

Comparison of asian and european logistics system



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Asia is quite diverse but can be divided along economic lines. There are first the industrialized economies of Hong Kong, South Korea, Singapore and Taiwan[1]; five developing countries (China, Indonesia, Malaysia, The Philippines, and Thailand) as a second set; and a third division comprising about 35 other nations. South Korea was the industrialized economy most affected by the Asian financial crisis of the late 1990s.

Within Europe, on the other hand, the European Union (EU) is a borderless, powerful economic community whose combined economies already exceed those of the countries in North American Free Trade Agreement. European integration has created new opportunities and also new issues in supply chain management.

In light of the above, the key aims of this research are threefold:

(1) To compare the logistics systems of Asia and Europe and classify them into different logistics tiers, i. e. distinct levels of excellence.

(2) To introduce a process that government policy makers can employ to improve their logistics systems.

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(3) To draw lessons from the top logistics systems of each region.

Our research will suggest some key factors that contribute to logistics excellence. We will also demonstrate, by sensitivity analysis, that attaining the top logistics tier is not insurmountable. But let us begin by summarizing the context in Asia and in Europe.

Social, economic and geographical overview of Asia and Europe

The Asian economic crisis, triggered when the Thai currency, the baht, was floated in July of 1997, produced a domino effect on the economies of South Korea, Indonesia, and Malaysia. During the panic-pullout of funds by global investment managers, it became clear that most Westerners viewed Asia as a homogeneous bloc! Economic fundamentals of Singapore, Hong Kong and Taiwan were basically sound, but funds were moved out of those countries[2] as well.

In reality, Asia is a wide collection of almost 50 diverse countries; more than 25 languages and 700 dialects are spoken there. With China, India and Indonesia, Asia houses three of the world's four most populous nations. Asia consists of 24, 000 separate land masses, spanning six time zones and occupying 45 million km². The study of logistics, or any subject about Asia, must recognize her heterogeneous nature.

After the former Soviet Union broke up, Europe became a continent of 42 nations, comprising the EU (15 countries)[3], the Commonwealth of Independent States (the CIS, 12) and Eastern Europe (15 countries). Western Europe[4] is of course more affluent and economically developed than the
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eastern side. Unlike North America, but like Asia, Europe is highly diverse in cultures and languages.

Literature review

Research literature on international logistics has heavily emphasised the USA and Japan (Babbar and Prasad, 1998). Those countries were followed by the UK, Australia and Canada in the 141 research articles they screened. North America led in quantity, then Europe, and finally the Asia Pacific, but logistics in the latter is usually discussed on a piecemeal basis.

For example, McMullan's (1996) paper on Asia Pacific logistics dealt mostly with Australia, while in Pollitt (1998), China and Japan were taken as representative of "Far East" logistics. Those two countries exhibit market and economic clout in Asia, but one cannot ignore Hong Kong, Taiwan, Singapore and Korea. Hong Kong and Singapore intuitively possess logistics infrastructure and expertise matching North America and the advanced economies of Europe. Korea, despite its low ranking by the World Competitiveness Yearbook, is home to Pusan, the world's 4th busiest port (Freight & Trading Weekly, 1999).

There is a more complete and extensive treatment of business logistics in Europe as a bloc. Stock and Lambert (2001, Ch. 14) outlined the impact of the EU and break-up of the Soviet Union on logistics practice across Europe. A few articles are case-studies of real companies, documenting the application of logistical techniques in Europe: Leeuw (1996) outlined a methodology to select control techniques in physical distribution; Bagchi and Virum (1998) analysed the effect of logistics alliances; and Lumsden et al.

(1999) examined possible improvements to the hub-and-spoke distribution network of SKF Europe. Laarhoven et al. (2000) conducted a survey of logistics outsourcing in Sweden, the UK and elsewhere. But overall, no division of logistics into different tiers of professionalism is apparent.

Wright (1998) provided a more rounded description of Asian logistics.

Common misconceptions, the varying degrees of supply chain maturity, as well as logistics challenges are addressed. However, this brief article could not deal with regulatory requirements or the infrastructure for transportation, warehousing, communications and information technology.

Chen (1999) and Goh and Ang (2000) filled in some details. The former paper concerns customs regulations in ASEAN[5]; the latter examined logistics infrastructure in Indochina.

Finally, almost no literature compares logistical networks and infrastructure in Europe and Asia. The closest, Sohal et al. (1999), contrasted the adoption of quality management practices in the logistics function amongst Australian, North American and European firms. Further afield, Ulengin et al. (2002) classified countries according to their overall macroeconomic competitiveness.

In January 2000, Asia's total gross domestic product (GDP) exceeded that of the USA by over US\$900 billion. Likewise, Europe's GDP surpassed that of the USA (by about \$450 billion). European integration means that previous country-specific logistics strategies are no longer optimal, as predicted by O'Laughlin et al. (1993) just before the EU became a single market in January 1993. The EU's implementation of a common currency (in January 2002),

plus emerging markets in Eastern Europe and the CIS, provide immense opportunities.

The Asian counterpart to the EU, the ten countries of ASEAN[5], together have a GDP of 20 percent more than the GDP of Canada and Mexico combined. Attainment of free trade within the bloc will be tougher than in Europe or North America. Governments maintain protectionist measures because many nations in ASEAN are still under-developed (e. g. Cambodia, Laos, Myanmar, Indonesia, Vietnam).

Europe's political climate allows standardised practices: imported goods, destined wherever in the EU, can be cleared at point of entry in any member state. However, the CIS and Eastern Europe, from their Soviet heritage, have some outdated procedures (Augustyniak, 1999).

