The Study of Regional Competitiveness in Batam, Bintan, and Karimun

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Abstract

National and regional competitiveness is one of the requirements to achieve a sustainable growth. This article examines the Indonesian competitiveness especially in Batam, Bintan, and Karimun (BBK) islands by looking at the determining factors of competitiveness and its performances. We choose BBK because the government treats them as a special economic zone, where practices were adopted similar to those in “free trade zones” and “export processing zones” in foreign countries. On the top of that, BBK also categorized as the oldest and reported as the most contributed FTZ area in Indonesia. This research used both quantitative and qualitative approach. The result shows that BBK proximity to Singapore becomes the most influencing variable of region competitiveness. The degree of importance is followed by human resources and institutional factors.

Keywords: competitiveness, manufacturing industry, free trade zone, regulation, foreign direct investment, Batam, Bintan, Karimun

I. Introduction

Due to increasing global competition and growing openness of national economies, more and more business people, policy makers and researchers have recognized the importance of international competitiveness for enhancing economic growth and the standard of living. Competitiveness [should] be understood as the ability of companies, industries, regions, nations and supranational regions to generate, while being and remaining exposed to international competition, relatively high factor income and factor employment levels on a sustainable basis (OECD, 1994). On the other side, a nation’s level of competitiveness also reflects the extent to which it is able to provide rising prosperity to its citizens. So, it captures microeconomic and macroeconomic foundations of national competitiveness (Global Competitiveness Report, 2009).
Countries economic performance is usually measured by the higher competitiveness index. One of strategies to achieve a good economic performance is to increase export. Therefore most of developing countries are now witnessing a shift away from an import substitution based development strategy to one based on export promotion policy. As part of their policy instruments to promote exports, many of these countries are vigorously promoting export processing zones (EPZs) or Special Economic Zones (SEZs), or Free Trade Zones (FTZs). Based on the above background, it is very interesting to know the competitiveness of Indonesia. Since competitiveness study has been done annually by World Bank, we focus our study on the free trade zone area of Indonesia. This is the area that draw most attention of politicians, investors and of course Central and local government. We will specifically look at investor’s opinion on Batam, Bintan and Karimun, which are categorized as the most developed and the most contributed FTZ area in Indonesia. The objective of this study is to distill the important factors that influence the competitiveness of BBK-SEZ which then can help the decision makers in providing the policy and regional strategic development that have a sustainable economic growth with more and better availability of jobs and greater social cohesion.

This paper start with literature review related to competitiveness. Second, we will discuss regional competitiveness and the underlying logic of our model. We compare several competitiveness framework models including the New Global Competitiveness Index framework model. After comparing and developing our own regional competitiveness model, we use this model to conduct a detailed competitiveness factor analysis of the region, and develop policy strategies that would match BBK-SEZ regional characteristics.

II. Theoretical Background

Over the last decade, the term competitiveness has been widely used – and still become a hot debate. The concept of competitiveness is basically those that policy makers and economic theorists have been trying to address for many years. In this section we are trying to provide a further understanding of the term “Regional Competitiveness” and to gain insight into the driving factors behind it.
Most study on competitiveness shows that competitiveness has a close relevancy with prosperity. Prosperity is determined by the productivity of an economy, which is measured by the value of goods and services produced per unit of the nation's human, capital, and natural resources (Global Competitiveness Report, 2008). Productivity depends both on the value of a nation's products and services, measured by the prices they can command in open markets and the efficiency with which these products can be produced (see Figure 1). Competitiveness is further defined as: “the ability to produce goods and services which meet the test of international markets, while at the same time maintaining high and sustainable levels of income or, more generally, the ability of (regions) to generate, while being exposed to external competition, relatively high income and employment levels.” and "In other words, for a region to be competitive, it is important to ensure both quality and quantity of jobs" (The Sixth Periodic Report on the Regions, 1999).

Productivity supports high wages, a strong currency, and attractive returns to capital and with them a high standard of living. In other words, competitiveness is measured by productivity. This notion is difficult to sustain without the support from endowments, as firms will strive for productivity and profits, while regional competitiveness also needs to include employment levels and other resources.

