UNIVERSITI PUTRA MALAYSIA

SUSTAINABLE PROCUREMENT AND ROLE OF MULTIPLE STAKEHOLDERS IN ADVANCING SUSTAINABLE PERFORMANCE OF THE PALM OIL SUPPLY CHAIN

INDRA SV THANGAVELU

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By

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Thesis submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfillment of the Requirements for the Degree of Doctor of Philosophy

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the Degree of Doctor of Philosophy

SUSTAINABLE PROCUREMENT AND ROLE OF MULTIPLE STAKEHOLDERS IN ADVANCING SUSTAINABLE PERFORMANCE OF THE PALM OIL SUPPLY CHAIN

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January 2017

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The purpose of this study was to determine if sustainable procurement carried out by the buyers of palm oil would improve the sustainable performance of the palm oil supply chain, and examine the role of the multiple stakeholder initiative, Roundtable on Sustainable Palm Oil (RSPO) in facilitating the buying firms to carry out sustainable procurement. To achieve the purpose, three research questions were formulated to identify the triggers and enablers that will cause the firms to carry out sustainable procurement strategies and practices, evaluate the governing role of RSPO and determine if the strategies and practices of the firms improve the sustainability performance of the chain. To answer these questions, nine latent constructs were developed, underpinned by three broad-based theories; stakeholder theory (stakeholder pressure, sustainability related risk, sustainability oriented people) transaction cost economic (supply chain transparency) and institutional theory (stakeholder integration, stakeholder salience, sustainability performance). A quantitative study by way of web-based survey was undertaken and the sampling frame consisted of RSPO members and non-RSPO members. The sampling method was non-probability purposive sampling method. The findings revealed that stakeholder theory which supported the constructs sustainability related risks and sustainability oriented people positively impacted the procurement strategies but found no support for the construct stakeholder pressure. The supply chain transparency also positively impacted the strategies as predicted by transaction cost economics arising from reduced of opportunistic behavior. The stakeholder theory also supported the positive relationship between sustainable strategies and practices. The role of multi-stakeholder RSPO was tested as a mediating factor on two aspects; stakeholder integration to mediate the firm's strategy and practice and stakeholder salience to mediate the practice of the firm and its impact on the sustainability performance of the supply chain. And as predicted by the institution theory, the mediating roles of RSPO were affirmed. The institutional theory also supported the positive relationship between sustainable procurement practices and sustainability performances. This study made three theoretical contributions: firstly the dual role of multi-stakeholder; a role in the firms as the firms translate the strategies into

implementable practices and a role in the chain as the multi-stakeholder bring firms that share common interest together to improve the sustainability performance of the chain. Secondly, sustainability performance of the chain can only be improved with the adoption of relevant strategies and practices by the firms and thirdly, the categories of governance would also include non-state market driven voluntary initiatives. From a policy perspective, continuing engagement with multi-stakeholders would benefit governments and non-governments as they strive towards improving the sustainability of the palm oil supply chain, a critical commodity which forms the economic backbone of some countries. This study is also important for improving our understating of the role played by the salient multi-stakeholder in the wake of the proliferation of these initiatives.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

PEROLEHAN MAMPAN DAN PERANAN PELBAGAI PIHAK BERKEPENTINGAN DALAM MEMAJUKAN PRESTASI MAMPAN RANTAIAN PEMBEKALAN MINYAK SAWIT

Oleh

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Tujuan kajian ini adalah untuk menentukan sama ada perolehan mampan yang dijalankan oleh pembeli minyak sawit akan meningkatkan prestasi mampan rantaian bekalan minyak sawit, dan mengkaji peranan yang dimainkan oleh pihak berkepentingan yang pelbagai, Meja Bulat Minyak Sawit Lestari yang lebih dikenali sebagai Roundatable on Sustainable Palm Oil (RSPO) dalam memudahkan pembelian syarikat untuk menjalankan perolehan mampan. Untuk mencapai tujuan ini , tiga persoalan kajian telah dirangka untuk mengenal pasti pencetus dan penggerak yang akan menyebabkan firma-firma untuk melaksanakan strategi dan amalan perolehan mampan, menilai peranan pengelola RSPO dan menentukan sama ada strategi dan amalan firma meningkatkan prestasi kemampanan rantai. Untuk menjawab soalan-soalan ini, sembilan konstruk pendam telah dibangunkan, disokong oleh tiga teori meluas; teori pihak berkepentingan (tekanan pihak berkepentingan, risiko yang berkaitan kemampanan, orang-orang berorientasikan kemampanan) teori kos urus niaga ekonomi (rantaian bekalan ketelusan) dan teori institusi (integrasi pihak berkepentingan, pemegang kepentingan menonjol, prestasi kemampanan). Satu kajian kuantitatif melalui kajian berasaskan web telah dijalankan dan rangka pensampelan terdiri daripada ahli RSPO dan bukan ahli RSPO. Kaedah persampelan adalah bukan kebarangkalian kaedah persampelan bertujuan. Hasil kajian menunjukkan bahawa teori pihak berkepentingan yang menyokong kemampanan konstruk risiko yang berkaitan dan orang-orang berorientasikan kemampanan berkesan positif keatas strategi perolehan tetapi mendapati tiada sokongan untuk tekanan pihak berkepentingan. Teori ini juga disokong hubungan positif antara strategi dan amalan lestari. Rantaian bekalan ketelusan juga memberi kesan positif strategi seperti yang diramalkan oleh teori ekonomi kos urus niaga yang timbul daripada mengurangkan tingkah laku oportunis. Peranan RSPO telah diuji sebagai faktor perantara kepada dua aspek; integrasi pihak berkepentingan untuk menjadi pengantara strategi syarikat dan amalan dan pihak berkepentingan menonjol untuk menjadi pengantara amalan firma itu dan kesannya ke atas prestasi kemampanan rantaian bekalan. Dan seperti yang diramalkan oleh teori institusi, peranan pengantara RSPO telah mengesahkan. Teori institusi juga menyokong hubungan positif antara amalan

perolehan mampan dan persembahan kemampanan. Kajian ini membuat tiga sumbangan teori: pertama dua peranan pelbagai pihak berkepentingan; peranan dalam syarikat sebagai syarikat menterjemahkan strategi menjadi amalan dilaksanakan dan peranan dalam rantaian yang pelbagai pihak berkepentingan yang membawa firma yang berkongsi minat yang sama bersama-sama untuk meningkatkan prestasi kemampanan rantai. Kedua, prestasi kemampanan rantaian hanya boleh diperbaiki dengan penggunaan strategi dan amalan yang berkaitan oleh firma dan ketiga, kategori tadbir urus juga termasuk pasaran didorong inisiatif sukarela bukan negeri. Dari perspektif dasar, meneruskan penglibatan dengan pelbagai pihak berkepentingan akan memberi manfaat kepada kerajaan dan bukan kerajaan-dalam usaha mereka untul merangka langkah-langkah bagi meningkatkan kemampanan rantaian bekalan minyak sawit, komoditi kritikal yang membentuk tulang belakang ekonomi beberapa negara. Kajian ini juga penting untuk meningkatkan pemahaman kita tentang peranan penting pelbagai pihak berkepentingan yang berikutan pertambahan berbagai inisiatif seperti RSPO but masa ini.

