NAFTA - Transportation Challenges: Case Study US-Mexico

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Abstract

The North American Free Trade Agreement (NAFTA) has increase trade between Canada, the United States (US) and Mexico by reducing tariffs on imports and exports, in which influences foreign direct investment, economic growth and reduced trade barriers in these regions. This trilateral trade agreement has influence the flow commercial traffic through these countries continental transportation corridors, which is providing cross-border trading and international commerce for this geographical market. These continental gateways are seaports, roadways and railways that transport products and goods to these marketplaces. However, trading partners are relying on each country's transportation and distribution services that are operating independently and lacking interconnectivity among each others logistical channels. As a result, the transportation channel participants are not able to prevent congestions and delays along their routes, which may be caused by NAFTAs' poor logistics system. This research paper will address the NAFTA's transportation challenges between the U.S. and Mexico when transporting products and goods across their friendly borders.

Introduction

According to Yoskowtiz et al (2002), "NAFTA, which began on 1 January 1994, total US-Mexico trade has raised to over $173.7 billion dollars. During an increase of over 113.1% in a five-year span. In 1993, Mexico was the third largest trading partner of the US at roughly $81.5 billion dollars." (p.26). This trading partnership grossed over $11.4 trillion dollars from domestic and foreign transactions cause by this bilateral trade agreement. Although international businesses has benefited from these geographical markets, some marketers are arguing that this bilateral agreement has not lived up to its expectations. For example, marketers are saying that NAFTA has helped create millions jobs, nearly triple exports and imports among these trading nations and boost their economics; while others are saying that NAFTA has cost million of jobs, caused a trade deficits between these nations and hindered economic growth in their regions. These mercantilist and economist arguments will continue because it is hard to prove whether this trade agreement has benefited or harmed these international markets. Instead, marketers should be focusing on how this trade liberalization agreement has created comparative advantage for these countries by connecting international markets. This trade agreement has foster trade and redefined the economic relationships among trade partners by eliminating trade barriers, increasing investment and industrial activities their regions.

"NAFTA might also affect geographic trade pattern by expanding the set of possible paces for firms to location. Under NAFTA, if that firm from Texas moves into Mexico, it can do so without losing tariff-free access to its domestic markets. Instead of the firm exporting to Mexico, it exports from Mexico to Texas and other states. Extra-NAFTA trade would also be affected because the firm's exports would be from Mexico to the rest of the world, rather from Texas." (Coughlin & Wall, 2003, p.429).

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Also, NAFTA trade model influence other free trade agreements among the Latin Americas' trade participates such as the Central America and Dominican Republic Free Trade Agreement (CAFTA-DR), which was designed to eliminate trade and tariff barriers; it was finalized 2004, and approved by President Bush and Congress later that year. As a result, NAFTA has influence other markets to produce and sell goods to each others by encouraging them to concentrate on items that benefits all merchants their regions. Thus, integrating economies through quality and cheaper produced goods that are affordable to the potential consumers. Therefore, NAFTA has created the largest free trade area for merchants by providing trillion dollars worth of goods and products to the consumer. This integrating process can facilitate the importance channel of distribution networks to the merchant.

"The mainstream forecasts during the NAFTA debate were basically correct: NAFTA has had relatively small positive effects on the U.S. economy and relatively large positive effects on Mexico and other markets. Regional trade liberalization primarily affects resources allocation, production and trade patterns. While regional trade agreements may affect bilateral trade balances, a country's aggregate trade balance is determined primarily in asset markets." (Burfisher, Robinson, & Thierfelder, 2001, p.141). However, the bilateral free trade practices did not convert Mexico into a well developed country. Instead, Mexico must improve its infrastructures, reform legislature and taxation policies that creates chaotic business practices and breeds ethnical behaviors among marketers. Overall, NAFTA may have positive impact on these borders industrial regions because of the economic growth in these geographical markets .

