Preparedness for ASEAN Economic Community: perspective of Malaysian SME manufacturers

Conference or Workshop Item

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ABSTRACT
The ASEAN Economic Community (AEC) initiative poses both significant opportunities and difficult challenges to the Malaysian small and medium-sized enterprises (SME) communities. This research sets out to study the preparedness of local SMEs for the impact of the AEC implementation and their capabilities to capitalize on the opportunities. The manufacturing sector has been selected for study and the research efforts focus on the procurement function in the organizations. Procurement competences are gauged from four key perspectives: supplier relationship building, supply optimization, supplier capability auditing and purchasing integration. SMEs’ preparedness in this critical business function to compete and exploit opportunities in a post-AEC era, is investigated.

Using a mixed research strategy approach, the study explores SME procurement practices in the two biggest manufacturing sub-sectors in Malaysia: Resource-based (RB) and Electrical and Electronics (E&E). The study also compares and contrasts locally-owned and foreign-owned SME manufacturing operations in these two sub-sectors. It investigates possible differences in the extent of SME preparedness in different industrial and organizational context. The results of the study provide an understanding of the key factors which have contributed to variations in SME’s attitude towards policy awareness. The findings also highlight the procurement competencies that Malaysian SMEs in the manufacturing sector could improve in order to compete effectively post-AEC.

OVERVIEW OF ASEAN ECONOMIC COMMUNITY (AEC)
The year 2015 was a significant milestone in the regional economic integration agenda for the Association of South East Asian Nations (ASEAN) representing 10 member countries in the region: Laos, Myanmar, Thailand, Malaysia, Singapore, Vietnam, Philippines, Cambodia, Brunei and Indonesia. The three pillars of the ASEAN community, namely the ASEAN Political-Security Community (APSC), the ASEAN Socio-Cultural Community (ASCC) and the ASEAN Economic Community (AEC), are the most crucial areas deemed necessary for the progress and evolution of ASEAN and its people.

The establishment of the AEC initiative offers opportunities in the form of a single market and production base of US$2.6 trillion and over 622 million people. This push for regional economic integration has come from the need of ASEAN nations to stay competitive and remain economically viable. In 2014, AEC was collectively the third largest economy in Asia and the seventh largest in the world.
AEC is a deliberate process that has been on-going in the ASEAN spirit of progressive liberalization. Taking a stroll down memory lane, the journey towards the AEC began in 1977 with the ASEAN Preferential Trading Arrangements, then, the initiation of the ASEAN Free Trade Area (AFTA) in 1993, and the full implementation of AFTA in 2010. In 2007, the big step towards deepening ASEAN economic integration was established through the implementation of the AEC Blueprint. The AEC comprises of four sub-pillars: single market and production base, competitive economic region, equitable economic development and integration into global economy. The eventual signing of the mutual agreement on 31 December, 2015, officially declaring the establishment of the ASEAN Economic Community, is viewed as the most significant outcome of a series of forums arranged by the ASEAN.

**AEC AND MALAYSIAN SMES**

The Ministry of International Trade and Industries (MITI) in Malaysia is the lead organisation for driving the ASEAN economic development in the country. There are also various government financial initiatives and working groups established to prepare local industries for AEC. SME development is a core element of the AEC under the pillar ‘equitable economic development’. Different countries have slightly different definition of SME. The Malaysian definition of SME endorsed in July, 2013 for manufacturers are setups with sales turnover not exceeding RM50 million or employees not exceeding 200 (SMECorp, 2013).

An expected advantage of liberalization in the formation of the AEC for SMEs is increased competitiveness through expansion of trade and investment in nearby countries having abundant resources and lower manufacturing costs. SMEs can also expect to benefit through the establishment of a more stable and secure supply chain, reduced costs through shorter and more reliable journey times, while providing a secure environment which protects the interests and revenue of exporters and member states.

However, there is no use harping on ASEAN as a single market and production base if Malaysian SMEs cannot appreciate or take advantage of the business opportunities that have been created through this regional economic integration. A recent SMECorp survey of SMEs cited by the Star Online on 23 July, 2015, highlighted that only about 40% of the respondents were aware of the AEC. Mamman et al (2012) had found that perspectives of Malaysian managers towards ‘globalization’ were mixed. Abidin et al (2012) also revealed the level of awareness of Malaysian private businesses about the ASEAN economic liberalizations was low. Humanizing the AEC initiatives is about making it relevant for the business community equitably, and specifically for the SMEs, which makes up 97.3% of the total business establishments in the country (DOSM, 2012).

As discussed earlier, AEC is the culmination of five decades of region-building and continued economic liberalization, to allow business enterprises to adjust, grow and take advantage of the enlarged market. The purpose has been that by the end of 2015, local business community will not experience a “sudden opening” of the Malaysian markets. In this journey, ASEAN's economic growth has outpaced that of many other regional and global economies. ASEAN is now the second-fastest growing economy in Asia, after China.

An important question is who has benefited most from this economic integration? A quick analysis of the businesses that have benefited shows that those from the finance and communications sectors seem to dominate. For Malaysia, businesses such as Maybank, CIMB, Public Bank and Axiata have all successfully made a presence in ASEAN. Some other important sectors include real estate, oil and gas, retail, agribusiness and utilities. Then there is the airline, AIRASIA.

