	1,308	1,741
Solar/wind/other	0	0	0	0	1	1	1	2
Renewable & waste	3,414	3,490	3,569	3,650	3,735	3,824	3,916	4,312
Electricity (import)	-13	23	106	90	178	297	291	778

Note. Figures are in kilo tonnes oil equivalent. Adapted from Siu & Adams (2012).

1.1.3. Issues Facing Employees in Malaysian O&G Industry

The production of O&G in Malaysia is faced with multitudinous issues, which include: 1) Seemingly low level of job and pay satisfaction among employees working at offshore production facilities as revealed from the interviews between the researcher and human resource managers and the consistently low scores in job and pay satisfaction in the annual employee opinion surveys of one of the selected

companies in this study; 2) poor perception of O&G career associated with slow growth, poor work-life balance, prolonged period away from home, nasty weather conditions at the workplace, and unstable employment subsequent to the mass lay-offs in the mid-nineties (TalentCorp, 2012); 3) shortage of skilled workforce in both professionals (e.g., engineers) and semi-professionals (e.g., technicians) categories compounded by continued poaching from other countries (primarily Singapore, Australia, Brunei, Qatar, Abu Dhabi, Oman and Dubai) that offer lucrative remunerations and better work conditions (TalentCorp, 2012); 4) ageing facilities with over 30 years old that require intensive attention and surveillance (Zakaria, 2013); and 5) the need to acquire new skills that are required to operate and maintain complex equipment associated with new technology which is imperative for enhancing O&G production.

The aforementioned issues resonate with the top three issues quoted by O&G companies that participated in the survey conducted by TalentCorp (2012). The top three issues were: 89% of the participating companies ranked "Greater competition from the global marketplace" as their top issue, while "increasing remuneration costs due to widespread employee poaching within the industry" was ranked second with 72% score, and their third ranked top issue (44%) was "relatively slow career progression rate".

Motivation of employees is central to the solution to address those issues because companies need motivated employees to step into the gaps resulted from shortage of skilled manpower, stay in their organisation, be extra vigilant and committed in the operation and maintenance of ageing facilities, be self-driven to learn and apply new technology, and pursue continuous performance improvement. Lack of motivation among employees may lead to a number of undesirable outcomes