



Calhoun: The NPS Institutional Archive
DSpace Repository

Theses and Dissertations

Thesis and Dissertation Collection

2013-06

The effective business practices of Mexican Drug Trafficking Organizations (DTOs)

Kurrle, Robert W., Jr.

Monterey, California: Naval Postgraduate School

<http://hdl.handle.net/10945/34693>

Downloaded from NPS Archive: Calhoun



Calhoun is a project of the Dudley Knox Library at NPS, furthering the precepts and goals of open government and government transparency. All information contained herein has been approved for release by the NPS Public Affairs Officer.

Dudley Knox Library / Naval Postgraduate School
411 Dyer Road / 1 University Circle
Monterey, California USA 93943

<http://www.nps.edu/library>



**NAVAL
POSTGRADUATE
SCHOOL**

MONTEREY, CALIFORNIA

THESIS

**THE EFFECTIVE BUSINESS PRACTICES OF MEXICAN
DRUG TRAFFICKING ORGANIZATIONS (DTOs)**

by

Robert W. Kurrle, Jr.

June 2013

Thesis Co-Advisors:

Rodrigo Nieto-Gomez
Nicholas Dew

Approved for public release; distribution is unlimited

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 070-188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 2220-302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE June 2013	3. REPORT TYPE AND DATES COVERED Master's Thesis	
4. TITLE AND SUBTITLE THE EFFECTIVE BUSINESS PRACTICES OF MEXICAN DRUG TRAFFICKING ORGANIZATIONS (DTOs)			5. FUNDING NUMBERS	
6. AUTHOR(S) Robert W. Kurrle, Jr.				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. government. IRB Protocol number ____N/A____.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited			12b. DISTRIBUTION CODE A	
13. ABSTRACT (maximum 200 words) A steady drug supply from Mexico is prevalent within the U.S. today, and even when large drug seizures remove drugs from the supply chain, little significance of that reduced supply is seen on the street. Instead, based on little to no change in the drug supply, drug traffickers quickly adapt and overcome the barriers in place so they can ensure their clients continue to receive their supplies while profits are returned to Mexico. However, sustained success from illicit activities is challenging, but the Mexican Drug Trafficking Organizations (DTOs) continue to adapt and innovate in an effort to stay ahead of federal authorities. But what kind of strategies do they use that afford them such resilience when faced with policies and law enforcement designed to make them extinct? This thesis, through an analysis of the core activities of drug trafficking and money laundering, will attempt to answer the question: what are the effective business practices used by the Mexican drug cartels?				
14. SUBJECT TERMS Business Models, Business Strategy, Dark Economy, Deviant Innovation, Deviant Entrepreneurs, Mexican Drug Cartels, Mexican Drug Trafficking Organizations, DTOs, Drug Trafficking, Illicit Business Activities, Illicit Networks, Innovative Problem Solving, Money Laundering, Organizational Resilience			15. NUMBER OF PAGES 141	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU	

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release; distribution is unlimited

**THE EFFECTIVE BUSINESS PRACTICES OF MEXICAN DRUG
TRAFFICKING ORGANIZATIONS (DTOs)**

Robert W. Kurrle, Jr.
Lieutenant Commander, United States Navy
B.S., United States Naval Academy, 2002

Submitted in partial fulfillment of the
requirements for the degrees of

**MASTER OF ARTS IN SECURITY STUDIES (WESTERN HEMISPHERE)
AND
MASTER OF BUSINESS ADMINISTRATION**

from the

**NAVAL POSTGRADUATE SCHOOL
June 2013**

Author: Robert W. Kurrle, Jr.

Approved by: Rodrigo Nieto-Gomez
Thesis Co-Advisor

Nicholas Dew
Thesis Co-Advisor,

Harold Trinkunas
Chair, Department of National Security Affairs

Bill Gates,
Dean, Graduate School of Business and Public Policy

THIS PAGE INTENTIONALLY LEFT BLANK

ABSTRACT

A steady drug supply from Mexico is prevalent within the U.S. today, and even when large drug seizures remove drugs from the supply chain, little significance of that reduced supply is seen on the street. Instead, based on little to no change in the drug supply, drug traffickers quickly adapt and overcome the barriers in place so they can ensure their clients continue to receive their supplies while profits are returned to Mexico. However, sustained success from illicit activities is challenging, but the Mexican Drug Trafficking Organizations (DTOs) continue to adapt and innovate in an effort to stay ahead of federal authorities. But what kind of strategies do they use that afford them such resilience when faced with policies and law enforcement designed to make them extinct? This thesis, through an analysis of the core activities of drug trafficking and money laundering, will attempt to answer the question: what are the effective business practices used by the Mexican drug cartels?

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

I. INTRODUCTION	1
A. MAJOR RESEARCH QUESTION	1
B. IMPORTANCE	3
C. PROBLEMS AND HYPOTHESES	6
D. THESIS OVERVIEW	8
II. ESTABLISHING A BUSINESS MODEL AS THE FRAMEWORK FOR ANALYSIS	11
A. WHAT IS A BUSINESS MODEL?	12
1. Business Model Literature	15
B. BUSINESS MODEL EXAMPLE	17
1. Customer.....	17
2. Offer	18
3. Infrastructure.....	19
4. The Financial Viability	20
C. FROM NINE BLOCKS TO FOUR	21
1. Customer Value Proposition.....	21
2. Profit Formula.....	22
3. Key Resources and Key Processes.....	22
D. BUILDING THE FRAMEWORK OF ANALYSIS TO EVALUATE MEXICAN DRUG CARTELS	23
1. Applying the Framework for Analysis to Legitimate Businesses	23
a. <i>U.S. Navy</i>	24
b. <i>Apple</i>	25
E. CONCLUSION	28
III. APPLYING THE FRAMEWORK FOR ANALYSIS TO DRUG TRAFFICKING	29
A. CVP	29
B. PROFIT FORMULA	31
1. Revenue (The Ins)	33
2. Expenses (The Outs)	37
C. KEY RESOURCES	40
1. DTOs and their People	40
2. The Organizational Structure.....	41
3. DTO Culture and Reputation	44
4. Tangible Assets Used to Smuggle Drugs.....	46
5. Access to Supply Chains.....	48
D. KEY PROCESSES	49
1. Intelligence Provides the Eyes and Ears of a DTO	50
2. Bribery and Extortion	51
3. Trafficking Operations.....	52
a. <i>Human Intellect in Drug Trafficking</i>	55

<i>b. How DTOs use their Organizational Structure and Subcontractors</i>	57
E. CONCLUSION	65
IV. APPLYING THE FRAMEWORK FOR ANALYSIS TO MONEY	
LAUNDERING	67
A. CVP	68
B. PROFIT FORMULA	70
C. KEY RESOURCES	72
D. KEY PROCESSES	74
1. Bulk Shipments across the Border	74
2. Cleaning Money	79
3. Money Transfer	84
E. CONCLUSION	85
V. CONCLUSION	87
A. FUTURE RESEARCH	94
B. RECOMMENDATIONS	102
VI. LIST OF TABLES	107
LIST OF REFERENCES	113
INITIAL DISTRIBUTION LIST	123

LIST OF FIGURES

Figure 1.	Cocaine Prices in the United States.....	33
Figure 2.	The Cocaine Value Chain From Colombia To the U.S.....	36
Figure 3.	Abandoned Truck with Hydraulic Lift Along U.S.–Mexico Border.....	53
Figure 4.	Value Chain Activities of Cocaine from Colombia to the U.S.	60
Figure 5.	Presence of Mexican Cartels in the U.S.	64
Figure 6.	Black Market Peso Exchange.	82
Figure 7.	Cocaine Wholesale Prices.	95
Figure 8.	Cocaine Transportation Routes.	96
Figure 9.	Wholesale Price of Cocaine versus Distance from Border.	97

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF TABLES

Table 1.	Regression Analysis for the San Diego Border.	98
Table 2.	Regression Analysis for the San Diego, El Paso, and Laredo Borders.	99
Table 3.	Regression Analysis for the Invisible Border and Other Entry Points.	101
Table 4.	Average Price of Cocaine in the U.S.	110
Table 5.	State Averages of Cocaine and Distance from the Border	112

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF ACRONYMS AND ABBREVIATIONS

BMPE	Black Market Peso Exchange
CVP	Customer Value Proposition
DARPA	U.S. Defense Advanced Research Projects Agency
DEA	Drug Enforcement Agency
DTO	Drug Trafficking Organization
NDIC	National Drug Intelligence Center
NPS	Naval Postgraduate School
OCC	Office of the Comptroller of the Currency
U.S.	United States
USN	United States Navy
VC	Venture Capitalist

THIS PAGE INTENTIONALLY LEFT BLANK

ACKNOWLEDGMENTS

This project could not have been completed without the help of a phenomenal group of people. As a thesis that combined National Security Affairs with the Graduate School of Business and Public Policy, many hurdles had to be overcome. I owe a huge debt of gratitude to Professor John Mutty and the late Captain Alan Poindexter, USN, for their unwavering support as I fought to pursue my MBA in conjunction with my Security Studies degree.

I am also indebted to my thesis advisors, Dr. Rodrigo Nieto-Gomez and Dr. Nicholas Dew. Dr. Nieto-Gomez was invaluable in both his role as thesis advisor and academic mentor. He gave me tremendous insight into drug cartel operations within Mexico and provided valuable guidance throughout the course of this project. Dr. Dew was instrumental in the development of this thesis and his push towards a statistical analysis for the price data of cocaine. Additionally, I would like to thank the NPS CORE Lab, especially Daniel LeRoy, who contributed hours of his own time helping me to develop and design the maps and graphs.

Last but certainly not least, I owe a special debt of gratitude to my family. Without my wife Jen's support, I would not have been able to spend the countless hours and weekends locked away in the library that were required for this project. You managed to balance life as a Mom and going back to work, all while I spent hours researching and writing. To my son Cameron, thank you for always bringing a smile to my face, no matter how long I was gone during the day. Finally, Jen and my mom, Roseann, deserve an honorary degree in Security Studies for the number of papers they helped edit.

THIS PAGE INTENTIONALLY LEFT BLANK

I. INTRODUCTION

A. MAJOR RESEARCH QUESTION

In 2012, for the fourth year in a row, *Forbes* named Joaquin “El Chapo” Guzman, leader of the Sinaloa drug cartel, to its “World’s Billionaires List.”¹ Although this finding is highly controversial, especially when taking into account profits made in the deviant world, it symbolizes the huge profits that can accompany running a successful drug cartel.² Despite billions spent by the United States and Mexico to fight the Mexican Drug Trafficking Organizations (DTOs), efforts have not quelled these multinational enterprises from continuing to succeed by supplying the black markets with products and services that return extremely high profit margins. For example, if the Sinaloa DTO has its hand in a kilo of cocaine from production all the way until it is sold in grams in a U.S. market, it will earn revenues upwards of \$100,000 on a product for which it originally only paid about \$2,000. The lucrative activity of drug trafficking produces revenues of \$6.6 billion to \$39 billion per year, a dollar amount that pushes cartels to streamline their strategies and business models so that they can play a part in earning some of these profits.³

With such an enticing financial reward at stake, it seems as if more organizations and people would attempt to enter the drug trade. However, the Mexican drug cartels are territorial in the sense that they want to control the smuggling routes, because controlling the routes means they have a say of who and what passes through, and with that power comes profits. Additionally, drug trafficking is one of many illicit activities that make up the business of a drug cartel; cartels are involved in numerous activities that directly and indirectly help produce revenues. With an infrastructure in place that facilitates the drug trade, the cartels will overlap some of their supporting activities to ensure the success of

¹ Erin Carlyle, “Billionaire Druglords: El Chapo Guzman, Pablo Escobar, The Ochoa Brothers,” *Forbes*, March 13, 2012, <http://www.forbes.com/sites/erincarlyle/2012/03/13/billionaire-druglords-el-chapo-guzman-pablo-escobar-the-ochoa-brothers/>.

² Patrick R. Keefe, “Cocaine Incorporated,” *New York Times*, June 15, 2012, <http://www.nytimes.com>.

³ *Ibid.*

other revenue producing activities, such as human smuggling, which brings in upwards of \$6 billion annually, or the core activity of money laundering, which plays a crucial role in the overall business by returning profits from the northern flow of illicit goods.⁴ Other activities involve more supportive roles, such as bribery, kidnapping, and enforcement, which help prevent disruptions in the flow of goods both north and south by either paying off pertinent contacts or killing and torturing those who stand in the way. But the big picture emerges when these activities are combined to produce the business of a Mexican drug cartel.

Although the specific strategies and business models that are applied to the various drug cartel activities are not formally known, an examination of their core activities through a pattern of behavior can shed light on how these cartels run their business. An analogy to this type of approach would be how business analysts evaluate and predict behavior from companies such as Apple and Google. The *Wall Street Journal* might feature a story about the soon-to-be-released Apple iPhone or Google Glasses, but that analyst most likely has never stepped foot inside the company, let alone the boardroom. Instead, the writer's examination is based on studying the past behavior of Apple and Google from an established perspective, such as previous release dates of the iPhone or changes in supporting platforms such as iTunes. Through this type of analysis, which breaks down the individual activities through an established framework, a firmer grasp on how a company operates emerges. This framework is not just limited to predicting future products and activities, but also presents the ability for researchers to analyze a specific company's effective business practices. Thus, when examining the past behavior of Mexican DTOs, their proven success of supporting and operating illicit activities that produce significant profit margins can be realized.

A steady drug supply from Mexico is prevalent within the U.S. today, and even when large drug seizures remove drugs from the supply chain, little significance of that

⁴ United Nations Office on Drugs and Crime, *Estimating Illicit Financial Flows Resulting from Drug Trafficking and Other Transnational Organized Crime* (2011), 21, http://www.unodc.org/documents/data-and-analysis/Studies/Illicit_financial_flows_2011_web.pdf; United Nations Office on Drugs and Crime, *The Globalization of Crime: A Transnational Organized Crime Threat Assessment* (2010), 66, <http://www.unodc.org/unodc/en/data-and-analysis/tocta-2010.html>.

reduced supply is seen on the street. Instead, based on little to no change in the drug supply, drug traffickers quickly adapt and overcome the barriers in place so they can ensure their clients continue to receive their supplies.⁵ However, sustained success from illicit activities is challenging, but the Mexican drug cartels continue to adapt and innovate in an effort to stay ahead of federal authorities. But what kind of strategies do they use that afford them such resilience when faced with policies and law enforcement designed to make them extinct? This thesis, through an analysis of the core activities of drug trafficking and money laundering, will attempt to answer the question: what are the effective business practices used by the Mexican drug cartels?

B. IMPORTANCE

In 2009, the Department of Justice declared that Mexican DTOs were “the greatest organized crime threat to the United States.”⁶ These organizations, fueled by profit, are involved in numerous activities that span across the U.S. – Mexican border and are willing to kill anyone that stands in their way of making money. Even with efforts from both countries to disrupt their activities, these cartels have continued to successfully move drugs through Mexico and into the U.S., and have even infiltrated the U.S. through contracts with other organizations and gangs.⁷

In the wake of the decline of Columbian drug cartels, Mexican DTOs emerged to fill their void and became leaders in drug trade with the U.S. For example, studies show that 95 percent of the cocaine consumed in the U.S. travels across the U.S.–Mexican border, plus the cartels are involved in the distribution of most other drugs consumed in the U.S., from marijuana to methamphetamine.⁸ Within this illicit economy, the drug

⁵ Thomas Rowe, *Federal Narcotics Law and the War on Drugs: Money Down a Rat Hole* (New York: Haworth Press, 2006), 34; Peter Reuter, “The Limits of Supply-Side Drug Control,” *Milken Institute Review*, First Quarter 2001, 22, http://www.milkeninstitute.org/publications/review/2001_3/14-23mr9.pdf; U.S. Library of Congress, Congressional Research Service, *Federal Domestic Illegal Drug Enforcement Efforts: Are They Working?*, by Celinda Franco, CRS Report R40732 (Washington, DC: Office of congressional Information and Publishing, January 27, 2010), 21.

⁶ National Drug Intelligence Center, “2009 National Drug Threat Assessment,” III.

⁷ National Drug Intelligence Center, “2011 National Drug Threat Assessment,” 1.

⁸ Christopher Paul, Agnes G. Schaefer, and Colin P. Carke, “The Challenge of Violent Drug-Trafficking Organizations: An Assessment of Mexican Security Based on Existing RAND Research on Urban Unrest, Insurgency, and Defense-Sector Reform,” *RAND* 2011, 2–3.

trade is known for its extremely high revenues, but it is the control of the supply routes that is at the core of those profits. For example, following the value chain of Cocaine from the Andean region all the way to the U.S., a kilo of cocaine jumps in value by about 50% simply by moving it across the U.S. border.⁹ This significant value addition at the border pushes cartels to entice contractors to accept high personal risk in exchange for money or drugs. If met with failure, the individuals involved could find themselves facing torture and death or imprisonment, but if successful, the money made as a drug smuggler can offer a better life.¹⁰ Thus, with the extremes that success and failure bring, those involved in illicit activities will push themselves to overcome any obstacle that stands in their way. This perseverance leads to innovative ideas and products that circumvent government policies, and it also gives people the capacity to commit ruthless acts of violence against anyone that stands in their way. Cartels are known for their extreme and public violence, at times even using terrorist style tactics by striking with heavy and brutal force, but only when it warrants protecting their business interests.¹¹

DTOs also protect themselves through an organizational structure that adds layers of secrecy to individual activities and the business as a whole. Using a model that includes a copious amount of contractors and subcontractors, the cartels have become “multi-nodal” by using numerous independent cells that place the personal risk on the contractor and compartmentalize information.¹² They often rely on these networks of contractors and subcontractors to “expand and retract according to market opportunities and regulatory constraints.”¹³ Thus, when the news touts the successful capture of a drug cartel member, it fails to uncover the reality that the person captured is most likely just a

⁹ Scott Stewart, “Mexico’s Cartels and the Economics of Cocaine,” *Stratfor*, January 3, 2013, <http://www.stratfor.com/weekly/mexicos-cartels-and-economics-cocaine>.

¹⁰ Campbell, *Drug War Zone*, 65.

¹¹ Terry Goddard, “How to Fix a Broken Border: Disrupting Smuggling at its Source,” *Immigration Policy Center*, February 2012, 3, <http://www.immigrationpolicy.org/perspectives/how-fix-broken-border-three-part-series>.

¹² U.S. Library of Congress, Congressional Research Service, *Mexico’s Drug Trafficking Organizations: Source and Scope of the Rising Violence*, by June S. Beittel, CRS Report R41576 (Washington, DC: Office of congressional Information and Publishing, September 7, 2011), 24.

¹³ Michael Kenney, “The Architecture of Drug Trafficking: Network Forms of Organization in the Colombian Cocaine Trade,” *Global Crime* 8, no. 3 (2007): 235, doi.org/10.1080/17440570701507794.

contractor who knows little about the organization for which he or she is working. Although good for the agency that seized the drugs and captured the individual, it “is by no means a blow to the criminal effort.”¹⁴ This level of resilience that drug cartels are able to exhibit through their organizational structure makes them nearly unstoppable.¹⁵ However, from the perspective of the cartels, their motives are purely monetary, and thus their focus is on activities that directly and indirectly produce revenue. For instance, the DTOs are not interested in taking over the Mexican government or running the country, but instead want an uninterrupted supply chain of illicit goods into and out of the United States and are willing to do whatever it takes to control those routes.¹⁶

Mexican drug cartels continue to move illicit products north and return profits south despite the ever-changing battlefield controlled by rival cartels and government officials. They are entrepreneurs, and more specifically, arbitrageurs, in the sense that they seek out ways to establish themselves in a black market economy that demands their products and services, and then reach into their established infrastructure within Mexico and the U.S. to find the most efficient ways to bring those products and services to their clients.¹⁷ These illicit activities go beyond drug trafficking; Mexican cartels are also involved in activities such as human smuggling, weapons trafficking, kidnapping, money laundering, bribery, and extortion.¹⁸ Additionally, the huge value addition to a product

¹⁴ Goddard, “How to Fix a Broken Border: Disrupting Smuggling at its Source,” 7.

¹⁵ Organizational resilience is defined as “the capacity [of an organization] to withstand challenges to the social fabric” and thus still be able to execute “interrelated and coordinated activities between its members and organization subunits during and after a crisis.” This definition is derived from Edward H. Powley, “Underlying Social Mechanisms of Organizational Resilience: The Role of Connective Capacity,” in “Organizational Resilience: A Social Mechanisms Perspective,” eds. Michelle Barton and Marlys Christianson, 32.

¹⁶ Robert Culp, “Strategy for Military Counter Drug Operations,” *Small Wars Journal* (2011): 2. <http://smallwarsjournal.com/jrnl/art/strategy-for-military-counter-drug-operations>.

¹⁷ *Mexico’s Drug Trafficking Organizations*, 3. An entrepreneurial role in an arbitrage sense is defined as an entrepreneur who discovers an opportunity in a different market that takes advantage of the price differentiation. In this case, the entrepreneur does not always physically produce the goods being sold, but instead creates additional profits by taking advantage of market opportunities that others have not noticed. This definition is derived from Israel M. Kirzner, *Perception, Opportunity, and Profit: Studies in the Theory of Entrepreneurship* (Chicago: The University of Chicago Press, 1979), 214–215.

¹⁸ Christopher Paul, Agnes G. Schaefer, and Colin P. Clarke, *The Challenge of Violent Drug-Trafficking Organizations: An Assessment of Mexican Security Based on Existing Rand Research on Urban Unrest, Insurgency, and Defense-Sector Reform* (Santa Monica: Rand, 2011), ix, <http://www.rand.org/pubs/monographs/MG1125>.

once it moves across the border continues to spur new innovations and ideas that are essential for survival and profitability “in the context of a deadly, non regulated and highly competitive environment.”¹⁹ Thus studying their effective business practices will hopefully bring about new policy recommendations that will disrupt the success that Mexican DTOs currently reap.

C. PROBLEMS AND HYPOTHESES

In order to analyze the Mexican DTOs in the context of their effective business practices, this project must first establish a framework for analysis that can provide a standardized lens for studying their core business activities: drug trafficking and money laundering. However, to create this analytical framework, a study of business models will need to be presented, to include a literature review and examples of how an analysis is conducted. As previously mentioned, it is impossible to access any drug cartel’s formal or informal strategy or business model because of the limited first hand sources in black market economies. So, to overcome this obstacle, this thesis will study the known practices of the drug cartels by examining two key illicit activities that, when combined, encompass a significant portion of the drug cartel business: drug trafficking as an example of an activity that involves the northern flow of illicit goods, along with the activities that indirectly support its success, and money laundering as a fundamental activity that completes the transaction by returning profits back to the cartel. In order to overcome the barriers that exist when studying the informal economies, such as a lack of documentation or inability to access firsthand knowledge of a business, this researcher will examine the pattern of activities that have been uncovered from interdiction, confiscation, capture, and federal hearings. At the conclusion of this thesis, the hope is to demonstrate that DTOs must be innovative in their approach to overcome law enforcement policy, especially when the consequences of failure result in death or incarceration. It will also reveal that cartels operate a contracting model for almost all of their activities, which allows them to stay risk averse and reap the profits while

¹⁹ Rodrigo Nieto-Gomez, “The Geopolitics of Clandestine Innovation in the Drug Business. A Framework of Analysis to Understand Adaptation Capacities of TCOs,” in *The “New” Face of Transnational Crime Organizations (TCOs): A Geopolitical Perspective and Implications to U.S. National Security*, ed. Ben Riley and Kathleen Kieran (Joint Chiefs of Staff and Department of Defense: 2013), 152.

contractors face the threat of being captured or killed.²⁰ Although individual Mexican DTOs may exhibit different strategies while executing similar business activities, I propose that collectively there is a common thread of core business practices that all cartels poses in order to be successful. To research these effective business practices, two hypothesizes are proposed that will lead to a more complete understanding of the strategies and business models used by Mexican DTOs.