The other important question is where are the Malaysian SMEs in this picture? There are Malaysian SMEs that have made inroads into ASEAN – in the auto sector, for example, companies like Ingress Auto Ventures and APPICO Hi-Tech both started as SMEs, but have
now emerged as significant regional players in that sector. In the food sector, Julie’s, Marrybrown, Ramly, Mamee, Hup Seng and Bangi Kopitiam are amongst others that have also successfully accessed the ASEAN market. However, these are just few examples of the many Malaysian businesses operating in the region, majority of them are SMEs. It is important that for economic integration, SME participations should be the norm and not the exception.

For instance, one Boston Consulting Group survey of over 230 business leaders and government officials found that more than 80% expect SMEs to lose out amidst more intense competition after the AEC comes into force (CIMB ASEAN Research Institute)

OVERVIEW OF MALAYSIA MANUFACTURING INDUSTRY

According to the 10th Malaysian Plan outlined by the Malaysian Economic Planning Unit, industrialization is still its important agenda with manufacturing making up of 5.7% of the average annual growth rate for the period 2011 to 2015, out of which 26.3 % of the Gross Domestic Product (GDP) in 2015 would be from manufacturing (EPU, 2010). Post-AEC, the country’s manufacturing industries would undoubtedly be facing stiff competition from other ASEAN member countries and experience challenges of being fully integrated into the regional economy.

Malaysia, as one of the founding members of ASEAN, is closely intertwined with the other economies in the region. As of 2011, a quarter of the country’s exports are into ASEAN (ASEAN Secretariat, 2008). As a standalone country, this nation of 29 million people, also competes with its neighbours for foreign direct investment (FDI) and seeks to position itself as the ‘country of choice’ for foreign investors (Rasiah and Govindaraju, 2011).

In line with Malaysia’s ambition to become a high income nation by 2020, Malaysia has given significant focus to developing its manufacturing sector. As part of Malaysia’s economic transformation, the manufacturing sector has contributed 24% of the nation’s GDP in 2012 and is expected to grow to 28.5% by the year 2020 (MIDA, 2013).

Of the RM364 billion received by Malaysia in Foreign Direct Investment (FDI) in 2012, 47.5% went to the manufacturing sector (DOSM, 2014). From an employment perspective, the manufacturing sector accounted for 29% of the total 12.5 million available jobs in the country as at end-2012. As a whole, manufactured products accounted for 67% of the total RM702 billion in exports (MOF, 2013).

IMPACT OF AEC ON MALAYSIA MANUFACTURING INDUSTRY

The AEC is expected to have wide reaching impact on the competitiveness of the Malaysian manufacturing industry. Commoditization of goods, lower margins, shorter production cycles, rapid obsolescence of technology and skills, inability to compete against imports, wage constrain, inflation and bubble risk from sudden influx of capital, represent some of the challenges identified. (Kwan 1989, Lam and Wattanapruttipaisan 2005)

The repercussions of lack of preparedness are expected to include a reduction in export volume, substantial financial losses, inefficient restructuring, insolvency, and impact on cost structure of the industries (Thomas and Nash 1991). Despite these repercussions, Abidin et al (2012) and Mamman et al (2012) reveal that the level of awareness and concern of Malaysian private businesses with the impact of the AEC is low and worrying.

Challenges faced by the manufacturing industry lie in the ability of the business operation to remain competitive with the increased regional competition, primarily caused by liberal access to new ASEAN markets, access to new distribution networks, access to new capital, lower cost of operation, higher customer power and larger scale of operations. The Nielsen Global Consumer Confidence Survey suggests branding will also be a key factor, where manufacturing companies with strong brand equity are expected to gain significantly due to high brand
consciousness in ASEAN (Nielsen Company, 2013). Malaysian manufacturers insulated all these times from competition at home due to their “home knowledge” and logistical advantages would be expected to see a gradual diminishing of these advantages, as the playing field starts to level, with the entrant of regional and multinational players.

Manufacturers could become targets for mergers & acquisitions (M&A) as this would be the fastest way for competitors to achieve growth. There would likely be more consolidation in various industries and smaller players would find it difficult to survive without a clear value proposition. On the other hand, taking a perspective from the other side of the fence, there are significant opportunities brought by the AEC for the manufacturing industries, including the following.

- There would likely be an expansion in the supply networks, allowing the industries to source for raw materials more efficiently and competitively. Elimination of intra-ASEAN import tariffs, simplification of cross border trading processes including customs procedures and harmonization of technical regulations and mutual recognition arrangement, all presents an opportunity for manufacturers to reduce their input costs.
- Physical improvements in transportation and other infrastructure networks would facilitate cross-border transportation and contribute to the reduction of overall costs of doing business, providing manufacturers the opportunity to work with trade partners more productively.
- Increased distribution channels would present manufacturers with the avenue to find new markets for their existing products. Manufacturers could possibly target new market segments that they have not been able to access till now.
- Malaysian manufacturers with competitive advantages and financial power could look to M&A as a quick way to become regional competitors and gain foothold in the other ASEAN markets. Alternatively, they could also look to achieve organic growth by looking for new investments in the ASEAN countries to strengthen their role in regional and global value chains.

**IMPACT OF AEC ON PROCUREMENT FOR MALAYSIAN MANUFACTURERS**

The full-implementation of AEC policies is expected to bring opportunities and threats for procurement in Malaysian manufacturers, such as an increase in intra-regional sourcing due to removal of tariff and non-tariff barriers, change in power dynamic between the buyer-sellers, improvement in regional supply chain cost effectiveness, cheaper and faster logistics, emergence of highly specialised supplier to cater to a larger combined market, and increasing demand for raw materials. (Farmer 1972, David 1985, Rajagopal and Bernard 1993, World Bank 2014, Cox 2011).

