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**KEUTAMAAN KRITERIA PENGURUSAN RISIKO
DALAM RANTAIAN BEKALAN
KILANG KELAPA SAWIT: PENDEKATAN AHP**



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**KEUTAMAAN KRITERIA PENGURUSAN RISIKO DALAM
RANTAIAN BEKALAN KILANG KELAPA SAWIT:
PENDEKATAN AHP**



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untuk Memenuhi Keperluan bagi Ijazah Sarjana Sains.**



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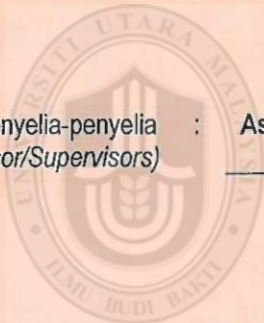
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KEBENARAN MERUJUK

Tesis ini dikemukakan sebagai memenuhi keperluan pengurniaan Ijazah Sarjana Sains daripada Universiti Utara Malaysia (UUM). Saya dengan ini bersetuju membenarkan pihak perpustakaan Universiti Utara Malaysia mempamerkannya sebagai bahan rujukan umum. Saya juga bersetuju bahawa sebarang bentuk salinan sama ada secara keseluruhan atau sebahagian daripada tesis ini untuk tujuan akademik perlulah mendapat kebenaran daripada Penyelia Tesis atau Dekan Othman Yeop Abdullah Graduate School of Business terlebih dahulu. Sebarang bentuk salinan dan cetakan bagi tujuan komersial adalah dilarang sama sekali tanpa kebenaran bertulis daripada penyelidik. Pernyataan rujukan kepada penyelidik dan Universiti Utara Malaysia perlulah dinyatakan jika rujukan terhadap tesis ini dilakukan.

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ABSTRAK

Kajian ini menghuraikan tujuh komponen risiko yang wujud di sepanjang rantaian bekalan Kilang Minyak Kelapa Sawit (KMKS) iaitu Risiko Permintaan (RP), Risiko Inventori (RI), Risiko Bekalan (RB), Risiko Persekitaran (RS), Risiko Pengangkutan (RA), Risiko Kelewatan (RK) dan Risiko Tenaga Kerja (RT) yang masing-masing mempunyai elemen yang tersendiri. Sebanyak 21 unit KMKS di daerah Lahad Datu, Sabah dipilih sebagai responden kajian. Industri Minyak Kelapa Sawit (IMKS) dipilih memandangkan IMKS merupakan antara penyumbang utama kepada keluaran dalam negara kasar (KDNK). Kebanyakan kajian lepas berkenaan IMKS lebih memfokuskan kajian kepada kebolehsaingan, kemapanan serta halangan dalam pengeluaran. Namun, terlalu sedikit kajian yang memfokuskan kepada risiko utama yang perlu diberi perhatian dalam pengurusan rantaian bekalan KMKS. Kaedah temu ramah secara bersemuka pada peringkat awal dijalankan untuk mendapatkan maklumat berkenaan risiko dalam rantaian bekalan kilang. Seterusnya disusuli dengan pengedaran soalan soal selidik bagi mendapatkan data yang lebih terperinci untuk tujuan analisis. Kajian seterusnya mengaplikasi kaedah Saaty yang dikenali sebagai Proses Analisis Hierarki (AHP) bagi mengukur pemberat komponen risiko. Selain itu, penggunaan AHP juga dirujuk sebagai penunjuk kepada tahap kepentingan risiko di dalam rantaian bekalan KMKS. Hasil analisis mendapati KMKS perlu memberi keutamaan terhadap komponen risiko RP kerana risiko ini mencatatkan nilai paling tinggi berbanding risiko-risiko yang lain. Hal ini diikuti oleh risiko RI, RB, RS, RT, RA dan akhir sekali RK. Secara keseluruhannya, kajian ini dapat membantu pihak kilang dalam mengenal pasti risiko yang paling penting dan perlu ditangani terlebih dahulu bagi mengelakkan sebarang masalah di sepanjang proses rantaian bekalan KMKS.

Kata kunci: rantaian bekalan, pengurusan risiko, industri minyak sawit, model konseptual, kaedah *Proses Analisis Hierarki* (AHP).

