

DRIVERS OF PRODUCTIVITY AMONG OIL PALM PLANTATION WORKERS IN SABAH



FOO KET TSIN

UMS
UNIVERSITI MALAYSIA SABAH

**SCHOOL OF BUSINESS AND ECONOMIC
UNIVERSITI MALAYSIA SABAH
2007**

DRIVERS OF PRODUCTIVITY AMONG OIL PALM PLANTATION WORKERS IN SABAH

FOO KET TSIN



**A dissertation submitted in partial fulfillment of
the requirements for the degree of Masters of
Business Administration (MBA)**

**SCHOOL OF BUSINESS AND ECONOMICS
UNIVERSITI MALAYSIA SABAH
2007**

UNIVERSITI MALAYSIA SABAH

BORANG PENGESAHAN STATUS TESIS

**JUDUL : PENILAIAN KEBERKESANAN PENGURANGAN
KEMISKINAN DI KALANGAN PESERTA AMANAH IKTIAR
MALAYSIA DI DAERAH KOTA KINABALU, PANTAI BARAT SABAH.**

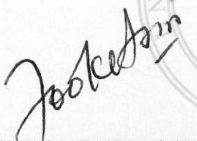
**IJAZAH : SARJANA EKONOMI (PERANCANGAN DAN
PEMBANGUNAN)**

SESI PENGAJIAN : 2004 – 2007

Saya, FOO KET TSIN mengaku membenarkan tesis Sarjana ini disimpan di Perpustakaan Universiti Malaysia Sabah dengan syarat-syarat kegunaan seperti berikut :

1. Tesis adalah hakmilik Universiti Malaysia Sabah.
2. Perpustakaan Universiti Malaysia Sabah dibenarkan membuat salinan untuk tujuan pengajian saya.
3. Perpustakaan dibenarkan membuat salinan tesis ini sebagai bahan pertukaran antara institusi pengajian tinggi.
4. TIDAK TERHAD.

Disahkan oleh



(Penulis : FOO KET TSIN)

Alamat :



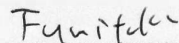
ANITA BINTI ARSAD
PUSTAKAWAN KANAN
UNIVERSITI MALAYSIA SABAH

(TANDATANGAN PERPUSTAKAWAN)



(Penyelia : Dr. Kalsom Abdul Wahab)

Tarikh : 23 Nov 2007



(Penyelia : Dr. Fumitaka Furuoka)

Tarikh : 10 Dec 2007

Tarikh : 2007

CATATAN : Tesis dimaksudkan sebagai tesis Ijazah Doktor Falsafah dan Sarjana secara penyelidikan atau disertasi bagi pengajian secara kerja kursus dan penyelidikan, atau laporan Projek Sarjana Muda (LPSM).

ACKNOWLEDGMENTS

First of all, I would like to thank my first and second supervisor, Dr. Kalsom Abdul Wahab and Dr. Fumitaka Furuoka for all their advices, comments and guidelines, which I would not able to complete the project within such a short period of time. Not forgetting also to all MBA lecturers; Dr. Kassim Mansur, Prof. Dr. Syed Azizi Syed Wafa, Dr. James Mohd Alin, Assoc. Prof. Dr. Roselina Ahmad Saufi, Dr Jennifer Chan Kim Lian, Madam Sharija Che Shaari and all other lecturers for their endless efforts in imparting their knowledge to me from the very beginning until the completion of this course. I would like also to thank to those estate managers; especially, Mr. K. Arunagirinathan, Encik Hapiniah Osman, Mr. Chiew Su Min and Mr. Chan Shau Lun, and many others for their helps in the delivery of my research questionnaires. Besides, I would like to thank, especially, my wife, my three children and fellow colleagues for their full understanding and co-operation during my critical period of project study. Lastly, to my classmates, I would like to thank you all for your friendships, supports and funs during my four semesters with you.



UMS
UNIVERSITI MALAYSIA SABAH

DECLARATION

The materials in the dissertation are original except for quotations excerpts, summaries and references, which have been duly acknowledged.

Foo Ket Tsin
PS04-002(K)-0125
Date : 29th June 2007



UMS
UNIVERSITI MALAYSIA SABAH

ABSTRACT

The purpose of this study was aimed to investigate factors that affect labor productivity in the oil palm industry in Sabah. Four category of factors were put into investigation, whereby, from the feedback of data of 200 respondents that served as plantation management personnel in the oil palm industry revealed that economic factors were the most important determinant on influencing labor productivity in oil palm plantation, next in importance was the organizational factor, followed by socio-psychological factor and physical factor. All the first three variables were proven to possess significant relationships with labor productivity, however, physical factor had non-significant relationship with labor productivity.