The first hypothesis is that Mexican DTOs must rely on innovative problem solving if they want to overcome policies in place designed to disrupt their activities. If they fail to innovate and adapt, they will quickly find themselves up against the barriers set forth by law enforcement, which eventually lead to extinction. Additionally, these innovations add value by providing more efficient ways to move illicit products across a controlled border or territory, and thus lead to even higher profit margins. However, innovation does not necessarily mean that drug cartels are only relying on new technology and equipment, which although is an important aspect. But they are also continuously solving a supply chain problem by moving illicit goods north and south through an ever-changing barrier of government policies and law enforcement.²¹

In addition to innovation as a tool that leads to success in the deviant world, the second hypothesis adds that Mexican DTOs must demonstrate high-level degrees of organizational resilience if they want to survive in the deviant world and operate a highly profitable business. To achieve this level of resiliency, DTOs have an organizational structure that protects the core of the cartel while multiple contractors and subcontractors accept the personal risk associated with its illicit activities. These multiple cells often conduct simultaneous operations with very little knowledge about other contractors or the operation itself, which helps limit exposure should law enforcement or rival cartels

²⁰ Lisa J. Campbell, "Los Zetas: Operational Assessment," *Small Wars & Insurgencies* 21, no. 1, 2010, 62, doi.org/10.1080/09592310903561429; Mexican DTOs utilize performance based contracting, in which money is paid to contractors once a job is completed. This type of contracting gives a cartel flexibility to cut ties to its contractors if they get captured, killed, or no longer render themselves useful. This contracting model is derived from Robert D. Behn and Peter A. Kant, "Strategies for Avoiding the Pitfalls of Performance Contracting," *Public Productivity & Management Review* 22, no. 4 (1999): 471. <http://www.jstor.org/stable/3380931>.

²¹ Nieto-Gomez, "The Geopolitics of Clandestine Innovation in the Drug Business," 153.

apprehend some of the contractors. This organizational strategy also helps the DTOs keep their hands in multiple business activities and thus limit financial risk through minimized exposure. These activities are capable of expanding and contracting based on the opportunities and constraints of the market, so they can maximize their profits while others assume the personal risk.²² Essentially, the DTOs provide an infrastructure for revenue producing business activities and subsidize contractors to meet the demands of its customers.²³

D. THESIS OVERVIEW

This thesis proceeds as follows: Chapter II will provide the framework of analysis for this project. It will first establish and define a business model in the context of how it will be used throughout this thesis. Included in this study will be an examination of some of the pertinent literature found on business models in the context of applying them to Mexican DTOs, from which the four-part analytical framework will be developed. Finally, it will apply that framework for analysis to two legitimate companies as an example of how a business can be analyzed through the four established lenses.

Chapter III will apply the framework for analysis to the business activity of drug trafficking. This researcher chose drug trafficking as an example of an activity that involves the northern flow of illicit goods because of its significant revenues and its ties with other supporting activities. These supporting activities are also highlighted in this Chapter as a way to demonstrate the overlap and interconnectedness that exists in order to conduct successful operations.

Chapter IV will build on the analysis conducted in Chapter III by applying the same analytical framework to the fundamental activity of money laundering. This core activity is a vital part of all revenue-producing activities because it completes the

²² Michael Kenney, "The Architecture of Drug Trafficking," 235–237.

²³ Referred to as a two-sided network, the DTOs provide an infrastructure that brings two groups together; one side, the contractors, is subsidized with money and drugs to attract enough participants, while the other side, the end users of the DTO products and services, is willing to pay top dollar to reach the subsidized group. This concept is derived from Thomas Eisenmann, Geoffrey Parker, and Marshall W. Van Alstyne, "Strategies for Two-Sided Markets," *Harvard Business Review* 84, no. 10 (2006): 93–96. *Business Source Complete, EBSCOhost* (accessed April 25, 2013).

business transaction by returning profits to the supporting drug cartel. Additionally, certain aspects of this activity reflect the practices used for other illicit goods that flow south.

Chapter V will summarize the findings of the analysis and demonstrate if either hypothesis is correct. It will also make recommendations for future research and policies that could be used against the DTOs. Finally, it will expand upon some of the research uncovered that is new to the field of drug trafficking.

THIS PAGE INTENTIONALLY LEFT BLANK.

II. ESTABLISHING A BUSINESS MODEL AS THE FRAMEWORK FOR ANALYSIS

Business models are designed and implemented to help companies capture value, however, each type of business model stresses different keys to success. At first glance, literature on business models seems to vary in both definition and description, but a closer look reveals that business models are designed to support specific activities or businesses within a company. For instance, a company that sells goods over the Internet might utilize a business model that focuses on reduced overhead or expedient shipping, whereas a company that provides medical services might emphasize increased patient volume or afterhours care. However, the Mexican drug cartels, as businesses, are involved in numerous illicit activities, from drug trafficking to money laundering, and trying to find a specific business model that can be applied across those different activities can be a challenge. Additionally, because they operate in the deviant world, gaining inside access to why and how they make specific business decisions, such as why do they choose to smuggle drugs through a border checkpoint instead of the middle of the desert, is impossible. But instead of trying to find the business model that drug cartels use, assuming they all used the same one, this thesis will establish a framework for analysis that can then be applied to their illicit activities, and from those lenses, their effective business practices can be extracted.

This Chapter will set up the analytical framework that will be used to look at the Mexican drug cartels by first establishing a foundation by defining the elements of a business model. Numerous definitions exist, but a common link can be found across all business model literature; business models are about helping a company add value to customers and produce revenue.²⁴ Second, this Chapter will begin to carve out the framework of analysis that will be applied in this thesis by first presenting an example of a nine-part business model that can be applied to numerous types of businesses and activities. Using the key components to this model, a four-lens business model will be

²⁴ Joan Margretta, "Why business models matter," *Harvard Business Review* 80, no. 5 (2002): 87. Business Source Complete (623782).

developed that places emphasis on the facets that are believed to be most relevant to drug cartel activities. From this structure, the analytical framework for evaluating drug cartels will be presented, which will emphasize the value they provide to the customers, where they receive revenues and face expenditures, and what and how they use assets and activities to deliver and capture value. This framework for analysis will provide the reader with a logical progression of how the study of business models can be used to better understand the behavior of drug cartels. Money is the lifeblood of the cartels, and once an activity ceases to produce income, that cartel must reevaluate how to resolve that issue or face extinction.

A. WHAT IS A BUSINESS MODEL?

The business model concept has been around since the early days of barter and exchange, yet as the world has become more interconnected in the last two decades, business models have begun to play a more significant role in a company's success.²⁵ For example, today, customers have easy access to information, products, and services from numerous companies simply by using the Internet or a smartphone, so businesses must constantly adapt and innovate in order to maintain their customers and "capture value from providing new products and services."²⁶ The guidance or outline a company can use to achieve success is often found in a business model, either formal or informal, but each one varies in what they stress as important. A 2011 study found that over 1,200 academic articles have been written about business models, yet none of them agree on what exactly a business model is.²⁷

The definitions of business models vary, but a fundamental theme amongst all of them is the emphasis of how a company makes money.²⁸ Looking at these various

²⁵ David J. Teece, "Business Models, Business Strategy and Innovation," *Long Range Planning* 43 (2010): 174. 10.1016.

²⁶ *Ibid.*, 172.

²⁷ Christoph Zott, Raphael Amit, and Lorenzo Massa, "The Business Model: Recent Developments and Future Research," *Journal of Management* (May 2011): 1–3, doi.org.10.1177/014920631140625.

²⁸ Peter Weill et al., "Do Some Business Models Perform Better than Others? A Study of the 1000 Largest U.S. Firms," MIT Sloan School of Management, working paper No. 226, 2004, 5, <http://ccs.mit.edu/papers/pdf/wp226.pdf> (accessed September 2012).

definitions brings two different aspects to light. First, business models are about capturing value, which can be in reference to the customer's desire in terms of a product he or she wants or in terms of revenue for the company. For example, Amit and Zott define a business model as "the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities."²⁹ Their definition encompasses the framework needed to create and capture value, which is in line with Chesbrough and Rosenbloom's definition: "The heuristic logic that connects technical potential with the realization of economic value."³⁰

A significant part of this theme is that for a company to bring in revenue, the customer must be willing to pay for the goods or service being offered. Income is vital to a company's survival, so if the customer chooses to do business elsewhere, then the original company must have a mechanism in place to regain its customers by satisfying their needs. This way of approaching a business is similar to Margretta's viewpoint, that business models are a narrative of "stories that explain how enterprises work," which in her view "answers Peter Drucker's age-old questions: Who is the customer? And what does the customer value? It also answers the fundamental questions every manager must ask: How do we make money in this business? What is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost?"³¹

The second theme amongst these definitions is the reference to the system or structure in place to deliver that value.³² For example, Timmers defines business models as "an architecture of the product, service and information flows, including a description of the various business actors and their roles; a description of the potential benefits for

²⁹ Raphael Amit and Christoph Zott, "Value Creation in E-Business," *Strategic Management Journal* 22 (2001): 511. 10.1002/smj.187.

³⁰ Henry Chesbrough and Richard S. Rosenbloom, "The Role of the Business Model in Capturing Value from Innovation: Evidence from Xerox Corporation's Technology Spinoff Companies," *Industrial and Corporate Change* 11, no. 3 (2002): 529.

³¹ Joan Margretta, "Why business models matter," 87.

³² Alexander Osterwalder and Yves Pigneur, *Business Model Generation* (Hoboken: John Wiley & Sons, 2010).

the various business actors; a description of the sources of revenues.”³³ In this sense, he sees a business model as an interconnected system that sustains the business unit, which is highly compatible with the way Johnson, Christensen, and Kagermann describe it as containing “four interlocking elements, that, taken together, create and deliver value.”³⁴ This infrastructure encompasses a wide range of activities from production to delivery, and from human assets to financial assets, which are all needed to make a business work, as highlighted in a different article by Zott and Amit: “A system of interdependent activities that transcends the focal firm and spans its boundaries.”³⁵ By combining value creation and an infrastructure to deliver that value, companies ensure their success by making money, something that both legitimate and illicit companies need in order to exist.

In the illicit world that the drug cartels operate, the same concepts of how value is created and captured can be applied. Just as with legitimate companies, drug cartels must provide a product or service that customers value and have an infrastructure in place that can deliver that value. Although meeting these two facets sounds simple, cartels must be adaptive in serving the needs of their customers and also in overcoming the obstacles in place from operating in the deviant world. For example, the value might refer to the drugs that a distributor needs, or the service of smuggling a human into the United States. The structure would involve supporting activities such as enforcement, bribery, and extortion, along with assets such as the smuggling route, the smugglers, and their equipment. Additionally, some customers might demand marijuana, whereas others prefer cocaine, but just because federal agents clamp down on illegal movements in the deserts of Arizona, these cartels must still figure out a way to deliver their products. Drugs and smuggling routes are just two basic examples of how a business model can be

³³ Paul Timmers, “Business Models for Electronic Markets,” *Electronic Markets*, 8 (1998): 2. www.commerce.net.

³⁴ Mark W. Johnson, Clayton M. Christensen, and Henning Kagermann, “Reinventing Your Business Model,” *Harvard Business Review* 86, no. 12 (2008): 52. Business Source Complete (35386627).

³⁵ Christoph Zott and Raphael H. Amit, “Designing your Future Business Model: An Activity System Perspective,” IESE Business School Working Paper No. 781, 2009, 216.

applied to the drug cartel activities, but the following chapters will go more in depth on their illicit activities that involve both northern and southern flow.

1. Business Model Literature

Business models provide an outline that helps companies make money, but the previous section still presented a number of definitions from various sources. The literature behind those definitions also varies, yet hinges on specific types of businesses. The following section will highlight some of the business model literature and draw a correlation as to its relevance to Mexican drug cartels.

There are numerous types of businesses, from online retailers like Amazon, to physical retail stores like Target, to concierge travel services like Net Jets. Each of these companies might be made up of several different activities that make up their entire business, and within each activity, the company would utilize a plan or strategy that places emphasis on different facets in order to be successful. For example, Apple's iPod/iTunes business model encompassed two main activities: provide customers with an easy way to browse, purchase, and listen to music, and provide record companies with a way to make revenue from sales in one of the worlds largest online music stores.³⁶ Thus, Apple managed two separate activities, each with different customers, value, and infrastructure, in order to make up its iPod/ iTunes business model. This is similar to the drug cartels that also manage multiple activities, such as drug trafficking as a way to make revenue, money laundering as a fundamental activity required to return those profits to Mexico, and enforcement and bribery as a support activity that helps hedge against disruption. When combined, these activities bring together the bigger picture of the overall business of drug cartels, however, individually each activity involves its own strategy or business model that leads to success. Thus, whether in the formal economy or the deviant world, literature on business models varies depending on the type of business into which it fits, but can be narrowed down to two broad categories as it pertains to this thesis: strategy, and technology and innovation.³⁷ The literature pertaining to these two

³⁶ Osterwalder, *Business Model Generation*, 47.

³⁷ Zott, "The Business Model: Recent Developments and Future Research," 2, 17.

categories each stresses a different aspect of the business model in order to best deliver and capture value. However, differentiating between the type of business or activity is an important aspect when choosing which business model to use.

Business model strategy ties into the activities executed by drug cartels to deliver value to their customer. This strategy focuses on the activities used to create and capture value, meaning that cartels must figure out how to best use their resources to deliver value to their customers in order to make a profit.³⁸ Numerous types of actions are taken into account when using those resources, from the efficiency of activities to the novelty of the product being supplied, to the amount of teamwork involved.³⁹ However, the main theme amongst business model strategy literature is how companies execute the delivery of their value.⁴⁰

Through innovation, a key component of the cartels' business model must explain how they unlock the value potential of new ideas in the fast paced markets that deal with modern technology and law enforcement opposition.⁴¹ It can be seen as the “mechanism that connects a firm’s innovative technology” to the needs of the customer and the demands of the market.⁴² By being adaptive, companies, or drug cartels, can increase the value they provide to the customer while also taking in more profit by either using that new technology or innovating on their own.⁴³

The context behind why a certain business model is being described or recommended is helpful in application purposes so that the type of company in question can focus on the aspect of its business that brings them the most success. For example,

³⁸ Allan Afuah and Christopher L. Tucci, *Internet Business Models and Strategies: Text and Cases* (New York: McGraw-Hill, 2001), 3.

³⁹ Zott, “The Business Model: Recent Developments and Future Research,” 11–12; Christoph Zott and Raphael Amit, “Business Model Design and the Performance of Entrepreneurial Firms,” *Organizational Science* 18, no. 2 (2007): 182–183. 10.1287/orsc.1060.0232.

⁴⁰ Zott, “The Business Model: Recent Developments and Future Research,” 11–14.

⁴¹ *Ibid.*, 14.

⁴² *Ibid.*, 16.

⁴³ Rogerio C. Calia, Fabio M. Guerrini, and Gilnei L. Moura, “Innovation Networks: From Technological Development to Business Model Reconfiguration,” *Technovation* 27 (2007): 430–431. www.elsevier.com/locate/technovation.

Mexican drug cartels make money by relying on strong networks of isolated cells to conduct most of their activities and innovating and adapting to stay ahead of authorities and competitors. Thus, when narrowing down the types of business models to use for analysis, this thesis will pull from literature relating to both strategy and technology and innovation in order to highlight drug cartel activities and their ability to capitalize on new ideas.

B. BUSINESS MODEL EXAMPLE

The following business model example both fits the criteria previously described and could be applied to the drug cartels; it is from the book, *Business Model Generation*, and outlines a building block approach that any company can use to implement a strategy that “creates, delivers, and captures value.”⁴⁴ The researcher chose this model because of its adaptability and flexibility; it can fit just about any type of business, from banking companies to retail industries to software engineering firms, and provides the flexibility to emphasize different facets of its model to fit each type of company. By providing a “canvas” from which to work, companies can carve out a logical path that any organization can use to make money.⁴⁵ This section will explain the nine building blocks of this business model by grouping them in what the authors categorize as the four main areas of a business: customer, offer, infrastructure, and financial viability.⁴⁶

1. Customer

Every type of business must have an understanding of who their customers are, how to reach them, and how to interact with them. This portion of the business model is comprised of three blocks: customer segments, channels, and customer relationships. Customer segments identify who the customers are and the type of market in which they exist. As customer markets vary, so will the structure of a particular company in order to service that market. For example, in a mass market, a company like Wal-Mart will serve a large group “with broadly similar needs and problems,” but in a niche market, a

⁴⁴ Osterwalder, *Business Model Generation*, 14.

⁴⁵ *Ibid.*, 42.

⁴⁶ *Ibid.*, 15.

company such as an airplane part manufacturer would cater to a specific requirement.⁴⁷ The rest of the business model revolves around its customer base, so it is important to have an understanding of the needs, behaviors, and other attributes of this group.⁴⁸ With the identification of who the customer is, the next block identifies the channels used to communicate and deliver value to that customer. These channels incorporate numerous phases, from awareness of a product to purchase and delivery to customer feedback, and they rely on access through mediums such as a company's website or shared distribution centers.⁴⁹ This link between the company and the customer must be managed, which brings in the final block: customer relationships. Dependent on the business, these relationships vary from interacting on a personal level to a self-service that provides tools for customers to conduct business on their own.⁵⁰ By managing these three segments, a company can set out to create an offer that the customer values, and in return will bring in revenue for the business.

2. Offer

Using the link established with the customer base, a company can then focus on what it is offering. This portion of the business model is made up of only one block, value proposition, and refers to the product or service that is provided for the customer segment. A simple way to think of the value proposition is that it is used to solve the customer's problem, either by providing a quantitative result, such as providing a low price, or a qualitative value, such as a unique experience. Value propositions come in many forms and depend on what a company provides that no one else can, especially when customers have multiple options from which to choose.⁵¹ Once the customer accepts the offer, a company can focus on how it creates, delivers, and captures value.

⁴⁷ Ibid., 21.

⁴⁸ Ibid., 20–21.

⁴⁹ Ibid., 26–27.

⁵⁰ Ibid., 28–29.

⁵¹ Ibid., 22–25.

3. Infrastructure

A company's infrastructure provides the system to capture value, starting with the creation of a value proposition, its delivery to the customer, and finally returning money back to the company. It is made up of three blocks: key activities, key resources, and key partnerships. Key activities are the crucial part of a business model that refer to *how* a company creates and captures value and involves all of the processes to create and deliver a product. These activities vary depending on the type of business, from managing supply chains to problem solving to training personnel.⁵² Companies rely on key activities to encompass *how* they capture value, but *what* it uses in that process also plays a vital role in its success. Key resources refer to the assets needed for the key activities and, just like key activities, vary depending on the type of business. For example, some businesses such as retailers rely on their buildings and manufacturing facilities, whereas others such as Silicon Valley startups rely on their intellectual and human resources. However, key resources do not correlate to ownership, but instead deal with access to the assets needed to be successful.⁵³ That access is highlighted in key partnerships, which refer to the network of relationships that exist in a business. Partnerships can exist between the buyer and the seller, but can also emerge during joint ventures or between competitors. These relationships even allow a company to offset risks by relying on other sources for different aspects of its business.⁵⁴ When integrated, these three blocks, key activities, resources, and partnerships, provide the structure vital to a company's success. Within the drug cartels, this infrastructure incorporates the tools members use to create value, how they create value, and the network of cells used to minimize risk. However, there is still one more aspect of the business model that every type of business must grasp in order to streamline their profits.

⁵² Ibid., 36–37.

⁵³ Ibid., 34–35.

⁵⁴ Ibid., 38–39.

4. The Financial Viability

Regardless of who the customers are, what the value proposition is, or how value is captured, a company's financial viability acts as its lifeblood by emphasizing the costs associated with running a business balanced with the amount of cash being generated. The first of two building blocks within this business model is cost structure, which "describes all costs incurred to operate" a company or business.⁵⁵ Companies must evaluate their fixed and variable costs so that they understand the expenditures of day-to-day functions and the cost of adding additional operations. Besides understanding cost structure, companies may choose to modify certain actions to reduce expenses so that they can pass along lower costs to its customers, as is seen with Southwest Airlines. Other companies, such as luxury hotels, are not as concerned with reducing costs, but instead must know how much it spends so that it can pass those costs on to its customers.⁵⁶ A company's revenue stream is the final building block, and is balanced with cost structure by focusing on the inflow of cash from the customer. Companies must figure out what a customer is willing to pay for the value he or she is being provided. That payment can come as a one-time payment, such as when the customer is sold a physical product, or it can stream in through ongoing payments, such as a subscription fee for a service. Companies can then take the amount of revenue coming in and subtract it from the costs to run the business to figure out their earnings.⁵⁷

Understanding these nine blocks, the importance of each one individually along with the interconnectivity of them all, gives any type of company a business model that it can use to achieve success. As mentioned when describing this model, certain types of businesses will emphasize different aspects of this canvas, but no matter which blocks on which they focus, this business model helps a company make money. However, when narrowing down the framework for analysis of the Mexican drug cartels, not all nine blocks described in *Business Model Generation* will be utilized, as will be explained in the next section. Instead, the next section will structure a business model that has only

⁵⁵ Ibid., 40.

⁵⁶ Ibid., 40–41.

⁵⁷ Ibid., 30–33.

four elements. It will take into account the nine-block approach that was just described, but will also incorporate other literature from strategy and technology and innovation.

C. FROM NINE BLOCKS TO FOUR

Rather than describing a nine-block approach to a business model, Johnson, Christensen, and Kagermann propose a method for evaluating a company's business model by focusing on four interlocking elements: customer value proposition (CVP), profit formula, key resources, and key processes. These four elements help a company "create and deliver value" with some similarities to *Business Model Generation*.⁵⁸ However, it places more emphasis on the activities and assets required for success, which are an integral part of how the drug cartels operate. The following section will highlight these four elements, which then lead into the framework for analysis that will be used to evaluate the Mexican drug cartels.

1. Customer Value Proposition

CVP, just like value proposition, describes what customers need to solve their problems or complete a job; thus creating value for the customer. That job can be viewed as a "fundamental problem in a given situation that needs a solution."⁵⁹ Having a precise understanding of what the customer wants is crucial, and to do this, a company should focus on one of the four common barriers that prevent customers from getting a job done: "insufficient wealth, access, skill, or time."⁶⁰ For example, drug cartels provide human smuggling services and supply routes for drugs, something that its customers have neither the access nor the skills needed to implement those jobs, especially within the deviant world.

⁵⁸ Johnson, "Reinventing Your Business Model," 52–53.

⁵⁹ *Ibid.*, 52.

⁶⁰ *Ibid.*, 55.

