



UNIVERSITI PUTRA MALAYSIA

**JOB MOTIVATION AMONG RESEARCHERS
IN MALAYSIAN INSTITUTE For
NUCLEAR TECHNOLOGY RESEARCH (MINT)**

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**MASTER OF SCIENCE
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By

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GLOSSARY

1. **Research officer or Scientific personnel, or researchers:** For the purpose of this study, this includes the scientists and engineers working in MINT. It may be argued that there are significant differences between research scientists, such as biologists, chemists, or physical scientists. However, the observation and issues reported in this study apply to all those scientists and engineers unless otherwise specified. While the importance of the contribution of technologists and technicians to science and technology activities are recognised and acknowledged, that some of the identified problems may also apply to them, they are not included in the scope of this study.
2. **MINT:** Malaysian Institute for Nuclear Technology Research.
3. **Organisation:** The most conservative components of a system which, however under certain conditions can be restructured within a very short time – this is the kind of event that the theory of catastrophe also studies.
4. **Measurement:** The process of assigning numbers or labels to units of analysis in order to represent conceptual properties (Singleton et al., 1988:97).
5. **PORIM:** Palm Oil Research Institute Malaysia.
6. **UKM:** University Kebangsaan Malaysia (National University Malaysia)
7. **UNDP:** United Nation Development Programme
8. **PUSPATI:** Pusat Penyelidikan Atom Tun Dr. Ismail
9. **AELB:** Atomic Energy Licensing Board
10. **IAEA:** International Atomic Energy Agency
11. **IRPA:** Intensification in Research Priority Areas
12. **UTN:** Unit Tenaga Nuklear
13. **MOSTE:** Ministry of Science, Technology and Environment



ABSTRACT

JOB MOTIVATION AMONG RESEARCHERS IN MALAYSIAN INSTITUTE for NUCLEAR TECHNOLOGY RESEARCH (MINT)

By

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November 1997

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The purpose of the study was to determine the level of job motivation among researchers in the Malaysian Institute for Nuclear Technology Research (MINT) using the framework of Herzberg's Two-Factor Theory. The specific objectives were to determine: (a) the extrinsic motivation of researchers using variables in the hygiene factor, and (b) the intrinsic motivation of researchers using variables in the motivator factor.

For the purpose of the study, research officers who had been working for at least three years with MINT were selected. The variables were operationalised and measured using Herzberg's definitions in the Two-Factor Theory. The items for the variables were derived from instruments used in previous studies conducted by Moses, (1997).



Data were collected through personal interviews. Eighty-five respondents were selected for this study.

The data collected were analysed using Statistical Package for Social Science (SPSS). Measures of central tendencies and frequencies were employed in the analysis. The reliability coefficients of the variables, using Cronbach's Alpha, ranged from 0.72 to 0.97.

Demographically, the majority of the respondents were married (98 percent married), males (82 percent), above thirty-five years old (72 percent), had more than seventeen years of formal education (54 % held Masters degrees and about 38 % held Doctorate degrees), and had been working with MINT for more than 10 years (75 %). There were more males than females holding supervisory positions; the ratio was 10:1.

In response to the first objective of the study, which was to determine the extrinsic motivation of researchers using the variables of the hygiene factor, the study found that the overall extrinsic motivation of MINT researchers was moderate. The mean score for the overall hygiene factors was 4.6 out of a total of 7.0 with a standard deviation of 1.3.

The second objective was to determine the intrinsic motivation of MINT researchers using the variables of the motivator factor, the study found that the overall intrinsic motivation of the researchers was moderate. The mean score for the overall motivator factors was 4.5 out of a total of 7.0 with a standard deviation of 1.3.

There were eight variables in the hygiene factor. “Interpersonal relations with peers” and “job security” had the highest scores with 5.3 and 5.2 respectively. “MINT policy and administration” had the lowest mean score (3.8) among the eight variables in the hygiene factor.

There were six variables in the motivator factor. The highest mean score in the motivator factors was “work itself” and the lowest mean score was “advancement”.

Overall, the scores of the hygiene and motivator factors were moderate (mean score 4.5). A single item measure on job satisfaction gave a mean score of 4.5 and a standard deviation of 1.2. This value was almost identical with the mean score of the motivator factors. The findings tend to suggest that the overall job motivation of MINT researchers was moderate and it could be implied that the overall job satisfaction was also moderate.



ABSTRAK

MOTIVASI KERJA DIKALANGAN PENYELIDIK DI INSTITUT PENYELIDIKAN TEKNOLOGY NUKLEAR MALAYSIA(MINT).

Oleh

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Motivasi kerja merupakan satu faktor penting untuk sesebuah organisasi dalam pengurusan dan peningkatan prestasi pekerja. Ianya juga sebagai pengukur keberkesanan pekerja di dalam sesebuah organisasi disamping implikasinya terhadap tingkahlaku pekerja di tempat kerja.

Kajian ini bertujuan mengukur tahap motivasi kerja dikalangan penyelidik di Institut Penyelidikan Nuklear Malaysia (MINT) dengan menggunakan Teori Dua-Faktor Herzberg.. Objektif khusus kajian ialah mengukur: a) tahap motivasi kerja ekstrinsik pegawai penyelidik di MINT dengan menggunakan faktor-faktor hygiene, dan (b) tahap motivasi kerja intrinsik dengan menggunakan faktor-faktor “motivator”.

Untuk tujuan kajian ini, hanya pegawai penyelidik yang telah berkhidmat lebih dari tiga tahun dipilih sebagai responden. Motivasi kerja diukur menggunakan faktor-faktor yang telah didefinisikan oleh Herzberg di dalam Teori Dua-Faktor

tersebut. Alat pengukur yang digunakan untuk mengukur faktor-faktor ini terhasil berdasarkan alat pengukur yang pernah digunakan dalam kajian terdahulu oleh Moses, (1997). Borang soalselidik telah diedarkan sendiri oleh penulis kepada 100 orang pegawai penyelidik di MINT di mana borang soalselidik dari 85 responden telah digunakan untuk tujuan kajian.

Data yang dikumpulkan telah dianalisa menggunakan program komputer SPSS untuk mengukur min, s.d. dan frekuensi. Nilai Alpha Cronbach's yang didapati ialah di antara 0.87 hingga 0.97.

Demografi responden adalah seperti berikut: kebanyakan responden telah berkahwin (98 %), lelaki (83%), mendapat lebih 17 tahun pembelajaran formal (54% mempunyai ijazah sarjana dan 38 % mempunyai doktor falsafah), dan telah berkhidmat melebihi 10 tahun (75%).

Untuk menjawab objektif pertama, iaitu mengukur tahap motivasi kerja ekstrinsik pegawai penyelidik MINT menggunakan faktor "hygiene", didapati secara keseluruhannya, motivasi kerja ekstrinsik dikalangan penyelidik MINT adalah di tahap sederhana. Min keseluruhan yang didapati ialah 4.6 dari skala Likert 7.0 hingga 1.0.

Untuk objektif kedua, hasil kajian menunjukkan motivasi kerja intrinsik pegawai pnyelidik MINT menggunakan faktor "motivator" adalah di tahap sederhana. Min keseluruhan yang didapati ialah 4.5 dari skala Likert 7.0 hingga 1.0.

Terdapat lapan sub-faktor di dalam faktor "hygiene". Dari lapan sub-faktor ini, sub-faktor "interpersonal relations with peers" dan "job security" mencapai min