Review of the Literature

Economic Impact

According to Yoskowtiz et al (2002), the NAFTAs economic goals are to develop interconnectivity between traders by reducing trade barriers and applying trade rules that will create competitive business atmosphere. "Since 1998, combined trade (exports and imports) along the US – Mexico border had increased by 76.7% since NAFTA went into effect in 1994. Over that same time period exports through the US – Mexico border increased 53.8% while imports increased 101.5%." (p.26). Although both nations' exports and imports increased after NAFTA. Recent economic figures show that trade between the two countries improved Mexico's' standard of living and labor force issues. Therefore, trade (exports-imports) from U.S. had significantly impact on Mexico economy. That growth did not come at the expense of U.S. capital and jobs being drained to Mexico, as former presidential candidate Ross Perot cautioned in 1992. When he said that businesses will hear "giant sucking sound" when all jobs and capital will head south of the borders. (McKinney, 2004)

NAFTA had positive affect on the United States' economy as the figure 4 shows that export to Mexico increased by 10% in 29 states and boosted the economies of the southern Border States since it's existing.

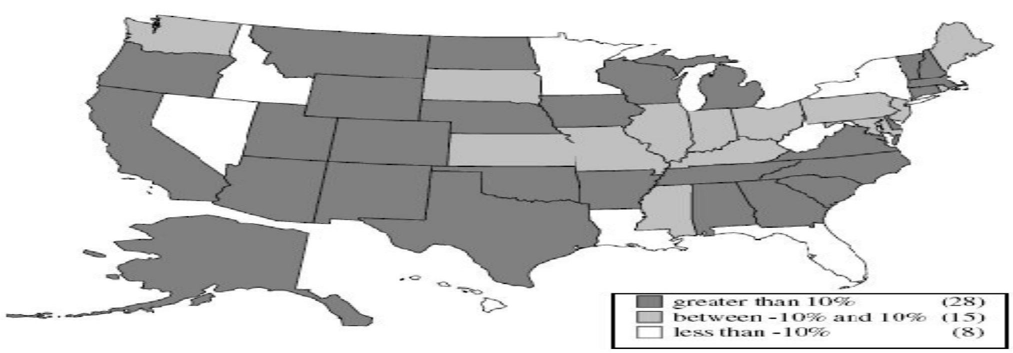

Fig. 4. The effects of NAFTA on states' exports to Mexico

For example, the US southern borders communities such as Laredo (Texas) and Nuevo Laredo on Mexico side are benefiting from the increase trade between these nations. By using liberalized trade and other economic reforms such as Maquiladora trade policy (initiated 1960) meant that both sides of the border will benefit for this trade agreement. Maquiladora is trade policy created by the Mexican government to provide duty-free incentive for import of produces or assembly goods exported. As a result, U.S. businesses could reduce tariffs payments on products that were assembly in Mexico and re-exported to the U.S. This kept tariff between U.S. and Mexico relatively low, thus maquiladora industry is one of determining factors that influences the cross-border trading along their borders.

According to Orrenius et al (2001), "the port of Laredo, because of its strategic location along the main highway leading to Mexico City, is unique. Although Nuevo Laredo has its share of maquiladoras, the majority of trade through Laredo is coming from or going to the Mexican interior. More than 80 percent of the southbound trade through Laredo goes to the Mexican interior principally to Mexico City." (p.3). This cross-border trade activities cause transportation challenges for this region. Because neither border neighbors infrastructures allows them to the handle high volume tariff flowing through this transportation corridors. For instance, the Laredo and Nuevo Laredo border crossing was built to process no more than 1,000 commercial vehicles a day, but now it's handling more than 5000 vehicles a day. Therefore, the transportation gateway congestion and delays problems are causing both nations' microeconomic and macroeconomic problems that are reaching into the millions. (Bradbury, 2002). However, the Laredo/Nuevo Laredo Port of Entry System is one border crossings that is linking the Mexico to the North transportation corridors. There is least 27 more borders crossing that allows entire to the United States with 11 in Texas.