2. Profit Formula

Profit formula incorporates revenue, cost, and turnover rates to determine “how the company creates value for itself while providing value to the customer.”⁶¹ When evaluating a business, the authors recommend starting with the costs required to deliver the CVP to the customer. These costs take into account the fixed and variable costs and help determine how many resources will be needed to support the expected volume. This evaluation also gives the company an idea of where the break-even point is, and what it needs to charge in order to make a profit.⁶²

3. Key Resources and Key Processes

The last two elements, key resources and processes, parallel the building blocks of key resources and activities described in *Business Model Generation*. Key resources are the assets “required to deliver the value proposition to the targeted customer.”⁶³ They include the people, technology, facilities, and equipment, but also include how those elements interact. Key processes are the “operational and managerial processes that allow [a company] to deliver value in a way [it] can successfully repeat and increase in scale.”⁶⁴ They include activities such as service, training, and planning, but also include rules and norms. The relationship between the key resources and processes is crucial to accomplishing the job for the customer.⁶⁵ For example, drug cartels combine their key resources and processes to traffic humans across the border into the United States; training and planning take place first followed by the execution of actions that combines both elements.

⁶¹ Ibid., 53.

⁶² Ibid., 55.

⁶³ Ibid., 53.

⁶⁴ Ibid., 53.

⁶⁵ Ibid., 53–55.

D. BUILDING THE FRAMEWORK OF ANALYSIS TO EVALUATE MEXICAN DRUG CARTELS

Both of the business models described in this Chapter offer adaptive approaches that can fit multiple types of businesses and activities by breaking down the business model into definable elements that can be used for evaluation. For instance, if evaluating a retail company, the focus could be on the key resources it uses to complete the job, such as buildings for manufacturing, machines, people, and distribution channels.⁶⁶ For an individual product, such as the Apple iPod, the emphasis is on the customer value proposition, which provides customers with an easy way to “search, buy, and enjoy digital music.”⁶⁷ By having a basic understanding of what a company does, its business model can be evaluated using any number of lenses from the business models just described. However, inside knowledge of boardroom meetings or executive guidance is not crucial for this evaluation, but instead it is the actions that a company performs that will be examined. Understanding what a company does to make money is essential to understanding its business model.⁶⁸ To evaluate the effective business practices of Mexican drug cartels, this thesis will pull from this four part business model and use it as the framework of analysis by examining the cartels through the lenses of customer value proposition, profit formula, key processes, and key resources. But first, this framework will be applied to two legitimate companies to provide examples of how this analysis will work.

1. Applying the Framework for Analysis to Legitimate Businesses

Using the four parts of a business model, this section will give two brief examples of how a government organization and a retail store can be analyzed through the lenses of CVP, profit formula, key resources, and key processes. The purpose of this section is to establish a basis of comparison, not necessarily directly related to Mexican DTOs, but instead as a general comparison as to how the framework of analysis can be applied both

⁶⁶ Ibid., 54; Osterwalder, *Business Model Generation*, 34–35.

⁶⁷ Osterwalder, *Business Model Generation*, 47.

⁶⁸ Weil, “Do Some Business Models Perform Better than Others?” 5.

in the legitimate business world, such as these example of the Navy and Apple, and to the illicit world, as will be seen in the following chapters.

a. U.S. Navy

The U.S. Navy will be used as an example of a government organization. When applying this analytical framework, the first part of the business model is the CVP. However, before looking at the value it provides for its customers, who the customers are must be determined. For the Navy, its customers are the citizens of America, and it provides them with security that allows them to live their way of life. For instance, all four barriers for entry described in the previous section, wealth, access, skill, and time, prevent citizens from providing that security for themselves. Thus the Navy solves that problem by either waging war against an enemy or deterring potential disruptions to trade through a presence around the world. However, unlike most businesses, the Navy does not sell goods or services to pay for this CVP.

The profit formula of the Navy is drastically different than that of drug trafficking, as will be discussed later, because the Navy is not in the business of making money. Instead, the Navy aims to spend 100% of its revenues each year. Thus, the *ins* and *outs* of its profit formula should balance each other out. Funding for the Navy comes from the U.S. government through taxpayer dollars in the form of a Federal Budget. For instance, in fiscal year 2012, the Federal Budget allocated \$157 billion to the U.S. Navy, and then added an additional \$16 billion to fund contingency operations around the world.⁶⁹ In turn, the Department of the Navy allocated that money to different specific programs and operations, such as the deployment of an aircraft carrier or the operations of the Blue Angels, and planned its budget using those funds for that entire fiscal year. At the end of that year, ideally, those funds would be drawn down to zero and the next year's budget would allocate new funds to start the yearly cycle over again. That money is then used to operate most of the Navy's key assets.

⁶⁹ "FY13 Budget Press Brief," Fiscal Year 2013 Department of the Navy Budget Materials, accessed January 31, 2013, <http://www.finance.hq.navy.mil/FMB/13pres/BOOKS.htm>.

The Navy relies on numerous key assets, such as personnel, ships, and aircraft, to help deliver that security to the American citizens. For instance, its 288 ships include aircraft carriers, submarines, guided missile cruisers, and supply ships that are capable of sustained operations anywhere in the world.⁷⁰ Additionally, the Navy's reputation of its SEALs is now well known throughout the world thanks to successful operations such as the rescue of the Maersk Alabama's captain from pirates and the secret mission that killed Osama Bin Laden. These key resources ensure that the Navy can deliver value proposition to its customers.

The Navy then uses those resources to deliver value to the American people. To protect the way of life for its citizens, the Navy operates forward deployed around the world. For example, as of January 2013, the Navy had 35 percent of its ships deployed and operating overseas.⁷¹ This forward deployment serves as a way to ensure that sea lines of communication and commerce remain open for the world's economy; 90 percent of the world's trade travels via the ocean.⁷² In a time of war, the Navy has the capability to control these trade routes so that supplies only reach those states or organizations that it deems friendly.⁷³ Additionally, deployments allow the Navy to deliver security to the American citizens in peacetime and war through its presence and ability to conduct combat operations.

This business model of the U.S. Navy gives a brief overview of how the framework of analysis can be applied to a government organization. In the next example, a different type of company will be looked at, Apple.

b. Apple

Apple is a company involved in numerous types of businesses, from manufacturing and selling its own products such as iPhones and iMacs to offering a

⁷⁰ America's Navy, Status of the Navy, accessed January 31, 2013, www.navy.mil.

⁷¹ Ibid.

⁷² Vijay Sakhujia, "Indian Ocean and the Safety of Sea Lines of Communication," *Strategic Analysis* 25, no. 5 (2008): 689. doi.org/10.1080/09700160108458989; "A Cooperative Strategy for 21st Century Seapower," October 2007, <http://www.navy.mil/maritime/Maritimestrategy.pdf>.

⁷³ Sakhujia, "Indian Ocean and the Safety of Sea Lines of Communication," 689.

venue to purchase music and movies such as iTunes. In this section, Apple's App Store will be analyzed in the context of the business model it provides to App developers. The purpose of using Apple is to show the versatility of the established analytical framework and its ability to bring out unique key factors that lead to success, no matter what type of business is examined. However, as with the U.S. Navy example, this will not be an in-depth analysis, but is instead intended to present a broad overview as a basis of comparison for the framework for analysis.

The customer base for the App Store is actually two-fold, one involves consumers of the iPhone, iPad, and more recently computers, and the other involves developers who design the Apps. For consumers, Apple has coined the phrase, "There's an App for that," implying that for anything a consumer needs, Apple has an App that can make everyday tasks easier. This marketing in turn helped create a demand for new apps that make consumers' lives better. However, Apple offers very few Apps that are designed and built in house. Instead, it provides App developers and computer programmers with an ability to tap into an established infrastructure and brand name that has been built through years of innovative products, much of which gained fame with the introduction of the iPod and iTunes in 2001 and 2003, respectively, and a customer base of over 500 million people.⁷⁴ Thus, without access to this network, these developers would face considerable challenges overcoming the barriers of entry of going from design to implementation of an App, and more significantly, would not have access to iPhone and iPad users legally. But by using Apple's already established network, these designers have the ability to market their App globally and, if successful, make a large profit.

The Profit Formula of the App Store is simple, 70 percent of the revenues made through the App Store are returned to the developer and Apple keeps the rest. There are no hosting or marketing fees for listing an App through Apple, so if an App fails and does not get downloaded by any users, neither Apple nor the programmer

⁷⁴ "App Store Tops 40 Billion Downloads with Almost Half in 2012: Record-Breaking December with Over Two Billion Downloads," Apple Press Info, last modified January 7, 2013, <http://www.apple.com/pr/library/2013/01/07App-Store-Tops-40-Billion-Downloads-with-Almost-Half-in-2012.html>.

receive revenue. However, all revenues, including purchases within an App and advertisements, get charged 30 percent by Apple.⁷⁵ In return, Apple spends money on operating its App Store and supporting network including salaried employees and overhead, advertisements, and branding. However, most of these costs are negligible because the App Store is merely tapping into Apple's already established infrastructure that was developed through other businesses such as iTunes. This puts Apple in a position to offer access to its network at little cost to itself, and in turn bringing in significant revenue, \$6.9 billion in 2011, while the developers do most of the innovative work.⁷⁶

The key resources of the App Store revolve around its access to Apple's brand name and infrastructure. Through new products that redefined music, phones, and computers, Apple has built up a reputation of designing innovative products that are in high demand. Additionally, since the invention of the iPod in 2001, and later iTunes in 2003, it has established a network that can easily support and reach its half a billion App Store users and give them easy access to search Apps from their iPhone or iPad. These key resources are vital to the App Store's success, but how Apple uses those resources to deliver value is its greatest success.

The Key Process of the App Store is its contracting model. As mentioned, Apple had already established an infrastructure because of other products, so designing and supporting an App Store was not a significant project or risk. So, instead of hiring countless programmers to design and produce Apps for its new store, it passed that task, and its associated risk, off to the contract world. This approach pushes entrepreneurs to be on the lookout for the next great innovative App, knowing that if successful they can make millions of dollars. For instance, in 2012, two App development studios brought in over \$100 million just with games designed for the App Store.⁷⁷ However, it also places

⁷⁵ "3. Distribute," iOS Developer Program, Apple Developer, accessed March 7, 2013, <https://developer.apple.com/programs/ios/distribute.html>.

⁷⁶ Chuck Jones, "Apple's App Store Could Generate \$22 Billion in 2016 Revenue," *Forbes*, last modified January 10, 2013, <http://www.forbes.com/sites/chuckjones/2013/01/10/apples-app-store-could-generate-22-billion-in-2016-revenue/>.

⁷⁷ "App Store Tops 40 Billion Downloads."

the risk of failure, including losing all the money invested in development and testing of an App, in the hands of the entrepreneur. So Apple is in a position to make a significant amount of money if an App succeeds, but if an App fails, Apple loses nothing while the contractor loses the time and money invested in designing that particular App.

This business model of Apple's App Store is drastically different than that of the U.S. Navy. Both serve different customers using completely different key resources and processes, and the U.S. Navy looks to spend 100 percent of its money whereas Apple attempts to run a profitable company. However, these examples also shed light on how this analytical framework can be used to bring out the aspects of a particular business that make it successful. More importantly, when applying this framework to the effective business practices of the Mexican DTOs, Apple's ability to pass risk off to the contractor will be a significant aspect of how the cartels operate.

E. CONCLUSION

In Chapter III and Chapter IV, this thesis will look at the Mexican drug cartels through the lens of their key activities and key resources. It will focus on individual aspects of the cartels and what they do to capture and create value. These lenses will shed light on how they move people and goods across the border, the way they launder money, how they mitigate the risk of confiscation, capture, and being killed, the way they adapt to changing environments, and how they innovate to stay ahead of their competitors and authorities. However, it is imperative to understand how the key activities and processes work with other elements of the business model to understand where these aspects fit into the big picture. At the end of the day, drug cartels are no different from any legitimate business in that they just want to make money.⁷⁸

⁷⁸ Goddard, "How to Fix a Broken Border: Disrupting Smuggling at its Source," 3.

III. APPLYING THE FRAMEWORK FOR ANALYSIS TO DRUG TRAFFICKING

When most people hear of drug cartels or DTOs, the first thing that comes to mind is drug trafficking. This activity is their most lucrative business and accounts for profits that range from \$6.6 billion to upwards of \$39 billion per year.⁷⁹ Using the analytical framework previously established, this Chapter will look at the drug trafficking business through the lenses of CVP, profit formula, key resources, and key activities. Because this is the first chapter utilizing that framework in the context of illicit operations, it will also highlight some of the general practices used by cartels to establish the infrastructure that encapsulates all of their illicit activities, such as capturing value in the drug trafficking business. Additionally, the effective business practices found in the drug trafficking model can also be applied to other activities that involve moving an illegal product across the border and into the U.S. The following pages will look at how Mexican DTOs capture value in the drug trafficking business, demonstrating why they are so elusive to law enforcement and how they are able to continuously stay ahead of programs meant to severely cripple their operations.

A. CVP

Although this thesis does not address the supply versus demand discussion that plagues policy meetings in Washington and newspaper editorials, that discussion does have relevance when applied in the context of the demand for drugs in the U.S. and the customer base that it provides DTOs. The demand for illicit drugs in the U.S. has remained relatively steady for the previous three decades, with different drugs being popular in different markets.⁸⁰ With a steady demand spanning over 30-years, DTOs have had numerous time to learn their customer base and figure out what they can provide to serve the needs of those people. For example, cartels have learned that younger drug users such as college students or freelancers in New York City prefer

⁷⁹ Keefe, “Cocaine Incorporated.”

⁸⁰ Vanda Felbab-Brown, “Counternarcotics Policy Overview: Global Trends & Strategies,” *Brookings*, October 2008, 2.

marijuana, whereas professionals such as lawyers and accountants with higher incomes prefer cocaine.⁸¹ The fact that different markets exist is important when describing the customer value proposition offered by the Mexican DTOs. These organizations understand the different markets and cater to those particular demands. Those users drive the market for distributors and drug dealers through their demand of illicit drugs. Without the strong demand, the distributors and sellers would not be willing to pay top dollar for a shipment of drugs.

Driven by a consistent demand for illicit drugs over the past three decades, Mexican DTOs have expanded their drug trafficking business throughout the U.S. Some reports estimate that as of 2011, drug cartels had operations set up in over 1,000 American cities.⁸² Their outreach reflects an understanding of customer demands for a product that, outside of drug cartel involvement, is impossible to obtain. Even if a DTO were not involved in the eyes of the final consumer, it would have had a significant role getting that product into the U.S. Because the sales and usage of drugs are illegal, customers turn to the illicit market to satisfy their needs. Illicit activities “satisfy demand for goods and services that are otherwise illegal or unavailable in the formal, licit economy.”⁸³ Deviant entrepreneurs, such as the drug cartels, are always searching for unfilled demand that exists because of regulations and laws.⁸⁴ Drug cartels provide the supply portion of this equation by putting the drugs in the hands of distributors and dealers. In some cases, DTOs are even involved in the exchange on the street level, but focus most of their efforts on the logistics of moving drugs across the border and to distribution centers in the U.S.

DTOs also recognize that individual drug users do not show loyalty to a cartel or trafficking organization. This mindset is different than customers in the smartphone

⁸¹ Campbell, *Drug War Zone*, 245.

⁸² Paul Gootenberg, “Talking About The Flow: Drugs, Borders, and the Discourse of Drug Control,” *Cultural Critique* 71 (2009): 19–20. <http://www.jstor.org/stable/25475500>; “2011 National Drug Threat Assessment,” 2–8.

⁸³ Nils Gilman, Jesse Goldhammer, and Steven Weber, ed., *Deviant Globalization: Black Market Economy in the 21st Century* (New York: The Continuum International Publishing Group, 2011), 3.

⁸⁴ *Ibid.*, 3.

market, who do not see all phones, or their operating systems, as equal. For example, Apple has developed a brand name within the smart phone industry, and some customers will only buy iPhones, even if it requires paying more. However, other customers are instead loyal to Google's Android software and will only buy non-Apple products. Still a third set of customers, who most closely resemble the consumer behavior of drug users, will seek the most easily accessible or cheapest phone to fulfill their needs, regardless of the brand. Drug users act similar to that third set of customers; they just want the illicit product, whether it is cocaine or marijuana, but do not care which DTO had a hand in delivering it. Therefore, DTOs focus on controlling the routes that allow access to the U.S., which along the border becomes the bottleneck of the illicit supply chain. Amongst these multiple smuggling routes, referred to as *plazas*, the controlling cartel develops a logistical monopoly on the control of who and what passes through its smuggling route and into the U.S.⁸⁵ Additionally, an illicit product has significant value added to it as it passes through this bottleneck and into the U.S., which provides the incentive to the cartels to maintain control of those routes and eliminate competition at all costs.⁸⁶ This control also limits other organizations or individual customers from entering the drug trade business, and thus ensures a DTO's survival by continuing to deliver drugs to its customer base.⁸⁷

DTOs, as experts in underworld logistics, solve the customer's problem by delivering illicit drugs. In return, the customers are willing to pay top dollar for the value of that delivery, especially in markets with higher regulation.

B. PROFIT FORMULA

Through different drug trafficking activities, the DTOs are able to thrive in the illicit underworld by controlling who covertly moves shipments of illicit materials across the border and into the hands of distributors and drug dealers. On the street, drug users are willing to pay top dollar for a product that cannot be bought in a legitimate market.

⁸⁵ Moises Naim, *Illicit: How Smugglers, Traffickers, And Copycats are Hijacking the Global Economy* (New York: Doubleday, 2005), 75.

⁸⁶ Keefe, "Cocaine Incorporated."

⁸⁷ Johnson, "Reinventing Your Business Model," 52-53.

This section will look at the revenue and expenses involved in drug trafficking from the Cartels' perspective. Throughout most of the supply chain, DTOs are involved through contracts with buyers, smugglers, and traffickers. These contracts allow the cartels to bring in large amounts of profits during each phase of the value chain while minimizing their personal and financial risk. However, it is important to note that this section is not an attempt to present a financial analysis of the different cartels, but instead it will take a broad look at what kind of processes create revenues and what kind of expenses are associated with those activities. Estimates vary when it comes to the actual revenues and cost of moving drugs across the border because financial statements do not exist publically and most transactions only involve cash.⁸⁸ However, empirical data does exist that shows the price of drugs in various markets (see Figure 1), either by ounce or pound, along with the initial cost a cartel or supplier incurs when they purchase the drugs. This data will be used to highlight the lucrative business of trafficking drugs and the expenses that come with it. In this section, a bigger picture of the ins and outs that the DTOs face will be presented.

⁸⁸ Keefe, "Cocaine Incorporated."

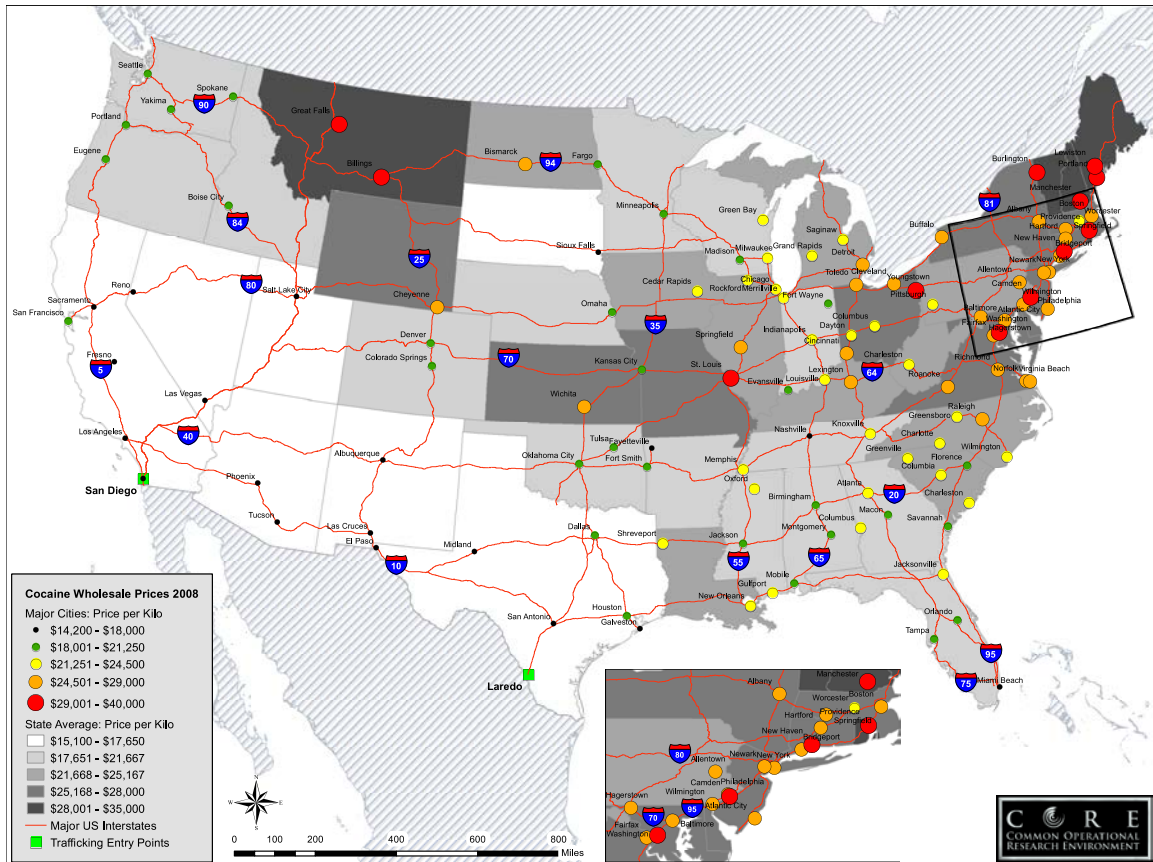


Figure 1. Cocaine Prices in the United States.⁸⁹

1. Revenue (The Ins)

Mexican DTOs involved with drug trafficking receive revenues through their control of *plazas* and the high profit margins associated with selling drugs in illicit markets. Controlling the territory along the U.S. border gives a DTO the ability to decide who crosses that stretch of the border and who does not. For instance, when smaller, independent operators get involved with drug transportation, they must pay taxes to the controlling cartel, often upwards of 60 percent of the perceived value of the shipment.⁹⁰ When others refuse the tax payments, they are often killed by the controlling cartel. Additionally, DTOs contract with local gangs in Mexico and the U.S. who charge taxes

⁸⁹ Graphic designed by Daniel LeRoy and Robert Kurrle, Jr. using data from the National Drug Intelligence Center, "National Illicit Drug Prices," December 2008.

⁹⁰ Campbell, *Drug War Zone*, 98; Naim, *Illicit*, 75.

to drug dealers on the street, which in turn provide revenue for the cartels.⁹¹ These types of revenues are only present when a DTO controls a market, but that control also makes it a target by competing organizations.