The Channel Tunnel ("chunnel") opened in 1994, raising the profile of cross-channel movement of goods (Browne and Allen, 1999). A plan to create a high-capacity infrastructure linking major European freight centres (Economic Research Centre, 1996) could significantly impact the supply chain network of manufacturing firms. Creation of borderless rail-freight in the EU may thus cause a modal shift from road transport for longer-distance distribution. However, diversion to rail will be limited by the height of European rail terminals, which do not accommodate double-stack containers. As well, technical compromises are difficult to achieve among the national rail systems of each country.

There is an ASEAN project to build an 8,000km rail line from Singapore to southwestern China; Malaysia and Singapore have experimented with <https://assignbuster.com/comparison-of-asian-and-european-logistics-system/>

borderless entry of goods. Both are precursors to a common border likened to that of the EU.

An improved road network can yield service improvements. For example, Compaq Malaysia previously relied on scheduled air-freight to send service-parts the 300km from Singapore to Kuala Lumpur, Malaysia. The new multi-lane highway enables a truck to be sent there daily from Singapore.

However, a poor distribution infrastructure may encourage companies to undertake logistics activities not within their core competence. McDonald's of China actually started its own trucking subsidiary in order to ensure reliable deliveries (Gooley, 1998).

To make detailed references to specific countries, we first summarize criteria important to logistics excellence.

Four key attributes of a "First World" logistics system are described by Wood et al. (1995) (Table I). Their First World includes countries such as the USA, Canada, Japan, and the EU (12 nations at that time). Emerging nations are ones like Thailand, Taiwan, China, Brazil and Argentina, while Sudan, Afghanistan, Haiti and others constitute the Third World.

We will see that this is similar to our tiered classification, but Wood et al. are perhaps too general in their categories. Ohmae (1985) discussed business linkages between a (First World) "triad of nations": as above, major countries in North America, Asia Pacific, and Europe. Wood et al. (1995) utilised a similar economic interpretation of nations to categorise their logistics systems. This is fine if strong correlation exists. The World

Competitiveness Yearbook (Garelli, 1999)[6], however, shows that, along <https://assignbuster.com/comparison-of-asian-and-european-logistics-system/>

some dimensions, business leaders do not believe that Spain, Portugal, Ireland, Belgium, nor even the UK have a First World distribution system (Garelli, 1999). Our third section discusses this in detail.

We also feel that “ business value” should be added to each of Wood et al.’s (1995) attributes. Infrastructure is described e. g. as including “ state-of-the-art air-freight handling”, but a better measure would be material-handling throughput, since managers care more about rapid flow of product than whether the system is state-of-the-art. We will address the preceding by objectively classifying logistics systems; expanding the attributes of a world-class system; and adding more business value to those attributes. Our definitions of logistics tiers are in Table II.

Let us now turn attention to the factors important in determination of logistics tiers. First, a strong relationship is expected between infrastructure maintenance/development and the ability to meet distribution requirements for goods and services: Tier 1 logistics countries continually invest to stay ahead. This will impact future location decisions. For example, Singapore (later shown to be Tier 1) is the regional home to virtually every leading international logistics player.

The second effect will be a “ spillover” of logistics activities from Tier 1 to Tier 2 nations. This arises from two sources:

- (1) healthy competition; and
- (2) a constrained system.

In the former, neighbouring countries also seek benefits from business-friendly logistics infrastructure, so they build similar facilities. Malaysia (found to be Tier 2) opened its new, state-of-the-art international airport to match the cargo-handling productivity of Singapore's Changi Airport. Malaysia and Thailand upgraded their ports in order to compete for business with the port of Singapore. And concerning the effect of a constrained system, freight volume in Hong Kong has outstripped capacities at both its sea and airports, causing a shift of certain logistics activities to parts of South-East Asia or mainland China (Gooley, 1998).

Attributes of a world-class logistics system

We now propose an objective method to categorise logistics systems. The four general attributes of Wood et al. (1995), i. e. infrastructure, performance, information systems and human resources, have been retained, and two others (business and political environment) are added. Specific characteristics are also redefined to make them more business-oriented and “tangible”.

Conclusions

We have extensively examined the logistics systems of Europe and Asia, first by providing a social, political and geographical overview of these two regions, then by addressing the strategic impact of various issues on each region's logistics. We proposed details – new descriptions as far as we are aware – of the attributes of a world-class logistics system. Data were culled from independent sources (see Tables III and IV) to assign countries objectively to logistics tiers, based on cluster analysis.

Our research suggested the main ingredients (“controllable” factors) in logistics excellence:

Deliberate investment in, and regular maintenance of, distribution infrastructure.

Employment of business-friendly processes.

Active promotion of harmonious relationships between unions and employers.

We remark that the Tier 1, 2, 3 designations are all relative; the very best logistics systems have stayed on top by continually improving. It remains to be seen whether the gap between successive tiers will widen over time (“average” countries becoming worse in logistics), or whether each tier will improve somewhat together as a group, but with particular countries promoted to an adjacent tier or downgraded.

This manuscript classifies each country’s logistics macrosystem, but how does a firm with good logistics performance survive within a “bad” logistics macrosystem[10]? Just as an individual employee might exhibit creativity in a company that generally resists change, an organization’s logistics success is only partly due to the overall business environment. There are other factors involved; understanding them may require details specific to those cases.

Similarly, there will be additional variables whose impact cannot be included.

Singapore, Denmark and the USA have different scales of distance and

population density. Homogeneity of culture should also be a factor, along <https://assignbuster.com/comparison-of-asian-and-european-logistics-system/>

with the structure of contract law. While these and other parameters could not be accounted for, perhaps we should recognize the degree to which the variables included do influence logistics performance.