**Letter of introduction for having quantitative interview to MNC**

Dear Mr.

**Questionnaire on Technological Relationship between Foreign Subsidiaries / TNCs and Malaysian Local Suppliers**  
*for TNCs*

I refer to our conversation today, 16\textsuperscript{th} December 08 regarding the above matter.

2. For your information, I am currently involved in the above research for my PhD at the University of Malaya. This research is part of a study on technological capability building in the resource-based industry at the university under the Department of Science & Technology Studies. Briefly, the aim of the study is to identify the extent of the relationships created by foreign firms / TNCs with their local suppliers in the resource-based industry.

2. The background of the study is based on the fact that with the dramatic increase in cross-border investments over the past decades in Malaysia and the region, the need to understand the impact of foreign firms or TNCs on their host country’s development path has become essential. Through this survey it is hoped that the relationships created by foreign firms / TNCs with their local suppliers in the resource-based industry could be analyzed. The findings could then be used as a recommendation for the Malaysian government on how to attract more investments into the country and also for Malaysian TNCs to invest abroad.

3. This research will use direct interviews with managers in the purchasing department, engineers and company directors. In regard to this, I appreciate if you could
have an interview with me as soon as possible. For your information, the interview for the questionnaire can be completed in less than 40 minutes. **I am available for the interview from now onward and can be contacted via:**

1. email at zakariahabdullah@gmail.com.
2. phone/ SMS at 013-396-9119
3. my university’s department address or phone number

4. Enclosed is the set of questionnaire which I will be using for the interview. Please give this questionnaire to the officer in charge of procurement/purchasing if you are not available. If you or the officer would like to discuss any of the questions, please feel free to call or sms me. **The officer entrusted may complete the questionnaire beforehand** and I will personally collect the questionnaire from the officer during the allocated interview time arranged for me by your firm. It is hope during my visit to your firm I could get further elaboration on the survey questions.

5. All companies that send in a complete questionnaire will receive a summary report of the results.

   **I wish to assure you that all answers will be kept strictly confidential. Responses will not be reported individually but, will be combined into aggregate data. I wish to further assure you that all data will be destroyed once used.**

Thank you in advance for your assistance.

Once again thank you for your participation.

Sincerely yours,

Zakariah B. Abdullah
Department of Science & Technology Studies
Faculty of Science, University of Malaya
50603 Kuala Lumpur
Dear Sir,

Questionnaire on Technological Relationship between Foreign Subsidiaries / MNCs and Malaysian Local Suppliers

- for suppliers

I refer to the above subject matter.

2. For your information, I am currently involved in the above research for my Ph. D at the University of Malaya. This research is part of a study on technological capability building in the resource-based industry at the university under the Department of Science & Technology Studies. Briefly, the aim of the study is to identify the extent of the relationships created by foreign firms / Multinational Corporations (MNCs) with their local suppliers in the resource-based industry.

3. The background of the study is based on the fact that with the dramatic increase in cross-border investments over the past decades in Malaysia and the region, the need to understand the impact of foreign firms or MNCs on their host country’s development path has become essential. Through this survey it is hoped that the relationships created by foreign firms / MNCs with their local suppliers in the resource-based industry could be analyzed. The findings could then be used as a recommendation for the Malaysian government on how to attract more investments into the country and also for Malaysian MNCs to invest abroad.
4. This research will use direct interviews with managers, engineers and company directors. In regard to this, I appreciate if you could help arranged for me to have an interview with your officer in charge of supplying the materials/services to your customers. For your information the questionnaire can be completed in less than an hour. I am available for the interview from now onward and can be contacted via:

i) email at zakariahabdullah@gmail.com.
ii) phone/ SMS at 013-396-9119
iii) my university’s department address or phone number

5. Enclosed is the set of questionnaire which I will be using for the interview. If you are not available, please give this questionnaire to the officer in charge. If you or the officer would like to discuss any of the questions, please feel free to call or sms me. The officer entrusted may complete the questionnaire beforehand and return it using the envelope enclosed soonest possible or I will personally collect the questionnaire from the officer during the allocated interview time arranged for me by your firm. It is hope during my visit to your firm I could get further elaboration on the survey questions.

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Sincerely yours,

Zakariah B. Abdullah
Department of Science & Technology Studies
Faculty of Science, University of Malaya
50603 Kuala Lumpur
TECHNOLOGICAL RELATIONSHIP BETWEEN FOREIGN SUBSIDIARIES / TNCs AND MALAYSIAN LOCAL SUPPLIERS
(~ for TNCs)

Firm-level Study

Survey Questionnaire

This study is being undertaken as part of the research work for a post-graduate student at the Department of Science & Technology Studies, University of Malaya. The aim of the study is to identify the extent of the relationships created by TNCs / foreign firms with their local suppliers in the resource-based industry.

- The information required is for the year 2007; unless otherwise stated.

- Complete confidentiality is assured with this survey. The information that you provide will be used in an aggregate form only. Individual firm/company data and firm/company identity will be completely anonymous.

- All participating firms/companies will be given complimentary copies of the report/publications generated from the study and given access to final working papers.
QUESTIONNAIRE OF TECHNOLOGICAL RELATIONSHIP BETWEEN FOREIGN SUBSIDIARIES / TNCs AND MALAYSIAN LOCAL SUPPLIERS

-Preliminary Notes-

PRELIMINARY NOTES

For the purpose of this research, all types of contractual arrangements between Transnational Corporations (TNCs) and local suppliers will not be differentiated. The terms used ‘local suppliers’ cover all types of local companies providing inputs to the subsidiary TNCs.