UMS
UNIVERSITI MALAYSIA SABAH

ABSTRAK

Faktor-Faktor Menberi Kesan Kepada Pekerja-pekerja Di Ladang Kelapa Sawit Di Sabah

Kajian ini bertujuan untuk mengenalpasti faktor faktor yang akan memberi kesan terhadap produktiviti pekerja dalam industri kelapa sawit di Sabah. Terdapat empat kategori yang diambil kira dalam kajian ini berdasarkan maklum balas daripada borang soal selidik yang diedarkan. Semua 200 orang terlibat sebagai "respondent" yang terdiri daripada kakitangan pengurusan perladangan. Hasil daripada kajian ini menunjukkan bahawa faktor ekonomi adalah faktor yang paling penting yang mempengaruhi produktiviti pekerja dalam peladangan kelapa sawit, di ikuti oleh faktor organisasi, sosio-psikologikal dan fizikal. Tiga faktor yang pertama telah memberi kesan yang signifikan dengan produktiviti pekerja dalam ujian kajian yang dibuat tetapi sebaliknya berlaku pada faktor fizikal.



UMS
UNIVERSITI MALAYSIA SABAH

TABLE OF CONTENTS

	Page
TITLE PAGE	i
ACKNOWLEDGEMENT	iii
DECLARATION	iv
ABSTRACT	v
TABLE OF CONTENTS	vii
LIST OF FIGURE	xiii
LIST OF TABLES	xiv
LIST OF APPENDENIXES	xv

CHAPTER 1 : INTRODUCTION

1.1	Overview	1
1.2	Problem Statement	3
1.3	Objectives of Study	4
1.4	Significance of Study	6
1.5	Key Variables	6
1.6	Organization of Thesis	12

CHAPTER 2 : LITERATURE REVIEW

2.1	Introduction	13
2.2	Definition of Key Concepts	13
2.3	Prospect and Problem of Industry	14
2.4	Background of Workers	16

2.5	Major Work Activities of Oil Palm Plantation	18
2.6	Labor Productivity	19
2.7	Economic Factors	24
2.7.1	Timeliness of Remuneration	24
2.7.2	Amount of Remuneration	24
2.7.3	Social Insurance	28
2.7.4	Job Security	28
2.8	Organizational Factors	29
2.8.1	Managerial Responsiveness	29
2.8.2	Crew Size and Efficiency	30
2.8.3	Supervision	30
2.8.4	Housing Conditions	32
2.9	Socio-Psychological Factors	33
2.9.1	Social Activity Opportunity	33
2.9.2	Work Discipline	34
2.9.3	Health & Welfare	34
2.9.4	Creating Competition	35
2.9.5	Relationship with Workmates	35
2.9.6	Giving Responsibility	36
2.9.7	Sharing Problems & Results	36
2.9.8	Cultural Difference	36
2.9.9	Worker Participation in Decision Making	37
2.9.10	Distance from Town & Home	37

2.10	Physical Factor	37
2.10.1	Working at Similar Job	37
2.10.2	Weather Conditions	38
2.10.3	Poor Estate Road-networks	38
2.11	Summary	39

CHAPTER 3 : RESEARCH METHODOLOGY & FRAMEWORK

3.1	Introduction	40
3.2	Research Framework	40
3.2.1	Dependent Variable	42
3.2.2	Independent Variables	42
3.3	Hypotheses	45
3.4	Research Design	45
3.5	Unit of Analysis	46
3.6	Sampling Design	46
3.6.1	Location of Study and Population	46
3.6.2	Sampling Frame	47
3.6.3	Sampling Technique	47
3.6.4	Sampling Size	48
3.7	Instruments Design	48
3.7.1	Questionnaire	48
3.7.2	Observation	49
3.8	Data Collection Method	50

3.9	Data Analysis Methods	50
3.10	Summary	52

CHAPTER 4 : ANALYSIS OF RESULTS

4.1	Introduction	53
4.2	Respondent Profile	53
4.3	Descriptive Analysis of Variables	54
4.3.1	Component Factor Index	56
4.3.2	Economic Factor	56
4.3.3	Physical Factor	57
4.3.4	Socio-psychological Factors	58
4.3.5	Organizational Factors	60
4.4	Reliability Test Analysis	62
4.5	Hypotheses Test	63
4.6	Summary of Finding	65