The lesson deduced from the opportunities and threats discussed thus far, is that the building of critical procurement competencies would be required for an organization to remain competitive in a post-AEC environment. This is supported by work of Gobel (2014), Fernquest (2012), and Lee and Fukunaga (2013). Currently, there are significant differences in the procurement practices of manufacturers from different sectors in the country. Multinational petrochemical manufacturers sourced about 60% of their input from domestic sources. This can be attributed to the abundant supply of raw materials like petroleum and palm oil, which feed the manufacturers. As a comparison, multinationals in the Electrical & Electronic (E&E) sector, sourced less than 40% of their input from domestic firms (World Bank 2014). In this context, Mahani (1997) has pointed to the weaknesses of local firms, as the reason for large multinationals sourcing their input material from overseas. Nonetheless, the author argues that manufacturers cannot downplay the importance of having component suppliers near the manufacturing facilities, which is especially relevant for lean productions in the E&E sector.

**RESEARCH SCOPE**

This research focuses on two of the most significant subsectors in the Malaysian manufacturing industry i.e. Resource-based (RB) manufacturers and Electronic & Electric (E&E) manufacturers. These subsectors are deemed significant as they contributed almost 46% of the
total manufacturing output in 2013, and are the two biggest manufacturing sub-sectors in the country. Research interest is placed specifically on the procurement function because it plays a critical role in the production cost competitiveness of these 2 major subsectors. Locally-owned SME manufacturers and foreign-owned manufacturers in peninsular Malaysia will be covered in the study, to contrast the differences in preparedness. The investigations were carried out in selected economic corridors in Peninsula Malaysia.

**RESEARCH QUESTIONS**

The study aims to answer the following research questions:

1. To what extent SME manufacturing operations in Malaysia are prepared for the AEC in the 4 key procurement performance areas: Buyer-Supplier Relationship Development, Parts Bundling, Supplier Capability Auditing and Purchasing Integration?

2. Are there any significant differences in the extent of SME preparedness in the 4 key procurement performance areas in different industrial and organizational context?
   a) Resource-based versus Electrical and Electronic manufacturing sub-sectors
   b) Local versus foreign ownership

**LITERATURE REVIEWS**

Initial literature review indicates that there is limited research on preparedness of Malaysian manufacturers for AEC, particularly in the area of procurement. In two relevant researches, Abidin et al (2012) has attempted to gauge and understand the general readiness of Malaysian private sector for AEC, while Yean (2004) concludes that trade liberalizations under AFTA have negatively impacted Malaysian automotive and electronic manufacturers as they lost out due to productivity and competitiveness issues.

There have been some researches around procurement functions for Malaysian manufacturing firms. Thrulogachantar and Zailani (2011) demonstrate the positive link between efficient purchasing strategies and the firm performance of Malaysian manufacturers. In a similar context, Ndubisi et al (2005) draw a link between effective supplier management strategies and manufacturing flexibility for Malaysian companies. Sharat and Udin (2012) report that Enterprise Resource Planning (ERP) systems could help improve supply chain management for Malaysian manufacturers. Janda and Seshadri (2001) reveal that manufacturers spend “more than half of every sales dollar on purchased products”. The procurement activities for a RB manufacturer are especially critical as almost 60% of cost of sales comprises of production material costs (Hadnam 1980).

- **Procurement Strategic Roles**

  A general level of recognition of the importance of procurement dates back to the mid-1970s. Throughout the 1970s the procurement function continued to be seen as more administrative than strategic. Monczka et al (2004) suggest that in the early days, procurement was simply seen as a “cost” activity that could not be avoided, with Giunipero et al (2006) adding that it was viewed as clerical stuff. Up to 1970, supplier-manufacturer relationships were typically arm’s-length, primarily focused on price negotiations (Szwejczewskiet al 2005).

Part of the redefinition of procurement as an important and strategic process has been to differentiate procurement operations, procurement strategy and procurement as a strategic function. Procurement operations deal with the day-to-day buying activities of the firm, while procurement strategy refers to the specific actions of the function to achieve its goals. This might include standardization of parts and services, supplier tiers and e-business sourcing. While this is advantageous to the procurement function, it does not necessarily mean it is viewed as a strategic function by the rest of the firm. Only when the activities and strategies of the procurement function are aligned with the overall business strategies of the firm can procurement be a strategic function (Lawson et al, 2006).

Das and Narasimhan (2000) discuss how the integration of procurement function enables the alignment between procurement practices and the business objectives of a firm. One key aspect of the business strategy is the ‘make-or-buy’ decision which procurement professionals play a key role in the decision-making process (Kraljic 1983, Mohamed et al 2009, Cox 2011). Cetikaya et al (2011) further recommends supply chain strategy as a ‘bridge’ from corporate strategy to supply chain types– proposing that lean and agile supply chains fit in well with the cost leadership and differentiation competitive strategies by Porter (1987).

- **Procurement and Internal Stakeholders**

  Szwejczewski et al (2005) discuss how the procurement function of a firm plays an important role in coordinating the flow of information between the external supplier base and various internal departments. Relevant data provided by the procurement function, like suppliers’ capacity and production rates, logistics data, pricing and discount, and new-product information can enhance the decision-making process of other functions within the firm. Monczska et al (2004) stresses the need for procurement function to communicate closely with internal stakeholders, especially as cost and quality are determinants of effective procurement performance.