Drugs produce significant profit margins. Once drugs cross into the United States, their profit margins skyrocket because of the risk associated with crossing the border (See Figure 2). However, within Mexico, the profit margin is significantly lower because smugglers do not have to risk being arrested at the border or dying in the Arizona desert.⁹² For instance, studies have shown that the price of a kilo of cocaine increases upwards of 63 percent just by moving from a border city in Mexico, such as Juarez, to a border city in the U.S., such as El Paso.⁹³ Even higher profit margins were seen if traffickers moved that cocaine well into the U.S., and in cities such as Chicago where cocaine sold for upwards of \$33,000 a kilo, according to 2010 National Drug Intelligence Center (NDIC) data, that yielded an increase in price of 69 percent from a border city in Texas.⁹⁴ A closer look at Figure 1 shows that cocaine more than doubles once it is moved from the southwest border up to the northeast. Additionally, the map graphically depicts a second, imaginary border that reveals a jump in price once cocaine is transported beyond the southwestern states. A more detailed analysis will be presented in the Future Research section of Chapter V, however the DTOs are aware of financial rewards that come from drug sales in the northeast.

Interviews with members of the Sinaloa Cartel gave insight into 2012 prices and the profit margins associated with smuggling drugs across the border. Sinaloa would buy a kilo of cocaine from Peru for about \$2,000 and then watch it grow in value as it moved

⁹¹ Goddard, "How to Fix a Broken Border: Disrupting Smuggling at its Source," 11; Campbell, *Drug War Zone*, 99.

⁹² Comments from Nils Gilman from a talk he gave. Nils Gilman, "Deviant Globalization," The Long Now Foundation, *FORA.tv* (n.d.), May 11, 2010, http://fora.tv/2010/05/10/Nils_Gilman_Deviant_Globalization.

⁹³ Campbell, *Drug War Zone*, 122; Stewart, "Mexico's Cartels and the Economics of Cocaine."

⁹⁴ Campbell, *Drug War Zone*, 122; "South Texas High Intensity Drug Trafficking Area," Drug Market Analysis 2011, U.S. Department of Justice National Drug Intelligence Center (September 2011), 4; "West Texas High Intensity Drug Trafficking Area," Drug Market Analysis 2011, U.S. Department of Justice National Drug Intelligence Center (September 2011), 8; "Chicago High Intensity Drug Trafficking Area," Drug Market Analysis 2011, U.S. Department of Justice National Drug Intelligence Center (September 2011), 3.

north, selling for around \$10,000 in Mexico, upwards of \$30,000 in the U.S., and once broken down into grams and distributed to the street, that same kilo would sell for around \$100,000.⁹⁵ From start to finish, that kilo increased in value almost 5,000 percent, which shows just how lucrative drug trafficking can be. Those profit margins are not limited to cocaine; for instance, marijuana is sold in Casas Grandes, a city south of Juarez, for \$80 per pound, but in Ohio, the price increases over 1,000 percent to \$1,000 per pound.⁹⁶ An example of this value chain can be seen in Figure 2.

⁹⁵ Keefe, "Cocaine Incorporated."

⁹⁶ Campbell, *Drug War Zone*, 122.



Figure 2. The Cocaine Value Chain From Colombia To the U.S.⁹⁷

Although the sale of drugs can be seen as a one-time payment, cartels understand the market for returning customers. Drug addictions bring people back once they become hooked. Cartels have been known to allow contractors to use the “bait and hook” technique, a method that can encourage future purchases.⁹⁸ For example, a company like AT&T might offer a free cellular phone to its customers because it knows that it will

⁹⁷ Stewart, “Mexico’s Cartels and the Economics of Cocaine.”

⁹⁸ Osterwalder, *Business Model Generation*, 104.

capitalize on the contract for service.⁹⁹ DTOs have encouraged contractors to use similar techniques as a way to push new drugs and increase user demand. For instance, Drug Enforcement Agency (DEA) agents reported that the Sinaloa cartel established a methamphetamine market by providing free samples to those contractors distributing to marijuana clients. Meth was “ragingly addictive and could be produced cheaply and smuggled with relative ease.”¹⁰⁰ Sinaloa wanted the meth market, so they made it easy for customers try it out, knowing that once a customer tried it, he or she would be back.

2. Expenses (The Outs)

The high profit margins from trafficking drugs do not come without a cost. DTOs must pay their employees, hire contractors, pay bribes, purchase and lease equipment and houses, and invest in research and development. Subcontractors and individual contractors perform most of the activities involved in the drug supply chain. Contracts are usually paid by cartels for individual smuggling runs and range in price depending on the reliability of the smuggler and the amount of drugs in a shipment. For example, a Mexican family used to receive \$1,000 from a trafficking organization to drive a preloaded car full of drugs across the U.S. border. If the car was loaded down with a larger shipment, the family would be paid upwards of \$1,500 for one trip, however larger loads were only moved once the contractor had made several successful trips. Not all contractors were paid the same though; DTOs paid some smugglers only \$500 to move the same amount of drugs.¹⁰¹

In addition to contracted smugglers, DTOs have numerous employees and contractors on payroll to ensure the successful operations of drug trafficking. One example is hired scouts that monitor the area for authorities. In a coordinated event to smuggle drugs, contractors work together to outsmart Border Patrol: the lookout informs the smuggler which border checkpoint lane to use or when a section of the border is clear

⁹⁹ Ibid., 104.

¹⁰⁰ Keefe, “Cocaine Incorporated.”

¹⁰¹ Campbell, *Drug War Zone*, 111.

so that the drugs have the highest probability of making it across the border.¹⁰² These paid contractors are instrumental to the numerous techniques utilized by DTOs and give cartels the best chance of successfully smuggling drugs into the U.S. On the American side of the border, DTOs pay contracts to convenience store clerks, distributors at stash houses, logistic experts and drivers, additional scouts, and even drivers that transport drug smugglers back to Mexico.¹⁰³ How these individuals interact together will be covered in more detail when discussing key activities.

DTOs also rely on subcontractors to run self-sustaining operations within various steps of the drug trafficking supply chain. Subcontracting helps cartels minimize personal risk by paying others to conduct risky operations, such as moving drugs across the border, while still keeping the revenues generated from a successful movement.¹⁰⁴ These cells exist in numerous forms, from large companies such as the Garibaldi-Lopez trafficking organization that smuggles drugs for the Sinaloa cartel, to entrepreneurs capable of developing new products for a cartel, such as Miguel Angel Montoya who designed and built a new kind of submersible.¹⁰⁵ To stay ahead of the competition and develop new technology, cartels turn to venture capitalism. Venture capitalism, common in legitimate businesses, is a way that companies can raise capital for a new project or technology.¹⁰⁶ The cartels, in this case, provide the seed capital for a project, while the new venture, external to the cartel organization, does all of the research and development.¹⁰⁷

In addition to paying contractors and subcontractors who move drugs through the supply chain, DTOs also provide funding to “numerous other bribed operatives,

¹⁰² Ibid., 110–111.

¹⁰³ Ibid., 110–111.

¹⁰⁴ Andrew R. Dainty, Geoffrey H. Briscoe, and Sarah J. Millett, “Subcontractor Prospectives on Supply Chain Alliances,” *Construction Management and Economics* 19, no. 8 (2001): 841–842, doi.org.10.1080/01446190110089727.

¹⁰⁵ Goddard, “How to Fix a Broken Border: Disrupting Smuggling at its Source,” 9; Nieto-Gomez, “The Geopolitics of Clandestine Innovation in the Drug Business,” 158.

¹⁰⁶ Geoffrey Jones and R. Daniel Wadhvani, “Entrepreneurship and Business History: Renewing the Research Agenda,” working paper for Harvard Business School, 2006, 3.

¹⁰⁷ Peter K. Jacobs, “Venture Capital: Spurring Innovation and Growth,” *New Business: Entrepreneurial Pursuits at Harvard Business School*, 2002.

politicians, policemen, military officers, customs officers, soldiers, and intelligence officers” to conduct operations.¹⁰⁸ Mexican DTOs are similar to multinational corporations with complex structures and organizations. They have people in positions similar to legitimate businesses, such as purchasing agents, transportation specialists, boat captains, drivers, lawyers, and communication experts. In order to provide protection for their leadership and the drug shipments, DTOs also hire arms procurers along with experts in providing security and conducting assaults.¹⁰⁹ Besides the overhead from payrolls, DTOs fund subcontractors to lease and purchase houses in both the U.S. and Mexico to store supplies and act as distribution centers.

DTOs have a large network of houses along the U.S. border and throughout the U.S. These stash houses act like warehouses and function as distribution channels to various drug markets.¹¹⁰ Other overhead items include airplanes and cars, along with mechanics that maintain those machines. Subcontractors even purchase legitimate businesses within the U.S. as a cover for trafficking; some examples include used car dealerships and racehorses.¹¹¹

The list of expenditures associated with drug trafficking appears to be endless. Whether monthly payments are made in the forms of bribes or contract work to people or cells associated with smuggling, or one-time payments are made to purchase assets, the expenses are numerous. However, in addition to monetary figures, the costs associated with drug trafficking also takes into account captured or killed cartel members, along with confiscated drug shipments. Due to the risk associated with transporting an illicit product, DTOs consider losing a shipment of drugs as the cost of doing business.¹¹² The capture of one contractor, or even disruption of an entire subcontractor operation, is hardly a defeat to any DTO and will be discussed in more detail when discussing how they use their organizational structure. But the cartels are willing to take on a significant

¹⁰⁸ Campbell, *Drug War Zone*, 18–19.

¹⁰⁹ *Ibid.*, 18–21.

¹¹⁰ *Ibid.*, 18–21.

¹¹¹ Gilman, ed., *Deviant Globalization*, 144.

¹¹² Campbell, *Drug War Zone*, 246.

amount of risk in order to receive an even higher profit in return. Once those drugs are successfully smuggled into the U.S., profit margins can easily exceed 1,000 percent. For instance, a standard suitcase allowed on international flights filled with 25 kilos of cocaine, which a DTO could have purchased for less than \$60,000, is worth about \$440,000 once arriving in the U.S.¹¹³ Even if one out of every two smugglers is caught, the cartels still turn a huge profit and are therefore willing to continue spending money on new innovations to smuggle drugs. The cartels understand the high price they can charge for smuggling drugs into the U.S. and capitalize on that market, whether charging outsiders to use their routes or moving drugs themselves.¹¹⁴

C. KEY RESOURCES

The previous section outlined the costs associated with the people and assets used by the DTOs. This section will look at the tangible and intangible resources used by the cartels to traffic drugs. People make up a significant portion of the tangible resources used by the DTOs. But they are more than just bodies to fill an army, those people also provide an intangible asset through their intellect and abilities that help cartels innovate and develop new technologies. In addition to their people, DTOs also utilize other tangible assets such as money, stash houses, equipment, and transportation vehicles. Beyond what outsiders can see or confiscate, it is the intangible resource of their reputation that help DTOs' thrive. They have a reputation of being ruthless to those that stand in their way, and through public displays of violence, outsiders know that crossing a cartel can result in a gruesome death.

1. DTOs and their People

From the leaders to the workers, the people that work for and contract with the drug cartels are a significant asset. However, these people differ significantly when

¹¹³ Stewart, "Mexico's Cartels and the Economics of Cocaine,"; Nieto-Gomez, "The Geopolitics of Clandestine Innovation in the Drug Business," 156.

¹¹⁴ Peter Andreas, "Illicit Globalization: Myths, Misconceptions, and Historical Lessons," *Political Science Quarterly* 126, no. 3 (2011): 8; Terry Goddard, "How To Fix a Broken Border: Hit the Cartels Where it Hurts," *Immigration Policy Center*, September 2011, 5, <http://www.immigrationpolicy.org/perspectives/how-fix-broken-border-three-part-series>.

compared to their legitimate counterparts with regards to formal education and upbringing because most have little schooling past grade school. While there are a handful of successful CEOs in legitimate companies that have found success without a college degree, such as Bill Gates, Mark Zuckerberg, and Michael Dell, it is the norm for executives to have both college and postgraduate degrees. However, in illicit businesses, the type of education employees receive is usually focused on applicability for a particular trade.

Within the drug trafficking industry, most workers, and even executives, work their way up from the bottom rungs, often spending time in various apprenticeships to learn the drug trade.¹¹⁵ For instance, Colombian drug kingpin Pablo Escobar received little formal education.¹¹⁶ El Chapo Guzman, the leader of Mexico's Sinaloa cartel, dropped out of school when he was in third grade. Even as an adult, Chapo struggled to read and write and even had an assistant write love letters for him to his numerous mistresses.¹¹⁷ The leaders of the drug cartels rely on a strong understanding of their networks and how to maximize their profits without being exposed to risk, and operators, whether smugglers, lookouts, or enforcers, have a high-risk tolerance because failure often results in death or incarceration. Regardless of the position in the hierarchy of drug trafficking, these crafts are honed through first hand experience during operations and on the streets. DTOs continue to groom future leaders and operators by putting them to the test through real world trafficking operations, which in turn gives cartels a significant asset in the human capital of their people.¹¹⁸

2. The Organizational Structure

To limit risk and minimize a single point of failure, cartels utilize an innovative organizational structure. While new drug trafficking methods and tools help reduce the

¹¹⁵ Nieto-Gomez, "The Geopolitics of Clandestine Innovation in the Drug Business," 153.

¹¹⁶ Jeff Brice, "Legitimate and Illicit Entrepreneurship: An Opinion Concerning the Relation of Convergent and Divergent Business Development Strategies," *Hofstra Horizons*, Fall 2003, 4.

¹¹⁷ Keefe, "Cocaine Incorporated."

¹¹⁸ Brice, "Legitimate and Illicit Entrepreneurship," 4; Kenney, "The Architecture of Drug Trafficking," 253–254; Nieto-Gomez, "The Geopolitics of Clandestine Innovation in the Drug Business," 153.

chances of confiscation and improve efficiency, the organization of DTOs also provide a level of redundancy and flexibility that is needed to operate within the illicit world. Their social networks are built with the ability to expand and take advantage of new market opportunities. However, they can also retract when regulatory constraints limit activities in a specific area.¹¹⁹ Another significant asset of having a flat organization is that DTOs minimize their exposure; each small operation, or cell, is only privy to the information needed for its specific operation: “Many of the functions of a cartel are in fact carried out by cells, which are groups of outsourced growers, packagers, drivers, warehouse guards, gunmen, street sellers, etc., who have little or no connection to the larger drug organization and whose services are bought and paid for with cash or drugs.”¹²⁰

The hub of a DTO provides direction to its various cells and workers. That core group contracts services out to peripheral groups that are not full-fledged members of the cartel. Peripheral groups, also referred to as nodes, perform tasks such as smuggling, distributing, and money laundering. These groups are compensated for their work, but are also threatened with violence and death should they become disloyal. In essence, they are employees who have no choice but to work for the cartel when required, but when not contracted, they must be careful about going to a competing organization. Peripheral nodes operate in small groups, independent of each other, and at times even perform the same tasks.¹²¹ One example of this independent type of operation can be seen with the Garibaldi-Lopez trafficking organization, a contractor of the Sinaloa cartel. Before it was stopped by authorities, this organization moved an estimated 400,000 pounds of marijuana from Mexico to stash houses in Phoenix each year and brought in more than \$1 billion in revenue.¹²² This redundancy mitigates risk to the DTO, so if law enforcement disrupts an operation, only one node is lost, while others continue to operate.

¹¹⁹ Kenney, “The Architecture of Drug Trafficking,” 248.

¹²⁰ Campbell, *Drug War Zone*, 19; Campbell, “Los Zetas: Operation Assessment,” 63; Kenney, “The Architecture of Drug Trafficking,” 245–246.

¹²¹ Kenney, “The Architecture of Drug Trafficking,” 242–244.

¹²² Goddard, “How to Fix a Broken Border: Disrupting Smuggling at its Source,” 9.

Numerous contractors and subcontractors make up each DTO and estimates vary on the specific number of people a cartel has on its payroll at any one time. For instance, at its core, a cartel might only have 15–50 members, but when encompassing all of those working directly or indirectly for a cartel, that number then expands to 2,000, and at times upwards of 150,000 people.¹²³ These estimates vary because of the flat, multi-nodal organizational structure of DTOs. These organizations contract out to individual cells and feed them only the information needed to complete the job. By compartmentalizing and only sharing bits and pieces of information to different groups, a layer of secrecy exists that protects the DTO. Often different cells will run similar operations without knowledge of each other. This separation keeps the organizational structure secret, resilient, and protects the business from other cartels and government authorities.¹²⁴ In addition to providing risk aversion from foes, those cells can also minimize risk when it comes to the creativity needed for innovation and new ideas.

Cartels are in a constant battle with each other for the lucrative revenues created when drugs are smuggled into the U.S. In addition, they are constantly under attack from U.S. and Mexican public policies geared towards disrupting their operations. To overcome these threats, and more importantly to survive, they must constantly adapt to the changing environment, new policies, and threats from other cartels so they can continue to move drugs from one side of the border to the other. With their backs against a wall, cartels are forced to innovate and seek new methods to deliver their products.¹²⁵

Figuring out a more efficient way to move large shipments of illicit materials across the border can become extremely lucrative. The profit margin from drug transportation is already high, but there is always a push to improve efficiencies so that drugs can be shipped in even larger quantities without disruption. Contractors understand the financial incentives of getting drugs past government security, such as a suitcase containing \$440,000 worth of cocaine smuggled past U.S. Customs, and approach border

¹²³ Keefe, “Cocaine Incorporated”; Campbell, “Los Zetas: Operation Assessment,” 63.

¹²⁴ Keefe, “Cocaine Incorporated.”

¹²⁵ Nieto-Gomez, “The Geopolitics of Clandestine Innovation in the Drug Business,” 152–154.

security as a problem to solve.¹²⁶ Once an entrepreneur has a solution, either in the form of a product or an idea, he or she could present that solution to a deviant Venture Capitalist (VC). If the VC approves of the idea, he or she will work to get the entrepreneur funded to build and test a prototype. The entrepreneur will not know which cartel is providing the funding, but knows that a successful technology may generate high payouts from that cartel. Each government action along the border or even within the interior of the country sends a “signal to deviant entrepreneurs to improve their capacities and innovate a countermeasure to respond to the new shape of the system.”¹²⁷

A 2007 video by Miguel Angel Montoya sheds light on the type of venture capital operations used by Mexican drug cartels. He is the designer of a submersible capable of carrying illicit products across large bodies of water.¹²⁸ A cartel provided the capital needed to research, develop, and test the submersible while Montoya, as the entrepreneur, assumed the personal risk. Cartels pass the risk on to others while they wait for the new technologies to be developed: “new entrepreneurs who have a new idea bear most of the physical risk, while the DTO risks only the seed capital.”¹²⁹

3. DTO Culture and Reputation

The culture of loyalty is held in extremely high regard within DTOs. Drug kingpins “are dangerous, yet always endangered” as rival DTOs and law enforcement agencies constantly try to kill or capture them.¹³⁰ Leaders are always on the move in an effort to avoid surveillance. The surrounding danger creates a culture that relies on trust. However, that trust and loyalty must be earned over time and is enforced by publically punishing those that are disloyal. The danger associated with running a DTO is why leaders look to surround themselves with people whom they can trust and are hesitant to

¹²⁶ Ibid., 154–156.

¹²⁷ Ibid., 153, 158.

¹²⁸ Miguel A. Montoya, *Ayer Medico, hoy narco: el mexicano que quiso ser Pablo Escobar*, Editorial Oveja Negra, <http://motherboard.vice.com/2009/7/14/drug-smuggling-with-submarines>.

¹²⁹ Rodrigo Nieto-Gomez, “Complex Adaptive Systems and Deviant Innovation: The case study of the Mexican-American border,” (forthcoming): 11.

¹³⁰ Campbell, *Drug War Zone*, 21.

work with people they know little about. Cartel leaders hope to keep the reigns of the cartel within the family and its top leadership positions go to those who are loyal to their family, so they often seek out connections from family and friends.¹³¹ Relying on social networks is another way DTOs quickly build trust because they can limit interactions to only those individuals who are personally recommended by members already within the circle.¹³² Chapo, leader of the Sinaloa cartel, would purposely test those close to him by accidentally adding unaccounted drugs or money to a shipment to see if his executives would steal.¹³³ Those who stole or were disloyal to a DTO and its leaders were hunted down and killed, often in a gruesome fashion.¹³⁴

News outlets and social media, such as YouTube, have helped DTOs develop a reputation of being extremely violent. A quick search on Google will reveal gruesome images of headless bodies lying in the street and people strung up along a highway overpass. YouTube and other social media outlets show self-made videos of executions and decapitations, some of which the victim begs for his life and then suffers as his capturers saw off his head with a dull knife.¹³⁵ The violence in Mexico, and spillover violence within the U.S., has helped create a reputation that cartels can inflict a painful death on anyone they choose. DTOs have been public in their attacks, often placing videos of beheadings on the Internet and purposely leaving their victims' dismembered bodies in well-traveled areas.¹³⁶ These gruesome murders are not accidents, but instead serve as warnings to not interfere with their operations or ability to make a profit.¹³⁷ For example, in 2009, Mexico hailed one of its fallen sailors as a hero who killed a major drug kingpin in a gunfight. Within hours of the deceased sailor's identity being announced, cartel members retaliated by murdering his mother, aunt, sister, and

¹³¹ Kenney, "The Architecture of Drug Trafficking," 241.

¹³² Ibid., 242.

¹³³ Keefe, "Cocaine Incorporated."

¹³⁴ Kenney, "The Architecture of Drug Trafficking," 243.

¹³⁵ Pamela L. Bunker, Lisa J. Campbell, and Robert J. Bunker, "Torture, Beheadings, and Narcocultos," *Small Wars & Insurgencies* 21, no. 1 (2010): 146, 159–160, doi.org/10.1080/09592310903561668.

¹³⁶ Campbell, *Drug War Zone*, 5, 18.

¹³⁷ Goddard, "How to Fix a Broken Border: Disrupting Smuggling at its Source," 4.

brother.¹³⁸ From 2006 to 2012, there were between 47,500 to 60,000 deaths related to drug violence in Mexico.¹³⁹ The cartels publicized these killings to scare citizens and local police into submission. For instance, in 2006, La Familia cartel dumped five human heads in the middle of a crowded dance club and left a note stating that they only kill “those who deserve to die.”¹⁴⁰ The day prior, cartel members had supposedly kidnapped the victims from a mechanic shop, then used bowtie knives to hack off their heads while the men squirmed in pain.¹⁴¹ Los Zetas cartel members are even trained in torture techniques, and have been known to implement gruesome and painful torture and killings.¹⁴² To discourage police informants, cartels have been known to cut fingers off their victims while still alive, stuff them in the victim’s mouth, and then after a long and drawn out suffering, cut off the victim’s head. Spying for another cartel equates to being shot in the ear, and womanizing with the cartels’ women results in castration while the victim is still alive.¹⁴³ These gruesome acts manage to leave a lasting impression and are enough to discourage people to stand in the way of a DTO or, even worse, betray their trust.¹⁴⁴

4. Tangible Assets Used to Smuggle Drugs

To help with enforcement and other drug trafficking activities, DTOs have access to numerous caches of military-style weapons throughout Mexico and the U.S. Within the U.S., cartels such as Los Zetas have small assassin teams with their own access to

¹³⁸ David Luhnow and Jose de Cordoba, “Hit Men Kill Mexican Hero’s Family: Attack on Family of Marine Who Died in Drug Raid Suggests Cartels Turning To Terror,” *The Wall Street Journal*, December 23, 2009, <http://www.wsj.com>.