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I certify that a Thesis Examination Committee has met on 20 January 2017 to conduct the final examination of Indra Sv Thangavelu on her thesis entitled "Sustainable Procurement and Role of Multiple Stakeholders in Advancing Sustainable Performance of the Palm Oil Supply Chain" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

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TABLE OF CONTENTS

		Page
ABSTRACT		i
ABSTRAK		iii
ACKNOWLEDGEMENTS		v
APPROVALS		vi
DECLARATION		viii
LIST OF TABLES		xiv
LIST OF FIGURES		xvii
CHAPTER		
1	**INTRODUCTION**	1
	1.1 Sustainable Procurement And Governance	1
	1.2 Palm Oil Supply Chain	2
	1.3 Research Gap	7
	1.4 Justification	10
	1.5 Thesis Statement	15
	1.6 Research Questions	15
	1.7 Research Objective	15
	1.8 Scope And Key Assumption	15
	1.9 Definition	17
2	**LITERATURE REVIEW**	19
	2.1 Introduction	19
	2.2 Theories	20
	2.2.1 Stakeholder Theory	21
	2.2.2 Institutional Theory	22
	2.2.3 Transaction Cost Economics (TCE)	24
	2.3 Sustainability Triggers	25
	2.3.1 Stakeholder Pressure	25
	2.3.2 Supply Chain Sustainability Risk	26
	2.4 Sustainability Enablers	27
	2.4.1 Sustainable Oriented People	28
	2.4.2 Transparency Of Supply Chain	30
	2.5 Sustainable Procurement Strategies	30
	2.5.1 Sustainable Procurement Policies	34
	2.5.2 Allocation Of Resources	35
	2.6 Sustainable Procurement Practices	35
	2.6.1 Supplier Development	36
	2.6.2 Traceability And Certification	37
	2.6.3 Reporting And Communication	39
	2.7 Private Multi-stakeholder Governance	40
	2.7.1 Roundtable For Sustainable Palm Oil (RSPO)	43
	2.7.2 Firm Level-Stakeholder Integration	44
	2.7.2.1 Knowledge Of RSPO	45
	2.7.2.2 Interaction With RSPO	45
	2.7.2.3 Adaptation To RSPO's Demands	46

2.7.3 Chain Level – Stakeholder Salience 46
2.7.3.1 RSPO's Power To Influence 46
2.7.3.2 RSPO's Legitimacy 47
2.7.3.3 Urgency Of RSPO's Claims And Demands 49
2.8 Sustainable Supply Chain Performance 49
2.8.1 Economic Performance 50
2.8.2 Environmental Performance 51
2.8.3 Social Performance 52
2.9 Chapter Conclusion 53

3 METHODOLOGY 54
3.1 Introduction 54
3.2 Research Hypothesis 54
3.2.1 Research Hypothesis H1 54
3.2.2 Research Hypothesis H2 56
3.2.3 Research Hypothesis H3 57
3.2.4 Research Hypothesis H4 58
3.2.5 Research Hypothesis H5 59
3.2.6 Research Hypothesis H6 59
3.2.7 Research Hypothesis H7 61
3.2.8 Research Hypothesis H8 62
3.3 Measurement 64
3.3.1 Stakeholder Pressure 65
3.3.2 Sustainability Related Risk 66
3.3.3 Sustainability Oriented People 66
3.3.4 Supply Chain Transparency 66
3.3.5 Sustainable Procurement Strategy 67
3.3.6 Sustainable Procurement Practices 67
3.3.7 Stakeholder Integration 68
3.3.8 Stakeholder Salience 68
3.3.9 Sustainability Performance 68
3.3.10 Developing the Survey Instrument 69
3.4 Research Design 74
3.4.1 Research Philosophy 74
3.4.2 Deductive Approach 75
3.4.3 Quantitative Methodology 77
3.4.4 Survey Method 77
3.4.5 Population And Sampling Frame 78
3.4.6 Sample Survey Mode – World Wide Web 79
3.4.7 Unit Of Analysis 80
3.4.8 Ethics And Biasness 80
3.4.9 Pretest 81
3.4.10 Non-Response Bias 81
3.4.11 Test For Common Method Bias 81
3.4.12 Test For Social Desirability Bias 82
3.4.13 Structural Equation Modeling 82
3.4.14 Measurement Model 83
3.4.14.1 Reflective 84
3.4.14.2 Formative 85

	3.4.15	Structural Model	86
	3.4.16	Hypothesis Testing	86
	3.4.17	Multi-Dimensional – 2nd Order Constructs	86
		3.4.17.1 Superordinate Construct	87
		3.4.17.2 Aggregate Constructs	87
	3.4.18	Control Variable	87
	3.4.19	Model Estimation	88
	3.4.20	Chapter Summary	88
4	**RESULTS AND DISCUSSIONS**		90
	4.1	Introduction	90
	4.2	Data Collection	90
	4.3	Survey Responses	91
	4.4	Data Preparation	92
	4.5	Non-Response Bias	94
	4.6	Test For Common Method Bias	95
	4.7	Measurement Model	97
	4.7.1	Indicator Descriptive Statistic	97
	4.7.2	First Order Construct Reliability & Validity	104
	4.7.3	Reflective 2nd Order Constructs	109
	4.7.4	2nd Order Formative Construct	112
	4.8	Structural Model	115
	4.8.1	Collinearity Assessment	115
	4.8.2	Hypotheses Testing	117
	4.8.3	Regression Analysis	119
	4.8.4	Correlation Analysis	124
	4.8.5	Analysis of Variance	125
	4.8.6	Model Predictability	128
	4.8.7	Effects of Variables	128
	4.8.8	Model Fit	130
	4.8.9	Importance/Performance Matrix Analysis	130
	4.9	Alternative Structural Models	132
	4.10	Chapter Summary	134
5	**SUMMARY, CONCLUSIONS AND RECOMMENDATION FOR FUTURE RESEARCH**		135
	5.1	Introduction	135
	5.2	Conclusion About Research Hypotheses	135
	5.2.1	H1 - Stakeholder Pressure	135
	5.2.2	H2 - Supply Chain Risk	137
	5.2.3	H3- Sustainability Oriented People	137
	5.2.4	H4 – Supply Chain Transparency	137
	5.2.5	H5 – Sustainable Procurement Strategies and Practices	138
	5.2.6	H6 – Supply Chain Sustainability Performance	139
	5.2.7	H7 & H8 – Mediating Role of RSPO	139
	5.3	Conclusion About Research Problem	141
	5.4	Implication For Theory	142
	5.5	Implications For Practice And Policy	144
	5.6	Limitations	145

5.7 Implications For Further Research 146
5.8 Postscript 146

REFERENCES 148
APPENDICES 179
BIODATA OF STUDENT 234
PUBLICATION 235

LIST OF TABLES

Table		Page
1.1	Comparison Between Production Of Sustainable And Conventional Crude Palm Oil For 2015	4
1.2	Uptake of Sustainable Palm Oil	5
1.3	Comparison of World Seed Oil Production between 1990 and 2015	11
2.1	Analysis of Past Studies on Sustainable Supply Chain Management	33
2.2	Private Multi Stakeholder Initiative	42
3.1	Constructs Indicators and Sources	70
3.2	RSPO Membership	79
3.3	Comparison between CB-SEM and PLS-SEM	83
3.4	Reflective and Formative Indicators	84
4.1	G Power Computation for Minimum Response Size	91
4.2	Small Sample Size Studies	92
4.3	Membership Type of Respondents	93
4.4	Respondents' Company Sizes	93
4.5	Independent Sample T-Test : Early/Late Respondents	95
4.6	Total Variance Explained – Common Method Bias	96
4.7	Correlation between Constructs and Social Desirability Variable	96
4.8	Descriptive Statistics for Indicators	98
4.9	Outer Loading, Average Variable Explained and Composite Reliability	106
4.10	2nd Order Average Variance Explained and Composite Reliability	109
4.11	Fornell Lacker Criterion	110
4.12	Heterotrait-Monotrait Ration of Correlation	111

4.13	Comparison between Eigan Value and Criterion Value CFA – Stakeholder Integration	112
4.14	Pattern Matrix and Structure Matrix - Stakeholder Integration	113
4.15	Component Correlation Matrix - Stakeholder Integration	113
4.16	Comparison between Eigan Value and Criterion Value CFA – Stakeholder Salience	114
4.17	Pattern Matrix and Structure Matrix - Stakeholder Salience	114
4.18	Component Correlation Matrix - Stakeholder Salience	114
4.19	Variance Inflation Factor (VIF) – Structural Model	115
4.20	Path Coefficient & Significance Level of Structural Model	117
4.21	Mediating Effect	119
4.22	Correlation – Supply Chain Transparency	119
4.23	Coefficient – Supply Chain Transparency	120
4.24	Model Summary - Supply Chain Transparency	120
4.25	ANOVA - Supply Chain Transparency	120
4.26	Correlation – Certification and Traceability	121
4.27	Coefficient - Certification and Traceability	121
4.28	Model Summary – Certification and Traceability	121
4.29	ANOVA– Certification and Traceability	122
4.30	Correlation – Procurement Strategy and Sustainability Oriented People	122
4.31	Coefficient - Sustainability Oriented People	123
4.32	Model Summary - Sustainability Oriented People	123
4.33	ANOVA - Sustainability Oriented People	123
4.34	Correlation – Stakeholder Pressure and Procurement Strategy	124
4.35	Correlation – Transparency and Sourcing	125
4.36	Homogeneity of Variance Stakeholder Pressure and Company Size	126