CHAPTER 5 : DISCUSSION AND CONCLUSION

5.1	Introduction	67
5.2	Recapitulation	67
5.3	Discussion and Implication	67
5.3.1	Component Factor Index	68
5.3.2	Economic Factor	68
5.3.3	Timeliness of Remuneration	68

5.3.4	Credit Purchases at Camp Shop	69
5.3.5	Amount of Remuneration	70
5.3.6	Job Security	71
5.3.7	Social Insurance	71
5.4	Organizational Factor	71
5.4.1	Supervision	72
5.4.2	Employee Welfare Services	72
5.4.3	Managerial Responsiveness	73
5.4.4	Block and Work Layouts	73
5.4.5	Material and Tool Management	73
5.4.6	Systematic Flow of Works	74
5.4.7	Crew Size and Efficiency	74
5.4.8	Site Management	74
5.4.9	Relaxation and Break Allowance	75
5.4.10	Firm Reputation	75
5.4.11	Occupation Education and Training	75
5.5	Socio-psychological Factor	76
5.5.1	Work Discipline	76
5.5.2	Giving Responsibility	76
5.5.3	Social Activity Opportunity	77
5.5.4	Health and Safety Conditions	77
5.5.5	Relationship with Workmates	77
5.5.6	Work Satisfaction	78

5.5.7	Cultural Differences	78
5.5.8	Worker Participation	78
5.5.9	Creating Competition	79
5.5.10	Distance from Population Centres	79
5.5.11	Sharing Problems and Results	79
5.5.12	Distance from Home	79
5.6	Physical Factor	80
5.6.1	Weather Conditions	80
5.6.2	Poor Estate Road-networks	80
5.6.3	Overtime	80
5.6.4	poor Co-ordinations	81
5.6.5	Working in Similar Job	81
5.6.6	Design Complexity	81
5.6.7	Shift	82
5.6.8	Error Tolerance	82
5.6.9	Schedule Complexion	82
5.7	Results of Hypotheses	82
5.8	Limitation of Study	83
5.9	Suggestion for Future Research	84
5.10	Conclusion	85
	REFERENCE	88
	APPENDICES	92

LIST OF FIGURES

	Page
Figure 2.1 : Operational Line-Up for Oil Palm Plantation	15
Figure 2.2 : Maslow Pyramid Hierarchy of Needs	23
Figure 2.3 : Three Dimension of Work Discipline	34
Figure 3.1 : Theoretical Framework	41



UMS
UNIVERSITI MALAYSIA SABAH

LIST OF TABLES

	Page
Table 2.1 : Education Level of Indonesia Migration Workers	17
Table 2.2 : Comparison of Wage in Malaysia and Indonesia	18
Table 2.3 : Structure of Oil Palm Plantation	18
Table 2.4 : Relative Importance Indexes	22
Table 3.1 : Statistical Methods	51
Table 4.1 : Respondent Profile	54
Table 4.2 Means and Standard Deviation	55
Table 4.3 : Statistical Results for Economic Factor	57
Table 4.4 : Statistical Results for Physical Factor	58
Table 4.5 : Statistical Results for Socio-psychological Factor	59
Table 4.6 : Statistical Results for Organizational Factor	60
Table 4.7 : Comparison with Previous Findings	62
Table 4.8 : Cronbach's Alpha Value for Variables	63
Table 4.9 : R –Square and Durbin-Watson Values	65
Table 4.10 : Multi-Regression Test Results	65
Table 4.11 Values of t-test and Beta Slope	65

LIST OF APPENDICES

	Page
Appendix A : Survey Questionnaire Forms	92
Appendix B : Descriptive Statistics	97
Appendix C : Reliability Test Results	101
Appendix D : Linear Regression	109



UMS
UNIVERSITI MALAYSIA SABAH

CHAPTER 1

INTRODUCTION

1.1 Overview

Malaysia were close to the status of becoming a prosperous nation, whereby the symptom of prosperous life style was become obvious as less and less of its people want to take up jobs in the three “D” category, but leaving these to immigrant workers instead. In that regard, the tendency of labor shortage was growing, and would eventually become a scare resource in labor intensive industries in the country. Such threats to industrialists, however, inspired the author into the study of labor productivity in the oil palm industry in Sabah.