This research is about building relationship between TNCs and their Malaysian local suppliers in the petrochemical industry. For this research, the industry is divided into three stages. Stage I, by which such basic materials as ethylene, propylene, benzene and butadiene are produced by distilling or cracking petroleum; Stage II, by which such intermediate materials as low-density polyethylene (LDPE), high-density polyethylene (HDPE), polypropylene (PP), acrylonitrile monomer and caprolactum are produced by polymerizing or cracking the basic materials; and Stage III, by which the intermediate materials are processed into synthetic resins, synthetic fibers, synthetic rubber and other petrochemical products.

How to fill the questionnaire:

Feel free to comment on any questions or to qualify your answers if you wish. Your comments will be read and taken into account.

The main types of answers are as follows: when you see

- a table, please tick ‘✓’ to the appropriate category;
- the words Yes and No, please circle either one
- else, feel free to answer the questions to the best of your knowledge.

Thank you for answering all the questions.
I. Interview information

Date : Time :
Name of Firm : Titan Group (M) Sdn Bhd.
Name of the person interviewed :
Position of the person interviewed :

II. General information of the company

1) Year of establishment of the subsidiary in Malaysia :
2) Name of Parent company:
3) Please indicate the year your company begin production:
4) What is the ownership structure of your firm, please indicate
the appropriate form,

( ) State owned (100%)
( ) 100 percent foreign-owned subsidiary
( ) 100 percent locally owned
( ) Joint venture → Local equity _______%
          Foreign equity _______%

5) Number of total employees (in year )
6) Number of Foreign employees (in year )

7) Paid up capital (in year )
8) Sales/Turnover (in year )

9) What percentage of Sales/Turnover was spent in Internal Training?
   in Year 2007 _______
   in early 2000 _______
   in Middle 1990s _______

10) What share of your firm’s production go to:

In Year 2007

- Local market %
- Singapore %
- Taiwan %
- Korea %
- Japanese market %
- China Market %
- United States market %
- European market %
- Other markets %

TOTAL 100 %
III. Production Information

1) Based on the three stages of the petrochemical industry, please indicate which stage or stages does your company involve in.

(  ) Stage I, my company produces basic materials as ethylene, propylene, benzene and butadiene by distilling or cracking petroleum;

(  ) Stage II, my company produces intermediate materials such as low-density polyethylene (LDPE), high-density polyethylene (HDPE), polypropylene (PP), acrilonitrile monomer and caprolactum by polymerizing or cracking the basic materials;

(  ) Stage III, my company uses the intermediate materials such as LDPE, HDPE and PP and processed them into synthetic resins, synthetic fibers, synthetic rubber and other petrochemical products.

(  ) My company produces and sells other petrochemical products (derivatives) as below.

2) What are the THREE (3) main products of your firms? Please specify your main products produced in Malaysia, and when you began producing them.

<table>
<thead>
<tr>
<th>Main Product produced</th>
<th>Percentage outsourced</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>(from year          )</td>
</tr>
<tr>
<td>b)</td>
<td>(from year          )</td>
</tr>
<tr>
<td>c)</td>
<td>(from year          )</td>
</tr>
</tbody>
</table>

IV. Your company’s external linkages

1) Is your company required by the Malaysian regulations to purchase local inputs?

Yes           No

2) If so, what is the current rate of local content specified by the Malaysian regulations?

_________________ %

3) What other types of government regulations does your company apply or participate in? (e.g. “umbrella” marketing scheme, vendors, subcontracting scheme, etc..)

   e.g._____________
4) Please, indicate the origin of your company’s supplies:

a) Do you receive inputs from your parent firm or other subsidiaries/affiliates of your parent company?

Yes  No  If ‘No”, please go to question c) below.

b) If so, please specify the share these *internal supplies (inputs received from your parent company or other subsidiaries/affiliates of your parent company)* represent in your total supplies?

___________ %

c) Do you receive inputs from companies other than your parent company or subsidiaries/affiliates?

Yes  No

d) If so, please specify the share these *external supplies (inputs received from companies other than your parent firm or subsidiaries/affiliates)* represent in your total supplies?

___________ %
V. Company’s Suppliers

The following are the list of suppliers (with symbols used) with whom your company may have linkages in terms of outsourcing:

**Commodity Suppliers**
- ~ Commodity suppliers *(companies which compete on the basis of low cost)*

**Collaborate contractors**
- ~ Collaboration specialists or contractors *(companies that sell parts/services which use standardized technologies (general asset and skills) which meet customer specifications and delivery schedules)*

**Tech-Eng contractors**
- ~ Technology/Engineering specialists or contractors *(companies which invest heavily in firm-specific skills and assets for producing proprietary products)*

**Prob-solve/ Licensors**
- ~ Problem-solving suppliers / licensors *(companies compete primarily on its ability to continuously acquire and evolve new ways to solve process and product problems. More often they are large companies)*

For the following sections, where needed in the line of questioning, please specify ( √ ) to the appropriate suppliers.

VI. Product related linkages with local Malaysian owned suppliers

1) Do you provide proprietary knowledge to local suppliers?

- Proprietary knowledge
- By licensing?
- By granting local firms to use it?
- By subcontracting?

<table>
<thead>
<tr>
<th>Commodity suppliers</th>
<th>Collaborate contractors</th>
<th>Tech-Eng contractors</th>
<th>Prob-solve/ Licensors</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

2) Do you provide detailed product component / services / feedstock/ raw material designs or technical specifications for local suppliers?