4.37	Equality of Means	126
4.38	Homogeneity of Variance Stakeholder Pressure and Company Size	127
4.39	Multiple Comparison - Tukey HSD	127
4.40	Coefficient Determination and Predictive Relevance	128
4.41	Effect Size	129
4.42	Model Fit SRMR	130
4.43	Importance of Construct and Sub Construct to Sustainable Performance	131
4.44	Moderator - Path Coefficient, T Value and p Value for Moderator	132
5.1	Past Studies on Palm Oil Sustainability and Role of RSPO	141

LIST OF FIGURES

Figure		Page
1.1	Palm Oil Supply Chain	5
1.2	World Major Producers of 17 Oils and Fats 2015	10
1.3	Average Price of CPO per Tonne quoted in MYR (1980-2016)	12
1.4	Annual Global Consumption of Vegetable Oil	12
1.5	Global Palm Oil Trade with "No Deforestation" Commitment	13
1.6	RSPO Time Bound Plan for Four Categories	14
1.7	Categories of Buyers	16
1.8	Palm Oil Product	16
2.1	Literature Review Framework	20
2.2	Annual Uptake of Physical Sustainable Palm Oil and Book & Claim Certificates	48
3.1	Theoretical Framework	55
3.2	Research Process	76
3.3	Process Flow for Model Estimation	88
4.1	Categories of Buyers	94
4.2	First Order Measurement Model	105
4.3	Second Order- Structural Model	116
4.4	Importance/Performance Matrix	131
4.5	Interaction for Stakeholder Integration	133
4.6	Interaction for Stakeholder Salience	133

CHAPTER 1

INTRODUCTION

1.1 Sustainable Procurement and Governance

The Brundtland Commission (Brundtland, 1987) expressed sustainable development as development that meets the present without compromising the ability of the future generations to meet their own need and laid out the essence of sustainable development as the process of change where the exploitation of resources, direction of investments, orientation of technological developments and institutional change are all in harmony to meet current and future human needs and aspirations. The Rio Declaration on Environment and Development introduced a four pillar model of economic, environment, social and institutional (governance) for sustainable development (Hategan & Ivan-Ungureanu, 2014). Actors of economic development including individuals, organizations and society need to be conscientious of the present activities to avoid jeopardizing the future forcing organizations to find dynamic equilibrium between profit, people, planet (Wals & Schwarzin, 2012). Although operationalization of sustainability have been marred with inconsistencies and difficulties, the triple bottom line approach of economic, environment and social have been commonly used in the past (Seuring & Muller, 2008) which focuses accountability towards balancing economic, environmental and social goals which sees the intersections of the three goals not only benefits the environment and social but also return economic benefits (Naslund & Williamson, 2010).

Corporations have operationalize triple bottom-line in a number of areas such as corporate social responsibility (Gold & Heikkurinen, 2013), production (Mittal & Sangwan, 2013), branding (Aguilar & Viosky, 2008) and supply chain. Of these supply chains remains one of the most effective ways to address sustainability (Matos & Hall, 2007; Preuss, 2009) as the chains acts as conduit for the flow of goods and services from raw sources to end users. The impact of supply chain activities on sustainable development cannot be under-estimated as professional institutions like Chartered Institute of Purchasing and Supply UK (CIPS) believes these activities influence the flow and allocation of economic resources which could either directly or indirect impact on poverty, social and environmental conditions. The Institute in its report *Taking the Lead* defined supply chain as "a network of organizations, people, activities, information and resources involved in moving a product or service in a physical or virtual manner from supplier to customer and supply chain activities transform raw materials, components, resources, knowledge and intellectual property into a finished product or service to satisfy a customer need" (The Chartered Institute of Purchasing and Supply & Traidcraft, 2013 pg 2) Accordingly, supply chain would entail the proactive management of three or more organizations, upstream and downstream to enable the flow from source to end-user. Following the flow concept, Stock & Boyer (2009) focused on the network of relationships within a firm and between interdependent organizations that benefits from adding value, improved efficiencies and improving customer satisfaction.

Managing supply chain is a vital part of any business strategy to meet customer demand and manage cost (Fawcett & Magnan, 2001). Within a firm, the supply chain business functions includes procurement, inbound transportation, demand and supply planning, receiving, materials handling and storage, material/inventory control, order processing, production planning scheduling and control, warehousing/distribution, shipping, outbound transportation and customer service (R. B. Handfield & Bechtel, 2002). Supply chain management would entail effective management of these function to ensure smooth flow of product, services, information and financial, intra and inter firms (Stock & Boyer, 2009). And sustainable supply chain management would mean carrying out these functions by integrating the economic, environmental and social goals to achieve long-term economic performance of the individual company and its supply chains (C. R. Carter & Rogers, 2008). Within the context of supply chain management, procurement is found to be a key activity that ought to be carried out sustainably (Ahi & Searcy, 2013). The procurement function remains the most significant contributor towards addressing sustainability in the supply chain as it is grounded on non-altruistic market principles (Jeremy Hall, 2000). Walker et al. (2012) believed sustainable development can be achieved through sustainable procurement as it is consistent with the principles of ensuring just society, living within environmental limits and promotion of good governance. Miemczyk et al. (2012), following the evaluation of relevant literature summarized sustainable purchasing as the consideration of environmental, social, ethical and economic issues in the management of the organization's external resources in such a way that the supply of goods and services provide value the organization, society and economy at large. Business activities focused on advancing sustainability can be facilitated with the presence of sustainability governance in the chain.

Governance is the means through which order in achieved to address current and future conflicts that threatens mutual benefits (Williamson, 1998). Governance is visible in the form of regulation and coordination of activities by public and private institutions through formal and informal instruments (Bostrom, Jonsson, Lockie, Mol, & Oosterveer, 2014). Both market and non-market actors cooperate in the activities of the chain to improve environmental and social condition of production, upstream and downstream (Vermeulen & Kok, 2012). Governance by way of private initiatives are rapidly emerging because government regulations alone can no longer effectively command and control environmental and social issues due to lack of resources, capacity and expertise (Prakash & Potoski, 2012). For example, the non-sustainable production and consumption of palm oil causes conflicts in the supply chain, and unless addressed effectively and speedily, will impact the mutual benefits of all players in the chain. Hence the presence of sustainability governance of the supply chain will likely improve the sustainable performances the palm oil supply chain (Gnych, Limberg, & Paoli, 2015)

1.2 Palm Oil Supply Chain

There is greater sense of urgency now more than ever to create sustainable supply chain for palm oil as the industry continuous to carry out unsustainable practices such as slash and burn method for land clearing, destruction of virgin rainforest and non-protection of endangered plant species and animals (Orsato, Clegg, & Falcão, 2013). Recognizing this urgent need, the two world's leading producers, Indonesia and Malaysia, are creating awareness on the importance of adopting sustainable practices in the upstream of the

supply chain, particularly at the plantations and mills (Aikanathan, Basiron, Sundram, Chenayah, & Sasekumar, 2015). These efforts are also supported by multi stakeholders organization, Roundtable on Sustainable Palm Oil (RSPO) who engages upstream and downstream supply chain stakeholders to promote sustainable practices (Nikoloyuk, Burns, & Man, 2010). To date, sustainable palm oil supply chain continue to remain at developmental phase (Schouten & Glasbergen, 2011) and effort must be made to expedite the maturity of the chain as the assessment of the maturity of supply chain operations in the coherent operations strategy that encompasses customers and suppliers, all aligned to the overall business strategy of the enterprise (Netland, Torbjorn H. , Alfnes, 2011).

Palm oil, an agricultural commodity is produced according to biological production functions determine by nature and these physical, site and temporal assets specificity makes some countries more favorable than others in taking the production lead (Cook, Klein, & Iliopoulos, 2008). To create sustainable supply chain requires sustainable production and consumption. Unfortunately, there are various challenges on both sides; on the supply side plantations and mills are not growing and processing the palm oil sustainably and on the demand side, the low uptake of sustainable palm oil. The palm oil supply chain is made up of many players as palm oil is used for both food and non-food ingredient.

