Factors Affecting Business Stability among ASEAN Member States
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Abstract

This paper employed exploratory data analysis or data mining to determine the problematic factors that will characterize the common concerns of business investors in the ASEAN countries. More specifically, the researchers grouped and categorized these factors that had affected the current condition of businesses and determine their effect on the extent of doing businesses among ASEAN member states. Factor analysis has identified three factors, namely, legal and judicial climate, economic climate and labor climate. These factors were used as bases to determine the extent of problematic factors of doing businesses in an ASEAN country through a model obtained using principal components analysis. With this model, the overall results revealed that Singapore emerged as the most enticing place to do business among the ASEAN member states. This finding is mainly due to the positive opinions Singapore received in terms of legal and judicial climate and labor climate. On the contrary, Thailand is considered as having the most problematic variables in investing business as revealed by the study. This is largely due to the recent political turmoil it experienced in the late 2013 up to mid 2014. With the identified problems these ASEAN nations face based on the above-identified factors, it can be concluded that ASEAN nations should come to terms in identifying their strengths and weaknesses before considering the idea of integration. This is to ensure that business investors that ASEAN nations can address these pressing problems especially in factors that business executives see. This action has to happen to help them welcome more investors and to create a business environment more conducive to progress.

Keywords: business stability, economic recession, ASEAN integration

1.0 Introduction

Global economic recession has been experienced by countries all over the world even by affluent ones. In this connection, plans to reverse this economic situation have been made. The Association of Southeast Asian Nations (ASEAN) responds to this situation through the creation of ASEAN Economic Community (AEC) 2015. In the process of creating and implementing the AEC, the business arena is to be considered. There is a need to study the different factors that limit investors from attaining their business outcome. These factors pose a problem in economic integration since various ASEAN countries also differ in problematic factors for doing business.

The trend of the establishment of AEC started during the Asian Financial Crisis in late 1990’s. The impetus for organizing the ASEAN was premised on the contingent relation of the ASEAN countries. The feeling of being left alone during the crisis by the leading nations such that of the United States of America (APEC) to assist in trade, financial and develop assistance has been one of the major causes of problems to the ASEAN nations (www.google.com.ph). In terms of business, it is hoped that through AEC “more regional cooperation” will be opened and will give “dynamism and competitiveness” among ASEAN member states. The Southeast Asian region will also become attractive to foreign investors since their business in the region will have a large market that is the whole area itself (www.business-in-asia.com). However, there are many concerns as to the readiness of different countries to be merged
into one economic community. In the 2014 edition of World Economic Forum’s Executive Opinion Survey, business executives’ responses to problems in doing business in ASEAN countries show that each country has different levels of similarly problematic factors presented to them (http://www3.weforum.org). The result of the survey reflects the fact that ASEAN countries still do not share the same concerns in terms of what should be addressed in doing business.

There is a disparity between ideals of Economic Community regarding the business arena and that of the reality that business leaders see in different members of AEC. This gap is evident from the point of view of investors who have different concerns depending on member-countries of AEC.

Considering diverse factors judged by business executives as making businesses problematic, this paper analyzed these factors and grouped them in such a manner as to identify the member countries’ weaknesses in the business world.

To this effect, there was the need to study the problematic factors that will determine the common concerns that affect business stability of the ASEAN countries. More specifically, the researchers will group and categorize these factors that have affected the current condition of business and determine its effect on the extent of doing business among the ASEAN member states.

2.0 Conceptual Framework/Theoretical Background

Global Economic trends point to the tendency for integration rather than competition. The European Economic Integration in 1990’s has served as a model for ASEAN 2015 Economic Integration framework that would respond to the different challenges met by each region in their quest for progress and development. As such integration has been seen to be a key to solving all of these challenges.

Integration is defined to be the coming together of parts into a whole where success of mutual operation of applications is measured. Each is aware of the strength of the other and seeks to compliment the weakness, not out of charity rather as a functional need (www.research.org). Hence, this paper would characterize the extent of the effect of identified problematic factors on business stability of ASEAN countries when the integration will occur. These identified factors that were found to be present in all ASEAN regions include corruption, tax regulation, inefficient government bureaucracy, inadequate infrastructure, poor work ethics, inflation, policy instability, crime, and theft. Thus, in determining the impact of these factors on doing business in ASEAN member states, the researchers performed a multivariate factor, cluster and principal components analysis in order to group the common attributes and to validate the prevalent variable to each ASEAN region.