Thus, national competitiveness is the ability of a nation to increase its economic wealth in an increasingly integrated world ((Aiginger, 2006; Aldington Report 19851). It has 3 dimensions: effectiveness, efficiency, and potentiality. There are two broad ways to increase economic wealth: by creating more economic wealth domestically and by appropriating more from international trade. According to Hall and Jones (1999), there are broadly five factors which co-determine the domestic wealth creation:

1) Input factors – and their quantity (labor, capital, land) and quality (endowment and access to foreign resources);

2) Domestic market size – the bigger, the better (market size is not equal to the size of population; the effective demand from a part of the population);
3) Production activity – pace (hardworking, entrepreneurial spirit, and accumulation – high savings high investment rate), efficiency (technology level), and choice (high or low value added activities);

4) Institution factor – that make economy running smoothly (property rights, financial market, credit system, contract law, etc.);

5) Government policies – to provide incentives to individuals and firms to create wealth, and to prevent or reduce diversion.

Our empirical analysis suggests that success on each of the above variables is highly driven by social infrastructure. A country's long-run economic performance is determined primarily by the institutions and government policies that make up the economic environment within which individuals and firms make investments, create and transfer ideas, and produce goods and services.

In this New Global Competitiveness Index (New GCI), competitiveness is identified through microeconomic and macroeconomic competitiveness factors as the foundation of productivity (see Figure 2). Microeconomic factors operate directly on firms in affecting productivity. These factors are influenced by multiple discrete stakeholders. Government is an important player, but many different agencies and
administrative units at several levels of geography with differing degrees of autonomy, not just the central government, are involved in decision making and policy action. Companies, academic institutions, and many business associations and other mixed groups organized to facilitate collaborative action, are essential in defining the microeconomic environment in which business takes place.

The New GCI framework distinguishes two broad areas of microeconomic competitiveness: the sophistication of company operations and the quality of the business environment. A third category the state of cluster development (agglomeration economics) is conceptually distinct, but data limitations preclude independent measurement. Cluster variables are included as a part of the business environment. According to Porter, four conditions that incorporate both internal and external factors need to be present to allow firms compete successfully. These include:

1) Factor conditions, such as the availability of skilled labor and infrastructure;

2) Demand conditions for the products of the industry;

3) Related and supporting industries including competitive suppliers; and

4) Firm strategy, structure, and rivalry.

Together, these four factors create the context in which firms are born and compete. Regional competitiveness is generally associated with national competitiveness. However, regions are a combination and relational matrix of different things that bump and connect into each other. They can be anchored by actors in political struggles, economic spatial-fixes, and social mobilizations (MacLeod and Jones 2001; Paasi 2004) and political practice (Agnew 2002; Harding 2005; Jones 2001; Keating et al. 2003; Regional Studies 2005, Scott 2001). Regions are never static. Regions are being considered the most appropriate scales and territories for thinking about and practicing economics, politics and culture (MacLeod 2001; Mandaville 2002; Scott 1998; Scott and Storper 2003). Pre-determinants for regional competitiveness are established at the national level and for regional development to be sustained requires favorable conditions such as a macro-economic environment leading to growth, employment, and stability, and a tax and regulatory system encouraging business and job creation.
Most of the studies and literature put forward some of the following factors as main drivers of regional competitiveness: natural resources, human capital, enterprise environment and networks, knowledge and innovation systems, governance and institutional capacity, sectored structure and type of enterprises, infrastructure, regions characteristics, and level of integration of firms, internationalization and nature of foreign direct investment (FDI), geographical location, culture and other qualitative dimensions that makes the region attractive for investments. From several literatures and studies mentioned above we can map the framework for factor of competitiveness (Figure 3).

**Figure 3. Regional Competitiveness Factors Map**

Figure 3 have four groups of circles. The outmost circle is representing the tangible aspect of factors of regional competitiveness, while the second circle represents the intangible aspect of the factors of regional competitiveness. The third circles represent the result of both tangible and intangible factors, and the fourth circle at the center represents the outcome expected from the third circle. By referring to this model, we develop a comprehensive questionnaire to identify the factors of regional competitive-ness in BBK-SEZ, and if possible to measure their strength and inter-connectivity between those factors.
RESEARCH MODEL

Based on the above literature, we develop framework model for factors of regional competitiveness that we would like to call “The Six Factors Model” (Figure 4).