Since demand pulls supply, increasing the demand for sustainable palm oil by downstream buyers would increase upstream production of sustainable palm oil. An evaluation of the palm oil supply chain reveals three main issues currently plaguing the chain: a) unsustainable upstream production, b) low uptake of sustainable palm oil and c) fragmented governance structure, discussed further below.

a) Unsustainable Supply Chain

The current production and consumption pattern for palm oil remains unsustainable (von Geibler, 2013). The palm oil supply chain is confronted with pressures from various interest groups to become more sustainable as the industry rushes to meet the growing demand for food and non-food uses (Choong & McKay, 2013). These pressures cannot be left unheeded for the future well-being of this national critical industry (Basri, 2010). The palm oil supply chain is made up of buyer and sellers and the chain commences at the plantations with the production of fresh bunch of palm oil fruits (FFB). To create sustainable supply chains, the productions of FFB need to be carried out sustainably. At present, The palm oil expansion has been heavily criticized by environmental group in particular from Europe, for negative environmental and social impacts, or unsustainability (Hezri & Wong, 2015) Sustainable production means producing in accordance to a set of sustainable standards which dictate the proper control and management of social and environmental degradation, carrying out environmental impact assessment, conservation and management of bio-diversity, planting material and nursery management, zero burn technique, recycling and effluent waste treatment, pest and disease management, and avoidance of planting on peat land (M. Sharma, 2013). Sustainable production requires allocation of resources for investment in new technology and equipment, enhancing knowledge and skill of employees, and improving existing processes. This additional allocation of resources comes on the back of raising

production cost attributable to higher cost of fossil fuel, fertilizer, agrochemical, inflation and spiraling wages (M. Sharma, 2013). Sustainable management of plantations can be adapted to support substantial proportion of forest species while maintaining high yields. Generally, oil palm plantations are structurally less complex than natural forests, with a uniform tree age structure, lower canopy, sparse undergrowth, less stable microclimate and greater human disturbance and are cleared and replanted on a 25–30 year rotation (Fitzherbert et al., 2008). Recent years have also witness many more African and South American new and existing plantation switching to palm oil (Zoological Society of London, 2015). The destruction of rainforest and displacement of indigenous people have drawn the attentions of increasingly vocal NGOs and both producing and buying countries can no longer ignore these voices (Basri, 2010). According to RSPO, only 18% of the global palm oil is certified sustainable (RSPO, 2014a). Based on RSPO's recently published report on the annual quantity of certified FFB (RSPO, 2016) and upon conversion at 21% yield rate (Otieno et al., 2016), it shows only 16% of the total CPO produced in the world is sourced from sustainably produced plantations.

Table 1.1 : Comparison between Production of Sustainable and Conventional Crude Palm Oil for 2015

	Certified FFB	Sustainable CPO	CPO
Indonesia	27,539.397	5.7M	32.5 M/T
Malaysia	13,733,121	2.9M/T	18.25 M/T
Papua New Guinea	2,819,455	0.6M/T	2.75 M/T
Rest of the World	3,964,798	0.8M/T	9.5M/T
Total		10 M/T	63 M/T
Percentage		16%	84%

There is a need to increase the production of sustainable palm oil, and one of ways would be to increase the demand for sustainable palm oil which in turn will increase the upstream production in the profit oriented supply chain. The palm oil supply chain in a long one as palm oil is used for food and non-food purposes (Dijk, 2012), nevertheless, the sustainability of the supply chain commences with sustainable production of FFB, from which the sustainable palm oil is extracted at the certified mill. The refined palm oil is then sold to manufacturers for use in the manufacturing processes and as cooking oil sold by the retailers. The certified palm oil is transported from plantations to refinery in one of three ways;, identity preserved, segregated or mass-balance. Identity preserved method makes it possible for the end user to trace the product along the supply chain to the certified mill as the palm oil product is kept physically isolated from other oil sources. Segregated method allows for products from certified sources to be mixed together and the end user is assured of sustainable production. The mass balance method requires administrative monitoring of the sustainable palm oil from the mill level through to the end user as both sustainable palm oil and CPO are mixed together for transportation. This is the most common method as it is least costly of all the three methods and it allows the end user to demonstrate their commitment to sustainable palm oil production by purchasing certified palm oil as part of their total palm oil purchase (RSPO, 2014b). A high-level overview of the crude palm oil palm oil supply chain is depicted in Figure 1.1. Increasing the demand for sustainable palm oil by the buyers

would increase the pull on the plantation to increase the production of sustainably grown FFB.

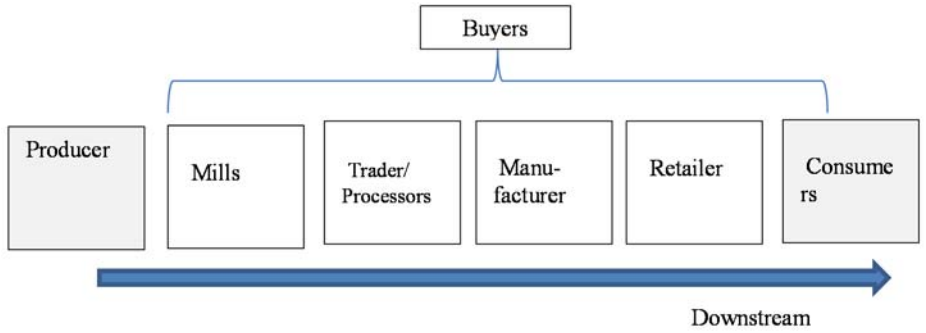

Figure 1.1: Palm Oil Supply Chain

Figure 1.1 : Palm Oil Supply Chain

b) Low Uptake

The uptake of sustainable palm oil by the buyers remains very low and currently it stands at 15% of the total sustainable palm oil produced (RSPO, 2013b) (Table 1.2)

Table 1.2 : Uptake of Sustainable Palm Oil Extracted From RSPO Annual Report 2013

	2008	209	2010	2011	2012	2013	2014
Total Produced	619	1473	3,522	5,523	8,184	9,001	10,057
Total Uptake		98	438	831	984	1,170	1,508
% Uptake		7%	12%	15%	12%	13%	15%

An earlier study found the uptake of certified sustainable palm oil fluctuates circa 40% of the world's supply (Schouten, Leroy, & Glasbergen, 2012). GreenPalm Sustainability reported 51.36 of the sustainable palm oil failed to find buyers (GreenPalm Sustainability, 2015). This low uptake of sustainable produced palm oil is not reconcilable to the fact that the share of palm oil internationally traded bound by zero deforestation commitments in 2013 covered 87% of palm oil traded (Gnych et al., 2015). Although traders have made these commitments zero deforestation, the intention is not converted into actions as the uptake of sustainable palm oil has not increased. When the uptake is low, producers are compelled to offload sustainable palm oil at conventional palm oil price without a price premium. The price premium for RSPO certified sustainable palm oil, transported through mass balance is USD 10–25 per metric ton, a 1.0% to 2.5% above the CPO traded price, as for segregated, the price premium varies between USD 15-50 per metric ton (Gnych et al., 2015). Palm oil is a ubiquitous item,

primarily as an ingredient present in many supermarket products but unbeknown to the end consumer. At best, the consumer may purchase palm oil for cooking. Therefore, attempting to create consumer awareness to generate demand pull is difficult unless there is clear labeling on the packages. RSPO has introduced a trade label for sustainable palm oil but it is not commonly subscribed. Under these conditions, the demand pull for sustainable palm oil can only be effectively achieved by the intermediary businesses in the supply chain such as the traders and processors, manufactures and retailers. The business-led demand for environmentally friendly products are known to impact the entire chain because of focal firms push on the suppliers towards meeting sustainability specification (Theyel, 2002).