  In this respect, Giunipero et al (2006) outline some of the challenges faced by procurement function such as material availability, insufficient capacity, long distances and demand fluctuations. To resolve this, Kraljic (1983) weighs the challenges of centralizing or decentralizing the procurement function, whereas Giunipero et al (2006) proposes that supply management functions can be divided into tactical and strategic areas. Ndubisi et al (2005) shows how the right supplier selection and supplier management strategies can support the operating flexibilities required by manufacturers on product, launch and volume. Considering that information flow is critical in these activities, Fawcett et al (2000) discuss the positive link between the availability of information capabilities and the building of cost and quality competencies for manufacturing firms.

- **Procurement and Supplier Relationship**

  Procurement plays a critical strategic role in supplier relationship management, comprising the key activities of supplier relationship building and development, maintaining power balance with suppliers in negotiations and pricing, segregates relationship management according to the criticality of the supplied resource and builds partnerships through investment in capability-building (Kocabasoglu and Suresh 2006, Cox 2001, Olsen and Ellram 1997, Petison and Johri 2008).

  Park et al (2010) propose an integrative framework for Supplier Relationship Management (SRM), with an integral part of the SRM framework, having an information system to support various procurement activities and planning (Kraljic 1983, Park et al 2010, Shatat and Udin 2012).
• **Procurement and Sourcing Strategies**

Monczka and Trent (2003) have identified 3 evolving levels of procurement strategies – domestic purchasing, international purchasing and global sourcing. Lopacher et al (2007) structure procurement decision making dimensions into supply internationalization and centralization of purchasing decisions. Rajagopal and Bernard (1993) propose 4 evolving approaches of purchasing internationalization, ranging from the reactive/defensive to the proactive/aggresive.

In considering supply base optimization, Talluri and Narasimhan (2005) caution against supplier reductions that may cause a firm to be over dependant on a few suppliers, and suggest making changes to the supply base only when potential suppliers dominate the existing ones. In this context, Szwejczewski et al (2005) discuss the various sourcing options along the “single” to “multi” sourcing continuum.

Global sourcing is of particular interest in view of the increasing levels of globalization in business. Integrating and coordinating procurement functions across worldwide business locations can provide competitive advantage (Monczka and Trent 2003). Aside from the tangible benefits of cost savings, quality improvement and better delivery performance (Petersen et al 2000, Rajagopal and Bernard 1993), global sourcing can also be credited for “soft “ benefits that include closer cooperation between business units and procurement function with improved communication and development of critical information systems (Petersen et al 2000).

Interestingly, in contrast to the above reviews, Sidin and Cheng (1998) discuss how foreign multinationals having set up plants in host countries overseas, are gradually switching their sourcing from foreign vendors to domestic suppliers as the domestic suppliers begin to benefit from the learning curve. This appears to suggest the need to evaluate strategy formulation basing on industry evolution in the organization context.

• **Procurement and Risks**

Harland et al (2003) advocate product/service complexity, globalization, outsourcing and e-business as key drivers for the growing complexity of supply networks. A popular framework is Kraljic’s portfolio matrix (Kraljic, 1983) which categorizes risk in terms of complexity of the supply market, profit impact and supply risk. The implications of the matrix are that the firm can develop several strategic supply scenarios based on different assumptions about supplier strength, price, volume, and risk.


• **Procurement Competencies for the New Era**

In the new millennium, the development of the procurement function through supply chain management capabilities heralded a new era (Monczka et al 2004). Giunipero et al (2006) argue that supply management professionals play a more strategic role in business than before, with a focus on building long-term strategic relationships and lowering total business costs.

Various research studies concur on procurement and supply competence as a critical business competency for effective strategy decision-making (Cox 2011, Das and Narasimhan 2000). Das and Narasimhan (2000) advocate procurement as one of a firm’s
core competencies in achieving manufacturing competitiveness. The continuous focus on cost in the new era has firmly anchored procurement strategic role in the financial performance of the firm (Janda and Seshadri 2001, Das and Narasimhan 2000, Thrulogachantar and Zailani 2011).

Different supply objectives require specific procurement competencies and key practices for alignment. Seshadri (2011) investigates several sourcing practices and argues that two main behavioural constructs, supply commoditization and supply innovation, underlie many of these practices. The study results contribute to a growing literature on dynamic customer value in business markets as well as sourcing competencies.

The future trends in procurement concern the practices around global sourcing (Rajagopal and Bernard 1993, Monczka and Trent 2003), strategic alliances and long-term supplier collaboration or partnerships (Szweczewski et al 2005, Giunipero et al 2006, Thrulogachantar and Zailani 2011), and the adoption of e-Procurement and enterprise resource planning (ERP) systems (Park et al 2010, Shatat and Udin 2012). To this effect, Monczka and Giunipero (1985) point to the importance of analysing international procurement opportunities and enhancing international procurement knowledge base. Petersen et al (2000) propose business capabilities would also include knowledge of exchange rates, understanding of foreign markets and regulations, and foreign language skills.

THE RESEARCH FRAMEWORK

The key procurement activities emerging from various literatures reviewed, consist of supplier-buyer relations, optimization of supply chains, evaluation and development of supplier capability and integration of purchasing.