**Figure 4. The Six Factors Model of Competitiveness**

We divide the six variables in 2 broad spectrums: micro and macro economics variables. We believe that those variables have some kind of connection or relation in the form of cooperation and linkages which are dependent on one another as a part of the building block of regional competitiveness framework. For example, strategic position of BBK and a good infrastructure will definitely increase the firm's competitiveness in BBK. Nevertheless, if there is no transparency of regulation and good governance in place, these unsupporting conditions will ultimately decrease the effectiveness of companies and region competitiveness as a whole. Measurement of each variable can be seen in Table 1.
Table 1. Measurement of each variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MICROECONOMIC FACTORS</strong></td>
<td></td>
</tr>
<tr>
<td>1 Company Competitiveness</td>
<td>Current strategies, Future strategies, Company Sales and Growth</td>
</tr>
<tr>
<td></td>
<td>b. HR Innovation and Knowledge: R&amp;D and innovation, Learning environment, Knowledge transfer</td>
</tr>
<tr>
<td>3 Linkages Factors</td>
<td>International Linkages Supplier Linkages with Singapore Linkages within Indonesia</td>
</tr>
<tr>
<td><strong>MACROECONOMIC FACTORS</strong></td>
<td></td>
</tr>
<tr>
<td>5 Infrastructure</td>
<td>Access to physical infrastructure Quality of Information Technology and Communication</td>
</tr>
<tr>
<td>6 Regional Characteristics (related to geography and location attractiveness)</td>
<td>Proximity to Singapore BBK and its Attractiveness Location by function</td>
</tr>
</tbody>
</table>

**METHODOLOGY**

This study comprises of qualitative research (focus group discussions and in-depth interviews) from April 2008 to November 2008 and quantitative research (survey to existing companies in BBK) from August 2008 to January 2009 in Batam, Bintan, and Karimun. We distributed 600 questioners and it was returned 167. Those respondents consists of small scale enterprise (10%), medium scale enterprise (21%), and Large scale enterprise (69%).

The aims of qualitative studies is to gain further understanding on stakeholders expectations on the current situation of BBK. In total, we conducted 7 focus group discussions with policy makers and member of associations such as BBK Chamber of Commerce, Otorita Batam, etc. 95 in-depth interviews were conducted simultaneously with investors during the time when they fill in the questioners. The information we received from quantitative research has been crosschecked with the information from focus group and in-depth interviews. This type of triangulation therefore increases the reliability of the data.
The criteria of our sample are:

- The existing companies in Batam, Bintan and Karimun which is located in Industrial parks (for practical reason of ease coordination)
- Companies that operated in Batam for more than 3 years
- Companies with minimal investment US$100,000
- Companies with > 50 employees

Companies that refuse to participate in this survey have been replaced with companies from the same industry.

We use factor analysis for processing the survey data. The purposes of using factor analysis are actually two: data reduction and substantive interpretation. The first purpose summarizes the important information in a set of observed variables by a new, smaller set of factors expressing which is common among the original variables. The second purpose concerns the identification of the factors or constructs that underlie the observed variables (Churchill, Jr and Iacobucci, 2002).

To measure those variables, the qualitative data (derived from categorical questions) and quantitative data (derived from scaled questions) from the questionnaire have to be recoded and computed into the same data type. We will then appoint score or value to all data so that they can be processed together. We put score or value for each database on its “competitiveness factor weight” with score value range from 50 to 100 and process the data using factor analysis to find the significance and correlation between each variable. The data processing procedure can be seen in Figure 5.

Figure 5. Data Processing Methodology
By re-coding each data into a score value, each answer can be weighted for its “competitiveness values”, that later are put into factor analysis process.

RESULTS

The result of this study can be seen in Table 2. We can see that all six factors have a significant correlation with BBK competitiveness, using 0.49 as the minimum strong correlation coefficient (Dillon and Goldstein, 1984). Correlation coefficient indicates the strength of the association between two variables. The sign (+ or -) indicates the direction of the relationship. The value can range from +1 to -1, with +1 indicating a perfect positive relationship, 0 indicating no relationship, and -1 indicating a perfect negative or reverse relationship (as one variable grows larger, the other variable grows smaller) (Hair, Black, Babin, Anderson, Tatham, 2006).
Table 2. BBK’s Competitiveness