- Product designs
- Technical specifications
- By drawing
- By different method (please specify)

<table>
<thead>
<tr>
<th>Commodity suppliers</th>
<th>Collaborate contractors</th>
<th>Tech-Eng contractors</th>
<th>Prob-solve/ Licensors</th>
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</table>

6
3) When you are planning to launch new products, when or at which development stage do you provide advance technical information about changes in products/raw materials so that local firms can produce components/feedstock/services for the new product?

<table>
<thead>
<tr>
<th>Commodity suppliers</th>
<th>Collaborate contractors</th>
<th>Tech-Eng contractors</th>
<th>Prob-solve/ Licensors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advance technical information</td>
<td></td>
<td></td>
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<tr>
<td>How in advance</td>
<td></td>
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</tbody>
</table>

4) Do you provide technical consultation or advice to local firms on product/services/feedstock/raw materials characteristics or parameters so that local suppliers can adopt and absorb product related technology?

<table>
<thead>
<tr>
<th>Commodity suppliers</th>
<th>Collaborate contractors</th>
<th>Tech-Eng contractors</th>
<th>Prob-Solve/ Licensors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical consultation</td>
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<tr>
<td>Technical advice</td>
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</tbody>
</table>

5) Do you give feedback on local suppliers’ performance so that they can improve the product/services/feedstock/raw materials further?

<table>
<thead>
<tr>
<th>Commodity suppliers</th>
<th>Collaborate contractors</th>
<th>Tech-Eng contractors</th>
<th>Prob-solve/ Licensors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feedback</td>
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<tr>
<td>Method of giving feedback</td>
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</tbody>
</table>

6) Do you have R&D facilities in Malaysia?

<table>
<thead>
<tr>
<th>R&amp;D facilities</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>For what purpose?</td>
<td></td>
<td></td>
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</table>

7) Do you collaborate with local suppliers in product development through joint R&D?

<table>
<thead>
<tr>
<th>Commodity suppliers</th>
<th>Collaborate contractors</th>
<th>Tech-Eng contractors</th>
<th>Prob-solve/ Licensors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration with local suppliers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method of joint R&amp;D</td>
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</tbody>
</table>

8) How many people are involved in R&D? _________

9) How much do you spend on R&D as a percentage of sales? _______

10) Do you collaborate in product development with local research institute or universities?

<table>
<thead>
<tr>
<th>Collaboration with local research institutes</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration with local universities</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td></td>
<td></td>
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</tbody>
</table>


11) How useful is such collaboration: _________________________________

12) If there is no collaboration, please state the reason: ____________________

**VII. Process related linkages with Malaysian owned suppliers**

1) Do you transfer machine-embodied process technology by providing relevant process machinery or equipments to your suppliers?

<table>
<thead>
<tr>
<th>For products you want local suppliers to produced?</th>
<th>Commodity suppliers</th>
<th>Collaborate contractors</th>
<th>Tech-Eng contractors</th>
<th>Prob-solve/ Licensors</th>
</tr>
</thead>
<tbody>
<tr>
<td>For testing equipment for quality control?</td>
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</tbody>
</table>

2) Do you provide technical support on process related activities to your suppliers?

<table>
<thead>
<tr>
<th>General technical support</th>
<th>Commodity suppliers</th>
<th>Collaborate contractors</th>
<th>Tech-Eng contractors</th>
<th>Prob-solve/ Licensors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifically to improve local suppliers’ manufacturing process</td>
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<tr>
<td>Specifically to improve quality control methods</td>
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<tr>
<td>Specifically to improve inspection and testing methods</td>
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<tr>
<td>Specifically on selection or use of process equipment or technologies</td>
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</tbody>
</table>

3) Do you visit supplier’s facilities to provide advice?

<table>
<thead>
<tr>
<th>Visiting suppliers’ facilities</th>
<th>Commodity suppliers</th>
<th>Collaborate contractors</th>
<th>Tech-Eng contractors</th>
<th>Prob-Solve/ Licensors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visiting for advice on factory layout</td>
<td></td>
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<tr>
<td>Visiting for advice on installing the machinery</td>
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<tr>
<td>Visiting for advice on production planning</td>
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<tr>
<td>Visiting for advice on production problems and quality control</td>
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</tbody>
</table>
4) Do you attach your company’s engineers to local suppliers?

<table>
<thead>
<tr>
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<th>Tech-Eng contractors</th>
<th>Prob-solve/ Licensors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attach engineers to suppliers</td>
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<td></td>
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<tr>
<td>Length of attachment</td>
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<tr>
<td>Frequency of attachment</td>
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<tr>
<td>Others</td>
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</tbody>
</table>

5) Do you train local suppliers’ staff?

- By direct training
  - At their premises with your supplier’s staff
  - At their premises with your company’s staff
  - At your company
  - At parent company
  - At other premises
- By indirect training
  - At technical institution
  - Through Malaysian government scheme
  - Through other country’s institution’s scheme

<table>
<thead>
<tr>
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</tr>
</thead>
</table>

6) Have you used and/or participated in the following? If yes, with which suppliers?

- ILP Industrial Linkage Program Yes No
- VDP Vendor Development Program Yes No
- HRDF Human Resource Development Fund Yes No
- ITAF Industrial Technical Assistance Fund Yes No
- IAF Industrial Adjustment Fund Yes No
- DDI Double Deduction Incentives Yes No
- Others (please specify) ________________

7) If your answer to question 5) and 6) above has been 100% direct training, please specify reasons for not using training schemes organized by the government.