ABSTRACT

This study describes the seven components of the inherent risks that exist along the Palm Oil Plant (KMKS) supply chains, which are the Demand Risk (RP), Inventory Risk (RI), Supply Risk (RB), Environmental Risk (RS), Transportation Risk (RA), Delay Risk (RK) and Manpower Risk (RT), in which each has its own elements. 21 units of KMKS in Lahad Datu, Sabah, were selected to participate in this study. The Palm Oil Industry (IMKS) was chosen because it is the major contributor to KDNK. Most past research concerning IMKS focused on competitiveness, sustainability and obstacles in production. However, there is very little study that focused on the main risks which require more attention in the KMKS supply chain management. Face to face interviews were conducted in the early stages to get information about the risks in the supply chain of the plant. It was then followed by the distribution of questionnaires to obtain more detailed data for analysis purposes. This study applied the Saaty method called Analytical Hierarchy Process (AHP) for measuring the risk weighting components. In addition, the use of AHP was also referred to as an indicator of the level of interest risk in the KMKS supply chain. The analysis shows that KMKS should give priority to the RP component because this risk has the highest value compared to other risks. This is followed by RI, RB, RS, RT, RA and lastly RK. Overall, this study will help the plant in identifying the most important risk that needs to be addressed in advance to avoid any problems along the KMKS supply chain process.

Keywords: supply chain, risk management, palm oil industry, conceptual model, Analytic Hierarchy Process (AHP) method.

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SENARAI SINGKATAN

Singkatan	Penerangan
AHP	Proses Analisis Hierarki
CE	Kejuruteraan Serentak
CI	Indeks Konsistensi
CPKO	Minyak Isirong Sawit Mentah
CR @ NK	Nisbah Konsistensi
CSF	Faktor Kejayaan Kritikal
DM	Pembuat Keputusan
FELDA	Lembaga Kemajuan Tanah Persekutuan
FFB	Fresh Fruit Bunches
FTA	Perjanjian Perdagangan Bebas
HAZOP	Hazard and Operability Analysis
IMKS	Industri Minyak Kelapa Sawit
IRT	Item Response Theory
KDNK	Keluaran Dalam Negara Kasar
KMKS	Kilang Minyak Kelapa Sawit
KPI	Petunjuk Prestasi Utama
MARDI	Institut Penyelidikan dan Pembangunan Pertanian Malaysia
MPb	Matrik Perbandingan Berpasangan
MPOB	Lembaga Minyak Sawit Malaysia
MSM	Minyak Sawit Mentah
NKEA	Bidang Keberhasilan Utama Ekonomi
Pb	Perbandingan Berpasangan
PNK	Pengeluaran Negara Kasar
POIC	Palm Oil Industrial Cluster
PORIM	Institut Penyelidikan Minyak Sawit Malaysia
PRB	Pengurusan Rantaian Bekalan
R & D	Penyelidikan dan Pembangunan
RA	Risiko Pengangkutan
RB	Risiko Bekalan
RI	Indeks Rawak
RI	Risiko Inventori
RK	Risiko Kelewatan
RP	Risiko Permintaan
RS	Risiko Persekitaran
RT	Risiko Tenaga Kerja
SMART	Specific, Measurable, Attainable, Realistic, Time-sensitive
TBS	Tandan Buah Segar
VaR	Nilai-pada-Risiko

BAB 1

PENGENALAN KAJIAN

1.1 Pengenalan

Bab ini membincangkan pengenalan kepada kajian yang terdiri daripada enam seksyen. Seksyen yang pertama adalah pengenalan diikuti dengan seksyen kedua latar belakang kajian. Seterusnya, seksyen ketiga membincangkan mengenai metodologi serta reka bentuk kajian bagi kajian ini. Manakala ulasan lebih terperinci mengenai pendekatan *Analytic Hierarchy Process* (AHP) akan dibincangkan dalam seksyen keempat serta analisis data dan hasil penyelidikan akan dibincangkan dalam seksyen lima. Seterusnya diakhiri dengan seksyen keenam iaitu ulasan secara keseluruhan mengenai kajian dan cadangan untuk penyelidikan masa hadapan.

1.2 Latar Belakang Kajian

Kelapa sawit atau nama saintifiknya *Elaeis Guinensis* merupakan tumbuhan semula jadi di Afrika barat. Hasil minyaknya merupakan salah satu daripada 17 jenis minyak sayuran dan lemak dunia (Shamsuritawati, 2002). Pada masa kini, tanaman kelapa sawit paling popular di kalangan Negara-negara pengeluar minyak kelapa sawit dunia seperti Indonesia, Malaysia, Thailand dan beberapa Negara di Afrika. Pokok kelapa sawit di tanam dengan variety yang disyorkan oleh Lembaga Minyak Sawit Malaysia

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