Component Matrix

<table>
<thead>
<tr>
<th>Component</th>
<th>Component 1</th>
<th>The degree of relation to BBK’s competitiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPANY COMPETITIVENESS</td>
<td>.491</td>
<td>6</td>
</tr>
<tr>
<td>HUMAN RESOURCES FACTORS</td>
<td>.753</td>
<td>2</td>
</tr>
<tr>
<td>INSTITUTIONAL FACTORS</td>
<td>.597</td>
<td>3</td>
</tr>
<tr>
<td>LINKAGES</td>
<td>.589</td>
<td>4</td>
</tr>
<tr>
<td>INFRASTRUCTURE</td>
<td>.503</td>
<td>5</td>
</tr>
<tr>
<td>GEOGRAPHIC FACTORS</td>
<td>.775</td>
<td>1</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.
1 component extracted.

In Table 2 we can see that the positive coefficients indicate every increase in each of all factors will increase the competitiveness of BBK. Therefore, the “Six Factors Model” made sense and proven to be a valid measurement on BBK competitiveness.

The numbers indicates that there are two distinctive factors that have the biggest loads and became the most significant factors in determining BBK competitiveness. These two factors are BBK geographic factors, followed by human resource factors. The next important factors are institutional factors and linkages, as both are almost as significant, followed by infrastructure and company competitiveness as the least significant factors. Most of the variables in the questionnaires are based on the top manager’s perception of importance and satisfactions towards certain factors in BBK and Singapore. Those results can be further explained as below:

1. **Geographic position**

The geographic factors of BBK is measured by BBK’s proximate location to Singapore, how many companies in BBK has Singapore as their current location for operation, and how many companies in BBK thinks that Singapore is the most attractive location to operate. The loadings of each variable are shown in Table 3.
Table 3. Geographic Factors

<table>
<thead>
<tr>
<th></th>
<th>Correlation Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proximity to Singapore</td>
<td>,664</td>
</tr>
<tr>
<td>Singapore as Current location for Operation</td>
<td>,897</td>
</tr>
<tr>
<td>Singapore as Most Attractive Location for Operation</td>
<td>,896</td>
</tr>
</tbody>
</table>

The above table shows that the three variables are all significant to measure geographic factors and at the same time its capture the fact that Singapore has a big influence to company's operation activities. This may be explained by the fact that most of the companies in BBK have a business relationship with companies and institutions in Singapore. Table 4 shows the perceived importance of proximity to Singapore as a reason why investors build operations in BBK SEZ. The data shows that 90% of manufacturing companies and 84% of non-manufacturing companies perceived proximity to Singapore is quite/very important for locating operations in BBK. This is also representing on the following quote:

“One of Batam competitive advantages is its location”

(one of the Director in Panbil Industrial Estate)

The results of this study also indicate that BBK is more attractive only for operational facilities, technical support, and logistics than HQ, sales and R&D activities. It means that all planning and promotion effort should be designed to support this image.

Table 4. Perceived importance of proximity to Singapore as a determining factor in locating operations in BBK SEZ

<table>
<thead>
<tr>
<th></th>
<th>Manufacturing</th>
<th>Non-Manufacturing</th>
<th>All Sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not important</td>
<td>0.0%</td>
<td>2.0%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Somewhat important</td>
<td>2.6%</td>
<td>2.0%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Moderately important</td>
<td>7.8%</td>
<td>11.8%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Quite important</td>
<td>29.3%</td>
<td>27.5%</td>
<td>28.7%</td>
</tr>
<tr>
<td>Very important</td>
<td>60.3%</td>
<td>56.9%</td>
<td>59.3%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

When we asked about investors plan for development, which eventually will indicate their commitment and confidence to BBK, it shows that companies in BBK
seemed to be optimistic about future investment plans compared to former plans. This might be due to the timing of the survey when the global recession was not deemed to be as serious yet.

From Figure 6, we can see that most investors will expand its operation, upgrade machinery and equipment, and add other value chain activities. Only 12% scaled down their operation in the last three years. In general, manufacturing companies tend to have higher investment propensities in existing operations (expand operations and upgrade machinery), while non-manufacturing companies prefer to invest in new activities such as developing new markets/products & adding new value-chain activities.