8) How do you fund training of local suppliers’ staff?

- Internal Fund %
- Parent Company’s Fund %
- Financial Institution %
- Malaysian Government Scheme %
9) Do you have a special department in your company to help maintaining relationship with local suppliers?

Department ___________ Yes No
Name of the department ___________________________
With which suppliers? ___________________________

10) Do you form special teams to assist local suppliers in process know-how or in operating equipment?

Team ___________ Yes No
Purposes of the team ___________________________
With which suppliers? ___________________________

11) Do you have co-operation arrangement clubs or meetings for exchanging technical issues with local suppliers?

- Cooperation arrangement club Yes No
  Frequency of meetings ___________________________
- Meeting
  Frequency of meetings ___________________________

Purpose of meetings:

  For quality control presentation Yes No
  Discussion of case studies on quality improvement Yes No
  Value analysis and cost reduction activities Yes No
  For organizing workshops on technical guidance and training Yes No
  Others ___________________________

12) How do you evaluate your suppliers? Please explain ___________________________

13) On what criteria do you select your suppliers? ___________________________

14) If your local employee wants to set up his/her own company as your company’s supplier, do you provide start-up assistance?

   Yes No

15) How many employees have set up their own companies/
   How many? When?

16) Do you have Supplier Development (SD) program?

   Yes No
### VIII) Organizational and Managerial related linkages

#### A.

- Do you assist local firms in adopting inventory managements system?  
- Do you assist local firms in product design know how?  
  
i) By sending technical personnel to local suppliers?  
ii) By sending managerial personnel to local suppliers?  
iii) Other methods  
- Do you assist local suppliers in implementing quality control system?  
  
i) By sending technical personnel to local suppliers?  
ii) By sending managerial personnel to local suppliers?  
iii) Other methods  
- Do you assist local suppliers in obtaining ISO certification?  
  
i) By sending technical personnel to local suppliers?  
ii) By sending managerial personnel to local suppliers?  
iii) Other methods

#### B.

- Do you introduce new management or new organizational practices to local suppliers?  
  
i) New management practices  
ii) New organizational practices  
  
a) network management  
b) financial systems  
c) purchasing systems  
d) marketing know how  
e) supply chain management  
f) others
IX. Benefits and costs from linkages with local Malaysian owned suppliers

1) Have you been able to ensure that the parts, components, services or resources procured meet your precise requirement?

Yes    No

2) Have you provided the necessary specifications to your suppliers?

Yes    No

3) When have you found the effects listed below as a result of linkages with local firms?
*Please indicate the year where you see such an improvement to the followings:

   i) Improvement of manufacturing process


Yes  No

   ii) Improvement of quality control


Yes  No

   iii) Improvement of existing products


Yes  No

   iv) Reduction of costs


Yes  No

   v) Improvement of delivery conditions


Yes  No
vi) Improvement of product design and/or development

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<tr>
<td>Status</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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</table>

4) What are the costs incurred (problems) for you to provide linkages to local suppliers?

X. Your company's relationship with your parent company in home country

Autonomy of decision in terms of supplies

1) Does your company receive advice from its parent company about purchase sourcing?

   Yes    No

2) If so, please specify how independent your company is from its parent company in its purchase sourcing of major inputs.

   Please, indicate one only:

   ( ) Subsidiary totally dependent in its purchase sourcing
   ( ) Subsidiary mostly dependent in its purchase sourcing
   ( ) Neither dependent nor independent
   ( ) Subsidiary mostly independent in its purchase sourcing
   ( ) Subsidiary totally independent in its purchase sourcing

3) Does parent company allow your subsidiary to decide the following?

   No Authority | Limited Authority | Full Autonomy

   a) Launching new products
   b) Adopting new processes
   c) Deciding which parts to be outsourced
   d) Changing relationships with local companies
   e) Choosing suppliers
   f) Spending for local suppliers’ staff training
   g) Others
4) Do you have any particular issues that your company has absolute authority relating with your relationship with suppliers?

XI. Factors affecting your linkages with local suppliers

Which of the following have encouraged technology transfer or stronger linkages to your company?

- Suppliers’ technological capabilities
  - Yes
  - No
- Suppliers’ willingness to adopt new technologies
  - Yes
  - No
- Level of technological development in Malaysia
  - Yes
  - No
- Support institutions
  - Yes
  - No
- Business environment
  - Yes
  - No
- Government regulations
  - Yes
  - No

Please elaborate _______________________

Others ______________________________


XII. Your local Malaysian owned suppliers

This study also covers local supporting firms for the petrochemical industry.

A. In order to assist me in compiling a list of such firms, please introduce at least three of your main suppliers in the following categories.

a) **Commodity suppliers** *(companies which compete on the basis of low cost)*

1) Name: 
Address: 
Tel: 
Length of relationship with your company: 
% of purchases: 

2) Name: 
Address: 
Tel: 
Length of relationship: 
% of purchases: 

3) Name: 
Address: 
Tel: 
Length of relationship: 
% of purchases: 

b) **Collaboration specialists or contractors** *(companies that sell parts/services which use standardized technologies (general asset and skills) which meet customer specifications and delivery schedules)*

1) Name: 
Address: 
Tel: 
Length of relationship: 
% of purchases 

2) Name: 
Address: 
Tel: 
Length of relationship: 
% of purchases 

3) Name: 
Address: 
Tel: 
Length of relationship: 
% of purchases: 
c) **Technology/Engineering specialists or contractors** *(companies compete primarily on its ability to continuously acquire and evolve new ways to solve process and product problems)*

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<thead>
<tr>
<th></th>
<th>Name:</th>
<th>Address:</th>
<th>Tel:</th>
<th>Length of relationship:</th>
<th>% of purchases</th>
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</table>

d) **Problem-solving suppliers / licensors** *(companies which invest heavily in firm-specific skills and assets for producing proprietary products)*

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<thead>
<tr>
<th></th>
<th>Name:</th>
<th>Address:</th>
<th>Tel:</th>
<th>Length of relationship:</th>
<th>% of purchases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td></td>
<td></td>
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<tr>
<td>2)</td>
<td></td>
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<tr>
<td>3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
B) Please specify the percentage value outsourced from the following suppliers?