Port of Entry

According to Yoskowtiz et al (2002), the South Texas Customs Management Center (STCMC) is providing evidence that Texas borders are hosting the greatest flow of traded goods and products among these trading partners. The STCMC includes eight ports and spans seven counties. Of these eight Texas ports, five are among the top 10 ports with respect to volume of trade on the entire US and Mexico border. The below Table 1 provides the marketers with critical information on the export and import activities of these ports and their ranking during that time period:

Table 1. Ports within the STCMC, 1997

Port	Export rank	Import rank	Combined rank
Laredo	1	1	1
Brownsville	3	5	3
Hidalgo	7	6	5
Eagle Pass	4	7	6
Del Rio	10	10	10
Progresso	20	20	18
Rio Grande City	19	21	20
Roma	21	22	21

Source: US Department of Commerce, Bureau of the Census, Foreign Trade Division, 1999.

This is information support past evidences that over 50% of U.S. and Mexico tradable goods and products passes through these border cities. As a result, NAFTA has impact positive on both border cities economies and they are linked to each other effort to maintain a binational transportation network that can benefit their competitive markets.

Therefore, the channel of distribution needs to produce a service that connects shippers to external intermediaries and to minimize transportation cost between border regions.

Channel of Distribution

The distribution strategy primary goals and objective are to ensure that product gets to the ultimate consumer. Those organizations that understand the important of logistics services will be able to adapt to any overseas market. The channel of distribution system connects the supplier of the material to the marketplace. Thus, the marketer must ensure that foreign distribution structures are linked to the existing logistics systems that are established by the host country. For example, a selective distribution system is allowing the marketer to distribute its product to particular a geographic region by using a middleperson or strategic partner as the reseller. (Bingham & Raffield III, 1995) Therefore, the selective logistics network system should provide a customer service strategy center that can understand the consumer needs and wants; this logistic-related customer service can improve the effectiveness and efficiency of the entity. In other words, " because poor logistics are the cause of roughly 50 percent of all customer complaints from foreign manufacturers, it can directly affect the organizations market share and profitability." (Novich, 1990, p.49). Otherwise, a poor distribution channel will influence the price strategy that affects the freight service and promotion of the product in the marketplace. As a result, the channel functions are critical aspect of the transportation network system that connects international corridors. However, participating parties can improve the channels system by implementing procedures for coordination of border transportation planning that might lead to compatible and/or uniform standards transportation operation in these regions.

Transportation Channels

Does the current transportation network benefit all NAFTA partners?

According to Milner (1998), the success of NAFTA and the resulting transportation problems clearly illustrate the failure to consider the need for an integrated North American transportation system NAFTA was simply written as a trade policy with no adjustment provisions for the resulting impacts on other related policy areas such as transportation, security and immigration. The map (Exhibit 2) below show those main land corridors that connect shippers to the trilateral marketers by using (highway and rail), and other transport infrastructure such as toll roads and inspection booths.

Exhibit 2: Selected North American Trade and Transportation Corridors

The main transportation problem is that each country involved in the trade agreement has individual national transportation systems that are linked together, but are not full integrated with each other. For example, Mexico transportation networks are reflecting independent policy that does not promote interdependence or interconnectivity with their trading partners. Because Mexico's government is a centralized system and federal government has more control over transportation planning aspect. However, their trade partners are more decentralized and the states or provinces governors have a more direct input of transportation planning aspect.

"Until an efficient continental transportation system is developed and operating, the economic benefits associated with NAFTA cannot be fully realized. Despite acknowledgement that continued economic growth will be largely determined by transportation planning and policy." (Bradbury, 2002, p.138)

What the transportation issues are caused by not having integrated binational transportation policy or plan?

Although United States and Mexico might be working on how to integrate their binational transportation planning strategies, there were no standardize binational transportation planning found during this research. However, past researchers found that Mexico and the United States' transportation issues were caused by the fact NAFTA failed understand how each country's government policy affects the continental transportation system. For example, Mexico's decentralizes decision making from its' federal agencies and United States' centralized method that involves state and municipal governments. NAFTA did not consider integration on the North American Transportation Corridor when the trade policy was written and no provisions to account the environmental infrastructure issues caused by poor transportation planning.