![Figure 6. Investment plans of Companies in BBK](image)

This result indicates that Singapore has already become the source of economic growth of BBK. Therefore, BBK has to keep a strong relationship with companies and institutions in Singapore to strengthen the linkages and empower the region. This action should be done and nurtured as soon as possible otherwise we will lose the momentum. We have to be alert that from industries point of views, there were some doubts about the prospect of BBK as the Special Economic Zones (SEZ). In fact, there were cases of investors making their way to cheaper pastures such as China, India and Vietnam. If the condition is getting stagnant or even worse, the investors could move
to the other countries that provide better productivity. The below statement express this notion.

"Singapore is expensive, but we choose to operate in Singapore, because the productivity of Singapore is higher than Batam If in 2009 the productivity does not increase, we will close our fabrication in Batam"  

(GM Electronic company)

Therefore there is an urgency for policy makers to improve the investment climate in BBK by upgrading its status to SEZ, embark on legal, labor and administrative reforms to win back the investors confidence.

2. Human Resource Competitiveness

The second important variables in BBK competitiveness is human resources. It was found that human resources factor has small relationship with the regional competitiveness factors in BBK (-0.045). This finding is validated by a number of comments from the qualitative interviews. One particular HR problem in BBK is related with HR quality and availability of technical expertise, as indicated in the following comments:

“Difficult to find experienced technician and engineers so we have to employ from Singapore, Malaysia and India”.  

(Director of Electronic Company in Batam)

“Is not easy to find good and skillful employees.”

“Local employees’ standard of competence needs to be improved”  

(HR Manager Resort in Batam)

“Higher level of management is always found from Java or outside Batam”.  

(Hotel Manager in Batam)

Another HR problem is the need of training and education for better skills and knowledge both for business and government employees. As shown in the following quotes:

“There is a need of a lot of training for operational staff in the tourism field in Batam.”

“We don’t even have a Tourism High school”  

(Batam Tourism Board)

“Providing good training to employees is a great focus for the company.”  

(Legal Officer of Resort in Bintan)
These comments are closely related to the knowledge and innovation factors as one of the driving force of competitiveness. When we incorporated knowledge and innovation factor together with human resource factor we achieve a positive correlation number of 0.753 (see Table 2) which eventually posit the HR factor as the second highest relation to BBK’s competitiveness. This provides a message of the importance of pushing knowledge and innovation into every step of company’s development. We have to be aware of the fact that competitive advantage is not derived from the basis of generic skills but rather from having employees with specific skills that are valuable, rare and unique. Furthermore, the existence of BBK as a FTZ area should provide value added to manpower development as well as transfer of knowledge to local people. To excel regional competitiveness, government should develop a system and prepare the transfer of knowledge from labour-intensive to more capital-intensive industries in BBK.

The qualitative data of this study shows that investors also complaint about rigidities in main clauses of Manpower Law regarding severance pay, fixed-term contracts & sub-contracting, and the confusing law of minimum wages.

3. Institutional Factors

The institutional factors of BBK competitiveness are related to satisfaction and adequacy of policies and regulations, the importance and satisfaction towards government support, and BBK governance.

<table>
<thead>
<tr>
<th>Institutional Factors</th>
<th>Correlation Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policies and Regulations</td>
<td>0.872</td>
</tr>
<tr>
<td>Government Support</td>
<td>0.381</td>
</tr>
<tr>
<td>Governance</td>
<td>0.823</td>
</tr>
</tbody>
</table>

As indicated in Table 5, policies, regulations and governance has strong correlation with institutional factors. In contrast, government support has weak correlation. This situation shown in the following quotes: “No support from Legislative”, “No program continuity from Mayor Office”, “No consistency in rules, regulations and programs".
Another important aspect of institutional problem in BBK is related to coordination and responsiveness which is highly related to governance:

“The System in Indonesia makes things done slower.”
(General Manager, Industrial Park in Batam)

“It was said that licenses said can be finished in a week but actually it takes more than 2 weeks. It just takes too long to get licenses done”
(Managing Director, Electronic Company in Batam)

“The goods coming into Batam need approval from central government. The local government does not have the authority in making decision.”
(Hotel Manager in Batam)

Good governance is indeed a big challenge in BBK especially with the former existence of dualism power between Otorita Batam and regional government which was in somehow confusing the investors and decreased region efficiency. Although the Indonesian government has tried their best to eliminate this tension by merging these two institutions, confusion an uncertainty is still exists. In this case, institutional structures should be established with clear authority, responsibilities and roles identified for the organizations involved. The organizations should be closely linked to each other in order to avoid confusion and also to enhance cooperation and efficiency.