Sabah were a former British colony located in the northern part of Borneo Island, better known as “North Borneo” globally and having a total geographical land area of 72,500 Square Kilometers. Declared independent in 1963 and joined to form the Federation of Malaysia then. The economy of Sabah as of today were still relied on agricultural activities, where its ideal logistic location that were not vulnerable to some of the major natural disasters in the region, had made the place to earn the nickname as “The Land Below the Wind”. Whereby, suitable weather conditions and the available of huge land area had made the land to become the natural place for excellent agricultural developments ever since.

Since independence, the State had gone through some tremendous economic and political changes. For instance, the income per capita at one time ranked 2nd within the Federation that was just behind Selangor. But in 2000 it had became among the poorest state in Malaysia, with 16% level of poverty that were

three time below the national average, unemployment rate at 5.6% compare to the national average of 3.1%. The setbacks were not due to incompetent governance whereby it was noted that the GDP had increased substantially during the period, but it was just that the economic growth was out of match with the rapid growth in population, for example, at the time of independence in 1963 it was estimated at 300,000 people, but jumped to 2.5 million people in 2005. The speedy increases was due to mass migration of young people from neighboring countries, attracted by better earnings and more job opportunities especially in the construction and agriculture sectors.

Although plantation sector in Sabah had created a lot of job opportunity for the people but the employment structure was not gone in favor of its own people. For example, in the casual labor job category which represented the largest number of workforce in the industry were almost completely taken up by immigrants. Local folks preferred jobs that were light and easy as those in the clerical, supervisory and managerial category. But, before the arrival of immigrant workers in 1970, most of these jobs were used to be taken up by locals, when immigrants arrived, the labor market structure was changed ever since. The reason was that immigrants could accept jobs at lower pay but still could offer an equivalent productivity, whereas locals were choosy. The alternative option available to businesses in hiring of immigrant workers had led to mass migrations, which resulted the nation to face an uphill battle against social disorders caused by too many illegal immigrant workers. Finally, the government came out with some drastic actions to solve the problems, which include mass deportation programs, restriction measures includes the application for foreign worker quota before recruitment, imposition of high levy and restriction of worker employment period to five years. These policies although good to the nation in

certain extent, but the negative effects were affecting the competitiveness of the industry that were heavily relied on foreign workers to work in the field operation.

In response to the problem, the study of labor productivity was one of the solutions in reviving the competitiveness of the industry, for example, to optimize the uses of labor resource through the implementation of effective policies that made congruent with factors that affected labor productivity would definitely help and reduce the impacts of labor shortage from escalating.

1.2 Problem Statement

In the recent years, the government had gone through some tremendous political pressure in solving the presence of large number of illegal immigrants in the country, the obvious reason was these people, apart from providing cheap workforce to the plantation and construction sectors, but these people were causing serious social and security problems to the host country, for example; the rises of crimes, destruction of natural environments, deterioration of water and air pollution. Immigrants came to seek employment as casual laborer were normally poor, they built a lot of illegal quarters for temporary homes which had not fulfilled the basis housing requirements, no sewage systems and resulted in causing the whole surrounding areas in a mess.

In conjunction with the government drastic actions to solve problems through mass deportation, a serious shortage of laborers to work in industries were resulted, where the country had experienced an adverse economic performance, as was indicated that the government is concern with lack of foreign and local workers in the market had led to serious job delay in various industries and lead to losses suffered by different sectors to hundred million of Ringgits (New Straits Times, 13 April 2005).

The present regulations were restrictive to the employment of foreign plantation workers, it was costly, while those who were currently in the employment were being limited to renew their work pass not more than five years. Thus, the emphases of labor skill through proper selection, training and development as a mean of increasing productivity is becoming less effective, but the event had triggered-off instead a stifled competition among industries for labor resource that further destabilized the situation.

Although unemployment rate was high in Sabah, but few of local youths could take up three "D" job category in plantation because it was something to do with a structural unemployment where people were not flexible in job changes but rather prefer to be unemployed. Thus, the problem of labor shortage would remain unless there was a long term strategy in training and attractive incentives offered to the local people to work in plantation, otherwise a change of government policy towards the recruitment of foreign workers would help. But, nevertheless planters should know how to take their own initiatives in solving problems faced by them first, probably through the various methods of raising of labor productivity, and which this study here were all about to find out.