- Lastly, the integration of purchasing with other internal departments (Das and Narasimhan 2000, Monczka et al 2004, Yeniurt et al 2013) is highlighted as a key concern. In this regard, Das and Narasimhan (2000), Petersen et al (2000) and Monczka and Giunipero (1985) focus on knowledge, skills and capability development in procurement function and for procurement professionals.
The framework that adequately captures the four key set of procurement activities is the model proposed by Das and Narasimhan (2000), shown in the following diagram.

The relevance of the model for this research project is amplified as it also focuses on procurement in the manufacturing sector. Das and Narasimhan (2000) stress that purchasing competence and capabilities are derived from a synergistic combination of the four sets of primary procurement activities and their corresponding sub-activities. The following table depicts the primary and sub-activities considered under the framework.

<table>
<thead>
<tr>
<th>Primary Activity</th>
<th>Sub-Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buyer-Supplier Relationship Development</td>
<td>Contractual Relationship with Supplier</td>
</tr>
<tr>
<td></td>
<td>Degree of Mutual Trust</td>
</tr>
<tr>
<td></td>
<td>Top Management Commitment</td>
</tr>
<tr>
<td></td>
<td>Joint Problem Solving</td>
</tr>
<tr>
<td></td>
<td>Product Information Sharing with Supplier</td>
</tr>
<tr>
<td></td>
<td>Product Information Sharing with Supplier</td>
</tr>
<tr>
<td>Supply Base Optimization</td>
<td>Volume Consolidation</td>
</tr>
<tr>
<td></td>
<td>Parts Bundling</td>
</tr>
<tr>
<td>Supplier Capability Auditing</td>
<td>Supplier Responsiveness to Volume Changes</td>
</tr>
<tr>
<td></td>
<td>Supplier Responsiveness to Delivery Changes</td>
</tr>
<tr>
<td></td>
<td>Supplier Ability to Accept Late ‘Mix Changes’ with orders</td>
</tr>
<tr>
<td></td>
<td>Modularization of Supplier Products</td>
</tr>
<tr>
<td></td>
<td>Supplier Ability to Modify Product</td>
</tr>
<tr>
<td></td>
<td>Supplier Assistance in Product Design</td>
</tr>
<tr>
<td></td>
<td>Supplier Ability in New Product Design</td>
</tr>
<tr>
<td>Purchasing Integration</td>
<td>Purchasing Attends Corporate Meetings</td>
</tr>
<tr>
<td></td>
<td>Purchasing Impacts End-Product Changes</td>
</tr>
<tr>
<td></td>
<td>Purchasing Focus on Market/Price Analysis</td>
</tr>
<tr>
<td></td>
<td>Purchasing Participates in New Product Development</td>
</tr>
<tr>
<td></td>
<td>Purchasing Participates in Process Design</td>
</tr>
<tr>
<td></td>
<td>Purchasing Measured on Strategic Metrics</td>
</tr>
</tbody>
</table>

Das and Narasimhan (2000) go on to prove that there is a positive link between many of the procurement sub-activities and manufacturing competitive priorities such as cost, quality, delivery and new product development.

Competencies in the four set of procurement primary activities with their respective sub-activities would guide this research study in the investigation on the preparedness of Malaysian SME manufacturers for post-AEC.
METHODOLOGY
Stratified sampling is deemed to be most appropriate for the research and random sampling is applied within each stratum. The research targeted an overall sample size of 40 manufacturers from the whole population. Sampling size of individual subsector is computed from the subsector’s contribution to the Malaysia’s GDP in 2012 with an approximate equal representation from both local SMEs and foreign manufacturers under each subsector as tabulated below:

<table>
<thead>
<tr>
<th>Main Sector</th>
<th>Sub-sector</th>
<th>Contribution (Gross Output*) %</th>
<th>Sampling ratio</th>
<th>Target survey sample size of 40 (round up)</th>
<th>Interview sample size of 10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Petroleum</td>
<td>18.9%</td>
<td>0.34</td>
<td>7 7 14</td>
<td>1 1 2</td>
</tr>
<tr>
<td>1</td>
<td>Chemical</td>
<td>6.6%</td>
<td>0.12</td>
<td>3 2 5</td>
<td>1 1 2</td>
</tr>
<tr>
<td>2</td>
<td>Plastic</td>
<td>2.6%</td>
<td>0.05</td>
<td>1 1 2</td>
<td>1 1 2</td>
</tr>
<tr>
<td>3</td>
<td>Rubber</td>
<td>3.9%</td>
<td>0.07</td>
<td>1 2 3</td>
<td>1 1 2</td>
</tr>
<tr>
<td>4 Electric &amp; Electronic</td>
<td>23%</td>
<td>0.42</td>
<td>8 8 16</td>
<td>1 1 2</td>
<td></td>
</tr>
<tr>
<td>Subtotals</td>
<td>55%</td>
<td></td>
<td></td>
<td>20 20 40</td>
<td>5 5 10</td>
</tr>
</tbody>
</table>

*Extracts of Department of Statistic Malaysia Survey Report on Manufacturing Industry 2012

The target respondents for the survey and interviews were decision-makers in the procurement function of the participating SME and foreign manufacturers. The research has adopted a mix strategy of quantitative and qualitative approaches.

A general survey instrument using a 6-point Likert scale was used to collect quantitative inputs from the target manufacturers on their preparedness for the AEC basing on the primary and respective sub-activities. The firm contacts and email addresses were randomly taken from the SME Malaysia Directory 2014/2015, online Malaysia Yellow Pages and Malaysia Business Directory. Twice the number of target sample size for each subsector is contacted via emails with follow-up phone calls. The survey was carried out in the months of June to October, 2015 until the target sample number of valid response was collected for each sub-sector.