It is important to take a note that Policies and Regulation have the highest correlation number. This number is not necessary indicate that they are significantly better, but they does exist and affect the business and firms in general. As indicate on the following quote:

“There is a need of Political stability. In Malaysia political situation does not seem to have a significant problem for business environment, but the situation is different in Indonesia”.
(CEO in Batam)

The swing of politics is not only influence the direction but also in somehow can impede the process of implementation:

“The regulation is easily changed as it goes with the changing of the person who holds the position. As a result, there is no consistency in rules, regulations and programs”
(Chairman of Association in BBK)
“Decision making follows a long path as local government cannot make their own decision. Involvement of central government is still high and it implies to higher cost and longer time.” (Executive manager hotel in Batam)

The above comments reconfirm that regional competitiveness is a mix result of political struggles, economic spatial-fixes, social mobilizations and political practice. It is clear that there are many homework need to be done to improve policies, regulation, government support and of course establishment of good governance.

4. Linkages

Linkages in this study is measured by company's international linkages with market and supplier in countries all over the world, linkages with business and institutions in Singapore, and also the linkages within Indonesia such as the local industrial parks, business associations and chambers. The region's linkages to capital, raw material and other inputs from well-developed region such as Java and well-developed country for example Singapore, Japan and so on are a prerequisite for its success. The result of the factor analysis is shown on Table 6.

<table>
<thead>
<tr>
<th>Table 6. Linkages</th>
<th>Correlation Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Linkages with Market and Supplier</td>
<td>-0.045</td>
</tr>
<tr>
<td>Linkages with Business and institutions in Singapore</td>
<td>0.920</td>
</tr>
<tr>
<td>Linkages within Indonesia</td>
<td>0.923</td>
</tr>
</tbody>
</table>

It is interesting to be noted that linkages with market and supplier does not really have a correlation with linkages factor as a whole (with correlation coefficient -0.045). On the other hand linkages with business and institutions in Singapore and Indonesia are very strong close to 1 (0.920 and 0.923). A plausible explanation that companies have a weak relationship to countries in the world because most of them have relationships with countries nearby Indonesia. In other words, the relationship exists because of the location. But if we see the linkages between Singapore and Indonesia, the correlation is very significant as explained in the following quote:
“Prospective foreign investors mostly do not open their representative office in Batam, but in Singapore instead. These prospective investors make joint partnership with Singapore before entering to Batam.”

(General Manager, Hotel in Batam)

5. Infrastructure

Infrastructure factor also acknowledge as the important variable by investors (see Table 3.). The BBK infrastructure is assessed by importance and satisfaction of access to physical infrastructure and quality of Information Technology and Communication (ITC).

<table>
<thead>
<tr>
<th>Table 7. Infrastructure</th>
<th>Correlation Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to land</td>
<td>.680</td>
</tr>
<tr>
<td>Access to uninterrupted electrical supply</td>
<td>.765</td>
</tr>
<tr>
<td>Access to clean and portable water</td>
<td>.757</td>
</tr>
<tr>
<td>Access to air transportation and logistics infrastructure</td>
<td>.751</td>
</tr>
<tr>
<td>Access to land transportation and logistics infrastructure</td>
<td>.802</td>
</tr>
<tr>
<td>Access to sea transportation and logistics infrastructure</td>
<td>.720</td>
</tr>
<tr>
<td>Quality of telephone connection</td>
<td>.792</td>
</tr>
<tr>
<td>Quality of internet connection</td>
<td>.706</td>
</tr>
</tbody>
</table>

From Table 7, we can see that each variable has an almost equal significant correlation with infrastructure factor. An interesting fact is access to land, being the least significant factor number. On the other hand, the factor with the highest correlation number, access to land transportation and logistics infrastructure, are mentioned contradictory in several interviews:

“The biggest challenges to improve are road infrastructure, availability of reliable electricity and safety.”

(General Manager, Hotel in Batam)

“Poor conditions of roads. The quality of general infrastructure is low.”