( ) Commodity suppliers (*companies which compete on the basis of low cost*)

<table>
<thead>
<tr>
<th>% value outsourced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home country</td>
</tr>
<tr>
<td>1) Parent company</td>
</tr>
<tr>
<td>2) Sister company</td>
</tr>
<tr>
<td>3) Other TNCs</td>
</tr>
<tr>
<td>In Malaysia</td>
</tr>
<tr>
<td>4) Local Malaysian-owned companies</td>
</tr>
<tr>
<td>5) Your sister companies</td>
</tr>
<tr>
<td>6) Other TNCs</td>
</tr>
<tr>
<td>Outside Malaysia</td>
</tr>
<tr>
<td>7) Your sister companies</td>
</tr>
<tr>
<td>8) Other TNCs</td>
</tr>
</tbody>
</table>

Total value outsourced (100%)

( ) Collaboration specialists or contractors (*companies that sell parts/services which use standardized technologies (general asset and skills) which meet customer specifications and delivery schedules*)

<table>
<thead>
<tr>
<th>% value outsourced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home country</td>
</tr>
<tr>
<td>1) Parent company</td>
</tr>
<tr>
<td>2) Sister company</td>
</tr>
<tr>
<td>3) Other TNCs</td>
</tr>
<tr>
<td>In Malaysia</td>
</tr>
<tr>
<td>4) Local Malaysian-owned companies</td>
</tr>
<tr>
<td>5) Your sister companies</td>
</tr>
<tr>
<td>6) Other TNCs</td>
</tr>
<tr>
<td>Outside Malaysia</td>
</tr>
<tr>
<td>7) Your sister companies</td>
</tr>
<tr>
<td>8) Other TNCs</td>
</tr>
</tbody>
</table>

Total value outsourced (100%)
Technology/Engineering specialists or contractors (companies compete primarily on its ability to continuously acquire and evolve new ways to solve process and product problems)

% value outsourced

<table>
<thead>
<tr>
<th>Home country</th>
<th>1) Parent company</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2) Sister company</td>
</tr>
<tr>
<td></td>
<td>3) Other TNCs</td>
</tr>
<tr>
<td>In Malaysia</td>
<td>4) Local Malaysian-owned companies</td>
</tr>
<tr>
<td></td>
<td>5) Your sister companies</td>
</tr>
<tr>
<td></td>
<td>6) Other TNCs</td>
</tr>
<tr>
<td>Outside Malaysia</td>
<td>7) Your sister companies</td>
</tr>
<tr>
<td></td>
<td>8) Other TNCs</td>
</tr>
</tbody>
</table>

Total value outsourced (100%)

Problem-solving suppliers / licensors (companies which invest heavily in firm-specific skills and assets for producing proprietary products)

% value outsourced

<table>
<thead>
<tr>
<th>Home country</th>
<th>1) Parent company</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2) Sister company</td>
</tr>
<tr>
<td></td>
<td>3) Other TNCs</td>
</tr>
<tr>
<td>In Malaysia</td>
<td>4) Local Malaysian-owned companies</td>
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<tr>
<td></td>
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</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>Outside Malaysia</td>
<td>7) Your sister companies</td>
</tr>
<tr>
<td></td>
<td>8) Other TNCs</td>
</tr>
</tbody>
</table>

Total value outsourced (100%)

Thank you once again for your contribution, it is very much appreciated.
This study is being undertaken as part of the research work for a post-graduate student at the Department of Science & Technology Studies, University of Malaya. The aim of the study is to identify the extent of the relationships created by foreign firms/MNCs with their local suppliers in the resource-based industry.

- The information required is for the year 2007 or 2008; unless otherwise stated.
- Complete confidentiality is assured with this survey. The information that you provide will be used in an aggregate form only. Individual firm/company data and firm/company identity will be completely anonymous.
- All participating firms/companies will be given complimentary copies of the report/publications generated from the study and given access to final working papers.
PRELIMINARY NOTES

For the purpose of this research, all types of contractual arrangements between Multinational Corporations (MNCs) and local suppliers will not be differentiated. The terms used 'local suppliers' cover all types of local companies providing inputs to the subsidiary.

This research is about building relationship between MNCs and their Malaysian local suppliers in the petrochemical industry. For this research, the industry is divided into three stages. Stage I, by which such basic materials as ethylene, propylene, benzene and butadiene are produced by distilling or cracking petroleum; Stage II, by which such intermediate materials as low-density polyethylene (LDPE), high-density polyethylene (HDPE), polypropylene (PP), acrylonitrile monomer and caprolactum are produced by polymerizing or cracking the basic materials; and Stage III, by which the intermediate materials are processed into synthetic resins, synthetic fibers, synthetic rubber and other petrochemical products.