According to Yoskowtiz et al (2002), "truck traffic alone has been the cause of federal and state hearing at the congressional and agency level. There have also been visits to the border ports by the Transportation, and the US Environmental Protection Agency, all looking for solutions to congestion and environmental problems which may be caused by NAFTA which, of course, may also bring some benefits to the region." (p.26). The National Corridor Planning and Development Program (NCPD) the Coordinated Border Infrastructure Program (CBI) and other interdependent agencies found that congestion, and delays at the U.S. – Mexico's border crossing are caused by infrastructures such as bridges, inspection booths and toll booths that are not adequate enough to handle the large flow of traffic.

This traffic problem is clogging bridges, roads and inspection stations and causing bottlenecks along these border crossing gateways. However, NCPD and CBI case studies made some recommendation for port entry such as the Laredo and Nuevo Laredo border crossing to improve transportation efficiency in this region, such as:

- Use all bridges at the location for crossing
- Use a electronic toll booth system that is compatible with North American Trade Automation Prototype System
- Add more southbound toll both bridges to the area
- Mexican and United States' inspection stations should be operating and reporting during same time period
- Encourage late evening crossing for oversize vehicles

Therefore, both government and business practices needs to change their transportation policies to resolve this congestion issues that is also causing air pollution in this area.

According to the North American Development Bank (NADB, 1997) and its sister institution, the Border Environmental Cooperation Commission (BECC), were created by the Mexican and U.S. governments in a joint effort to promote environmental infrastructure development in the border region. The two institutions work together to assisting Border States and communities in coordinating and designing the infrastructure projects to resolve U.S. - Mexico border issues. Both governments should provide monetary support to these organizations, so they can accomplish the mission. Because trade liberalizations can influence economic growth that region, marketers must consider how to improve their transport infrastructure by using foreign direct investments. For instance, marketers can help modernize their transport environment by allowing foreign investors to fund some of their transport projects. Examples of such initiatives can be found in the joint venture between Mexico and the United States railroad entities. In 1996 the Mexican government privatized the state owned railroad company, *Ferrocarrilos Nacionales Mexicanos* (FNM) with a joint venture of *Grupo Transportation Ferrovairio Mexicano* and the Union Pacific Railroad. (Bradbury, 2002). This international business practices can reduce channel of distribution issues that are caused by poor environmental infrastructures or inadequate transportation networks system that is channeling goods and products to the marketplace.

Can United States and Mexico transportation system be integrated into single operational channel?

"The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) contained provision that specifically identified the need to create an efficient north-south transportation system. ISTEA also provided further funding for studies on borders congestion, including a Federal Highway Administration assessment of border crossing and the transportation corridors that lead to them. As a result, ISTEA, 21 "trilateral corridors" were identified as being of the highest priority and a number of studies have identified infrastructure and operational deficiencies near the U.S. borders with Canada and Mexico." (Bradbury, 2002, p.144)

Intermodal system is key segment of the U.S. domestic shipping industry that account for seaport, railways and railroad movement of goods and products across its continental transportation corridors. During the 1990s the intermodal traffic accounted for more than 10 million units of all railroad traffic. Due to shortened international transit connections and deregulation of transportation policies by the trilateral trade partners. The intermodal channel system has increase cooperation between channel leaders by controlling the U.S. railroads and truckload carriers; and ensuring that channel of distribution system as a competitive edge in those geographical markets.

However, international intermodal operation is more complicated than domestic operation. Both governments must be involved in the financial, legal and regulator planning phase for this international intermodal operation to succeed. This joint operation requires that both governments' tax laws are explaining exactly how the intermodal operations will meet trading partners' economic goals and objectives. Therefore, "marketers must ensure that key areas of regulation also relate to the weight of containers and trucks and the liability regime for damaged goods are spell out in their contract. While new regulations are a key factor, it could be argued that intermodal would not have developed without government policies that led to deregulation of transportation economics." (Taylor & Jackson, 2000, p.9). Thus Table 1 is summarizing what must be done by the channel leaders for the intermodal operation to succeed in an international setting.