1.3. Objective of Study

Basically, the study involves in the identification and confirmation of factors that the researcher had hypothesized impacts over labor productivity in oil palm plantation, whereby in each category of factor there are a number of component items, which the researcher tried to find out the level of importance of each item over labor productivity as well as the relationship between in each group of factor with labor productivity.

In response to changing business environment, planters should have reached their own conclusions in adapting some appropriate labor management policies in pursue for higher labor productivity in order to counter labor shortage, whereby in every effective policy there must have set in accordance with new requirements in both internally and externally, or else things won't work. In achieving a higher productivity, the industry would mean to enjoy a marginally higher labor productivity over cost invested, resulted in less worker intake, shortening the life of production cycle and also improving the product quality. By increasing wages without inflationary pressure would help to improve the purchasing capacities of both workers and their employers. Besides, less worker intakes in the industry would help the government efforts in slowing down the inflow of immigrants.

Since there is a huge human resource involved in this industry, a simple improvement in the uses of the resource would be significant in the overall industry performance. As it was told by Pfeffer J., (1994) that firms have increasing recognized the importance of human capital as the factor to achieve competitive advantage. Therefore, the main objective of this study is summarized as follow :

- a. Identification and confirmation of factors that have impacts on labor productivity in the oil palm plantation of Sabah.
- b. Evaluate the importance of each component items in each categorical factor on labor productivity.
- c. Evaluation the significance of relationship between each categorical factor with labor productivity.

In response to changing business environment, planters should have reached their own conclusions in adapting some appropriate labor management policies in pursue for higher labor productivity in order to counter labor shortage, whereby in every effective policy there must have set in accordance with new requirements in both internally and externally, or else things won't work. In achieving a higher productivity, the industry would mean to enjoy a marginally higher labor productivity over cost invested, resulted in less worker intake, shortening the life of production cycle and also improving the product quality. By increasing wages without inflationary pressure would help to improve the purchasing capacities of both workers and their employers. Besides, less worker intakes in the industry would help the government efforts in slowing down the inflow of immigrants.

Since there is a huge human resource involved in this industry, a simple improvement in the uses of the resource would be significant in the overall industry performance. As it was told by Pfeffer J., (1994) that firms have increasing recognized the importance of human capital as the factor to achieve competitive advantage. Therefore, the main objective of this study is summarized as follow :

- a. Identification and confirmation of factors that have impacts on labor productivity in the oil palm plantation of Sabah.
- b. Evaluate the importance of each component items in each categorical factor on labor productivity.
- c. Evaluation the significance of relationship between each categorical factor with labor productivity.

1.4. Significant of Study

In exploiting to the level of significance of each variable done in study, it is expected that the plantation sector in Sabah, not only limited to the oil palm industry, but other major plantations likes cocoa, coffee, and rubber in the country could use the findings to :

- a. Acknowledgement of important factors on labour productivity were useful in future strategy on raising of labor productivity.
- b. Provide some useful inputs to HRM in the oil palm industry in future.
- c. A guideline for future research on this topic.
- d. Improved labor productivity led to better work ethics and eventually formed a positive aspect of work culture in the industry.

1.5. Key Variables

There were many factors that had the impact over labor productivity. However, the framework set by Kazaz A. & Ulubevli S., (2007) for the study of labor productivity in the construction industry in Turkey had revealed the growing importance in two factors – the economic and socio-psychological factors. While the importance of organizational and physical factors were not being mentioned, all other factors in previous studies were included in this study, whereby the key variables were classified into four different categories. In each category there were a number component items, some of which were briefly introduced as follows :

1.5.1 Productivity

Labor productivity in the oil palm plantation was the output of this study, it was measured from work done out of hard labor jobs in relation to the labor time spent. In economic term labor productivity is expressed in Dollars per job per labor hour. But in subjective measurements, answers expressed in Likert Scale could also be used in research study.

1.5.2 Economic Factors

All variables that involved in monetary transactions that can affect the wellbeing of workers are referred as economic factor, in previous study this factor consisted of the following component items (Kazaz A. & et, al., 2007).

- **Timeliness of Remuneration.**

Timeliness mean wage due to workers were paid on time, no delay and advance wage either, this is important in the sense that workers especially in the low rank group were paid less, live at end meet more of the time.

Therefore, timeliness of wage payment should help in the early settlement of debts and purchase of necessity goods.

- **Amount of Remuneration**

Amount of wage payable was determined by the method of wage calculation, which means it was relied on the various wage policies applied in different organizations. In each method used, it can pose different impacts over labor productivity. Three of the methods mentioned by Kazaz