Semi-structured face-to-face interviews were conducted next with procurement decision-makers of 10 of these manufacturers to have a more in-depth understanding on the answers given in the quantitative surveys, to explore ‘how’ and ‘why’. The interviews of the 10 decision-makers were completed in January, 2016 with representation from each sub-sector as shown in the above table.

DATA ANALYSIS AND INTERPRETATIONS
The 40 valid responses from the 5 industry sub-sectors are made up of chemical-related (25%), plastic-related (15%), petroleum-related (20%), rubber-related (10%) and E&E related (30%). 55% of the respondents were local SME manufacturers and 45% were foreign manufacturers.

Survey data sets for both local SMEs and foreign companies were tested for statistical validity and reliability for analysis. Survey results and interview feedback are coded and categorized according to the primary activity and sub-activities. They are then synthesized for descriptive analysis and interpreted individually using primarily the inductive approach. The data is examined for meaning in the context of the organizations, sectors and industries.
CONCLUSIONS
The mix methodology approach to the studies has provided significant insights into the procurement practices of the RB and E&E manufacturers. The findings generally conclude that there is still no deliberate effort made by the local SME manufacturers with procurement activities for post-AEC. The study has also found significant differences in the preparedness of procurement practices between the local SME and foreign manufacturers.

The following subsections RQ1/2A-RQ1/2D elaborate on the 4 key procurement performance areas to support the conclusions to the 2 research questions.

RQ1/2A: Buyer-Supplier Relationships Development
The general perception in the Malaysian business community from the findings is that local manufacturers are more prepared in terms of relationships building compared to foreign manufacturers. This view concurs with previous studies by Sambasivan et al (2011), Ramstetter (1999), Wilson and Roy (2009) and Zailani and Rajagopal (2005).

The research findings suggest that in the case of local SME manufacturers, whilst dealing parties might have sociological trust, entrepreneurialism could still result in businesses vying to obtain the best deals. This is aligned with the findings on information sharing with and by supplier. Local SME manufacturers tend to have lower participation of suppliers in their design and manufacturing processes, primarily due to lack of knowledge management know-how, product complexity and the need for investment in systems and technology. There are also limited strategic share asset investments. In contrast, foreign manufacturers are found to have more sophisticated knowledge management and other complex systems in place to collaborate, monitor and control suppliers. This is also supported by Wilson and Roy (2009).

The study reveals that relationships established between local SME manufacturers and their suppliers are mostly social, relying predominantly on history, cultural similarities and proximity. Study done by Sambasivan et al (2011), has argued that relationship capital in the Malaysian manufacturing supply chain is a function of time, effort, personnel and cultural similarities. The entrance of new competitors, post-AEC is expected to significantly impact the continuity of such buyer-supplier relationships when economic factors weigh heavily on business decisions in the increasingly competitive world. While cultural and local experience would provide local SME manufacturers with temporary advantage, new entrants are expected to mitigate this disadvantage through hiring of local staff to foster relationship. Furthermore, foreign manufacturers are significantly more prepared to incentivise suppliers with volume purchases. Other added value to the relationship will be that suppliers are more likely to be involved in design and production processes, via superior technology and knowledge sharing.

However, one important observation to take away is that foreign manufacturers form relationships with a supplying company, whilst local SME manufacturers form relationships with individuals in the supplying firms. In many cases, the owners of local SME manufacturers are personally involved and committed to nurturing relationships with suppliers. The level of intimacy in personal relationships is closer than in the case of formal working relationships. The Asian culture believes in building friendships first and business later. As one respondent remarked, ‘the competitors can take away our supplier data, but they cannot take away the chemistry we have with the suppliers’. In addition, whilst foreign manufacturers can attempt to build relationships with domestic suppliers by hiring local staff, various favourable government policies for the local manufacturers make this segment attractive customer for the domestic suppliers.

The findings reveal that the extent of mutual trust is a key factor in determining the quality of partnership with a supplier. The extent of trust exhibited by the manufacturers varies with the complexity of their products, where complex products often results in an intricate and global supply chain that is found to be more challenging for relationship building. Comparing E&E
and RB manufacturers, E&E sector is found to have higher product complexity and expected to experience more intense foreign competitions. The low-complexity RB manufacturers appear to have established exclusive arrangements to critical supplies, mainly from domestic markets, which would provide some market stability in the short term post-AEC. As MEM (2014) reports, due to a larger percentage of global sourcing compared to RB industries, E&E sector companies are also expected to have challenges in controlling suppliers. On the other hand, the low margin of RB sector discourages investment of resources in building relationships with suppliers. RB manufacturers view investing assets to strengthen relationships to be risky, and this may threaten margins further.

There are gaps in the local supply chain to support complex products manufacturing, a challenge shared by both local SME and foreign manufacturers. Globalization of a business’ supply chain introduces suppliers who are culturally different, further complicating relationship building activities. Zailani and Rajagopal (2005) have argued that procurement integration with other functions within companies in Asia lacks cohesiveness due to communications and culture. Furthermore, even when manufacturers engage with domestic suppliers from a similar culture, there is a need for proof of reliability and trustworthiness, which requires time to build, sustain and solidify.

In summary, local SME manufacturers lack the infrastructure and systems to manage supplier relationships. However, they have definitely placed more importance in developing sustainable quality supplier relationships through personal connections, and with firm commitment from top management towards achieving such objectives.