After having identified the common attribute, to come with a concept applicable to regions, the ASEAN countries will be clustered based on these identified factors.
3.0 Methodology and Research Design

This paper made use of data mining methods using multivariate factor, cluster, and principal components analysis in order to determine the extent of problematic factors that affect the economic business stability among ASEAN countries. The identified problematic factors for ASEAN countries such as corruption, tax regulation, inefficient government bureaucracy, inadequate infrastructure, poor work ethics, inflation, policy instability, crime and theft were first subjected to multivariate factor analysis in order to group the common attributes. The concepts were then determined to define the class of factors that affect in doing business with ASEAN member states. After which, the resulting concepts representing prevalent variables were regrouped into clusters namely: legal and judicial, economic climate, and labor climate. These were further analyzed utilizing multivariate cluster analysis to regroup ASEAN countries based on identified factors and determine its effect on business stability among ASEAN countries through principal components analysis.

4.0 Results and Discussion

In order to determine the perception of the executives the following findings on factor analysis are presented to reveal the different classes of problematic factors affecting the business condition among ASEAN Countries. These ASEAN member states include Brunei (1), Cambodia (2), Indonesia (3), Lao PDR (4), Malaysia (5), Myanmar (6), Philippines (7), Singapore (8), Thailand (9), and Vietnam (10). Meanwhile, the problematic factors are composed of corruption, tax regulation, inefficient government bureaucracy, inadequate infrastructure, poor work ethics in national labor force, inflation, policy instability, crime, and theft. The responses of these factors were based on responses of business executives as shown in 2014 edition of World Economic Forum’s Executive Opinion Survey for ASEAN countries.
### Table 1. Factor Analysis: Rotated Factor Loadings and Communalities with Varimax Rotation

| Variables                                      | Factor1 | Factor2 | Factor3 | Communality |
|-----------------------------------------------|---------|---------|---------|-------------|
| 1. Corruption                                | 0.896   | -0.393  | -0.085  | 0.964       |
| 2. Tax Regulations                           | 0.377   | 0.055   | -0.867  | 0.897       |
| 3. Inefficient Government Bureaucracy        | 0.102   | -0.925  | -0.076  | 0.872       |
| 4. Inadequate Supply of Infrastructure       | -0.202  | -0.363  | -0.887  | 0.960       |
| 5. Inflation                                 | -0.857  | -0.245  | 0.253   | 0.858       |
| 6. Poor Work Ethic in National Labor         | 0.069   | 0.953   | 0.140   | 0.932       |
| 7. Inefficiency of Government Bureaucracy    | 0.777   | -0.351  | 0.252   | 0.791       |
| 8. Poor Infrastructure                        | 0.489   | 0.008   | -0.047  | 0.241       |
| Variance                                     | 2.5774  | 2.2363  | 1.7007  | 6.5145      |
| % Var                                        | 0.322   | 0.280   | 0.213   | 0.814       |

Legend: Factor 1  =  Legal and Judicial Climate  
Factor 2  =  Economic Climate  
Factor 3  =  Labor Climate

Factor analysis were used to group variables to form a factor. This factors can be computed by multiplying the loadings of the variables on a factor.

The set of variables 1, 7 and 8 have positive loadings on Factor 1 and a low loadings on Factors 2 and 3, respectively. These variables belong to legal and judicial climate of ASEAN countries. However, the set of variables 2 and 6 loads higher on Factor 2 than in Factors 3. These variables are labeled as the economic climate for business. The remaining variables, 3, 4 and 5 determines Factor 3. This class is classified as “Labor Force Climate”. These imply that the problematic factors affecting ASEAN countries on business stability can be characterized in terms of legal and judicial climate, economic climate and labor climate features. This finding is well supported with factor analysis percent cumulative variance of 81.40%.

Subsequently, the following findings determined the resulting cluster analysis on identified problematic factors that affect business stability among ASEAN countries.

**Cluster Analysis of ASEAN Countries in terms of Legal Judicial Climate, Economic Climate and Labor Climate**

The figure below shows the Dendrogram of ASEAN countries depicting the groupings of member states. ASEAN member countries in no particular order includes Brunei (1), Cambodia (2), Indonesia (3), Lao PDR (4), Malaysia (5), Myanmar (6), Philippines (7), Singapore (8), Thailand (9), and Vietnam (10).
Table 2 determines the number of ASEAN member states that belong to a particular group of ASEAN nations.