How to fill the questionnaire:

Feel free to comment on any questions or to qualify your answers if you wish. Your comments will be read and taken into account.

The main types of answers are as follows: when you see

- the sign ( ), please tick ‘X’ to the appropriate category;
- the words Yes and No, please circle either one
- else, feel free to answer the questions to the best of your knowledge.

Thank you for answering all the questions.
I. Interview information

Date Time

Name of the company interview

Name of MNCs affiliated with this company

Nationality of affiliated MNCs

II. General information of the company

1) Name of the person interviewed

2) Position

3) Year of establishment in Malaysia

4) Please indicate the year your company begin production/operation:

5) What is the ownership structure of your firm, please indicate the appropriate form,

   ( ) State owned (100%)
   ( ) 100 percent foreign-owned subsidiary
   ( ) 100 percent locally owned
   ( ) Joint venture ➔ Local equity _______
       Foreign equity _______

6) Number of total employees (in year )
7) Number of Foreign employees (in year )
8) Paid up capital (in year )
9) Sales/Turnover (in year )

10) Terms of agreement with MNCs

   ( ) Subcontracting agreements
   ( ) Informal agreements
   ( ) Others, please specify ________

11) What percentages of your production/services do you export?

   In year 2007/2008
   In early 2000
   In mid 1990s
   In early 1990s
   In mid 1980s
12) What are the nationalities and share of customers to which you supply your products?

<table>
<thead>
<tr>
<th>In Malaysia</th>
<th>Outside Malaysia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>%</td>
</tr>
<tr>
<td>Taiwan</td>
<td>%</td>
</tr>
<tr>
<td>Korean</td>
<td>%</td>
</tr>
<tr>
<td>Singaporean</td>
<td>%</td>
</tr>
<tr>
<td>China</td>
<td>%</td>
</tr>
<tr>
<td>American</td>
<td>%</td>
</tr>
<tr>
<td>European</td>
<td>%</td>
</tr>
<tr>
<td>Joint Venture</td>
<td>%</td>
</tr>
</tbody>
</table>

**III. Production/Services Information**

1) Please specify (X) for your main area of business.

( ) Basic Items Suppliers/contractors *(Your company supplies basic items/parts such as nuts and bolts that use standardized technologies and meet customer specifications, and delivery services. Your company can be in many industries.)*

( ) Technology/Engineering suppliers/contractors *(Your company supply highly specialized products and services and continuously acquires and evolves new ways to solve process and product problems.)*

( ) Technology and Engineering Consulting Services *(Your company offers knowledge-intensive professional services.)*

( ) Others (please specify) ______________________

2) Please specify (X) as to the nature of your company’s work.

( ) Basic items suppliers. Please specify: ______________________
( ) Distributors
( ) Engineering Contractors
( ) Plant Designers
( ) Consulting Services
( ) Maintenance & Plant Services
( ) Equipment Suppliers
( ) Equipment Fabricators
( ) Instrumentation
( ) Intellectual Property licensors
( ) Others. Please specify: ______________________
IV. Your company’s customers

Who are your customers?

1) Based on the three stages of the petrochemical industry, please indicate your customers.

( ) My company’s customers produce basic materials such as ethylene, propylene, benzene and butadiene by distilling or cracking petroleum;

( ) My company’s customers produce intermediate materials such as low-density polyethylene (LDPE), high-density polyethylene (HDPE), polypropylene (PP), acrylonitrile monomer and caprolactum by polymerizing or cracking the basic materials;

( ) My company’s customers use the intermediate materials such as LDPE, HDPE and PP and processed them into synthetic resins, synthetic fibers, synthetic rubber and other petrochemical products.

( ) My company’s customers produce Other petrochemical products than the above.

2) Besides petrochemical, are you a supplier to the oil & gas industry?  

   Yes  No

3) In Malaysia, your firm first began with supplying to the oil & gas industry?  

   Yes  No

V. Product related linkages with MNCs subsidiaries in Malaysia

1) Do you receive proprietary knowledge from MNCs subsidiaries in Malaysia?

   Proprietary knowledge       Yes  No
   By licensing?               Yes  No
   By granting local firms to use it? Yes  No
   By subcontracting?          Yes  No

2) Do you receive detailed product/services/feedstock/raw materials designs or technical specifications from MNCs?

   Product designs       Yes  No
   Technical specifications Yes  No
   By drawing            Yes  No
   By different method (please specify)  
   How?                 

3) If customers are planning to launch new products, do you receive advance technical information about changes in MNC products/feedstock/raw materials so that you can produce components/feedstock/materials for the new products?

   Advance technical information Yes  No
   How in advance

4) If customers are planning to launch new products, do you receive advance technical information about changes in MNC products/feedstock/raw materials so that you can produce components/feedstock/materials for the new products?

   Advance technical information Yes  No
   How in advance

5) If customers are planning to launch new products, do you receive advance technical information about changes in MNC products/feedstock/raw materials so that you can produce components/feedstock/materials for the new products?

   Advance technical information Yes  No
   How in advance

5
4) Do you receive technical consultation or advice from MNCs on product / services / feedstock / raw materials characteristics or parameters so that you can adopt and absorb product related technology?

<table>
<thead>
<tr>
<th>Technical information</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical advice</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

5) Do you receive feedback on your performance from MNCs so that you can improve the product/ feedstock/ raw materials further?

<table>
<thead>
<tr>
<th>Feedback</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of giving feedback</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6) Do you have R&D facilities?