RQ1/2B: Supply Base Optimization
Local SME manufacturers in the RB sector with low product complexity tend to have more efficient volume consolidation practices. This is particularly relevant for those who are sourcing mainly from domestic suppliers. Local manufacturers tend to be able to renegotiate supply volumes due to the established personal relationships of the owners with the suppliers. Bundled procurement is relevant to most of these SME operations as orders are small and aggregating orders with suppliers is a common practice. The practice of bundling and consolidation reduces inbound logistics costs.

Supplier rationalization programs are common with many local SME manufacturers. The findings suggest this has enabled the local manufacturers to build stronger and more collaborative relationships that deliver a range of benefits, including the following:

- Improved supplier responsiveness
- Improved bargaining power to reduce costs
- Decreased effort to track supplier performance and manage relationships
- Improved plan synchronization and information exchange

In addition, the involvement of CEOs and owners of local SME manufacturers in the procurement function has simplified the decision-making process in strategic supplier selection and volume consolidation. In the larger foreign manufacturing operations, decision-making on bundling and consolidation by responsible divisions can be slow and complicated. It is found that foreign manufacturers are also required to place larger orders in order to be able to negotiate leniency in supply mix and volume changes, when dealing with global suppliers.

Foreign manufacturers tend to run complex operations, and have most critical manufacturing processes in house. In comparison, local SME manufacturers, who do not always have the full range of expertise or the operation scale, is found to outsource processes more extensively. However, it is found that the scale of production is not the major contributor to the extent of parts bundling and volume consolidation. From the findings, cost is the deciding factor.

Supplier management processes become more important with increasing complexity of the
products. Larger manufacturers with high-complexity products and manufacturing processes as those in the E&E sector are forced to procure both locally and globally due to insufficiency of local supply chains. Multiple sourcing is found to be a more common practice amongst these manufacturers. The perception is that single sourcing, a powerful approach in a stable environment, can amplify a firm's exposure to risk in the presence of uncertainty e.g. supplier's default. Supply chain risks are also higher in a lopsided dependency scenario as the relationship between the two trading partners is asymmetrical. While multiple sourcing may reduce dependency on a single supplier and reduce capacity risks, it may increase other supply chain risks, such as quality, contractual, or management risks. Multiple sourcing also presents higher costs due to the management of more than one supplier. The findings suggest on the whole, the extent of global sourcing is related to the costs of managing the extended supply chain, quality of supplies and longer delivery times. The extent of volume and mix consolidation is also largely influenced by cost factor, which in turn is related to locality of supplier and product complexity.

The AEC encourages local SME manufacturers to source regionally. From the findings, the low volumes coupled with high logistics cost and longer delivery duration have made this an unattractive proposition for these manufacturers. Moving forward, local SME manufacturers will need to be able to see the bigger picture with the market changes post-AEC. Strategic sourcing is not about bundling and focusing just on cost. It is a systematic and fact-based approach for optimizing an organization's supply base and improving the overall value proposition. The prerequisites for success involve thinking about what customers want and also how the firm can survive the competition (Grant, 2013). The focus is on the total cost of ownership, while incorporating customer needs in the new marketplace, organizational goals and market conditions. The new marketplace post-AEC is driven by a rigorous and collaborative approach to get the best product/service at the best value instead of just getting the cheapest product/service.

E&E manufacturers that have climbed the learning curve are expected to be better prepared for post-AEC. Foreign manufacturers are expected to benefit greatly from the AEC, particularly those involved in regional sourcing, due to the expected increase of specialist suppliers producing at high volumes. The restructuring of the industries and marketplace post-AEC will bring about significant bundling and volume consolidation opportunities. With the more advanced IT systems in place to track, manage and consolidate procurement, foreign manufacturers are also more likely to benefit from parts bundling in the complex supply network post AEC. Local SME manufacturers will need to build capacity and capability to exploit these opportunities.

**RQ1C: Supplier Capability Auditing**

The absence of relevant tools and auditing processes in most local SME manufacturing operations are the main inhibiting factors to track supplier performance. The other findings include the common business practice of trust in suppliers based on personal relationships. Involvement of suppliers in the product design and production processes is informal and primarily on a necessity basis. The general rule of thumb from the findings is that the quality of personal relationships with the suppliers plays a crucial role in securing flexibility from the suppliers. This is however subject to the opportunism tendency from both buyers and suppliers. Business ethics to some respondents is an oxymoron when the principle objective of businesses is profit-oriented.

The findings strongly suggest that foreign manufacturers are better able to track and manage supplier quality, due to superior processes, application of information technology and sophisticated knowledge management systems. They have also more established supplier capability auditing systems and procedures. Supplier involvement is higher in foreign manufacturers, with more complex operations and products.

RB manufacturers are found to have low participation of suppliers in product design and
development. They have standardized products, and hence, of the view that there is no necessity for supplier involvement. With the E&E manufacturers, supplier participation appeared to be more significant due to higher product complexity, resulting in many of these manufacturers employing role-specific procurement staff for managing supplier relationship and supply chain efficiency. In comparison with the RB manufacturers, E&E manufacturers have more established supplier auditing processes and capabilities which are needed for quality assurance over the higher modularization of supplier products. This will provide them with an edge on quality management in the new marketplace.