¹³⁹ “Illegal Drug Market Violence in Mexico – Infographic,” *Global Post*, accessed March 20, 2012, <http://rehab-international.org/blog/drug-violence-in-mexico-infographic>; Randal C. Archibold, “Honoring Drug War Dead, and Spurring a Debate,” *New York Times*, January 23, 2013, <http://www.nytimes.com>; U.S. Library of Congress, Congressional Research Service, *Mexico’s Drug Trafficking Organizations: Source and Scope of the Rising Violence*, by June S. Beittel, CRS Report R41576 (Washington, DC: Office of congressional Information and Publishing, August 3, 2012), 21–27.

¹⁴⁰ George W. Grayson, “La Familia: Another Deadly Mexican Syndicate,” *Zimbio*, February 19, 2009, www.zimbio.com.

¹⁴¹ Grayson, “La Familia.”

¹⁴² Campbell, “Los Zetas: Operation Assessment,” 21.

¹⁴³ Campbell, *Drug War Zone*, 18.

¹⁴⁴ Kenney, “The Architecture of Drug Trafficking,” 243.

specialized weapons should the organization call on them.¹⁴⁵ Another resource utilized by the cartels is their ability to blend in with their surroundings. Frequently DTO members dress in military or police uniforms in order to have unimpeded access to targets or uninterrupted movement between hideouts.¹⁴⁶

Besides DTOs having members who specialize in enforcement and torture, these organizations are made up of people with numerous backgrounds and abilities. Without knowledge of the infrastructure of a DTO, one might generalize cartels as people with limited education who commit ruthless acts to make money. Even those who operate on the enforcement side of a DTO typically have specialized training. For example, deserters from Mexican Special Forces founded the Los Zetas cartel after their original stint working for the Gulf Cartel. Recruitment is not limited to Mexico either; Los Zetas have also expanded recruitment to Central and South America to include specially trained troops like the Guatemalan Special Forces and offered incentives such as significant salary increases to join their ranks.¹⁴⁷

When comparing the operational side of a DTO to a legitimate company, there is not much difference. For instance, DTOs rely on lawyers, accountants, buyers, investors, recruiters, and trainers to help with all of their day-to-day activities.¹⁴⁸ Managers are involved in various stages of decision-making and they must possess communication skills and balance the amount of micromanagement into their employees' activities.¹⁴⁹ Regardless of the technique used by the various workers, their expertise helps DTOs thrive, whether providing a skill needed to run any type of corporation, or helping with innovation so the cartel can stay ahead of its competition.

¹⁴⁵ Campbell, "Los Zetas: Operation Assessment," 62; Bunker, "Torture, beheadings, and narcocultos," 167.

¹⁴⁶ Campbell, "Los Zetas: Operation Assessment," 65; George Maliha, "Renewing the War on Drugs: A Firmer Stand against Mexican Cartels," *American Foreign Policy*, accessed 18 March 2012, <http://afpprinceton.com/2011/12/renewing-the-war-on-drugs-a-firmer-stand-against-mexican-cartels/>.

¹⁴⁷ Campbell, "Los Zetas: Operation Assessment," 56; Peter Chalk, "Profiles of Mexico's Seven Major Drug Trafficking Organizations," *CTC Sentinel* 5, no. 1 (2012): 6, <http://www.ctc.usma.edu/posts/january-2012>; Bunker, "Torture, beheadings, and narcocultos," 150–159.

¹⁴⁸ Campbell, "Los Zetas: Operation Assessment," 59; Kenney, "The Architecture of Drug Trafficking," 247.

¹⁴⁹ Kenney, "The Architecture of Drug Trafficking," 248.

DTOs also rely on key pieces of equipment to facilitate smuggling operations. For instance, cartels fund the development of submarines that are capable of carrying ten tons of cocaine to the shores of the U.S., with some submarines even possessing the capability to do the entire journey submerged.¹⁵⁰ DTOs also have built tunnels that provide linkage from one side of the border to the other, some of which have been in existence since the late 1980s and only continue to improve in complexity. Tunnels being discovered today are capable of moving heavy shipments of drugs efficiently using cables and trolley cars.¹⁵¹ Once a new product is designed and tested, such as a new submersible or even a catapult or pneumatic gun to shoot the drugs across the border, it is immediately put to use.¹⁵² Submersibles and tunnels are just two of many assets used in the drug trafficking business, but cartels are constantly testing new equipment in order to overcome technologies designed by the government to combat them.¹⁵³ However, once the drugs successfully enter into the U.S., the cartels then must rely on their network of supply channels within the U.S.

5. Access to Supply Chains

Smuggling drugs across the border is only one facet of the drug trafficking business. The other key resource is the access to logistical networks within the U.S. DTOs utilize legitimate covers, such as rental houses and used car dealerships, to disguise drug movement. Similar to a supply chain for a legitimate business, these networks help deliver a product, in this case drugs, to the market through multiple interactions of contractors.¹⁵⁴ These stash houses act as warehouses by providing inventory and distribution centers for different areas of the U.S. market. Often stash houses are found in middleclass neighborhoods relatively close to the border, such as in

¹⁵⁰ Campbell, *Drug War Zone*, 12; Michael S. Schmidt and Thom Shanker, “To Smuggle More Drugs, Traffickers Go Under the Sea,” *New York Times*, September 9, 2012, <http://www.nytimes.com>.

¹⁵¹ Keefe, “Cocaine Incorporated.”

¹⁵² Nieto-Gomez, “The Geopolitics of Clandestine Innovation in the Drug Business,” 158.

¹⁵³ *Ibid.*, 159.

¹⁵⁴ John T. Mentzer et al., “Defining Supply Chain Management,” *Journal of Business Logistics* 22, no. 2 (2001): 3–4, [doi.org.10.1002/j.2158-1592.2001.tb00001.x](https://doi.org/10.1002/j.2158-1592.2001.tb00001.x).

El Paso and San Diego.¹⁵⁵ Other legitimate businesses, from owning used car dealerships to breeding and racing horses, offer access to distribution channels without drawing suspicion from authorities. These types of businesses give DTOs a legal excuse to constantly be on the move throughout the U.S., whether trading vehicles between two car dealerships or transporting a horse to its next race.¹⁵⁶ As authorities close in on one aspect of the supply chain, DTOs flex and move a different legitimate business to keep the flow of drugs moving.

To pay the large number of contracts, supply the weapons, purchase equipment, and purchase the drugs, DTOs rely on large amounts of cash. Due to the illicit nature of drug trafficking, payments are often only made in cash. Chapter IV will be devoted to moving that cash back to the DTOs, but it is estimated that \$20 billion to \$25 billion in bulk cash flows south through the U.S. border from drug trafficking every year.¹⁵⁷ Over time, cartels accumulate and stash large amounts of cash, which give them tremendous power when it comes to purchasing and executing their various activities. However, excessive amounts of cash also put DTOs at risk because they do not have a way to easily store the cash for safekeeping.

The key resources of drug trafficking encompass a vast amount of assets, from intangibles such as DTO reputation, to tangibles such as submersibles and tunnels. However, the people that make up the cartels, and their organizational structure, give DTOs the ability to adapt during turmoil, flex to capture market opportunities, and innovate to stay ahead of competition. As will be discussed in key processes, the most significant resources of the DTOs are the ones that authorities and competitors do not know about.

D. KEY PROCESSES

This section will discuss the *how* of drug trafficking and provide the link between CVP and the key resources. It will use narratives as a way to demonstrate the various

¹⁵⁵ Campbell, *Drug War Zone*, 26.

¹⁵⁶ Gilman, *Deviant Globalization*, 144.

¹⁵⁷ *Mexico's Drug Trafficking Organizations: Source and Scope of the Rising Violence*, 28.

tactics used by DTOs, both complex and simple, to move drugs across the U.S. border and then distribute them to their customer base. Studies show that 95 percent of the cocaine consumed in the U.S. travels through Mexico. In addition, Mexico is a major supplier of other drugs such as heroin, marijuana, and methamphetamine.¹⁵⁸ By building on the previous section, it will look at how those resources are used.

Drug trafficking involves moving an illicit material, drugs, to a specific customer base, whether in Mexico, the U.S., or another country. The key processes discussed here will primarily focus on drug trafficking that flows into and within the U.S. However, regardless of where a drug shipment is going or which DTO is involved in the operation, DTOs attempt to minimize risk and maximize efficiency by operating in a manner that involves a coordinated effort of equipment, intelligence, and security to move illicit products across the border.¹⁵⁹ One method they use to minimize risk and stay a step ahead of authorities is access to intelligence.

1. Intelligence Provides the Eyes and Ears of a DTO

It is worth mentioning intelligence briefly in this section because it plays a significant role in a cartel's ability to stay ahead of most government actions to disrupt their operations. Intelligence comes in many forms, from obtaining high tech equipment to putting numerous informants on payroll. DTOs often have intelligence networks that rival those of developing countries.¹⁶⁰ For instance, cartels maintain communication centers on both sides of the border and communicate through multiple devices at a time to make it difficult for authorities to monitor.¹⁶¹ Some of these devices are as sophisticated as Voice over Internet Protocol and "high frequency radios with encryption and rolling codes to communicate during cross-border operations."¹⁶² To access the

¹⁵⁸ Paul, "The Challenge of Violent Drug-Trafficking Organizations," 2–3.

¹⁵⁹ Goddard, "How to Fix a Broken Border: Disrupting Smuggling at its Source," 5.

¹⁶⁰ Misha Glenny, *McMafia: A Journey Through the Global Criminal Underworld* (New York: Vintage Books, 2008), 248–249.

¹⁶¹ Douglas Farah, "Money Laundering and Bulk Cash Smuggling: Challenges for the Merida Initiative," Working Paper Series on U.S.-Mexico Security Cooperation, May 2010, 10.

¹⁶² "2009 National Drug Threat Assessment," 45.

information needed to stay ahead of authorities, cartels use their stockpiles of cash to put numerous people on payroll, including government and police officials. For instance, the Zetas employ thousands of people that range in age from young kids playing in the street to older citizens, whose jobs vary from white collar businessmen to blue collar taxi drivers. These spies serve numerous roles, from providing early warning, deceiving outsiders, and working in jobs that serve to cover up operations.¹⁶³

2. Bribery and Extortion

DTOs have also infiltrated Mexican police and government officials using bribery and extortion. An example of how deep cartels have penetrated is evidenced in a 2011 Congressional Research Service report that indicated ten percent of Mexican police officers were fired for known corruption.¹⁶⁴ Another incident occurred in late 2008 when government agents arrested Mexico's top antidrug chief, Ramirez Mandujano, for accepting \$450,000-per-month to tip off cartels of upcoming raids and arrests.¹⁶⁵ Between corrupted police and tips from the antidrug chief, DTOs can avoid capture and confiscation and stay well ahead of authorities. Additionally, cartels lean on their relationships with corrupted officials to "ensure impunity and facilitate smooth operations."¹⁶⁶ Police officials have even carried out violent acts on behalf of the DTOs, which is alarming because those actions allow a DTO to continue with their business of drug trafficking under the cover of the people who are supposed to be stopping them.¹⁶⁷

DTOs do not focus their bribery efforts on any specific position, but instead on people that have access to information the cartel deems important. On a regional level, DTOs focus their bribes on local government officials who will assist in the area of operations.¹⁶⁸ In some cities, the DEA estimates that cartels have an army of civilians

¹⁶³ Campbell, "Los Zetas: Operation Assessment," 60.

¹⁶⁴ *Mexico's Drug Trafficking Organizations*, 25–26.

¹⁶⁵ Jesse Bogan, "Cocaine King," *Forbes*, March 30, 2009, <http://www.forbes.com/forbes/2009/0330/102-cocaine-king.html>; Keefe, "Cocaine Incorporated."

¹⁶⁶ *Mexico's Drug Trafficking Organizations*, 4.

¹⁶⁷ *Ibid.*, 4.

¹⁶⁸ Kenney, "The Architecture of Drug Trafficking," 245.

and cabdrivers who are bribed to report any increase in border inspections or convoys of police.¹⁶⁹ Mexico's secretary of public security estimates that a single cartel will pay more than a billion dollars in bribes each year.¹⁷⁰ These bribes help cartel members stay out of trouble, and even when caught, give the cartel a sense of resiliency. For instance, in 1993, authorities arrested Chapo for drug trafficking charges and moved him to Mexico's version of a maximum-security prison. However, because most of the prison staff was on the payroll of the Sinaloa cartel, he enjoyed a lavish lifestyle that included made to order meals, visits by prostitutes, and the ability to conduct business via a cellphone. Once rumors of extradition to the U.S. surfaced, Chapo negotiated a prison escape by paying workers more than \$3 million.¹⁷¹

Chapo's experience is common in Mexico due to so many people receiving bribes from DTOs. This also gives cartels the ability to operate with confidence that even when caught, bribes will ensure their time in the hands of authorities is limited. DTOs rely on bribery to get what they deem important, so they will often force government officials and police to accept payment by threatening *plata o plomo*, meaning silver or lead.¹⁷² These threats were especially true in small towns throughout Mexico, where it is not uncommon for DTOs to drive into a town and nonchalantly inform the mayor that they would like to work there. They bring with them the ability to enforce rules and even limit crime, and offer the mayor a choice: accept payment or they will kill him and his family.¹⁷³

3. Trafficking Operations

How DTOs use their key resources to move drugs and illicit goods to their customer base ranges from rudimentary methods such as jumping a fence or swimming across the Rio Grande, to sophisticated and complex operations such as autonomous

¹⁶⁹ Keefe, "Cocaine Incorporated."

¹⁷⁰ Ibid.

¹⁷¹ Ibid.

¹⁷² Paul, "The Challenge of Violent Drug-Trafficking Organizations," 2.

¹⁷³ William Finnegan, "Letter from Mexico: Silver or Lead," *New Yorker*, May 31, 2010, www.newyorker.com.

submarines. However, all operations are run with precision and careful planning. One example involves placing scouts at high points along the border and well into the U.S. to report Border Patrol movement using solar-powered radios. These scouts, who can number upwards of 50 people depending on the operation, are survival experts who can stay on location for weeks at a time using prepositioned food and water.¹⁷⁴ Trafficking teams wait in hiding on the Mexican side for any break reported by the scouts. As soon as the scouts report a section of the border that is clear, these teams race towards the border.¹⁷⁵

Another method for transporting drugs uses two specially equipped pickup trucks. One truck has enhanced shock absorbers so that it can carry more than one ton of illicit goods. The other truck contains a special ramp, similar to the one depicted in figure 3, which extends hydraulically from its bed and makes an arch over the fence. In less than a few minutes, the truck carrying the illicit goods can cross the border, without even touching the fence, and be on its way into the United States.¹⁷⁶



Figure 3. Abandoned Truck with Hydraulic Lift Along U.S.–Mexico Border.¹⁷⁷

¹⁷⁴ Goddard, “How to Fix a Broken Border: Disrupting Smuggling at its Source,” 9.

¹⁷⁵ *Ibid.*, 5.

¹⁷⁶ *Ibid.*, 5.

¹⁷⁷ Rodrigo Nieto-Gomez, “Ugly Narco Jeep Stuck at the Border,” Rodrigo Nieto-Gomez Blog Spot, accessed February 14, 2013, <http://rodrigonietogomez.blogspot.com>.

Most of these movements are conducted under the cover of darkness using night vision goggles. Once across the border, the truck will drive 40–80 miles through rugged canyons and desert until it reaches a paved highway, from which it will move the drugs to a stash house well inside of the U.S. In the event Border Patrol spots the truck, it can be camouflaged and hidden for weeks. If in hiding, the scouts reemerge and provide surveillance until the authorities move on.¹⁷⁸ Once an operation is complete, scouts return to special housing provided within the U.S. and await redeployment.¹⁷⁹ Other primitive transport methods involve putting drugs in a waterproof backpack and swimming to underground tunnels in the Rio Grande, or even brazenly floating drugs from one side of the river to the other.¹⁸⁰

These examples demonstrate the level of planning that goes into one drug trafficking run. Operations like these take place continuously along the 2,000-mile border. Traffickers working for the cartels describe movement via vehicles from Mexico into the deserts of Arizona as well planned and methodical. For moving across the desert, DTOs utilize stolen vehicles and usually abandon them as soon as the drugs are offloaded. Drivers receive training that involves driving with night vision goggles and how to avoid detection by seeking dry washes and barren areas. Counter-surveillance scouts are trained to live in the desert for weeks at a time with limited supplies, and provide navigation directions and warn of approaching border patrol. Any sign of law enforcement triggers the driver to cover the vehicle in a tarp. These operators are well trained and know to patiently wait for perfect conditions. They even can recognize when counterdrug operations are less than normal and will take advantages of such weaknesses by using as many as four vehicles at a time instead of just one.¹⁸¹

¹⁷⁸ Goddard, “How to Fix a Broken Border: Disrupting Smuggling at its Source,” 5.

¹⁷⁹ *Ibid.*, 9.

¹⁸⁰ Campbell, *Drug War Zone*, 14–15.

¹⁸¹ Goddard, “How to Fix a Broken Border: Disrupting Smuggling at its Source,” 9.

a. *Human Intellect in Drug Trafficking*

DTOs also move shipments of drugs through border checkpoints. Female smugglers have been known to drive across the border with their breasts partially exposed as successful distraction from the drugs hidden in the vehicle. However, the flirting and low cut shirts are in addition to other coordinated efforts to effectively move drugs through a border station. For example, even before approaching the border, lookouts will advise the driver on the specific traffic lane to use, based on the appearance or gender of the agents working that lane, so the driver has the best chance of succeeding.¹⁸² Other methods for sneaking drugs through a border patrol station show off the innovative side of the cartels. Car experts will remanufacture engines so that part of the engine cavity can hide drugs. In this example, the welds on the engine look so professional that even well trained border patrol agents have not been able to detect the modifications. In one case, smugglers modified transportation trucks that run on propane and gasoline, gutting the propane tank to hide the drugs. Even with the modifications, each fuel tank still worked and had enough fuel inside of them to fool agents. When agents asked the driver to switch tanks to prove that no drugs were hidden inside, he did so without hesitation because the exhaust still gave off the distinct odor of propane, the fuel gage came to life, and no indications existed that suggested the truck was hiding drugs within its engine.¹⁸³ Hidden compartments are also manufactured in regular car gas tanks, which not only hide the drugs but also throw off drug-sniffing dogs.¹⁸⁴ Other parts of the car have also become smuggler favorites, from air bags to pickup truck bed liners; if there is space in the car, drug traffickers will find a way to hide drugs.¹⁸⁵ Traffickers were also successful in hiding drugs inside a car's driveshaft. There were reports that even when dogs alerted authorities that a vehicle was carrying drugs, investigators failed to find the drugs and sent the car on its way.¹⁸⁶

¹⁸² Campbell, *Drug War Zone*, 110.

¹⁸³ Glenny, *McMafia*, 212.

¹⁸⁴ Goddard, "How to Fix a Broken Border: Disrupting Smuggling at its Source," 8.

¹⁸⁵ Campbell, *Drug War Zone*, 247.

¹⁸⁶ Goddard, "How to Fix a Broken Border: Disrupting Smuggling at its Source," 8.

In these examples of border crossings, DTOs were successful because of the human intellect and creativity by the smugglers. But these examples also shed light on the willingness of traffickers to innovate and develop new technologies and methods for moving drugs across the border. The significant jump in profit from selling a drug in the U.S. versus Mexico influences traffickers to accept the risk, including torture or death, associated with smuggling. Because of this high risk, and the high payout that comes with it, DTOs and their contractors are willing to allow entrepreneurs to pursue new ideas or develop new equipment such as the submersible developed by Miguel Angel Montoya. If a new smuggler wants to enter the market, he or she first must seek permission from the controlling cartel, for failure to do so could result in capture, torture, and death. With DTO approval, the smuggler might be given a small amount of drugs to test his or her abilities. If the smuggler does not make it into the U.S., the DTO loses a negligible amount of drugs, but if the smuggler succeeds, the DTO receives a handsome profit and then adds a larger quantity for the smuggler's next trip across the border. The worst thing for the sponsoring cartel is that the drugs may become confiscated and the smuggler may be killed. However, if the smuggler continues to succeed, the cartel rakes in huge profits while the smuggler sees his or her payouts increase.

As discussed earlier, big payouts lure subcontractors and smugglers into the drug trafficking business, but once involved, the consequences of failure push these people to constantly innovate. With a finite amount of border patrol agents and government officials to control the flow of traffic into the U.S., smugglers constantly probe for weaknesses and shift efforts to an area where they can maximize trafficking without being caught. DTOs want the human intellect that new smugglers and entrepreneurs possess; the infrastructure of supply, enforcement, and networks on both sides of the border; but cartels still need innovators that can continue to find new ways of moving drugs across the border. These examples were given as a way to shed light on the ingenuity side of their operations that are only limited by the creativity of the smugglers.

b. How DTOs use their Organizational Structure and Subcontractors

To maximize efficiency and minimize personal risk, DTOs rely on contractors and subcontractors to conduct most of the drug trafficking operations. For example, the Sinaloa cartel contracts with the Garibaldi-Lopez trafficking organization to move drugs across the border.¹⁸⁷ That organization then subcontracts with individual smugglers who work with a network of other subcontractors to successfully complete an operation. Numerous operations take place simultaneously, from concealing drugs through entry points such as airports and border check points, to covert operations such as going over or under the border fence.¹⁸⁸

In an example of driving through a border checkpoint, smugglers would be given a time and place in Mexico to pick up a vehicle loaded with drugs along with official documentation to permit travel into the U.S. If the drivers were experienced smugglers, then the shipment would be large with drugs packed into numerous hidden compartments and doused with Pine-Sol or Ajax to hide the smell. But if the drivers were relatively new, then they might only be given a small amount of drugs until they prove to be successful.¹⁸⁹ After safely crossing the border, the drivers would proceed to a preplanned location such as a convenience store where the clerk, also a subcontractor, would signal that the shipment had arrived. From there, a separate driver would pick up the smugglers and return them to the border where they would simply walk back across to Mexico, meet another driver, and return to their personal vehicle or another shipment.¹⁹⁰ The network of subcontractors involved in an operation like this play an important role, from providing lookout positions to ensuring efficient movement of the appropriate goods: “drug-cartel activity involves intricate, loosely knit webs of

¹⁸⁷ Ibid., 9–10.

¹⁸⁸ Nieto-Gomez, “Complex Adaptive Systems and Deviant Innovation.”

¹⁸⁹ Campbell, *Drug War Zone*, 23, 111.

¹⁹⁰ Ibid., 111.

individuals and organizations that stretch from peasant farmers in Latin America to consumers in US towns and cities.”¹⁹¹

The organizational structure of cartels plays a significant role in minimizing risk of drug trafficking operations. In order to capture value in this illicit business, cartels must maintain a level of resilience that allows them to overcome the obstacles caused by rival cartels and government authorities. As previously mentioned, the DTOs are often organized in cells that conduct simultaneous operations without the knowledge of other cells. Shipments of illicit products are distributed to different subcontractors in Mexico who then transport the drugs across the border using the various techniques to move the drugs into the U.S. DTOs use this organizational structure to give them flexibility and resilience, with each cell using its own techniques for smuggling and then initially moving the drugs to its own distribution center in the U.S. One example of their added flexibility used to combat conflicts is to use these cells and other contractors as reserves.