<table>
<thead>
<tr>
<th>R&amp;D facilities</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

7) How much do you spend on R&D as a percentage of sales? ______________

8) Do you have the capacity for product development?

<table>
<thead>
<tr>
<th>Other information on your technological capability</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

9) Do you collaborate with customers in product development through joint R&D?

<table>
<thead>
<tr>
<th>Method of joint R&amp;D</th>
<th></th>
</tr>
</thead>
</table>

10) Do you collaborate in product development with local research institutes or universities?

<table>
<thead>
<tr>
<th>Collaboration with local research institute</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration with local universities</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Others (please specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11) Have you patented any process or product? Yes No

VI. Process related linkages with MNCs

1) Do you acquire process technology by receiving relevant process machinery or equipment from customers (MNCs)?

<table>
<thead>
<tr>
<th>For products you produce?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>For testing equipment for quality control?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
2) Do you receive technical support on process related activities from customers (MNCs)?

<table>
<thead>
<tr>
<th>Support Type</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>General technical support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specifically to improve your company’s manufacturing process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specifically to improve quality control methods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specifically to improve inspection and testing methods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specifically on selection or use of process equipment or technologies</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3) Do your customers (MNCs) visit your facility to provide advice?

- Visiting suppliers’ facilities
  - Frequency
  - Yes No
- Visiting for advice on factory layout
  - Frequency
  - Yes No
- Visiting for advice on installing the machinery
  - Frequency
  - Yes No
- Visiting for advice on production planning
  - Frequency
  - Yes No
- Visiting for advice on production problems and quality control
  - Frequency
  - Yes No

4) Do your customers (MNCs) send their engineers to your company?

<table>
<thead>
<tr>
<th>Sending Type</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sending engineers to your company</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of sending them</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency of sending them</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Any differences in Nationality of MNCs in terms of sending engineers to your company?
5) Do you **train** your company’s staff?

<table>
<thead>
<tr>
<th>Training</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

How much do you spend for the training?

- **By direct training**
  
<table>
<thead>
<tr>
<th>% of total training (if available)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) at your premise with MNCs staff</td>
</tr>
<tr>
<td>ii) at your premise with MNCs parent company’s staff</td>
</tr>
<tr>
<td>iii) at customer’s premise</td>
</tr>
<tr>
<td>iv) at customer’s parent company</td>
</tr>
<tr>
<td>v) at other premises</td>
</tr>
</tbody>
</table>

- **By indirect training**
  
<table>
<thead>
<tr>
<th>% of total training (if available)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) at technical institution</td>
</tr>
<tr>
<td>ii) through Malaysian government scheme</td>
</tr>
<tr>
<td>iii) through other country’s institution’s scheme</td>
</tr>
</tbody>
</table>

- Any differences in Nationality of MNCs in terms of training?

6) Have you used and/or participated in the following?

- ILP Industrial Linkages Program     Yes   No
- VDP Vendor Development Program      Yes   No
- HRDF Human Resource Development Fund Yes   No
- ITAF Industrial Technical Assistance Fund Yes   No
- IAF Industrial Adjustment Fund      Yes   No
- DDI Double Deduction Incentives     Yes   No
- MIDF Malaysia Investment Development Fund Yes   No
- SIRIM for quality control and standards Yes   No
- MIDA for Incentives                 Yes   No
- Others (please specify)             ____________

7) If you do not participate in any government schemes, please specify reasons why you do not use them.
8) How do you fund the training of your staff?

- Your company %
- Customers %
- Customer’s Parent Company’s Fund %
- Financial institution in Malaysia %
- Malaysian government scheme %

9) Do you have special department in your company which mainly helps maintaining relationship with customers?

Department  Yes  No
Name of the department __________________________

10) Do your customers form special teams to assist your company’s in process know-how or in operating equipment?

- Team  Yes  No
- Purposes of the team __________________________

11) Are you a member of cooperation arrangement club or meetings established by customer?

- Cooperation arrangement club  Yes  No

i) Nationality of customer
   Frequency of meetings

ii) Nationality of customer
    Frequency of meetings

- Meeting  Yes  No

i) Nationality of customer
   Frequency of meetings

   Purposes of meetings:
   - For quality control presentation  Yes  No
   - Discussion of case studies on quality improvement  Yes  No
   - Value analysis and cost reduction activities  Yes  No
   - For organizing workshops on technical guidance and training  Yes  No
   - Others __________________________
ii) Nationality of customer
Frequency of meetings

Purposes of meetings:

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>For quality control presentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discussion of case studies on quality improvement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value analysis and cost reduction activities</td>
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<td></td>
</tr>
<tr>
<td>For organizing workshops on technical guidance and training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12) Do your customers evaluate your performance? Please explain ____________

13) On what criteria were you selected as a supplier?________________________

14) Do you participate in any Supplier Development (SD) program? Yes No

VII. Organizational and managerial related linkages with MNCs

1) Do you receive any assistance in adopting inventory management systems?
   Yes No

2) Do you receive any assistance in product designing know how?
   • By receiving technical personnel from customers? Yes No
   • By receiving managerial personnel from customers? Yes No
   • Other methods _______________

3) Do you receive any assistance in implementing quality control systems?
   • By receiving technical personnel from customers? Yes No
   • By receiving managerial personnel from customers? Yes No
   • Other methods ____________