**Table 2. Final Partition**

**Number of clusters: 3**

| Number of Countries | Within Cluster Sum of Squares | Average Distance from Centroid | Maximum Distance from Centroid |
|---------------------|-------------------------------|-------------------------------|-------------------------------|
| Cluster1            | 2                             | 39.201                        | 4.42725                       | 4.42725                       |
| Cluster2            | 7                             | 205.449                       | 5.16053                       | 7.54185                       |
| Cluster3            | 1                             | 0.000                         | 0.00000                       | 0.00000                       |

**Table 3. Cluster Centroids**

Table 3 shows the cluster centroids for the three different groups of ASEAN member countries across three identified factors, namely, legal and judicial climate, economic climate and labor climate characteristics.

| Variables                | Cluster 1     | Cluster 2     | Cluster 3     | Grand Centroid |
|--------------------------|---------------|---------------|---------------|----------------|
| Legal and Judicial Climate | 6.78280       | 22.7028       | 1.4594        | 17.3945        |
| Economic Climate          | 1.39565       | 4.5635        | 19.6630       | 5.4399         |
| Labor Climate             | -8.11055      | -7.0755       | -2.8078       | -6.8557        |
Table 4. Distances between Cluster Centroids

Table 4 reveals the distances between cluster centroids for the three different groups of ASEAN member states across the three identified factors, legal and judicial climate, economic climate and labor climate.

|        | Cluster 1 | Cluster 2 | Cluster 3 |
|--------|-----------|-----------|-----------|
| Cluster1 | 0.0000   | 16.2651   | 19.7523   |
| Cluster2 | 16.2651  | 0.0000    | 26.4101   |
| Cluster3 | 19.7523  | 26.4101   | 0.0000    |

The clustering of ASEAN member countries were based on the countries similarities on the level of the three identified concepts, namely, legal and judicial climate, economic climate and labor climate obtained through factor analysis.

The cluster analysis result revealed that the grouping of ASEAN countries can be categorized based on the three different characteristics; legal and judicial climate, economic climate and labor climate. Group 3 is identified as the most stable ASEAN country in terms of doing business because the governance is highly stable as compared to other two groups. However, countries belonging to cluster 1 are perceived to have lesser problems affecting economic and labor climates. Thus, when a country encounters more minor conflicts on identified problems then, the more stable a country will be in welcoming investors.

The following table determines the extent of problematic factor in doing businesses with member states of ASEAN in terms of legal and judicial climate.

Table 5. Indices of Problematic Factor in Doing Businesses Among ASEAN Countries in Terms of Legal and Judicial Climate

| ASEAN Countries | Cluster # | Legal and Judicial Climate Index | Rank | Interpretation         |
|-----------------|-----------|---------------------------------|------|------------------------|
| 1. Brunei Darussalam | 1         | 3.2128                          | 2    | Least Problematic      |
| 2. Cambodia     | 2         | 24.1417                         | 8    | Very Highly Problematic |
| 3. Indonesia    | 2         | 21.6290                         | 6    | Highly Problematic     |
| 4. Lao PDR      | 1         | 10.3528                         | 3    | Slightly Problematic   |
| 5. Malaysia     | 2         | 24.4618                         | 9    | Very Highly Problematic |
| 6. Myanmar      | 2         | 19.9190                         | 5    | Highly Problematic     |
| 7. Philippines  | 2         | 21.9703                         | 7    | Highly Problematic     |
| 8. Singapore    | 3         | 1.4594                          | 1    | Least Problematic      |
| 9. Thailand     | 2         | 28.8320                         | 10   | Very Highly Problematic |
| 10. Vietnam     | 2         | 17.9660                         | 4    | Highly Problematic     |
Singapore, the only country belonging to the cluster 3, ranked first as the least problematic in the legal and judicial climate. The Group 1 of the ASEAN member states namely, Brunei Darussalam (2nd) and Lao PDR (3rd) are viewed as least and slightly problematic countries, respectively. Countries belonging to cluster 2 are either highly and very highly problematic. Vietnam (4th), Myanmar (5th), Indonesia (6th), and the Philippines (7th) are considered as highly problematic. While Cambodia (8th), Malaysia (9th) and Thailand (10th) are seen as very highly problematic.