(HR Manager, Hotel in Batam)

It is interesting to be noted that investors in BBK have a relatively highest satisfaction levels with infrastructure (see Table 7). The existence of high-quality infrastructure is critical for ensuring the efficient functioning of the economy. A well-
developed transport and communications infrastructure network including effective modes of transport such as quality roads, railroads, ports, air transport, and an extensive telecommunication network are important, including the uninterrupted supply of electricity.

6. Company Competitiveness

Company competitiveness is the factor that has the weakest correlations with BBK competitiveness. Company competitiveness is measured by current strategies, future strategies, company sales and growth. In the highly competitive and fast changing environment, only firms that are efficient, innovative and responsive to changes can survive. The correlations can be seen in Table 8.

<table>
<thead>
<tr>
<th></th>
<th>Correlation Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Strategies</td>
<td>0.937</td>
</tr>
<tr>
<td>Future Strategies</td>
<td>0.918</td>
</tr>
<tr>
<td>Sales and Growth</td>
<td>0.418</td>
</tr>
</tbody>
</table>

Current strategies in the last 3 years and future strategies in the next 3 years of the company are both significant to measure company competitiveness. Nevertheless, the actual sales and growth of the company has a weaker correlation with company competitiveness factor. The explanation behind this result could be because most of the companies in BBK are just subsidiaries and highly dependent to the mother company in their original country (Figure 14). There are also companies who are only produce spare parts and the total assembly done in other countries. In this case, it is difficult to measure sales and growth because the mother company normally measure it as a bundle of product.
III. Conclusion and Recommendations

Based on the survey results, the six categories provide a relevant framework to measure the relative competitiveness of the BBK-SEZ region within the firms represented in the database. It can be said that the determinant factors and variables that forms the characteristics of BBK-SEZ is highly depends on the following driving factors:

- Firm or company strategies;
- Human resource quality, quantity and policy factors;
- Institution Factors, such as the role of the government in business support policy and regulation, also transparency and governance;
- Linkages Factors, such as business relations with local and international partners and entities;
- The availability and quality of infrastructures;
- The Geographic location, in this case BBK proximity to Singapore.

These factors can help the decision makers in providing the policy and development strategy toward a region capable of sustainable economic growth, a competitive region, with more and better jobs and greater social cohesion. This model and questionnaire could also be used to test the competitiveness of other region.

The message of this study is clear: investment climate could not be improved only by imposing law for investment, launching Special Economic Zone policy, reduced
central authority, etc. There are many other things need to be empowered. The urgent agenda for the government, business people and the overall Indonesian society can be divided in three broad spectra:

- To empower BBK as a FTZ area, there is a need of a coherent overall strategy and close connection between economics and politics. In the present political setting it is probably more difficult to come up with such a coherent strategy, but it is not impossible. Much will depend on the clarity of the government’s vision, its technocratic capacity to translate this into operational policies, and its scale in maintaining the essential elements of the strategy and protecting its overall coherence, while accommodating elements trust on it by political realities. Moreover, the strategy has to be implemented with a high degree of consistency over a long period. This created a predictable environment and provided sufficient comfort for domestic and foreign investors.

- Attractiveness of investment policy packages to create a beneficial investment. Over the years, Indonesia has formulated and implemented various investment policy packages aimed at attracting foreign direct investment into Indonesia. However, the effectiveness of such policy packages was called into question. These policy packages were either not effective in attracting foreign investment, or were not implemented in a consistent and timely manner. To improve its investment climate, Indonesia need to have a coherent and concerted overall strategy that covers the following broad aspects:
  - Investment law and negative list
  - Tax policies
  - Special economic zone policies
  - Labour policies
  - Education policies, Training, Technology development and R&D
  - Infrastructure building
  - Institutional reforms
  - Develop a clear industrial policies that plugging into global value chain and global production network
The current decentralization in Indonesia should be coupled with transparent regulation and prominent leadership. Decentralization led to a worsening of the business climate due to the greater fragmentation of government decision making power; resulting in breakdown in coordination by bureaucrats; leads to excess rent extraction (corruption). Race among districts to create new local regulations deemed necessary for their ‘well-being’ – use these regulations and resulting corruption and bribes as form of indirect taxation to compensate for income loss under the new budget arrangement (Kuncoro, 2006). To eliminate this decisive problem, transparency of policy, good governance and prominent leadership have to be established and maintained.

References


The World Bank (2006), World Development Indicators on-line database.