Unfortunately, the business-led demand for sustainable palm oil is not encouraging. Although some of the European countries have pledged 100% sustainable palm oil, major buyers from China, India and United States are not making the same commitment. Global buyers are being lukewarm towards certification although certification improved visibility in the supply chain. Some of the reasons cited for low uptake include: 1) cost, 2) availability of product, 3) complex logistics to access products, 4) lack of demand from downstream buyers, 5) easy availability of virtual certificates, 6) lack of traceability and 7) complexity of the supply chain. Improving the transparency of the supply chain may address some of these issues and may hasten firms to carry out sustainable procurement (Awaysheh & Klassen, 2010). Although cost remains the most common reason, it is known that the purchase decisions surrounding the buying of sustainable products is not solely based on cost alone as purchasing managers often make decisions beyond economic rationality (Boyer & Swink, 2008; Mantel, Tatikonda, & Liao, 2006). Buyers can be motivated to increase the uptake for instrumental, relational or moral reasons (Gnych et al., 2015). Regardless of their reasons for buying sustainable palm, the overall uptake of sustainable palm oil will increase if the number of new buyers increased and the quantity purchased by existing buyers also increased.

c) Fragmented Governance

Supply chain governance are those non-market related activities carried out in the chain designed to determine and influence the behavior of organization members, The palm oil supply chain governance is fragmented with both private initiatives and government bodies carrying these non-market related activities addressing the same issues. Introducing sustainable standards is one common non-market activity carried out on the chain to improve sustainability. RSPO was formed in 2004 and issued its standard now commonly referred to as the RSPO standard. This multi-stakeholder body is viewed as business and civil society alliance to address the environmental and social negative externalities arising from oil palm. Other certification standards for palm oil include the International Sustainability and Carbon Certification (ISCC) standard, a certification system used to demonstrate compliance with the European Union Renewable Energy Directive, and Rainforest Alliance. In 2011, Indonesia developed and launched the Indonesia Sustainable Palm Oil (ISPO) standard, a national oil palm sustainability standard based on existing Indonesian legislation, but third-party audited, and mandatory for all oil palm companies. In 2015, the Malaysian standard was issued, Malaysia Sustainable Palm Oil (MSPO) standard. MSPO remain a voluntary standard (Gnych et al., 2015). Hence, at present there are three standards, of both state and non-state. These

standards come in the wake of indiscriminant land clearing for new plantation, destruction of virgin jungles, loss of natural habitats, illegal fires and land conflicts with indigenous people (RSPO, 2013a). For example, in Malaysia and Indonesia, government bodies are working with certification bodies to certify the palm oil production to their respective standards. At the same time, RSPO is also working with certification bodies to certify palm oil production to RSPO's standard. The three standards are not perceived to be equal or same, thereby pitting one standard against another. Whilst Malaysia and Indonesia standards are limited to growing and milling palm oil, the RSPO standards also extend to the supply chain. Additionally, RSPO also carries out e-tracing system and administers trademark scheme (RSPO, 2014a).

There have been a few studies that have looked at the effectiveness of RSPO in promoting sustainable palm oil. Bostrom et al. (2014) studied the presence of gaps in the supply chain namely, geographical, informational, knowledge, communication, compliance, power and legitimacy and concluded that the presence of these gaps created the opportunity for multi-stakeholder initiatives to grow and address specific needs. The market and non-market representation in the multi-stakeholder initiative opens the door to groups that would otherwise not have an opportunity to influence the economic transaction in the supply chain (Schouten et al., 2012). Although the membership in RSPO has also steadily increased over the years indicating that this initiative is fulfilling a specific market need such as providing legitimacy to the actions of the business owners (Schouten & Glasbergen, 2011) there is contention that the proliferation of both market-based and state-led standards within one industry has led questioning of the effect and impact of these standards, and confusion over the contribution of the standards to the development of the sector (Gnych et al., 2015). Aside from standard setting, these multi-stakeholders also play other roles such as bringing various interest groups together to advance a common cause and creating platforms for disenfranchised groups to be heard. Therefore, understanding the role of these multi-stakeholders have with the buying firms would be useful to determine the contributions made by the multi-stakeholder to advance sustainability in the palm oil supply chain and address some of the concerns raised on the proliferation of multi-stakeholders.

1.3 Research Gap

Past studies on sustainable procurement in public sectors (Brammer & Walker, 2011; Preuss, 2009; Walker & Preuss, 2008) and private sectors (Pagell & Wu, 2009; Walker & Jones, 2012) have shown that sustainable procurement is a catalyze for advancing the sustainability in supply chains. But creating sustainable supply chain remains a challenge as Pagell & Shevchenko (2014) discovered there is still much to learn about making supply chain truly sustainable. Tate et al. (2012) on examining the environmental purchasing practices among organizations found that these practices still remained in its infancy and varied according to industry which was predominantly driven by external pressures. Creating consumer demand for sustainable agriculture commodity is a challenge because of the lack of transparency in the supply chain (Auroi, 2004) (Teoh, 2010) and low product differentiation between sustainable and conventional commodity. Commodities are usually procured on a set of criteria (Jones, Raper, Whipple, Mollenkopf, & Peterson, 2011) that is not be reconcilable to sustainable procurement strategies but Pagell & Wasserman (2010) found an anomaly in their research data where

companies were not organizing their commodity purchase in accordance to the purchase portfolio Kraljic (1983). Kraljic introduced a four quadrant portfolio built on two dimensions, criticality of purchase measured by profit impact and complexity of supply market, to ease purchase decisions making. Based on this portfolio, commodity is a leverage item where purchase decisions are price centered. But Pagell & Wasserman (2010) found a handful of companies were purchasing commodities as strategic item where the buyer build close, trusting, long-term relationship with their suppliers and supplier selection is based on total cost, rather than price. If this changing trend is also present in the palm oil supply chain, than it may bring some reprieve to making the chain sustainable. Moreover, non-sustainable supply chain exposes the players to unmitigated risk which increases the cost of business operations, and improved sustainable risk management was seen to improve overall business performance (Foerstl, Reuter, Hartmann, & Blome, 2010). Today, both direct and indirect business stakeholders all contribute towards making the chain sustainable (Preuss, 2009).

Sustainable procurement is a topical area for research (Appolloni, Sun, Jia, & Li, 2014; Stefan U. Hoejmose & Adrien-Kirby, 2012; Walker et al., 2012) as firms are increasingly sourcing goods and services externally (Tate et al., 2012). Arising from this importance, the Journal of Supply and Purchasing recently issued a series of studies pertaining to this subject matter. To further contribute towards the body of knowledge in the field of sustainable procurement, Walker et al., (2012) suggested a research framework that incorporates notion of the triple bottom line of sustainability to the individual level and progressing through to the market/society level. Stefan U. Hoejmose & Adrien-Kirby, (2012) in their evaluation of past studies identified a general framework that consisted of four themes, external environment; internal environment; sustainable procurement implementation; and performance. The authors further commented that although researchers have explored particular drivers and barriers, they have not fully explored the sustainable procurement implementation because the action of the firm may not be directly response to stakeholder pressure but include other considerations such as political expediency and available resources to implement such practices. Internalizing these considerations of the firms improves our understanding the effect of stakeholder pressure on sustainable procurement action. Moreover academics are concern that policies may not be sufficient for sustainable procurement implementation. Schneider & Wallenburg, (2012) recommended that the purchasing function change its internal and external relationships due to and in the course of implementing sustainable sourcing. Establishing engagement with the external stakeholders can efficiently shape public opinion, improve internal procurement practices and serves as convincing incentive to avoid irresponsible procurement practices.

Another key research gap that still persist is the role of non-supply chain stakeholder on the adoption of sustainable procurement. Miemczyk et al. (2012) underscored the need to identify how non-economic actors are able to support or hinder product sustainability. The non-supply chain stakeholders are individuals or groups of individuals who are able to influence the activities in the supply chain but they themselves do not participate in any of the economic activities of the chain. The non-supply chain stakeholders are able to operate at two levels of relationship, dyad relationship and industrial network relationship. The dyad relationships are the one-to-one relationship that the non-supply chain stakeholder has with the individual firms. The network relationships are the

vertical and horizontal relationship in the chain, including the indirect relationships that arise in the supply chain networks that include all supply chain stakeholders. The network relationships moves away from centering on the focal company, which is the case of dyad relationship (Miemczyk et al., 2012). Crespin-Mazet & Dontenwill, (2012) evaluated the relationship between the non-governmental organizations and the focal company to build legitimacy in the supply network and stated that the relationship between activist organizations positioned the focal firm as the defender of ecological causes. And Bush et al. (2014) review of sustainability governance and implications on the supply chain revealed potential opportunity to induce environmental and social reforms. Consistent with these changing views, integrating sustainability governance to supply chain activities becomes necessary. Newton et al. (2013) observed that although the number of studies researching the effect of intervention by non-market player in governing agricultural supply chain has increased, the evidence to assess the impacts of these interventions in reducing the negative impacts of agriculture commodity production in tropical forest landscapes remains limited. Much of the work on the impact of the NGOs on sustainable procurement has been of groups that are independent of the supply chain players, for example Greenpeace, Rainforest Action Network and not on non-state market driven multi-stakeholders such as RSPO who carry out governance activities. Governing sustainability in chains entails influencing the activities of the private firms as supply chain players with the aim to improve their social and environmental performance from a business management perspective. The influence of multi-stakeholders are fast emerging as these multi-stakeholders initiatives take multiple forms designed to generate credibility and authority over production processes in a particular sector based on the regulatory tools that emerge from the governing body (Bush et al., 2014). As these bodies are represented by multiple players of producers, intermediary buyers, social and environmental NGOs, financial institutions, understanding the role played by RSPO from a business management perspective of the intermediary buyers would be useful to better understand sustainability procurement in the palm oil supply chain. As pointed out by Gnych et al., (2015), there is a need for deeper, more nuanced and multi-faceted investigation in order to use the civil society and market forces to transform the palm oil industry.