In general, when compared to the service sector, manufacturing section has much higher asset specificity. However, from the study, there appears to be a general lack of asset specificity with the responding manufacturers, which might have significant impact on the extent of supplier participation. Generally, the more specific an asset, the lower is its ability to redeploy. It is found that many manufacturers are reluctant to invest in such assets in the uncertain economy. Opportunism is perceived to be another potential problem with highly specific assets. If a manufacturer relies on a single supplier for one of its parts, that supplier might try to opportunistically charge the manufacturer a very high price for that item. On the other hand, the manufacturer might try to underpay the supplier knowing that the supplier has no other market for that item. Well-written and well-negotiated contracts could possibly head off this potential problem, and the foreign firms and E&E manufacturers are found to be more prepared in this respect. For the local SME operations, sociological trust appears to mitigate to a significant extent the problem of opportunisms.

RQ1D: Purchasing Integration
In the local SME manufacturing operations, procurement function activities are largely focused on monitoring supply continuity, and managing supply cost, with little extent of strategic involvement in decision-making. These manufacturers are not prepared to strategically leverage procurement activities in terms of process design or changes, and especially new product design. The top management makes most, if not all of the strategic procurement decisions. The reasons could be cultural and also due to the smaller operations.

Similarly in market scanning activities, it is found that foreign manufacturers have employed a larger variety of sophisticated tools to monitor, anticipate and mitigate market risks. Local SME manufacturers compared pale with that of the foreign firms in this aspect. Market analysis in these local setups are not systematic nor widely practiced, primarily due to lack of management competencies and skilled procurement staff. Foreign manufacturers appear to be better prepared in this area, with procurement staff having higher education and relevant experiences. High-complexity operations tend to recruit staff with broader knowledge base and capabilities, and these are still mainly found in foreign manufacturing setups. Local SME manufacturers find it challenging to compete with foreign firms for talent. The new generation of workforce is attracted to work in branded larger organizations.

The findings reveal procurement involvement in strategic activities tends to increase as the complexity of the industry environment increases. Procurement staff in these operations is expected to possess higher order thinking skills, which is again more prevalent in foreign manufacturers. This capability is also more likely to be found in manufacturing sector with complex products and processes. On the other hand, manufacturers producing standardized products tend to have lower involvement of procurement function in product design. Production complexity is found to have a positive correlation with procurement function participation. This is found to be particularly true with OEM products in the E&E sector.

The findings suggest that RB manufacturers, many of which are SMEs are operating on low-cost strategy. The hiring of less skilled staff and employing less sophisticated scanning tools are often considered as the way forward with low margin businesses. The entry of competitors with more superior knowledge and capabilities has been widely expected to bring about
improvements in these manufacturing operations to compete effectively.

Lastly, from the findings with both the local and foreign manufacturers, procurement is rarely measured on qualitative strategic metrics which are important for supplier-relationship management and business sustainability.

MANAGERIAL IMPLICATIONS AND EMERGENT FINDINGS
The study investigated a critical organization activity and the findings from a procurement competency framework suggest that local SME manufacturers are not as well prepared as the foreign manufacturers for post-AEC. Applying the measurements from the competency framework as a gauge of the overall business readiness for post-AEC, the findings conclude that manufacturers having a larger production scale are benefiting from the experience curve and market share; it is found that unit cost of value add declines as output increases. Operations with existing experience in regional sourcing, superior technology, sophisticated management tools, innovative manufacturing processes and highly skilled procurement staff, are expected to be better prepared for the new marketplace.

The lukewarm recognition of procurement activities as a key value-add function for strategic decisions and product/process design, the lack of strategic innovations with critical processes, the absence of the application of relevant tools on markets analysis and systems for managing suppliers in local SME manufacturing operations are found to be the main inhibiting factors to exploit opportunities in the post AEC era. The findings suggest that to remain relevant and competitive, smaller-scale SME manufacturers might choose to operate as a niche producer, having exclusive access to resources and exclusive access to limited profitable customer segments who value personal relationship. Alternatively, SME manufacturers would need to build capacity and capability to justify efforts and investments in technology, tools, processes, skilled staff and regional sourcing.

However, there are clear contextual differences between large and small firms in terms of strategic decision-making protocols, structures and tools. As reported by Brundin and Gustafsson (2013), decisions in SMEs tend to depart from the norms of rational decision-making theories. From this study, the extent of preparedness is also found to be largely driven by the leadership of a firm. It is clear that CEOs and owners are aware of the impact of AEC and globalization. However, there is a sense of pseudo-complacency and lack of urgency from top management to address the challenges. Many of the local SME operations are managed by ethnic Chinese.

Even though they are minority in Malaysia, overseas Chinese controls a disproportionate share of the country’s national trade. A key characteristic of the Chinese culture that has a pervasive impact on their business success is the philosophical ‘yin-yang’ mind set. Chinese entrepreneurs see profound connection between adversity and change: crisis is not seen as an insurmountable problem but as an aspect of transformation, demonstrating how paradoxical thinking can lead to opportune action. Perhaps, AEC is just another opportunity for transformation that these entrepreneurs are bracing for; not an insurmountable challenge.

SCOPE FOR FURTHER RESEARCH
This research attempts to systematically explore causality between competitive attributes of local SME manufacturers and their preparedness for AEC using a theoretical procurement competency model. Further study can be carried out with a larger sample and application of other competency models to explore attributes of preparedness for regional trade liberalization. In addition, exploration of the emergent findings on contextual differences with SME strategic decision-making and Chinese paradoxical thinking in business strategy should provide a richer picture to findings with theoretical frameworks on similar topic of organization preparedness.
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