4) Do you receive any assistance in obtaining ISO certification?
   • By receiving technical personnel from customers? Yes No
   • By receiving managerial personnel from customers? Yes No
   • Other methods ______________
5) Do your customers introduce new management or new organizational practices to you?
   - New management practices
     Yes  No
   - New organizational practices
     Yes  No
     Network management
     Yes  No
     Financial management
     Yes  No
     Purchasing systems
     Yes  No
     Marketing know-how
     Yes  No
     Supply chain management
     Yes  No
     Others __________________

VIII. Improvement of your performance as a result of linkages with MNCs

Have you found any improvements as a result of linkages with customers?
Please indicate the year where you see such an improvement to the followings:
   - Improvement of manufacturing process
     Yes  No
   - Improvement of quality control
     Yes  No
   - Improvement of existing product
     Yes  No
   - Reduction of costs?
     Yes  No
   - Improvement of delivery conditions
     Yes  No
   - Improvement of product design and/or development
     Yes  No

2) What do you want to learn from foreign customers (MNCs subsidiaries in Malaysia)?

3) Have you received any significant training from customers?

4) What are the most beneficial factors for having foreign customers?

5) Are there any differences between nationalities?

Thank you for your contribution, it is very much appreciated.
Dear Sir,

**SEEKING COOPERATION TO INTERVIEW FOR**
**DATA COLLECTION PURPOSES FOR PhD STUDY**

May this letter reach you at the very best of your health.

Kindly be informed that the PhD candidate under my supervision namely, **ZAKARIAH BIN ABDULLAH, IC No: 610725-04-5395 and Matric No: SHB050007** will be conducting a PhD thesis entitled **“The Development of the Malaysian Petrochemical Industry: Knowledge Transfer through Backward Linkages”**. The research study is to examine how petrochemical firms obtain their technological capabilities and on how local suppliers upgrade their knowledge base in Malaysia’s petrochemical industry.

For your information, the study proposes that selected petrochemical firms will be among the main research respondents / informants in order to get all the relevant data and information pertaining to the development of the Malaysian petrochemical industry.

We are fully aware with your position as among the outstanding individuals in the development of the petrochemical industry in the country. In this respect, we humbly request for your consent and commitment to be interviewed by this student.

Thanking you in advance for all the support and assistance given to our student.

Yours truly,

ASSOC. PROF. DR K. THIRUCHELVAM
Lecturer
Dear

SEEKING COOPERATION TO INTERVIEW FOR
DATA COLLECTION PURPOSES FOR PhD STUDY

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We are fully aware with your position as among the outstanding individuals in the development of the petrochemical industry in the country. In this respect, we humbly request for your consent and commitment to be interviewed by this student. En Zakariah can be contacted at: H/p 013-396-9119 or e-mail at zakariahabdullah@gmail.com

Thanking you in advance for all the support and assistance given to our student.

Yours truly,

ASSOC. PROF. DR K. THIRUCHELVAM
Lecturer
Qualitative questions for MNCs

Questions for the Interview (MNCs): for Zakariah Bin Abdullah, University of Malaya

General
The nature of your firm’s work
Domestic/international operations of your firm
Your firm decision on entry mode
Others

Technological Capabilities
What are your firm’s efforts to build technological capabilities.
Source of improvement to your firm capabilities e.g. Training budget
Others

Linkages
Nature of your suppliers
What are the motivations/impediments to having linkages with local suppliers?
What kinds of linkages or supports have you provided to your suppliers?
What kind of technological benefits have been derived from having established and maintained relationship with your suppliers?
Others

Relations with government and research institutions/universities
How does the government support your firm?
How do universities/research institutions in Malaysia support your firm activities?
How does industry or petrochemical association or FMM support your firm activities?
Others
Questions for the Interview (Local Suppliers): Zakariah Abdullah, University of Malaya

General

The nature of your firm’s work
Your firm decision on entry mode

Technological Capabilities

What are your firm’s efforts to build technological capabilities?
Sources of improvement to your firm capabilities e.g. Training budget

Linkages

Nature of your customers and your firm’s process of service delivery
What competitive advantage does your firm exploit in having linkages with your customers?
What kinds of linkages has your customer provided?
What kind of technological benefits have been derived from having established and maintained relationship with your customers?

Relations with government and research institutions/universities

How does the government support your firm?
How do universities/research institutions in Malaysia support your firm activities?
How does industry or petrochemical association or FMM support your firm activities?
July 2, 2007

To Whom It May Concern

Dear Sir,

Please be informed that Zakariah bin Abdullah (IC No: 610725-04-5395) is a registered student of the Doctor of Philosophy programme conducted by this Department. His proposed research is focused on the development of technological capabilities in the petroleum chemical industry in Malaysia. We will be delighted if you could extend whatever cooperation to facilitate his research work.

Your kind cooperation in the above is deeply appreciated.

Thank you.

Yours faithfully,

[Signature]

(Dr. K. Thiruchelvam)
Co-ordinator of Post-graduate Studies

Contact Details

Tel No : 603-79674441
Fax No : 603-79674396
E-mail : kthiru@um.edu.my
February 24, 2009

To Whom It May Concern:

Dear Sir,

Please be informed that Zalairah Bin Abdullah (IC No: 610725-04-5295) is a registered student of the Doctor of Philosophy programme conducted by this Department. His proposed research is focused on the development of technological capabilities in the petrochemical industry in Malaysia. We will be delighted if you could extend whatever cooperation to facilitate his research work.

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Thank you,

Yours faithfully,

(Dr. K. Thiruchelvam)
Co-ordinator of Post-graduate Studies

Contact Details
Tel No: 603-7967-4441
Fax No: 603-7967-4396
E-mail: kthiru@um.edu.my