Similar to the practices of militaries such as the U.S. Navy, cartels will mobilize reserve troops in a specific area if needed, such as when a conflict with a rival cartel breaks out or authorities crack down on DTO activities. Reserves can be pulled from other areas controlled by the cartel or from corrupt Mexican police. For example, in 2008, when authorities stepped up efforts to stop a drug trafficking *plaza* leading into McAllen, TX, Los Zetas called in reserves and ordered them “to engage law enforcement if confronted.”¹⁹² In addition to the reserves being able to act as a force multiplier, they also give a DTO a level of resilience should its members be captured or killed.

Reserves also serve the purpose of a replacement system for DTO personnel. For example, if a Los Zetas member is killed, that person’s role is filled immediately and business continues as normal by the next day.¹⁹³ Even when the leader of a DTO is captured or killed, a new leader has often quickly filled the void, and in some

¹⁹¹ Ibid., 21.

¹⁹² Campbell, “Los Zetas: Operation Assessment,” 63.

¹⁹³ Ibid., 63.

cases, even responded to the threat in a ferocious manner.¹⁹⁴ Beyond the reserve component, contractors are also used to provide cover for illicit activity under a legitimate business.

Significant value addition takes place when drugs are moved across the border, as depicted in Figure 4, but in order to maximize profits from the entire movement of drugs, DTOs oversee the distribution of drugs to markets throughout the U.S. DTOs rely on their network of subcontractors and stash houses within the U.S. to make up the illicit goods supply chain. Once drugs make it across the border, they go to a stash house to be packed into smaller quantities and shipped to different markets. By breaking down the drugs into smaller quantities, traffickers make it easier to move inconspicuously throughout the U.S.¹⁹⁵ For instance, drug traffickers moving through the deserts of Arizona, either by truck or foot, would have a drop off point at a stash house just south of Phoenix. That stash house would serve as an arrival point, similar to a port of entry for a shipment from overseas. From there, the drugs would be repackaged and loaded onto SUVs and trucks to be distributed to other stash houses or networks of customers.¹⁹⁶ To disguise the stash houses, subcontractors often rent homes in middle class neighborhoods and tend to the house as any family would: maintaining the lawn, bringing the trashcans in, etc. The difference is that neighbors rarely catch a glimpse of its occupants because the blinds always remain closed, and upon closer examination, the insides of windows are covered in plastic to prevent the smell of drugs from permeating the surrounding area.¹⁹⁷ Subcontractors operate numerous stash houses in border cities and throughout the U.S., but in an effort to protect information leaking out, often these types of operations take place without knowledge of the location or occupants of other houses. An example of the value chain of cocaine, from its origin in the Andean region all the way to the streets of its destination, can be seen in the Figure 4.

¹⁹⁴ Campbell, *Drug War Zone*, 5, 7.

¹⁹⁵ *Ibid.*, 244.

¹⁹⁶ Goddard, "How to Fix a Broken Border: Disrupting Smuggling at its Source," 9.

¹⁹⁷ Campbell, *Drug War Zone*, 26.

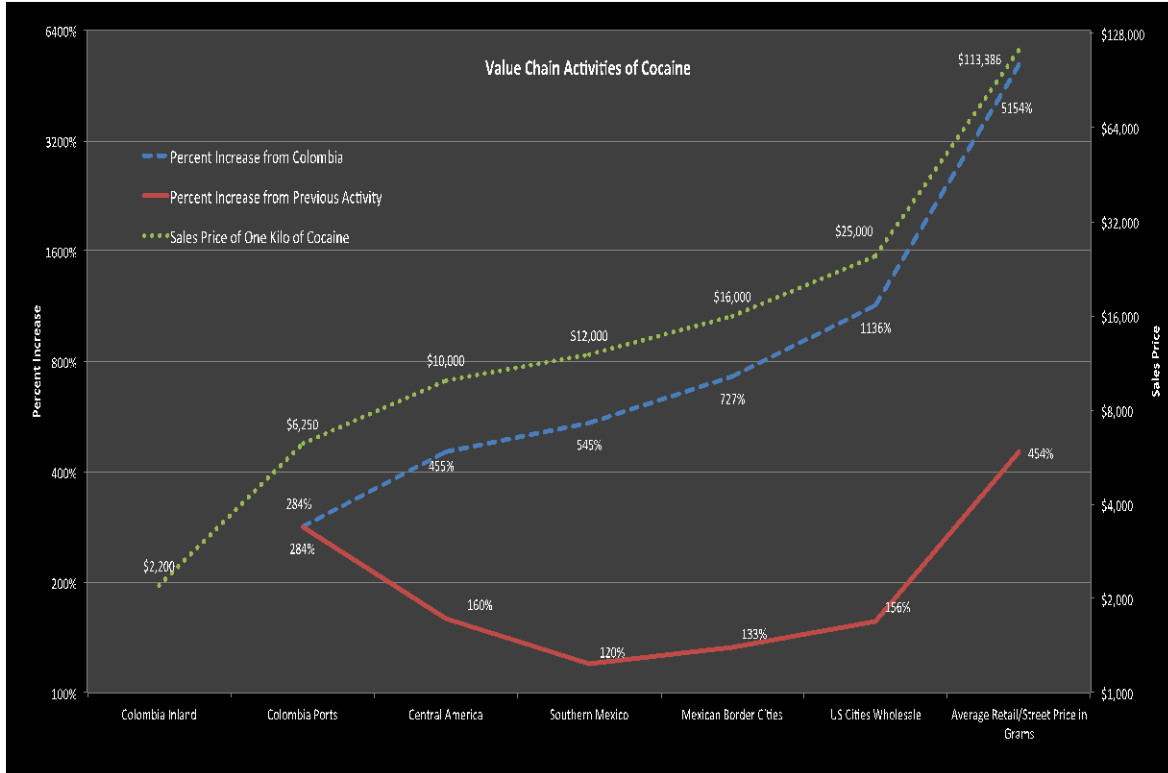


Figure 4. Value Chain Activities of Cocaine from Colombia to the U.S.¹⁹⁸

These subcontractors help DTOs gain access to numerous cities throughout the U.S. and ensure that cartels profit off of each increase in value for a shipment of drugs. Subcontractors seek out legitimate businesses in specific locations where they want to conduct operations and then offer those companies payments that exceed those of their normal day-to-day revenues. Once a subcontractor develops a relationship with a particular company, it expects that business to devote most of its time and energy to illicit operations.¹⁹⁹ The subcontractors will even go as far as providing invoices and receipts for bogus goods as a way to limit suspicion from authorities.²⁰⁰ As a final layer of security, DTOs only provide the information needed for a business to successfully run its specific operation and they limit the knowledge of other

¹⁹⁸ Created with the help of Daniel LeRoy, CORE Lab, Naval Postgraduate School, using data from Stewart, “Mexico’s Cartels and the Economics of Cocaine.”

¹⁹⁹ Goddard, “How to Fix a Broken Border: Disrupting Smuggling at its Source,” 7.

²⁰⁰ Goddard, “How To Fix a Broken Border: Hit the Cartels Where it Hurts,” 6.

subcontractors or businesses operating under a different cover. This risk mitigation allows cartels to absorb supply chain disruptions caused by federal operations. For instance, when a U.S. government official holds a press conference declaring the arrest of key cartel members in a drug smuggling operation, the reality is that a particular cartel only lost one of its many subcontracted operators. Most likely, that cartel has so many simultaneous operations going on that an arrest does not even phase its drug trafficking business.²⁰¹

One example of this resiliency took place over a three-year period in the deserts of Arizona. A U.S. operation, Operation Tumbleweed, led to the 2008 disruption of the Garibaldi-Lopez operation and its marijuana trafficking that was previously described. Arrests were made and U.S. officials proclaimed a major blow to Mexican drug cartels. However, in 2011, in the same desert between Mexico and Arizona used by the Garibaldi-Lopez operations, U.S. authorities conducted another major sting, Operation Pipeline Express, in which they arrested smugglers who, at the time of capture, were trafficking an estimated \$33 million a month of drugs across the border.²⁰² Although two big anti-drug operations in a three-year period is significant, the most interesting discovery came from the evidence of how the cartels had learned and then adapted from Operation Tumbleweed. In this case, after Operation Tumbleweed, in which smugglers utilized a coordination of scouts and vehicles to move drugs, authorities found that drugs were then moved via backpack across the same desert because humans were more difficult to find than trucks. Even within days of Pipeline Express, authorities discovered another operation in the same general area that, by the time of discovery, had already moved \$1.5 million of heroin and methamphetamine to a city north of Tucson. Instead of the major setback that the press conferences proclaimed, the DTOs immediately began studying how and why authorities were able to disrupt their smuggling activity, then resumed operations within the same general area using new techniques.²⁰³

²⁰¹ Goddard, “How to Fix a Broken Border: Disrupting Smuggling at its Source,” 7.

²⁰² *Ibid.*, 10.

²⁰³ *Ibid.*, 10–11.

Within the U.S., DTOs rely on subcontractors as part of their supply chain, and the creativity of each subcontracting business is usually only uncovered after a counterdrug operation takes place. Numerous methods are used to distribute drugs, from continuing smuggling time of operations to operating under the cover of a legitimate company. For instance, drug smugglers have been known to buy vehicles from police auctions and then use those cars to transport drugs. Even though already inside the U.S., distributors still go to great lengths to hide the drugs.²⁰⁴ Even when caught, the traffickers would play dumb and blame the police's inability to properly check all compartments before selling the car at the auction.²⁰⁵ Another method that also plays into plausible deniability is buying and trading vehicles between used car dealerships. A DTO might own numerous dealerships, but each under a different name. Car salespersons on the payroll would then buy and sell cars to each other, giving them an excuse to move cars through different parts of the country. Access to numerous vehicles added a layer of security by always using a different car for each trip.²⁰⁶ If caught, the salesman would again deny knowledge of any illicit goods being inside the car, instead pleading that he was merely making a deal. Yet another way to distribute drugs and limit personal risk occurs when smugglers put luggage full of drugs on a Greyhound bus without personally boarding. If law enforcement intercepted the shipment, the authorities would have no one to blame.²⁰⁷

Operating a legitimate business as a cover is the preferred method used by the drug cartels in the U.S. because it limits risk. DTOs are aware of the red flags that show up when a vehicle is stolen or a crime is committed, therefore, once in the U.S. they favor legitimately buying vehicles or renting houses instead of stealing or committing crimes that would cause bystanders to call the police.²⁰⁸ However, the DTOs are still involved in criminal acts, especially in Mexico, where they have been known to hijack

²⁰⁴ Campbell, *Drug War Zone*, 245.

²⁰⁵ *Ibid.*, 246.

²⁰⁶ Gilman, *Deviant Globalization*: 144.

²⁰⁷ Campbell, *Drug War Zone*, 246.

²⁰⁸ Campbell, *Drug War Zone*, 248.

commercial trucks and vehicles.²⁰⁹ Once in the U.S. and involved with the distribution and transportation of drugs, the DTOs prefer to operate under the cover of a legitimate business. Another example of this type of operation that subcontractors have used is getting involved in the racehorse industry, which includes hiring a staff of groomers, trainers, veterinarians, and jockeys. With enough people racing, breeding, buying, trading, and selling horses, it makes for a perfect cover for narcotic distribution by stuffing the wheel wells of the horse trailers with drugs.²¹⁰

These examples of legitimate business operations by cartels inside the borders of the U.S. shed light on how they move drugs to various markets. DTOs and their subcontractors are only limited by their creativity to find a business and ability to maintain that business without drawing suspicion. Eventually the drugs arrive to an area and are sold to their final distributor. Some customers will actually purchase the drugs immediately after they leave the first stash house, then redistribute the drugs within their own network of stash houses, and supply chains.²¹¹ One example of this distribution that sheds light on current innovation is website called Silk Road. It provides an anonymous venue that specializes in selling controlled substances. This is one of many websites that are emerging; providing a new way for consumers to access illicit drugs and even minimize some of the supply-chain efforts of the cartels.²¹² In other cases, DTOs actually continue to maintain possession of the drugs, using subcontractors, until they are in the hands of the drug user. This practice enables cartels to develop stronger roots in U.S. cities and reap the rewards from the high profit margins of selling drugs in small doses on street corners. Often local gang members, under the watchful eye of a cartel

²⁰⁹ Goddard, "How To Fix a Broken Border: Hit the Cartels Where it Hurts," 8.

²¹⁰ Gilman, *Deviant Globalization*: 144.

²¹¹ Goddard, "How to Fix a Broken Border: Disrupting Smuggling at its Source," 9.

²¹² Nieto-Gomez, "Complex Adaptive Systems and Deviant Innovation," 10–11; Nicolas Christin, "Traveling the Silk Road: A Measurement Analysis of a Large Anonymous Online Marketplace," Carnegie Mellon INI/ CyLab Working Paper, 2012, 1–2, http://www.cylab.cmu.edu/files/pdfs/tech_reports/CMUCyLab12018.pdf.

representative, carry out these contracts in U.S. cities.²¹³ Figure 5 depicts the growing influence of Mexican drug cartels in different cities throughout the U.S.

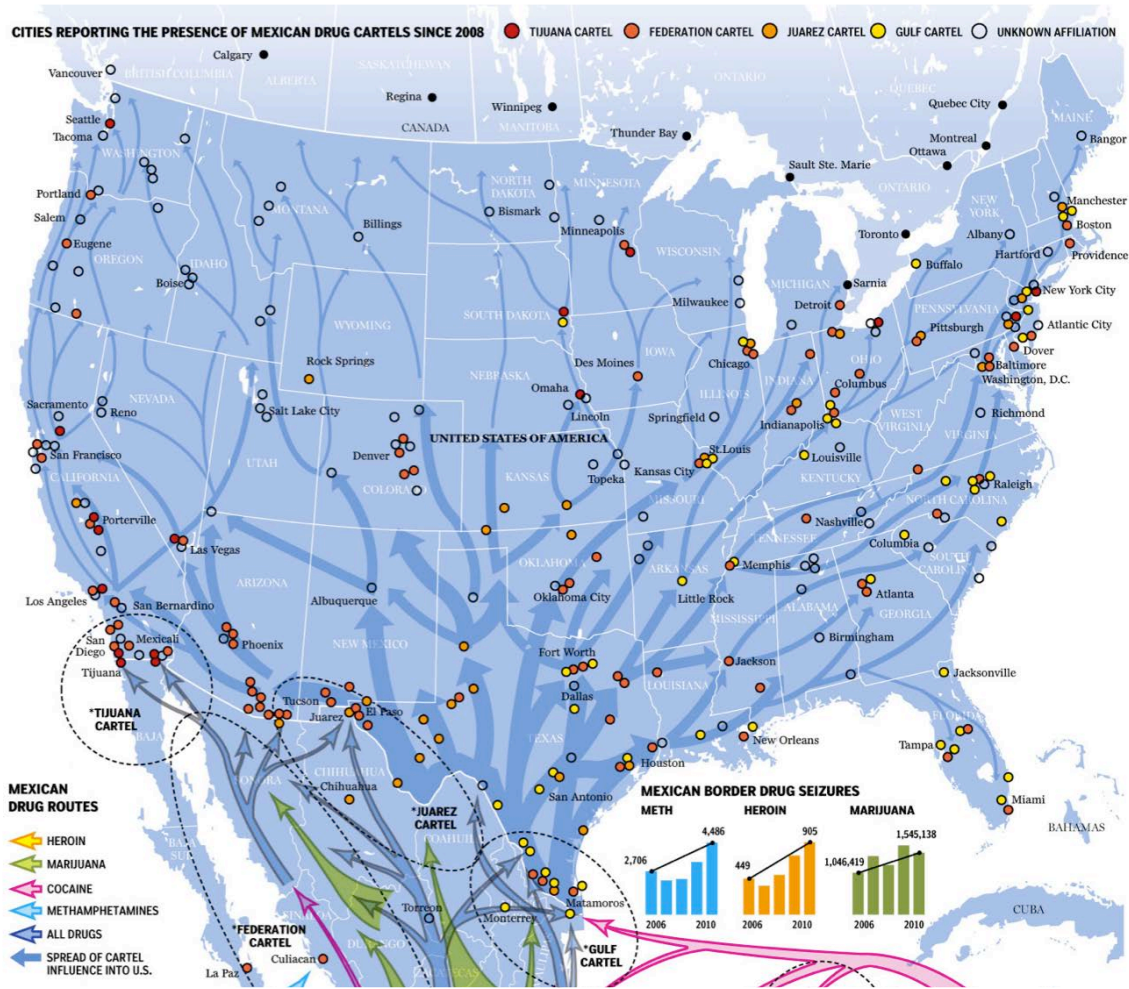


Figure 5. Presence of Mexican Cartels in the U.S.²¹⁴

Utilizing their key resources, this section discussed how the drug trafficking business of DTOs provides and delivers value to their customers. These cartels are in constant competition with each other for the illicit drug trade, and as

²¹³ Goddard, “How to Fix a Broken Border: Disrupting Smuggling at its Source,” 11; Campbell, *Drug War Zone*, 99.

²¹⁴ Jonathon Rivait and Richard Johnson, “Graphic: Mexican Drug Cartels’ Spreading Influence,” *National Post*, February 2, 2013, <http://news.nationalpost.com/2012/07/13/mexican-drug-cartels-spreading-influence-graphic/>.

discussed earlier, control of a *plaza* brings in large profits. The magnitude of intelligence that DTOs have access to helps them avoid disruption from authorities and other cartels. That insight also gives them the information needed to capitalize on weaknesses in security and other cartels. Evidenced by the multiple U.S. operations in Arizona to disrupt drug trafficking, no sooner had federal agents stopped celebrating their drug bust before new smuggling operations resumed in the same area but with more evasive tactics. DTOs rely heavily on the human intellect of their employees and contractors to innovate and adapt so they can continue to outsmart and outmaneuver those seeking to disrupt the drug flow. Additionally, the organizational structure and piecemealed operations add layers of security to a cartel and keep their secrets safe. With numerous cells conducting parallel operations, DTOs mitigate risk and ensure that even the largest drug busts by authorities rarely have an impact on operations. However, the information and activities that authorities do not know about yet are an even greater strength, as often it is not until a major drug bust that the complex operations of a cartel are uncovered.

E. CONCLUSION

The analytical framework for evaluating the drug trafficking business looked at how a DTO captures value. High demand for drugs and the risks associated with moving drugs across the border make drug trafficking a lucrative business. However, drug trafficking is only one of many business activities with which DTOs are involved. Chapter IV will look at money laundering through the lens of its CVP, profit formula, key resources, and key processes as an example of illicit goods that flow south. There will be references to this Chapter on drug trafficking, and much of it will parallel the resources and processes of drug trafficking. However, there are also differences when it comes to taking illicit profits and reintegrating them into the legitimate world. Chapter IV will continue to build on the high risk, high reward associated with the illicit world and the push towards new innovations that make the Mexican DTOs so effective.

THIS PAGE INTENTIONALLY LEFT BLANK

IV. APPLYING THE FRAMEWORK FOR ANALYSIS TO MONEY LAUNDERING

The previous Chapter not only demonstrated the ingenuity of drug smugglers, but also painted a picture of how lucrative drug trafficking activities can be for the organizations involved. The high profit margins that come from successfully getting the drugs safely into the U.S. entice new people to enter the market and help drive innovation to stay ahead of authorities and competitors. Although success is met with huge profits, failure brings incarceration or death. However, once a drug such as cocaine makes it to its final destination, and that kilo, for which a cartel originally paid a little over \$2,000, is divided into grams and sold on the street for about \$100,000, the DTO that oversees the operation must still wait to be paid. Transactions in the illicit market are usually conducted using cash, both on a retail level such as a city street and on a wholesale level such as the subcontractor who distributes cocaine to a region like Chicago, and moving that cash back to its business owners present a challenging problem.²¹⁵

In the following Chapter, this thesis will analyze the fundamental operation of money laundering, a key component required to return money to the drug cartels, as an example of illicit goods flowing south. Although Mexican DTOs are engaged in other illicit operations going into Mexico, such as weapons trafficking, this researcher chose money laundering because it encompasses a significant aspect of a cartel's livelihood; returning value from its illicit goods flowing north. Using the same framework for analysis that examined drug trafficking as an example of illicit goods flowing north, money laundering will be examined through the lenses of CVP, profit formula, key resources, and key activities. Because of the overlap of some common characteristics found in all DTO illicit operations, such as enforcement or subcontracting, there will be references to Chapter III, and this Chapter will focus on highlighting only the differences involved with illicit flow south.

²¹⁵ Comments from Nils Gilman from a talk he gave. Nils Gilman, "Deviant Globalization," The Long Now Foundation, *FORAtv* (n.d.), http://fora.tv/2010/05/10/Nils_Gilman_Deviant_Globalization.

A. CVP

Just as with drug trafficking, in the activity of money laundering there must be an understanding of the customers, both in the sense of who they are and what they need. With regards to laundering money, the customers have to be able to return their illicit profits to the business owner, the sponsoring cartel. To give an idea of the severity of the problem, imagine if a drug dealer gave an elementary school teacher a suitcase filled with \$200,000 for an illicit activity with which both were involved. The median pay for an elementary school teacher is slightly above \$50,000, so that amount of cash would quadruple his salary in just one day.²¹⁶ Initially the teacher might be extremely happy about the surplus of cash, but once he tried to deposit or spend it, problems would arise. Deposits or money transfers over \$10,000 get reported to the U.S. government, and a quick investigation would reveal that without supporting documentation of legitimate sales or salary, a teacher should not suddenly have a surplus of cash.²¹⁷ Additionally, financial institutions and money transfer companies, such as Western Union, are given guidelines that help employees recognize suspicious activities, such as making small deposits from a single location to numerous accounts.²¹⁸ So, without the ability to put the money into a checking account, the teacher loses the capacity to use that money to pay credit card bills, utility bills, and mortgage or car payments, leaving him to use the cash to buy day-to-day items such as groceries. Still, this does not sound like a bad thing, but then imagine the teacher no longer has his teaching job, so that cash becomes his salary. How does he find a place to live or buy a car if all of his payments are conducted in cash? Large cash payments would draw suspicion and scrutiny, and thus the teacher would have a big problem on his hands. He has cash, but he has to figure out how to move that cash back into the formal economy without alerting authorities.

²¹⁶ “Kindergarten and Elementary School Teachers,” United States Department of Labor: Bureau of Labor Statistics, last modified March 29, 2012, <http://www.bls.gov/ooh/Education-Training-and-Library/Kindergarten-and-elementary-school-teachers.htm>.

²¹⁷ “Appendix F: Money Laundering and Terrorist Financing ‘Red Flags,’” Federal Financial Institutions Examination Council Bank Secrecy Act/ Anti-Money Laundering Info Base, accessed February 15, 2013, http://www.ffiec.gov/bsa_aml_infobase/pages_manual/OLM_106.htm.