These findings suggest that cluster 3, with Singapore as the sole member state, is the most stable in terms of how business executives consider the legal and judicial climate that affect businesses in the ASEAN. Singapore has been consistently ranked as one of the best places to invest. Even the World Bank affirmed this by conferring Singapore for seven consecutive years as a place where investors can put up most quickly their businesses (www.doingbusiness.org).

Thailand’s latest political conflict which peaked from the late 2013 to mid 2014 affected much the outlook of business executives to the country. Thailand had been rocked with many military coups and the ever-changing constitution and prime ministers since it became a constitutional monarchy in 1932. Although it managed to get through these hardships because of rice export and foreign direct investment, this time due to the present situation of the global economy, business executives are more careful and are particular to consider calculated risks before investing (www.ibtimes.com).

On the other hand, although the Philippines showed a relative increase in trust rating in the past years among business enthusiasts, there are still significant concerns about corruption, and policy instability in the country. Considered as the key barometer of US business opinion in Southeast Asia, the ASEAN Business Outlook Survey reflected these concerns for Philippines too (http://business.inquirer.net). This can be the reason why the Philippines is considered by the business executives as highly problematic.

Table 6 shows the extent of problematic factor in doing businesses among ASEAN nations concerning economic climate.

Table 6. Indices of the Extent of Problematic Factor in Doing Businesses Among ASEAN Countries in the Aspect of Economic Climate

| ASEAN Countries | Cluster # | Economic Climate Indices | Rank | Interpretation            |
|-----------------|-----------|--------------------------|------|---------------------------|
| 1. Brunei       | 1         | 0.0275                   | 1    | Least Problematic         |
| Darussalam      |           |                          |      |                           |
| 2. Cambodia     | 2         | 1.7393                   | 3    | Least Problematic         |
| 3. Indonesia    | 2         | 9.2130                   | 9    | Moderately Problematic    |
| 4. Lao PDR      | 1         | 2.7638                   | 4    | Least Problematic         |
| 5. Malaysia     | 2         | 6.3412                   | 8    | Slightly Problematic      |
| 6. Myanmar      | 2         | 4.0760                   | 5    | Slightly Problematic      |
This table shows that most of the ASEAN countries as perceived by business executives around the globe are least problematic in terms of economic climate (inflation, and tax regulation). However, Singapore, is considered by the business executives as problematic in factor 2. The cost of housing, business and transportation is quite high and steadily rising in this small island state (www.bloomberg.com). And though the businessmen have favorable review on tax regulation to both the individual and corporate tax payers in Singapore(www.singaporelaw.sg), it is still considered as problematic in this factor due to the perceived high inflation rate that the country has.

Table 7 presents the extent of problematic factor in doing businesses among ASEAN countries pertaining to labor climate.
Opinions of business executives show that they believe that there is less problem in terms of the labor climate in ASEAN countries except in the Philippines. A review on the labor condition of the Philippines would support the perceptions of the business people as claimed by the National Wages and Productivity Council (NWPC) stating that the labor condition is deescalating to 1.5% due to the slowdown in manufacturing subsector (www.laborrights.org). The Philippines also has still a lot to improve in its infrastructure. Singapore, on the other hand, is presented to be slightly problematic. Under the Free Trade Agreement (FTA) and amid the tight labor market still Singapore had gain strength and a record proportion of residents aged 25 to 64 were reportedly employed (www.stats.mom.gov.sg).

Principal Components Analysis: Legal and Judicial Climate, Economic Climate, and Labor Climate

The following results determine the principal components analysis of the three identified concepts in problematic factors in doing businesses. These include legal and judicial climate, economic climate, and labor climate characteristics.

**Table 8. Eigenanalysis of the Covariance Matrix**

| Eigenvalue | 95.106 | 27.085 | 9.064 |
|------------|--------|--------|-------|
| Proportion | 0.725  | 0.206  | 0.069 |
| Cumulative | 0.725  | 0.931  | 1.000 |

The findings reveal that the first eigenvector or principal component has a total variance of 72.50%. This result is sufficient to represent all three identified concepts for the problematic factors in doing businesses across ASEAN countries such as legal and judicial climate, economic climate, and labor climate.