The work of Appolloni et al., (2014) summarized the general drivers to internal organization, regulatory, customer, competition and society, three of these namely regulatory, customer and competition play weak role on sustainable palm oil as palm oil is present in the product as ingredient and sustainable production is not compulsory (except for Indonesia). Therefore, further investigation of the higher level constructs as the antecedent to the sustainable procurement strategies such as sustainability orientation of the people, sustainability related risk, and transparency of the supply chain for sustainable palm oil would be enrich the present knowledge on sustainable agriculture commodity supply chain, which is currently dominated by private sector manufacturing sector (Walker et al., 2012). Although triggers and enablers have been studied before, understanding the impact of triggers and enablers is an important part of developing the theories on the sustainable procurement strategies and practices. Moreover, the implementation of green supply management is also not well understood (Appolloni et al., 2014). Further investigation is needed to determine the choice of activities and processes that are most pertinent for a particular type of industry to map the field and support the progress of sustainable procurement practices. The conceptual model

proposed by Appolloni et al., (2014) is an useful guide for developing the research model in this study.

1.4 Justification

Considering the importance of the industry to country's economy and the precipitously changing business environment, the need to transform the business has become more pressing. This study of the palm oil supply chain at the present time is opportunistic for four reasons, namely: criticality of the industry, imminent change in market sentiment, establishing exception to Kraljic portfolio and the impact of multiple standards.

Firstly, palm oil is the most important agricultural commodity export for Malaysia as well as the second largest producer of crude palm oil (CPO) next to Indonesia and together both countries account for 80% of the world's production. Palm oil is major export revenue earner for Malaysia and in 2014, palm oil export revenue stood at 61.36 billion (Basiron, 2015). Palm oil remains the leading oil and fat product in the world and Malaysia ranks number four among all world major producers and exporter of 17 oils and fats for 2015. (See Figure 1.2)

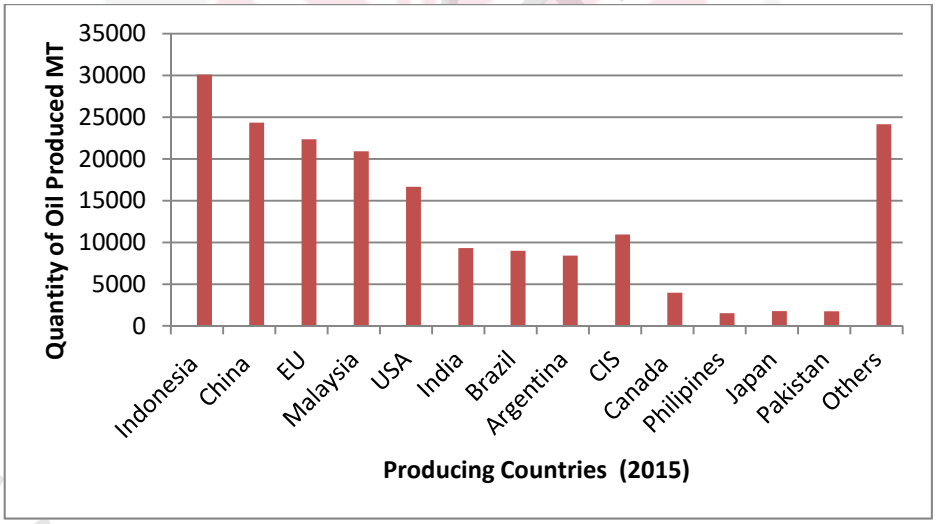

Figure 1.2 : World Major Producers of 17 Oils and Fats 2015 ('000 Tonne)

The production of palm oil has taken the lead over other oil seeds due to the high per hectare yield compared to other oil seeds. From 1990 to 2015, the palm oil contributed to 31% of the total oil seed production of 204 million metric ton (Basiron, 2015). See Table 1.2 which compares the production of oil seed between the years 1990 and 2015.

Table 1.3 : Comparison of World Seed Oil Production between 1990 and 2015

	1990	2015
Rapeseed Oil	10.09%	13%
Sunflower Oil	9.73%	8%
Palm Oil	13.62%	31%
Soy Bean Oil	19.90%	23%
Others	46.67%	25%
Production	80.89 mil MT	204 mil MT

Malaysia leads the industry for the Malaysia Palm Oil Board's (MPOB) daily quoted price for CPO is the price benchmark for all other palm oil producing countries (Kuwornn, Darko, Osei-asare, & Egyir, 2009). The average market price of CPO for years from 1980 to 2016 has fluctuated to the highest price of MYR3, 219 in 2011 and the lowest price of MYR 579 in 1986 as depicted in See Figure 1.2. Notwithstanding that the production costs have only moves in upward direction during this period, the business remained lucrative as attested by rapid expansion of land use for oil palm plantations (Newton et al., 2013) and increasing numbers of plantations switching to oil palm (Kuwornn et al., 2009). The palm oil consumption has also increased year-on-year. Besides edible oil it is also the feedstock for biodiesel, a renewable and green substitute for diesel. The product can be found 50% of the products in a supermarket (Dijk, 2012). The Figure 1.4 shows the annual world consumption of major vegetable oils of marked increase for palm oil consumption between periods from 1995 to 2014 as well as highest incremental change among the four major vegetable oils. Oil palm has the highest productivity of any vegetable oil crop per hectare, producing up to 10 times more than the nearest competitor, soy. Thus, palm oil is not only efficient, it is also less expensive to produce and highly profitable. Moreover, it is a perennial crop, harvestable within three years, up to 25 years and being a versatile product used for both food and non-food use, the demand is forecasted to continue to rise (Gnych et al., 2015).

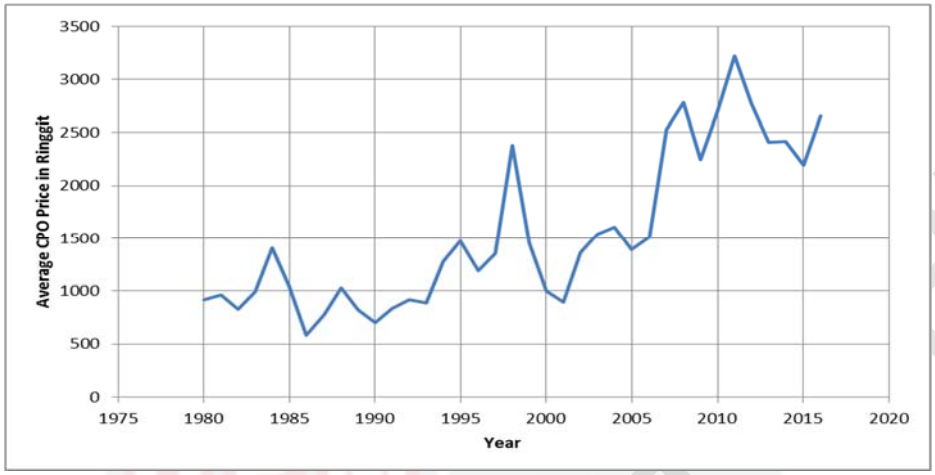

Figure 1.3 : Average Price of CPO per Tonne for Years 1980-2016 quoted in MYR

Secondly, 2015 is an essential year for the industry as major traders like Wilmar International plc. had pledge to source only sustainable palm oil by 2015 Figure 1.5 shows the percentage of palm oil traded being on international markets bound by zero-deforestation commitments making up of 57 million metric ton out of 63 metric ton being traded. This quantity represents 87% of the total volume being traded (Gnych et al., 2015).