²¹⁸ *Ibid.*

There in lies the huge problem in the deviant world: transactions are conducted in cash, and in the case of the Mexican DTOs, they need that cash returned to the legitimate economy so that they can put it to use. Money laundering encompasses many techniques that help disguise the origins of the cash so that when it does reenter the financial markets, it appears as if the transactions are legitimate. Additionally, bulk cash from drug sales is returned to Mexico and used to pay subcontractors and bribes, however without successful money laundering and bulk cash shipments south, their lucrative business of moving illicit goods and people north no longer returns value.²¹⁹ These cartels are involved in numerous activities that support illicit goods flowing from Mexico into the U.S., and as Chapter III discussed, networks of subcontractors and innovative techniques increase the success of getting a product such as cocaine across the border. However, once the sale is complete, the money must be returned to the sponsoring organization. As shown in Chapter III, the largest value addition in the cocaine supply chain takes place when the drug makes it across the U.S. border, which in turn means that there is a considerable amount of cash that must make it back into the hands of the cartel and move from the clandestine economy to the legitimate economy to complete the sale. For instance, revenue estimates from drug sales and human smuggling are upwards of \$64 billion and \$6 billion respectfully.²²⁰ According to a Department of State report, Mexican DTOs then move between \$19 billion and \$39 billion of those revenues in cash annually from the U.S. into Mexico.²²¹ Moving such a significant amount of cash back to Mexico and transitioning it back to the legitimate economy is a problem, and thus cartels and their subcontractors become their own customers.

²¹⁹ Farah, "Money Laundering and Bulk Cash Smuggling," 14.

²²⁰ United Nations Office on Drugs and Crime, *Estimating Illicit Financial Flows Resulting from Drug Trafficking and Other Transnational Organized Crime*, 21; United Nations Office on Drugs and Crime, *The Globalization of Crime*, 66.

²²¹ United States Department of State Bureau for International Narcotics and Law Enforcement Affairs, *International Narcotics Control Strategy Report Volume II: Money Laundering and Financial Crimes* (2012), 140, <http://www.state.gov/documents/organization/185866.pdf>.

B. PROFIT FORMULA

Little is known about the specific revenues and expenses associated with money laundering. The activity in itself is meant to turn illicit profits, also known as dirty money, into clean money so that it can be transferred and used without alerting authorities.²²² In doing so, the money changes hands many times in an effort to disguise previous transactions so that eventually money shows up in a bank account legitimately. Throughout this process, experts are paid to oversee the movement of these illicit finances, and similar to the drug trade, each person involved is paid for their services, either in drugs or cash. Tracking those expenditures in a profession designed to hide and transfer money is nearly impossible.

Based on the revenues from drug trafficking and human smuggling, an initial analysis reveals that of the approximate \$70 billion in revenue, \$30 billion to \$50 billion is lost in the return to Mexico because of the State Department estimate that only \$19 billion to \$39 billion is moved back across the border annually. But this simple math does not take into account several other factors, such as money that takes a roundabout path to Mexico via the Middle East or revenues that are used to pay subcontractors and operations within the U.S. or that are wired directly to South America for additional cocaine purchases, all of which is almost impossible to track. Instead, a sign of successful money laundering is the ability to make the illicit revenues disappear, where all that is left is a legitimate company that buys and sells goods and services in a legal market. Thus, tracking specific revenues and expenses is extremely challenging within the activity of money laundering.²²³

Similar to drug trafficking, however, there is a broader sense of revenues and expenses associated with the activity of money laundering. For instance, DTOs subcontract with currency brokers and financial specialists that can help divvy up large

²²² “Anti-Money Laundering, 2nd Edition,” International Federation of Accountants, 2004, 4; “A Banker’s Guide to Avoiding Problems,” (Washington, DC: Office of the Comptroller of the Currency, 2002), 3.

²²³ Farah, “Money Laundering and Bulk Cash Smuggling,” 8.

chunks of money so that the U.S. cannot track it.²²⁴ They also subcontract with smugglers who physically move bulk cash shipments out of the U.S., which remains the primary means of moving cash back to the specific drug cartel involved.²²⁵ Money launders also rely on the same network of subcontractors used in drug trafficking, such as legitimate businesses used for cover, stash houses, lookouts, and access to vehicles and other equipment.²²⁶

An additional expense of laundering money is the risk associated with confiscation or capture. For example, in 2010, Immigrations and Customs Enforcement seized over \$100 million in bulk cash leaving the U.S.²²⁷ However, that amount is still less than half a percent of the low estimate and a quarter of a percent of the high estimate of the money smuggled across the border annually, hardly a loss to the organizations trying to collect their profits. Subcontractors also face the same high risks as those involved with drug trafficking, such as incarceration from federal anti-money laundering operations or death should they have a run-in with a rival cartel, but these risks do not slow down the sustained operations of returning money to its rightful owner.

The profits associated with money laundering are correlated to the illicit activity that produced the revenues, meaning that the *ins* are simply the return of revenues already made. The activity of money laundering does not bring in additional profits, but simply returns the money from another illicit activities such as drug trafficking. Without a successful money laundering operation, drug cartels would not be able to pay for things like assassinations or pay salaries for over half a million subcontractors in Mexico.²²⁸

²²⁴ Terry Goddard, "How To Fix a Broken Border: Follow the Money," *Immigration Policy Center*, May 2012, 8, <http://www.immigrationpolicy.org/perspectives/how-fix-broken-border-three-part-series>.

²²⁵ Farah, "Money Laundering and Bulk Cash Smuggling," 19; U.S. Library of Congress, Congressional Research Service, *Mexico and the 112th Congress*, by Clare R. Seelke, CRS Report RL32724 (Washington, DC: Office of congressional Information and Publishing, January 29, 2013), 17.

²²⁶ Farah, "Money Laundering and Bulk Cash Smuggling," 9–10; Goddard, "How To Fix a Broken Border: Follow the Money," 10.

²²⁷ "National Bulk Cash Smuggling Center," ICE, accessed February 19, 2013, <http://www.ice.gov/bulk-cash-smuggling-center/>.

²²⁸ Finnegan, "Letter from Mexico: Silver or Lead"; Philip Caputo, "The Fall of Mexico," *Atlantic*, December 2009, http://www.theatlantic.com/magazine/archive/2009/12/the-fall-of-mexico/307760/?single_page=true; Goddard, "How To Fix a Broken Border: Follow the Money," 2.

Even the huge profit margin from cocaine sales on the streets of Chicago, estimated at 5,000 percent when compared to the original purchase in the Andean Region, would no longer exist, and consequently could have a tremendous impact on a cartel's survival.²²⁹ Not all of the money returned to Mexico stays there though. Estimates vary, but between 50% to 80% of drug money is rerouted to purchase more illicit products and support other illicit activities, such as purchasing Cocaine in the Andean region and paying contractors and subcontractors. Additionally, money is also moved to countries that use the U.S. dollar as currency, such as Panama, Ecuador, and El Salvador, because most of the cash is already in dollars.²³⁰ Thus, money laundering is a fundamental activity for Mexican drug cartels if they want to continue to have the means to support future illicit activities, bribe government officials, and fund operations along the border and into the U.S.

C. KEY RESOURCES

Money laundering requires a significant amount of trust and loyalty, similar to drug trafficking, because each shipment south contains the lifeblood of a cartel. If a cartel had a significant problem with subcontractors stealing drugs moving north or money moving south then it could be at risk of losing everything. Therefore DTOs utilize some of the same supply and distribution chains already in place from moving illicit products north. The infrastructure of subcontractors, networks, and equipment described in Chapter III is proven and successful, so smugglers tap into these established supply chains that move drugs north for the majority of bulk cash shipments returning to Mexico.²³¹ However, money laundering does rely on different technologies and innovations to help clean the money so that DTOs can legally access their money.

Some of these key resources are the same machines and technologies that are designed for the formal economy. Since legitimate companies already have a median

²²⁹ Raymond Baker and Eva Joly, "Illicit Money: Can it be Stopped?" in *Deviant Globalization: Black Market Economy in the 21st Century*, ed. Nils Gilman, Jesse Goldhammer, and Steven Weber (New York: The Continuum International Publishing Group, 2011), 237.

²³⁰ Farah, "Money Laundering and Bulk Cash Smuggling," 5–6.

²³¹ *Ibid.*, 7.

from which money can be easily moved, deviant entrepreneurs seek to exploit these technological and institutional advances that have been developed in conjunction with globalization.²³² For example, the Internet provides a simple way to set up wire transfers and ATMs now have access to bank accounts from almost anywhere in the world, both of which can make it easy to deposit money at one site and withdraw it from a different location.²³³ Even prepaid cash cards, which will be discussed in more detail within key processes, can now store monetary values upwards of a million dollars on a small microchip without any government oversight, and thus permit a smuggler to easily move large amounts of stored money across the border in just a wallet.²³⁴

To oversee these operations and ensure dirty money is funneled through the appropriate channels, the DTOs rely on the financial expertise of its subcontractors. These people, sometimes referred to as currency brokers, have the ability to “divide a large sum [of money] into numerous small amounts that are virtually unnoticeable and can be aggregated at the receiving end.”²³⁵ These people are well trained, innovative, and are willing to work in the deviant world. Additionally, they understand the advantage globalization gives them and look towards advances in trade-agreements throughout the world for new opportunities to move illicit goods, and money, through multiple channels so that it is eventually either cleaned or returned to its intended destination.

The rest of the key resources used for money laundering overlap with those involved in the flow of illicit goods north. The expansive networks, along with access to enforcement, are utilized in most illicit activities performed by the cartels. The next section will highlight how the key resources of money laundering are used to deliver money back to the DTOs.

²³² Comments from Nils Gilman from a talk he gave. Nils Gilman, “Deviant Globalization,” The Long Now Foundation, *FORAtv* (n.d.), May 11, 2010, http://fora.tv/2010/05/10/Nils_Gilman_Deviant_Globalization.

²³³ Goddard, “How To Fix a Broken Border: Follow the Money,” 3, 8.

²³⁴ *Ibid.*, 9; *Mexico and the 112th Congress*, 17; Naim, *Illicit*, 23.

²³⁵ Goddard, “How To Fix a Broken Border: Follow the Money,” 8.

D. KEY PROCESSES

The Office of the Comptroller of the Currency (OCC) describes three basic steps that must take place to successfully launder money: “1) Placement—placing, through deposits or other means, unlawful proceeds into the financial system, 2) Layering—separating proceeds of criminal activity from their origin through the use of layers of complex financial transactions, and 3) Integration—using additional transactions to create the appearance of legality through the purchase of assets.”²³⁶ If done successfully, dirty money becomes untraceable and turns into legitimate, clean money, often with documentation representative of legitimate transfers or transactions. However, as federal authorities continue to implement new anti-laundering policies, subcontractors must innovate and adapt to ensure that cash continues to flow south and supports the sponsoring DTO and its activities. To capitalize on the revenues produced from illicit activities flowing north, money is returned to its owners using two primary methods: bulk cash shipments, which involve moving cash from the U.S. back to Mexico; and washing money, which involves taking the cash from illicit sales and cleaning it so it can reenter the financial markets. The following section will shed light on the techniques and innovations that the cartels use to profit from their illicit revenues.

1. Bulk Shipments across the Border

Much of what authorities know about money laundering is from confiscations or arrests, and the techniques utilized by smugglers is only limited to that person’s creativity. For instance, at the Mexican border, agents have found money hidden in “cars, dolls, television sets, and shipments of refrigerated bull semen.”²³⁷ The most successful innovations that subcontractors use are those that have yet to be discovered. However, some techniques, such as moving bulk cash shipments across the Mexican border, have been in place since the early days of money laundering and continue to be the primary method chosen by subcontractors. Once revenues from drug sales are created, cash is taken to stash houses that redistribute the money to counting houses

²³⁶ “A Banker’s Guide to Avoiding Problems,” 3.

²³⁷ Naim, *Illicit*, 149.

around the U.S. These houses are strategically located in major U.S. cities, such as Los Angeles, Chicago, and Atlanta, to provide quick routing of cash once a drug sale is made. Cash is converted to \$50 and \$100 bills to minimize bulk and then vacuum-sealed to make it easier to hide and pack into small compartments. Utilizing some of the same vehicles and secret compartments used to traffic drugs across the border and around the U.S., the cash is hidden in places like the wheel well, behind the airbag, and many other compartments that can hide money without drawing suspicion. The cash is then shipped south, again taking advantage of the supply routes already carved out from the drug trade.²³⁸

Bulk cash shipments are less complex than splitting up money and rerouting it through multiple forms, but they also expose the cartel to more risk of losing a large amount of revenue if intercepted. To alleviate that risk, shipments are divided up amongst several vehicles, with an average vehicle carrying between \$150,000 and \$500,000, and the vehicles and drivers are constantly rotated as to not draw suspicion from authorities. If the lead vehicle approaches a surprise border patrol stop, or has trouble with authorities along the route, the remaining vehicles will either change routes or hold their position. Even if one of the vehicles has its cash confiscated and loses \$500,000, that amount is still less than one hundredth of a percent of the \$19 billion being moved across the border each year, hardly a disruption to any cartel.²³⁹ As the shipment approaches the Mexican border, subcontractors must decide whether to attempt to drive the vehicle through a legitimate entry point or to smuggle the money along the same route used to move illicit goods north.

In the past, cash shipments would be delivered to a final stash house near the Mexican border and be refitted to travel along a *plaza*, either by vehicle or foot. *Mules*, or “individuals paid to carry bills,” would then move the cash through a drug trafficking *plaza* or through a border checkpoint.²⁴⁰ However, DTOs have revised their tactics because law enforcement started tracking packing equipment and money counting

²³⁸ Farah, “Money Laundering and Bulk Cash Smuggling,” 9; Campbell, *Drug War Zone*, 246–247.

²³⁹ Farah, “Money Laundering and Bulk Cash Smuggling,” 9.

²⁴⁰ Naim. *Illicit*, 149.

machines used in preparation for a *mules'* trip south. To avoid the newfound focus of law enforcement, subcontractors adapted to driving vehicles, usually the same vehicles used to smuggle drugs north, through a border checkpoint and into Mexico.²⁴¹ Another method used by subcontractors that demonstrates their ingenuity is to ship the cash via FedEx and DHL, a technique that circumvents Border Patrol operations all together.²⁴²

The network of people paid by the DTO to facilitate the flow of goods from one side of the border to the other play a crucial role in helping smugglers avoid detection. For instance, lookouts, also known as *halcones*, watch the flow of traffic across the main entry points into Mexico, including monitoring specific traffic lanes for the number of searches, amount of time sitting in line, and any other unusual or unpredictable behavior. These *halcones* then communicate back to the drivers in the U.S., along with their counterparts on the Mexican side that facilitate the northern flow of illicit goods, to give smugglers the best chance of successfully driving the money through a border checkpoint and into Mexico.²⁴³ This coordination, in conjunction with difficult to monitor communication techniques, gives smugglers a significant advantage against border patrol. A 2009 NDIC report captured the complexity of this type of network:

Several Mexican DTOs maintain cross border communication centers in Mexico near the U.S.–Mexico border to facilitate coordinated cross-border smuggling operations. These centers are staffed by DTO members who use an array of communication methods, such as Voice over Internet Protocol, satellite technology (broadband satellite instant messaging), encrypted messaging, cell phone technology, two-way radios, scanner devices, and text messaging, to communicate with members. In some cases DTO members use high frequency radios with encryption and rolling codes to communicate during cross-border operations.²⁴⁴

Although this type of bulk smuggling sounds simple, it demonstrates the innovative side to money laundering. As discussed in Chapter III, smugglers and drug cartels adapt to measures put in place to defeat their operations. For instance, DTOs used

²⁴¹ Ibid., 78; Farah, “Money Laundering and Bulk Cash Smuggling,” 9.

²⁴² Naim. *Illicit*, 149.

²⁴³ Farah, “Money Laundering and Bulk Cash Smuggling,” 10.

²⁴⁴ “2009 National Drug Threat Assessment,” 45.

to move money to pre-designated stash houses close to the border and then repack the money for a trip across the border using the same routes that moved the drugs into the U.S.²⁴⁵ However, because authorities focused attention on tracking who bought tools and supplies required for moving money through the desert, money smugglers adapted and moved their operations to within plain sight of Border Patrol Agents and began driving large shipments across the border. These smugglers understood that on average, officials from the U.S. and Mexico only searched ten percent of the vehicles entering Mexico, so they had a better chance of moving cash through a checkpoint than trying to move it across the desert.²⁴⁶ Additionally, driving across the border allowed them to take advantage of all the government agencies focusing on illicit goods entering the U.S. For example, according to the Bureau of Transportation Statistics, in 2011, approximately 5-million trucks, 61-million cars, and 40-million pedestrians by foot crossed the U.S.-Mexico border moving north, meaning that while U.S. and Mexican officials were focused on preventing illicit goods from crossing the border north, money smugglers are able to move south without much concern.²⁴⁷

With advances in technology and the addition of trade agreements, bulk cash shipments can now be made without physically carrying money. As banks try to keep up with globalization and rush to expand services that reach more customers, new technologies have emerged that allow quick transactions to take place between customers that span across many borders. However, these expansions have also made it more challenging for law enforcement agencies to monitor transactions across numerous jurisdictions.²⁴⁸ One such device that has grown in popularity amongst smugglers is a prepaid access card, which is a plastic card, similar to a credit card. Governments, both in the U.S. and Mexico, do not monitor how these cards are used or the amount of money stored on them, meaning that smugglers do not have to worry about getting reported for

²⁴⁵ Farah, "Money Laundering and Bulk Cash Smuggling," 9.

²⁴⁶ *Ibid.*, 10.

²⁴⁷ "Border Crossing/ Entry Data: Time Series Analysis," Research and Innovative Technology Administration, Bureau of Transportation Statistics, accessed February 22, 2013, http://transborder.bts.gov/programs/international/transborder/TBDR_BC/TBDR_BCTSA.html.

²⁴⁸ Naim, *Illicit*, 145.

deposits exceeding \$10,000.²⁴⁹ Even if caught with a prepaid access card, there is no way for law enforcement to differentiate between its value being legitimate or illegitimate, and they lack the authority to “freeze and seize the assets” from the card.²⁵⁰ This type of financial instrument does not even have to be declared at a border checkpoint, thus giving money smugglers the ability to move virtual cash south to Mexico without drawing attention or fear of confiscation.²⁵¹

Numerous types of prepaid access cards are in existence with different levels of complexity. Some cards are considered gift cards that can be found in drug stores and supermarkets, where the user places a dollar amount on a card and then makes purchases until the card is empty. Even if the card is found, the contents cannot be read without the proper scanner or software, plus, the card is not assigned to an individual, but instead anonymous, meaning that it can be passed between users and then accessed once safely within Mexico.²⁵² Other cards have a scanner or computer chip in them and can be reloaded using a computer or ATM, which allows the smuggler to carry an entire bank account across the border inconspicuously. For example, a legitimate company called RushCard combines the services of a traditional bank account with the convenience of a credit by offering consumers a prepaid Visa that is accepted worldwide and can be used to pay bills, transfer money online, and even make withdrawals.²⁵³

Just as bulk cash smugglers look for innovations that allow the movement of money south using vehicles and foot travelers, they also look towards exposing advances in globalization and the technology advances made to bring world markets closer together. As Nils Gilman said, “Capital mobility across national borders improves the efficiency with which the global economy allocates investment,” but it also makes “the laundering of money from other illicit activities for criminal far easier, and much more

²⁴⁹ Goddard, “How To Fix a Broken Border: Follow the Money,” 9; *Mexico and the 112th Congress*, 17.

²⁵⁰ *Mexico and the 112th Congress*, 17.

²⁵¹ Goddard, “How To Fix a Broken Border: Follow the Money,” 9.

²⁵² *Ibid.*, 9.

²⁵³ “Prepaid Cards: Credit, Debit, Prepaid,” RushCard, assessed March 18, 2013, <http://www.rushcard.com>.

challenging for political authorities to address.”²⁵⁴ Thus, stored access cards are yet another example of the innovative techniques used by smugglers to circumvent the barriers erected by law enforcement. Additionally, numerous contractors are involved in the activity of returning bulk cash shipments to the cartels, and just as in drug trafficking, these cells operate independent of each other to provide the cartel with a level of resilience and security. However, not all money is returned in bulk, and as the next section will outline, some of it must be cleaned so that it can return to the legitimate economy.

2. Cleaning Money

Moving cash from the U.S. back to Mexico helps return profits to the drug cartels, but drug trafficking revenues must also be cleaned so that it can re-enter the legal financial markets. This is especially true in light of more stringent policies put in place by the Mexican government that forbid large payments using cash for real estate exceeding 500,000 pesos (\$38,750) and other items such as cars and boats exceeding 200,000 pesos (\$15,500). DTOs must do more than return bulk cash to their stash houses in Mexico if they want to use that money to continue operations.²⁵⁵ Additionally, once money reenters the legitimate market, it can be used to support key resources in the U.S. and Mexico such as operating a legitimate business used to disguise illicit activities or purchasing and operating stash houses and vehicles. The methods used to clean money vary, but they again shed light on the ingenuity and innovativeness that encapsulates Mexican DTOs.

One fairly common technique involves purchasing big box items in the U.S. and then reselling those items in Mexico. For instance, a subcontractor who sells appliances or cars would use the revenues from drug sales to buy refrigerators, TVs, and sometimes even used cars, and then transport those items back to a retail store in Mexico. Once in Mexico, those items would be sold through a legitimate business, and the pesos generated

²⁵⁴ Gilman, *Deviant Globalization*, 12.

²⁵⁵ Arya Andersen, “Looking at Mexico’s New Anti-Money Laundering Legislation,” *Financial Integrity & Economic Development Task Force*, last modified October 16, 2012, <http://www.financialtaskforce.org/2012/10/16/looking-at-mexicos-new-anti-money-laundering-legislation/>.

from the sale could then be used legitimately. This practice allows the money to be cleaned by simply changing forms, in this case its changed to an appliance, and then resold to either the Mexican population or to yet another business who sells the goods through a store. Once the money is cleaned, it can be accessed by the drug cartel.²⁵⁶

Another method combines bulk cash shipments with money cleaning to add more layers of security and complexity to the money laundering process. Known as the Black Market Peso Exchange (BMPE), the revenues from drug sales are entrusted to a currency broker who uses a favorable exchange rate to make a legitimate profit that can be returned to the drug cartels.²⁵⁷ The Department of the Treasury defines the BMPE as “a large-scale money laundering system used to launder proceeds of narcotic sales in the United States by Latin American drug cartels by facilitating swaps of dollars in the U.S. for pesos in Colombia through the sale of dollars to Latin American businessmen seeking to buy U.S. goods to export.”²⁵⁸ This complex method was originally implemented by Colombian drug cartels, but today is utilized by Mexican DTOs seeking ways to clean dirty money.²⁵⁹ In the example outlined in Figure 6, bulk cash from illicit sales is shipped back to Mexico and exchanged for pesos at a discounted rate. The peso exchange company then uses the surplus of dollars to buy products, such as perfume or electronics, in the U.S., and then ships those products to purchasers in Mexico. Once those products are then sold in Mexico, the revenues are turned over to the sponsoring drug cartel, but now their cash is clean and has the proper transactions to support its reentry into the formal economy.²⁶⁰ As recent as February 2013, the Department of Justice reported prosecuting a launderer who moved over \$20 million from drug sales

²⁵⁶ Glenny, *McMafia*, 250; Naim. *Illicit*, 78; “2012 Houston High Intensity Drug Trafficking Area Threat Assessment,” Office of the National Drug Control Policy, Houston Intelligence Support Center (June 2012), 16.

²⁵⁷ Naim. *Illicit*, 78.

²⁵⁸ “Guidance to Financial Institutions on the Repatriation of Currency Smuggled into Mexico from the United States,” Department of the Treasury, Financial Crimes Enforcement Network, last modified April 28, 2006, http://www.fincen.gov/statutes_regs/guidance/html/advis04282006.html.