Table 1. Intermodal Functions

- Provision for public/private infrastructure
- Marketing and sales
- Equipment provision
- Empty delivered to shipper
- Container stuffed
- Documents prepared
- Drayage to rail terminal or port
- Linehaul transportation to port
- Origin country customs/export declarations
- Loading onto ships
- Ocean transport to destination port
- Unload from ships
- Destination country customs
- Drayage to rail terminal or destination
- Linehaul to destination terminal
- Drayage to destination from terminal
- Stripping
- Drayage of empty container
- Storage of empty container
- Repositioning of empty container
- Matching empty container to demand
- Operations coordination and contracting
- Management and maintenance of equipment pool
- Invoicing and collection

These above functions must service all entities involved in the international intermodal operation to ensure that goods and products are delivered to the marketplace. Recent study has found that a global intermodal organization would benefit the NAFTA's participates by reduce transportation cost and eventually improving service along their routes. According to MS. Melvin, J.D., (2006), the Executive Director of The North America's Super-Corridor Coalition, Inc., (NASCO), her organization stated that NASCO is a nonprofit organization based in Dallas, Texas, dedicated to developing the world's first, integrated and secure, multi-modal transportation system along the International Mid-Continent Trade Corridor to improve both the trade competitiveness and quality of life in North America. The Corridor directly impacts the continental trade flow of North America, Canada and Mexico. Also, "the National Corridor Planning and Development Program (NCPD) and the Coordinated Border Infrastructure Program (CBI). The purpose of NCPD is to provide allocation to states and metropolitan planning organizations for coordinates planning significance, economic growth and international or interregional trade. The purpose of CBI is to improve the safe movement of people and goods at or across the U.S. borders with Canada and Mexico." (Bradbury, 2002, p.145)

These transportation planning organizations are connecting suppliers to potential customers which are elements critical to the success channel of distribution system. As a result, the international intermodal strategy might be a transportation project that unites these trilateral trading partners in truly developing an international transportation corridor. Because transportation network systems can increase trade, introduce new technologies, provide a competitive edge, and also increase foreign direct investment for a region. Therefore, NAFTA nations must develop and implement borders projects as single projects in a joint effort to promote environmental infrastructure development in the border region and establish uniform standards for surface transportation for all type vehicles that are using the US-Mexico corridors.

Summary

This study revealed that NAFTA has an economic impact of those nations involved in this trade liberalization agreement. However, some scholars might argue that trade agreement has small positive effects on the U.S. economy and relatively large positive effects on Mexico economy. Even though US – Mexico trade case studies has shown that their bilateral trade agreement had positive impact on those nation economies such as their border states cities and provinces. For example, Laredo (Texas) and Nuevo Laredo (Mexico) has over 80 percent of the southbound trade going through those cities into each other markets.

These border cities have over 15000 commercial trucks, and 205,000 vehicles crossing their gateway each day. (Orrenius, Phillips & Blackburn, 2001). However, the success NAFTA can not be fully realized until participating parties develop and implement a channel of distribution that interconnects their interdependent transportation corridors. “Transport services and infrastructure have long been regarded as key ingredients to the rate and geographic pattern of economic growth.” (Oster, Jr. & Strong, 2000, p.20). Thus, US – Mexico government and private agencies must establish policies and regulations that will address environmental and infrastructure issues that affecting their transportation network systems. Because both nations distribution forces are influenced by the economic conditions and incentive for transportation reform that can create new mode of entry or increase intermodal competition across international borders.

Future Research Recommendation

Future research needs to be conducted on how sustainability business system can be implemented into transportation system to reduce environmental issues such as air pollution caused by traffic congestion and delays along NAFTA border trading cities and provinces. According to the International Institute for Surface Transportation Policy (1999), the sustainability of existing transportation system is attracting more interest at both the international and national levels as it becomes obvious that an infinite growth of transportation facilities can not occur within a finite system. NAFTA, with its reliance on increased transportation, has impact on the environment and its sustainability.

What type entities would sponsor or fund such an international business project? It would be interesting to examine the government or private financial and insurance services that might want to participate in this enormous international project. Because international financial institutions will be influential factor that can be used to expand this international transportation service, network and capacity in this geographical market.

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