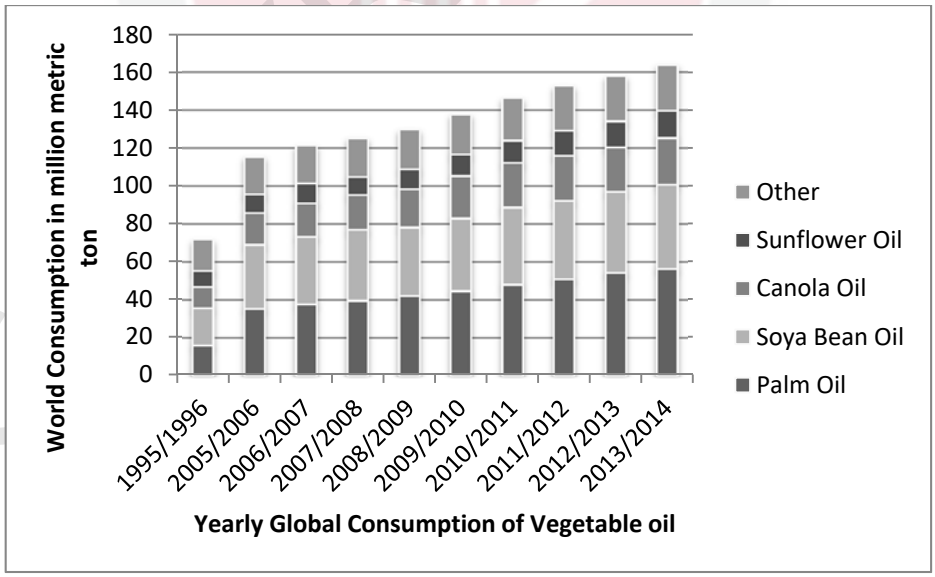

Figure 1.4 : Annual Global Consumption of Vegetable Oil

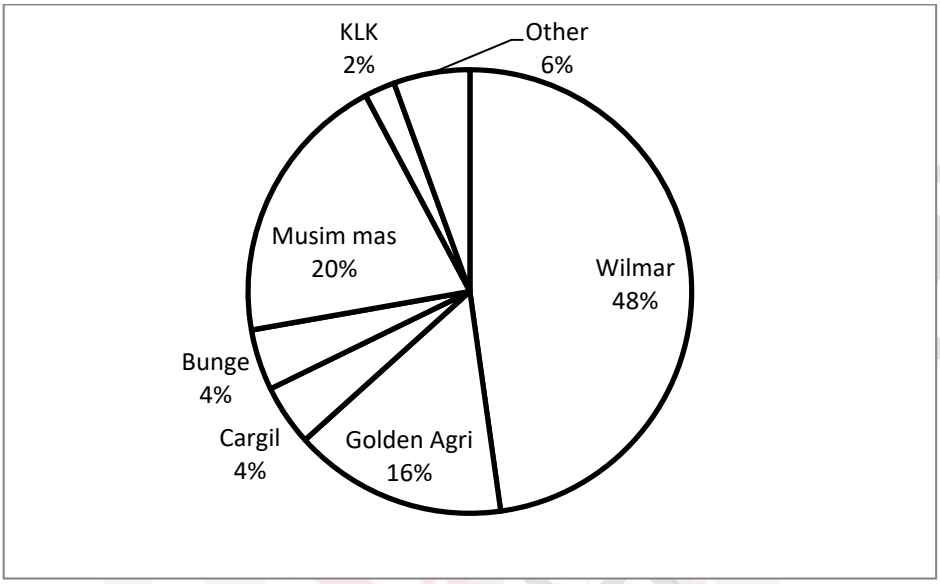

Figure 1.5 : Global Palm Oil Trade with "No Deforestation" Commitment

The RSPO time bound plan as depicted in Figure 1.6 also indicates that consumption of sustainably produced palm oil should peak in 2015 as number of number of manufacturers and retailer have also committed to buy sustainable palm oil. If the buyers follow through with their pledges, then the demand will surge. In addition to the public pledge by individual companies, the RSPO's published the time bound plan by its buyer members for 100% sustainable palm oil consumption also indicates a peak by 2015, led by retailers and manufacturers. As the demand environment changes, the supply will likely change and recording this change is essential for the growth of the sustainable palm oil consumption. But unfortunately, Unilever had since then faltered in its plan by moving the timeline forward to 2020 (Unilever, 2016).This lack of urgency to purchase only sustainable palm oil by market leaders such as Unilever would have detrimental impact on the palm oil supply chain especial since Unilever is one of the founding members of RSPO. The efforts of world agencies such as World Bank to use market forces to increase production and consumption of sustainable palm oil is also faltering and in need to new ways to do old business (Lane, 2012).

Thirdly, increasing the demand for sustainable palm oil is a challenge as sustainable palm oil is usually priced higher. According to Kraljic's purchasing portfolio of Profit Impact/Supply Risk matrix (Kraljic, 1983), commodity purchases fall within the High Profit Impact/ Low Supply Risk quadrant and thus susceptible to strong price consideration. Moreover, the absence of product characteristic difference between sustainable palm oil and conventional palm oil makes it difficult to generate product value propositions. It is only the more stringent growing and milling processes as well as traceability that result in higher production cost for sustainable palm oil, hence the higher selling price. Labeling may create the additional value proposition sought but the type of label and the choice of words are important in order not to discriminate the palm

oil against other oil seeds (Kumar, Diaconu, Basiron, & Sundram, 2015). Buyers of palm oil need to move beyond price considerations to consider all other aspects of the product specifications such as quality, food safety including the geographical origin of the products including the source of product (Dijk, 2012). Interestingly, Borlan & Lindgreen (2013) found buyers were willing to pay a higher price when the firms' sustainable performances is integrated to industry expectation and stakeholder perception.

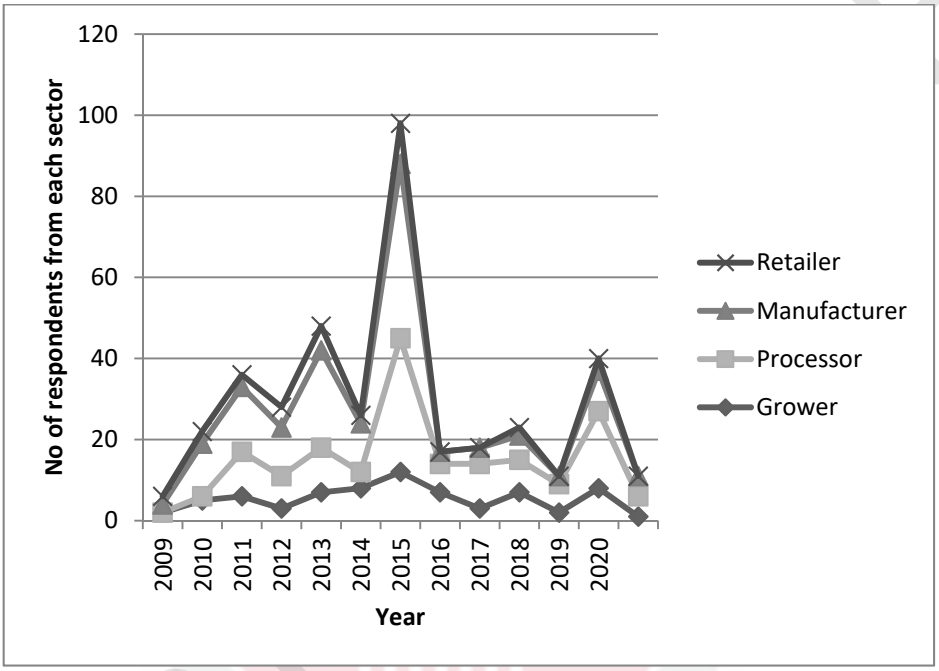

Figure 1.6 : RSPO Time Bound Plan for Four Categories

Fourthly, the palm oil industry itself is evolving as it tries out different sustainable standards and attempts to increase the market size for sustainable palm oil. The uptake of ISPO has been slow and its credibility questioned (Gnych et al., 2015). One of the founding member of RSPO, Migros, the Swiss retailer had said in 2004 "Ten years from now, sustainable production of palm oil should be business as usual. We want to achieve a worldwide change of the palm oil production" (Peters, Hofstetter, & Hoffmann, 2011). Regrettably, ten years and three standards later, the adoption of sustainable practices upstream at the plantations and mills are still slow and uncertain. The government regulators and private initiatives are all finding their grounds among the industry players and understanding how standards influences the buyer preferences would be useful both for the industry and the standard setting bodies.