**Table 9. Principal Components Analysis Results across Three Identified Concepts of Doing Businesses Across ASEAN Member States**

| Variable                  | PC1     | PC2     | PC3     |
|---------------------------|---------|---------|---------|
| Legal Judicial Climate    | -0.933  | -0.358  | -0.033  |
| Economic Climate          | 0.346   | -0.867  | -0.360  |
| Labor Climate             | 0.100   | -0.347  | 0.932   |

Thus, the index of the extent of problematic factor in doing businesses among ASEAN countries in the aspects of legal judicial climate, economic climate, and labor force climate of an ASEAN member country can be modeled by the equation

\[
\text{Index of Problematic Factor in Doing Businesses} = -0.933 \text{ Legal and Judicial Climate} + 0.346 \text{ Economic Climate} + 0.100 \text{ Labor Climate}.
\]

Hence, the more problematic is the legal judicial climate of an ASEAN member state, the higher is the index of problematic factor in doing businesses, the greater the problems on economic climate,
the higher is the index. Consequently, the more stable is the labor climate of an ASEAN nation, the lower is the index of problematic factors of doing businesses in the region.

The table below shows the extent of problematic factors in doing businesses with ASEAN member states. The three identified concepts on problems affecting business stability of a country, namely, legal and judicial climate, economic climate, and labor climate were used as predictors for the extent of problematic factors of doing businesses in the region using the a above model.

**Table 10. On the Extent of the Three Identified Problematic Factors in Doing Businesses Among ASEAN Countries**

| ASEAN Countries | Cluster # | Extent of the Three Identified Problematic Factors in Doing Businesses Among ASEAN Countries | Rank | Interpretation               |
|-----------------|-----------|------------------------------------------------------------------------------------------|------|------------------------------|
| 1. Brunei Darussalam | 1         | -3.57584                                                                                 | 2    | Least Problematic            |
| 2. Cambodia     | 2         | -22.7644                                                                                 | 9    | Very Highly Problematic      |
| 3. Indonesia    | 2         | -17.5864                                                                                 | 5    | Highly Problematic           |
| 4. Lao PDR      | 1         | -9.73719                                                                                 | 3    | Slightly Problematic         |
| 5. Malaysia     | 2         | -20.9392                                                                                 | 8    | Highly Problematic           |
| 6. Myanmar      | 2         | -17.7815                                                                                 | 6    | Highly Problematic           |
| 7. Philippines  | 2         | -20.4451                                                                                 | 7    | Highly Problematic           |
| 8. Singapore    | 3         | 5.16100                                                                                  | 1    | Least Problematic            |
| 9. Thailand     | 2         | -27.3174                                                                                 | 10   | Very Highly Problematic      |
| 10. Vietnam     | 2         | -15.3382                                                                                 | 4    | Moderately Problematic       |

Legend: **Hypothetical Range** | Interpretation
---|---
-5.46 and Above | Least Problematic
-10.92 - -5.47 | Slightly Problematic
-16.38 - -10.93 | Moderately Problematic
-21.84 - -16.39 | Highly Problematic
-21.85 and Below | Very Highly Problematic

In combining the three identified problematic factors in doing businesses among ASEAN countries, for business executives, Singapore emerges as the most enticing place among the ASEAN countries. This finding is highly due to the positive opinions Singapore received in terms of its legal and judicial climate (Factor 1) and also its labor climate (Factor 3). This first factor is a concept identified to unify the variables namely, corruption, policy instability and crime and theft. While the third factor consists the variables which are inefficient government bureaucracy, inadequate supply of infrastructure and poor work ethic in national labor which Singapore is considered the least problematic. Although Singapore is considered as having the worst climate in terms of economic which is largely due to the perceived high inflation by the business executives but over all it still emerges as the best ASEAN country considered by the business executives using the eight variables that are grouped into three factors. Thailand, due to its recent political turmoil is considered as the country which the business executives considered having many variables considered as hindrances toward business growth.
5.0 Conclusion

With the identified problems facing these ASEAN nations at present based on the above identified concepts, namely, legal and judicial climate, economic climate and labor force climate, it can be concluded that leaders of these ASEAN nations must look into possible solutions to address these pressing problems. Most especially in the factors that business executives see in the respective nations. This has to happen to help them welcome more investors and to create a business environment more conducive for progress. The economic integration will be more successful if the member states learn from each other and become more open to the strengths of the other states. This can also help in realizing a good economic integration.

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