1.5 Thesis Statement

The current state of palm oil supply chain is less than sustainable and to improve sustainability performance of the chain, the buyers of palm oil need to increase the procurement of sustainable palm oil. These procurement activities may benefit from the presence of and multi-stakeholder initiatives leading to the following thesis statement:-

1. Sustainable procurement activities manifested in the buying of sustainable palm oil will likely improve the overall sustainable performance of the palm oil supply chain and the presence of private multi-stakeholder governance would facilitate the buying firms to carry out their sustainable procurement activities.
2. The insight gained from this study would add further to the body of knowledge on the roles played by multi-stakeholder to advance sustainability, in particular agriculture commodities.

1.6 Research Questions

The firms' decisions to carry out sustainable procurement usually rest on certain triggers and In responding to these triggers, enablers will drive the firm to carry out sustainable procurement which is facilitated with the formulation of appropriate strategies and implementation of key sustainable procurement practices. The effectiveness of the role of RSPO within the context of the individual firms' sustainable procurement endeavors and within the context of the chain are also ripe for exploration to advance the knowledge on the role of multi-stakeholders for sustainability governance of the supply chain. Therefore, the research questions for this study are:-

1. What are triggers and enablers that will cause the firms to carry out sustainable procurement strategies and practices?
2. Do the governing presence of the multi-stakeholder RSPO supports the firm's sustainable procurement strategies and practices?
3. Do the sustainable procurement strategies and practices of the firms improve the sustainability performance of the chain?

1.7 Research Objective

The objective of this study is to investigate if the sustainable procurement activities carried out by buyers supported by RSPO would improve the sustainability performance of the palm oil supply chain. A survey will be administered on the buyers to investigate these activities and the data collected would support the conclusions drawn on the role of RSPO in the buying firms and the impact of the activities on the sustainability performance of the palm oil supply chain.

1.8 Scope and Key Assumption

Improving sustainability of palm oil supply chain depends on both selling and buying of sustainable palm. The scope of this study is focused on the buying of sustainable palm oil for use as food and human consumption, namely crude palm oil, refined palm oil and

palm olein. This study also assumes that sustainable procurement decisions are made solely on commercial reasons, not altruistic. This study does not include the use of palm oil as biofuel and the related certification of International Sustainable and Carbon Certification (ISCC). The categories of the supply chain players are deemed to be the same as those of RSPO and this study will consider the traders/processors, manufacturers, retailers as the communality of buyers as depicted in Figure 1.7. In the context of this study, the traders and processors are those firms that buy the processed palm oil from the mill for onward processing and refining. The manufacturers are the firms that purchase the crude palm oil and palm olein to use in their manufacturing processes and the retailers are the firms that purchase palm oil olein to sell to end customers. The fresh fruit bunches are sent to mills for extraction of crude palm oil, which is then refined, blended and deodorized at the refineries. This product the goes through the fractionation process producing RBD palm olein and palm strearin as depict in Figure 1.8 (Green Palm Sustainability, 2015). This study will focus on the procurement of crude palm oil and RBD palm olein, which are early-on product of the palm product chain.

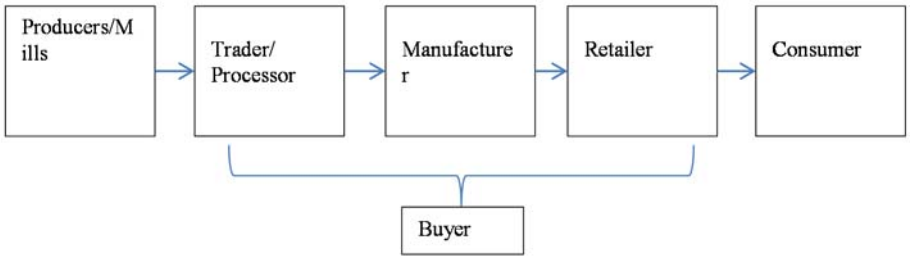

Figure 1.7 : Categories of Buyers

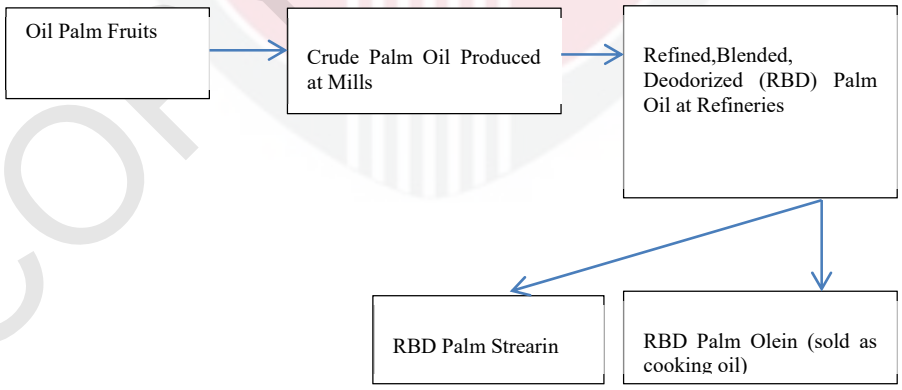

Figure 1.8 : Palm Oil Products

1.9 Definition

The definition included below are theoretical in nature, to encapsulate attributes or characteristics of the concept, structure or form of how the concept relates to others, the well-formedness, specificity and scoped for the purpose of this study (Bagozzi, 2011). Definition are important as they provide the building blocks for the research framework and as postulated by Mackenzie et al. (2011), definitions for the constructs ought to be clear and concise, not be subjected to multiple interpretations, not overly technical, positively defined and direct.

	Definition
Sustainability Trigger	Event that causes particular action, process or situation to advance sustainability (Author)
Sustainability Enabler	One that enables power, mean, competence or ability to another to achieve sustainability in the supply chain (Faisal, 2010)
Sustainability Risk	A condition or event related to social and/or environmental matters that may provoke harmful stakeholder reaction (Hofmann, Busse, Bode, & Henke, 2014).
Sustainable Procurement	The consideration of environmental, social, ethical and economic issues in the management of the organization's external resources in such a way that the supply of all goods, services, capabilities and knowledge that are necessary for running, maintaining and managing the organization's primary and support activities provide value not only to the organization but also to society and the economy (Miemczyk et al., 2012).
Sustainable Procurement Strategy	Plans to engage in process of sustainable procurement (Mintzberg, 1987a) (Miemczyk et al., 2012)
Sustainable Procurement Practices	Operationalization of the strategies by implementing procurement processes and activities in accordance to triple bottom line principles (Author).
Multi-stakeholder Sustainability Governance	Private roundtable arrangements for improving the sustainability of a global commodity chain comprising of multi-stakeholders from businesses and non-governmental organizations having decision-making power to develop standards and other tools for making the entire commodity chain more sustainable. (Schouten et al., 2012)

Stakeholder Integration	The ability to establish positive collaborative relationships with a wide variety of stakeholders (Plaza-Úbeda, de Burgos-Jiménez, & Carmona-Moreno, 2010)
Stakeholder Salience	Degree to which managers give priority to competing stakeholder claim (Mitchell, Agle, & Wood, 1997).
Supply Chain Transparency	The extent to which all network stakeholders have shared understanding of, and access to product and process related information that they request, without loss, noise, delay and distortion (Beulens, Broens, Folstar, & Hofstede, 2005).
Governance	Organizational or structural arrangements designed to determine and influence the behavior of organization members (Huang, Cheng, & Tseng, 2014).
Stakeholder	Persons or groups with legitimate interest in procedural and/or substantive aspects of the corporate activities, who are identified by their interest in the corporation regardless that the corporation may not have any reciprocal interest in them (Donaldson, Preston, & Preston, 1995).

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