²⁵⁹ Julian Agullar, “In Laredo, Was a Criminal Enterprise Bathed in Sweet Perfume,” *Texas Tribune*, November 13, 2011, <http://www.texastribune.org/library/multimedia/black-market-peso-exchange-money-launderer/#story>.

²⁶⁰ Agullar, “In Laredo, Was a Criminal Enterprise Bathed in Sweet Perfume.”

back to Mexico using the BMPE.²⁶¹ Additionally, this method gained notoriety when HSBC Bank, an international bank headquartered in London, facilitated the laundering of almost \$900 million of drug revenues through the U.S. financial system back to the Sinaloa Cartel in Mexico and the Norte del Valle Cartel in Colombia, of which a significant portion involved BMPE.²⁶²

²⁶¹ “Five Convicted in Relation to \$20-plus Million ‘Black Market Peso Exchange’ Scheme,” *Cypress Creek Mirror*, February 13, 2013, <http://www.yourhoustonnews.com>.

²⁶² “HSBC Holdings Plc. and HSBC Bank USA N.A. Admit to Anti-Money Laundering and Sanctions Violations, Forfeit \$1.256 Billion in Deferred Prosecution Agreement: Bank Agrees to Enhanced Compliance Obligations, Oversight by Monitor in Connection with Five-year Agreement,” Department of Justice, Office of Public Affairs, December 11, 2012, <http://www.justice.gov/opa/pr/2012/December/12-crm-1478.html>.

THE BLACK MARKET PESO EXCHANGE

FOLLOW THE MONEY

TRANSACTION NO. 1

After the drugs are sold in the U.S., the traffickers smuggle the American cash across the Mexican border to exchange it for pesos. The peso-exchange business makes money by buying the American cash at a reduced exchange rate. The profits are now in a domestic currency the traffickers can use and they avoid the risk of scrutiny from law enforcement.



TRANSACTION NO. 2

The peso-exchange business takes the American cash back the U.S. to buy wholesale products such as perfume and electronics. The wholesale retailer profits from the big sale and, likely, by failing to pay taxes on the bulk cash revenue.

Wholesale Product Supplier



TRANSACTION NO. 3

The wholesale products are shipped to the drug supplier's country of origin and the peso-exchange business earns a cut for arranging the purchase and shipment of the goods. And the drug lord successfully reaps the profits of the drug sales by selling the wholesale goods locally for domestic currency.



Drug Lord



Figure 6. Black Market Peso Exchange.²⁶³

²⁶³ Becca Aaronson and Ben Hasson, "The Black Market Peso Exchange," *Texas Tribune*, November 13, 2011, <http://www.texastribune.org/library/multimedia/black-market-peso-exchange-money-launderer/#graphic>.

Other ways to clean money involve multiple, complex transactions conducted by a currency broker. These specialists will divide up the money into small amounts and then deposit the funds into hundreds of bank accounts throughout the world.²⁶⁴ The money is then shifted around between accounts, making it nearly impossible to track, until it ends up back in the Cartel's bank account without setting off any red flags. In one example a broker moved \$36 million of cocaine sales back to Mexico by spreading the money amongst 68 bank accounts in nine different countries. The money can then be returned to use in the financial markets without being questioned as dirty money.²⁶⁵

An even bolder method used by launders is for them to own and operate their own bank, thus giving them access to countless accounts to funnel money back to Mexico. For instance, countries such as Russia or Nigeria make it relatively simple to buy a bank. Or, on the Pacific Island country of Nauru, for about \$25,000, an organization can establish its own bank.²⁶⁶ These banks help clean money by bypassing the reporting measures that the U.S. and Mexico have in place, and thus allow the money to be moved through different bank accounts without regulation. However, when oversight does exist, money launderers will operate under the guise of a legitimate business.

Drug cartel money managers also clean money through legitimate businesses throughout the world, such as gambling and online video games.²⁶⁷ With access to the Internet and the ease of transferring funds, these companies allow dirty money to be gambled away, while on the opposite end the money is reported as profit for the casino. Or, if using a virtual role-playing video game, such as Farmville, real currency can be used to purchase game-based currency, again allowing a company to record profits from the dirty money that now appears legitimate.²⁶⁸ In both cases, the cartel subcontracts with the legitimate business so that the actors on both sides of the transactions are being supported by a DTO. These types of transactions blur the line between licit and illicit

²⁶⁴ Goddard, "How To Fix a Broken Border: Follow the Money," 8.

²⁶⁵ Naim. *Illicit*, 144.

²⁶⁶ *Ibid.*, 146.

²⁶⁷ *Ibid.*, 147; *Mexico and the 112th Congress*, 17.

²⁶⁸ *Mexico and the 112th Congress*, 17–18.

transactions, and thus make it relatively simple for money to be quickly cleaned and returned to a cartel as profit.²⁶⁹ Launderers are even well versed in the rules and regulations in different countries and use that knowledge to their advantage. For example, in the Caribbean, trust account owners can remain anonymous, thus giving cartels access to an account where a simple deposit cleans money for future use.²⁷⁰ However, even though these fronts serve as a method for cleaning the money, the funds must still be transferred.

3. Money Transfer

Money transfer has been around for a considerable amount of time. The origins of Western Union's money transfer business date back to the 1870s, and in 2006 alone it handled 147 million consumer-to-consumer transactions.²⁷¹ Through all of these legitimate transactions, money launderers are merely "tiny needles in a huge haystack," which gives them a significant advantage of blending in as long as they avoid schemes that draw attention.²⁷² When money is sent out of the U.S., as long as the amount is under \$1,000, then the transfer company only requires the sender's name. This lax regulation means that a state or federally issued identification is not needed, nor does the sender have to give an address or phone number. Additionally, the company only needs the name of the recipient, and if the transfer is leaving the U.S., the wire company has no interest in the background or qualifications of the receiver.²⁷³ So, even if the contractor receiving the payment in Mexico has a criminal record or a history of working for the drug cartels, the money transfer company would never know.

To successfully transfer money, currency brokers and money managers structure the payments, meaning that they divide up the illicit revenues into small amounts and make separate transactions to a receiving agent. The small payments, less than \$1,000,

²⁶⁹ Naim, *Illicit*, 148.

²⁷⁰ *Ibid.*, 147.

²⁷¹ "Our Rich History," Western Union, accessed February 26, 2013, <http://corporate.westernunion.com/History.html>.

²⁷² Goddard, "How To Fix a Broken Border: Follow the Money," 7.

²⁷³ *Ibid.*, 6-7.

allow launderers to use fictitious names on both ends of the transaction while avoiding the \$10,000 reporting requirement.²⁷⁴ Additionally, launderers have learned from previous anti-money laundering operations that if they make numerous small transfers between the same locations over and over again, their actions will draw attention from Federal Agents. To evade authorities, they will even transfer money to different locations within the U.S. before finally wiring it out of the country. A final area of weakness that the money launderers have tapped into is the organization of the wire-transfer companies themselves. Most wire-transfer companies subcontract with local store employees, meaning that the clerk that handles the transfer actually works for the convenience store or grocery store that host the wire-transfer companies. Additionally, these stores will sometimes host numerous wire-transfer companies, which gives a launderer the ability to send multiple, small transfers of different amounts that are split between different wire-transfer companies.²⁷⁵ This level of structuring makes the money nearly impossible to track and gives an appearance of being legitimate from the receiving end. Although tedious and time consuming, it allows a money launderer to clean dirty money in small amounts spread over numerous transactions and accounts. It also allows the launderer to wire money legally to a legitimate business outside the U.S., adding yet another layer of security to the money washing process.

E. CONCLUSION

This Chapter encompassed different key processes that enable subcontractors to return illicit profits to the drug cartels. These DTOs already have the framework in place that enables the movement of illicit goods both north and south. So, as highlighted in their key processes, the DTOs look towards innovators that can challenge existing barriers put in place by law enforcement. Once a new process is created, it is continually used until new barriers or policies are put in place, and then once again subcontractors adapt and innovate in order to succeed. Using two primary methods to return money to the cartels, bulk cash smuggling and money washing, cartels rely on some of the same

²⁷⁴ Ibid., 7.

²⁷⁵ Ibid., 7.

key resources and processes utilized in their drug trafficking activities. By tapping into this network, cartels are able to effectively return the profits from illicit sales so they can continue supporting future operations. The reward of doing so is significant, in that the cartel capitalizes on its lucrative drug trafficking or human smuggling activities, but the risk of failure is still extremely high. Not only do contractors face the threat of death or incarceration, a cartel risks losing its lifeblood, money, if it cannot capture value from its illicit activities. The severity of this threat will continue to drive innovation.

Going back at the example used in the beginning of this Chapter, a teacher with a suitcase full of \$200,000 in cash, money laundering solves the problem of being able to use that cash in the legitimate economy. Without successful laundering techniques, that teacher would be stuck with cash and have a difficult time using it to make large purchases. Within the deviant economy, money laundering is a fundamental activity that becomes the single point of failure for conducting illicit business activities, especially as new regulations make it even more challenging for people to use cash to make expensive purchases. Cash earned in the deviant world must be cleaned and returned to the formal economy for the deviant entrepreneur to actually see his or her profits. For the drug cartels, money laundering is a vital business activity that completes the transactions from other illicit activities, such as drug trafficking, by returning usable cash to the DTOs. If policies and law enforcement are able to stop money laundering, then the cash flow that feeds the drug cartels will stop, and thus lead to less powerful cartels. However, as shown in these past two chapters, the cartels continue to innovate and adapt, so even with the most successful anti-laundering techniques in the works, the DTOs will merely come up with new ways to side step authorities and continue to feed their powerful business.

V. CONCLUSION

The Mexican DTOs remain a significant threat to the United States by continuing to feed its deviant markets with goods and services that very few organizations can offer. Even with measures in place to disrupt their illicit activities, such as new policies by the American and Mexican governments that require large cash purchases or money transfers to be reported, sophisticated border fences designed to notify authorities of movement across desolate areas of the border, or law enforcement operations with the sole intent of seeking out and eliminating stash houses, Mexican drug cartels and their operators continue to succeed by capturing value in various illicit markets and returning those funds back to Mexico.

Numerous studies have been conducted on the Mexican DTOs in the context of drug trafficking, weapons trafficking, and human smuggling. Additionally, vast amounts of business model literature exist that cover strategy and business model ideas that give a company the tools it needs to create and capture value.²⁷⁶ However, there is a gap when it comes to applying a business analysis to the drug cartels. Some literature does approach the topic of the drug cartels behaving as a legitimate business in the context of their managerial positions, including having their own accountants, money managers, lawyers, and purchasing agents, but beyond simply pointing out those similarities, little research has been done on how they run their business, including strategies and business practices.²⁷⁷ Thus, this thesis filled the void that exists in that area of research, and hopes to establish a greater interest in how these cartels operate their multinational companies so successfully.

Before a business and strategy analysis can be applied to the drug cartels, this thesis first established what would be analyzed within the drug cartel business. These cartels operate numerous business activities that combine to make the drug cartels the business that they are today. Each activity serves a purpose, from producing revenues to

²⁷⁶ Zott, "The Business Model: Recent Developments and Future Research," 1–3.

²⁷⁷ Campbell, *Drug War Zone*, 18.

supporting the activities that bring in that revenue. More specifically, some of the revenue producing activities includes drug trafficking, human smuggling, and extortion, and some of the supporting activities include enforcement, bribery, and coercion. Additionally, at the core of all illicit revenues is the activity of money laundering so that cash can be returned to the cartels in a usable form. If studied collectively, these activities might seem to go in multiple directions, sometimes with overlap, but often times without rhyme or reason as to why a specific activity is performed. However, when analyzed individually, a clearer picture emerges of how the cartels utilize different activities for different facets of their operation that all fit into an overall system; each with a specific task that ties into the bigger picture of capturing value from the dark economy.

With the significant profits that exist in the drug trade, along with the academic literature written on different aspects of that trade, this thesis analyzed drug trafficking as an example of an illicit activity that produced revenues and encompassed a majority of supporting activities. To compliment this business activity, this thesis also analyzed money laundering because of its vital role in returning illicit profits to the drug cartels and the formal economy. By isolating and then applying a framework of analysis to these two core activities, the effective business practices of the Mexican DTOs began to surface.

The framework for analysis applied in this thesis revolved around a study of business models. These models relate to how a business activity creates, delivers, and captures value. At the heart of any business model is providing a product or service that solves customers' problems and prevents them from either purchasing the product from someone else or completing the task themselves. Typically there is a reason customers are looking for a solution in the first place, and that is the inability to solve the problem on their own because of insufficient wealth, access, skills, or time. Next, a business model provides an overview of the revenues and expenses of operating a business activity, which includes the cash flow from supporting activities as well. Finally, a business model highlights what assets are required to deliver the value to the customer and how those assets are used. These four parts combine to form the analytical

framework of this thesis from which the Mexican DTOs were studied in the context of their two core business activities, drug trafficking and money laundering.

This thesis produced two hypotheses in Chapter I when answering the research question of what are the effective business practices of the Mexican DTOs:

(1) Mexican DTOs must rely on innovative problem solving if they want to overcome policies in place designed to disrupt their activities. If they fail to innovate and adapt, they will quickly find themselves up against the barriers set forth by law enforcement, which eventually lead to extinction. Additionally, these innovations add value by providing more efficient ways to move illicit products across a controlled border or territory, and thus lead to even higher profit margins. However, innovation does not necessarily mean that drug cartels are only relying on new technology and equipment, which although is an important aspect, they are also continuously solving a supply chain problem by moving illicit goods north and south through an ever changing barrier of government policies and law enforcement.²⁷⁸

(2) Mexican DTOs must demonstrate high-level degrees of organizational resilience if they want to survive in the deviant world and operate a highly profitable business. To achieve this level of resiliency, DTOs have an organizational structure that protects the core of the cartel while multiple contractors and subcontractors accept the personal risk associated with its illicit activities. These multiple cells often conduct simultaneous operations with very little knowledge about other contractors or the operation itself, which helps limit exposure should law enforcement or rival cartels apprehend some of the contractors. This organizational strategy also helps the DTOs keep their hands in multiple business activities and thus limit financial risk through minimal exposure. These activities are capable of expanding and contracting based on the opportunities and constraints of the market, so they can maximize their profits while others assume the personal risk.²⁷⁹

Through an application of the framework for analysis to the business activities of drug trafficking and money laundering, a couple of overlapping strategies and business practices began to emerge.

First, on a fundamental level, drug cartels must control the supply chain routes through Mexico and across the border. Without control of these routes, a cartel would

²⁷⁸ Nieto-Gomez, "The Geopolitics of Clandestine Innovation in the Drug Business," 153.

²⁷⁹ Michael Kenney, "The Architecture of Drug Trafficking," 235–237.

lack the ability to control the flow of illicit goods, to include taxing other organizations or smuggling their own products across the border, and thus be cut out of the value addition that these illicit products receive when they cross the border. Additionally, if they did have access to drugs such as cocaine, they would be at the mercy of another cartel to use its territory, and thus would become a subcontractor of that cartel rather than running its own enterprise. Finally, Mexican DTOs are showing evidence of expanding their control over the entire supply chain. As presented in Chapter III, value is added to cocaine along its route as it moves from the Andes to the streets of the U.S., and each time value is added, someone is taking a cut of that revenue. However, if a cartel can keep its hand in that process throughout the entire shipment, then it reaps a bigger reward and is not limited to just the revenues that come with moving that product through its territory and across the border. So, if a cartel gets cut out of part or all of that supply-chain, it stands to lose out on a lot of potential profits, and might even find itself extinct. In addition to the value addition being so important to earning revenues, control of the supply chain routes also helps the cartel return cash to Mexico. Although numerous methods exist that help move money from the dark economy back to the formal economy, a number of those methods involve getting the cash out of the U.S. Finally, the cartels have greater control of their cash stockpiles hidden in stash houses in Mexico rather than the U.S. This gives them the ability to use that cash to support other illicit activities, such as bribery, so controlling supply chain routes is a significant part of capturing value that involves Mexican DTO illicit business activities.

Even with control of supply chain routes, Mexican DTOs undergo constant battles with law enforcement and rival cartels. From a law enforcement and policy standpoint, governments are continuously refining processes designed to dismantle and disrupt the cartels and their supply chain routes. To overcome these obstacles, the cartels turn to innovation in both their actions and their organization. This arms race between Mexican DTOs and law enforcement continues to push each side to develop new strategies and

policies that overcome the other.²⁸⁰ However, at the end of the day, neither side ends up improving their advantage vis-à-vis each other.²⁸¹ For example, a drug cartel and its contractors approach the government created obstacles as problems that must be solved. Hence, once a new barrier is created, smugglers adapt and figure out a new way to move a product from one side of the border to the other without being caught. Additionally, the reward for solving this type of supply-chain problem can bring a smuggler a year's salary in just one trip.²⁸² This lucrative business also entices entrepreneurs to enter the illicit market and offer the cartels a new way to move drugs or cash across the border, such as a submersible, that is capable of bypassing all law enforcement barriers. Thus, with such huge financial incentives, the drug trade has expanded beyond uneducated, poorly trained smugglers, and now includes intelligent, innovative, and sometimes well-educated entrepreneurs who are searching for their next big opportunity.

These smugglers and entrepreneurs are not actual Mexican DTO members though; they work as contractors and subcontractors. This type of organization is innovative in its own right because of its reflection of an adaptation to the violent and risky world of which these business activities take place. As highlighted in the previous paragraph, the reward for successfully delivering an illicit product to the customer is lucrative and can include profit margins that exceed four digits. However, on the opposite side of the spectrum, if a business activity fails, its members could face torture

²⁸⁰ An arms race takes place when competing organizations, such as Mexican DTOs and law enforcement, each take individual actions to gain an advantage over the other. As soon as one competitor perceives a threat from the other, then it will react by making changes to how it conducts its activities, and hence the continuous cycle goes on. In the context of the Mexican DTOs, they constantly react to the barriers implemented by law enforcement, and vice versa. This definition is derived from Lewis F. Richardson, *Arms and Insecurity: A Mathematical Study of the Causes and Origins of War*, ed. Nicolas Rashevsky and Ernesto Trucco (Pittsburgh: The Boxwood Press, 1960), 13, 22–28, and Martin C. McGuire, *Secrecy and the Arms Race: A Theory of the Accumulation of Strategic Weapons and How Secrecy Affects It* (Cambridge: Harvard University Press, 1965), 7.

²⁸¹ This theory is known as the Red Queen effect. Originally developed by Leigh Van Valen and based off of Lewis Carroll's book *Through the Looking Glass* in which the main character, Alice, had to run faster and faster just to stay in the same place. In the context of the Mexican DTOs, as the cartels and law enforcement engage in an arms race, each side must keep increasing efforts in reaction to the other. However, even though more and more effort and resources are expended, neither side ends up gaining an advantage, and thus finds themselves in the same position vis-à-vis each other. This definition is derived from Leigh Van Valen, "A New Evolutionary Law," *Evolutionary Theory* 1 (1973): 25, and Azar Gat, "So Why Do People Fight? Evolutionary Theory and the Causes of War," *European Journal of International Relations* 14, no. 4 (2009): 583. <http://ejt.sagepub.com/content/15/4/571>.

²⁸² Naim, *Illicit*, 66.

and death or incarceration. These consequences far exceed the risks seen within legitimate companies, in which on the extreme end failure means bankruptcy or unemployment, but not death. Thus, cartels have adopted an organizational structure in response to this type of extreme risk so that the people who are assuming the greatest personal risk are not actually DTO members at all, but instead are contractors.

This type of organizational structure complements the innovativeness that characterizes successful cartels because when the risk of failure has such harsh consequences, those people who assume the personal risk will do everything in their power to innovate and overcome whatever threat stands in their way. Mexican drug cartels operate by paying numerous contractors to conduct simultaneous business activities as a way to limit exposure to the DTO when moving illicit products. Additionally, they compartmentalize the information cartels give to various contractors, so that even if some of the contractors are captured, they have very little knowledge about the operation, thus making it challenging for law enforcement or a rival cartel to disrupt future operations.

A reflection of this type of organizational structure and innovativeness can be seen in how Apple operates its App Store. Apple has an already established infrastructure in place because of its other business activities and wants to use that foundation to offer consumers the ability to download Apps that are designed to make day-to-day activities easier. In order to meet the demands of its customers while still maintaining its innovative edge, it encourages third party App designers, or contractors, to develop new Apps and sell them on its App Store. To entice these developers, it offers access to its infrastructure for free, with just a 30 percent charge on revenues from App downloads. Thus, with a customer base of over 500-million people, if an App is successful, it has the potential to make millions of dollars in revenue, from which both the developer and Apple profit. However, if an App fails, Apple does not stand to lose anything but the developer loses all the time and money invested in the project. So, tying the App Store into the Mexican DTOs, these cartels have an infrastructure in place; they control the routes, they have the supporting activities such as enforcement and bribery that limit disruptions along their supply chains, but they need smugglers, innovators,

entrepreneurs, and money launderers to assume the personal risk associated with their revenue producing business activities.

Both Apple and the DTOs provide a platform that organizes and encourages the innovative work of others. This is known as a two-sided network in that it provides an infrastructure that brings two groups together; one side is subsidized so that it attracts enough users while the other side, which values the number of subsidized users, is willing to pay top dollar to reach those users.²⁸³ For example, the drug cartels subsidize contractors to smuggle and transport drugs into and throughout the U.S. The subsidies include significant financial gain, especially when contractors earn the trust and confidence to be able to move large shipments of drugs without being caught. On the other side of the network, drug distributors and drug users in the U.S. are willing to pay top dollar to access those drugs. The DTOs simply provide the platform that brings these two groups together. Within that platform, cartels spur innovation by offering performance-based subsidies, in the form of money and drugs, to the contractors. The harsh personal risk that those contractors face, coupled with the increase in pay that comes with proven success, helps push those contractors toward new ways to overcome law enforcement barriers.

So, to answer the question of what are the effective business practices of the Mexican DTOs: this thesis extracted three strategies that are common among their business activities. The first one, control of supply chain routes, was not part of the original hypothesis, but is crucial to both business activities analyzed in this thesis. The second and third business practices come from the hypothesis associated with innovativeness and organization. And, evidenced through the analysis of drug trafficking and money laundering, these two business practices allow a cartel to overcome barriers and maintain a level of organizational resilience, both of which are an important part of operating in the deviant world.

²⁸³ Eisenmann, “Strategies for Two-Sided Markets,” 93–96.

A. FUTURE RESEARCH

When conducting an analysis on the price data of cocaine within the United States, some enlightening information began to emerge. Within the deviant world, it is no surprise that cocaine increases in value as it passes through high-risk areas, such as crossing the border. Additionally, once smugglers successfully move cocaine to the U.S., generally the price should increase relative to the distance traveled from the border because of the added time and resources to move the product within the supply chain. For instance, similar to shipping a package via UPS or FedEx, as cocaine moves from San Diego to New York City, more people might have a hand in the supply chain and thus the product becomes more expensive. However, two interesting aspects came to light when I began to plot the wholesale price of a kilo of cocaine in different U.S. cities, which can be seen in Figure 7 as a replication of the map from Chapter III, something that to our knowledge has yet to be portrayed in academic or government publications.

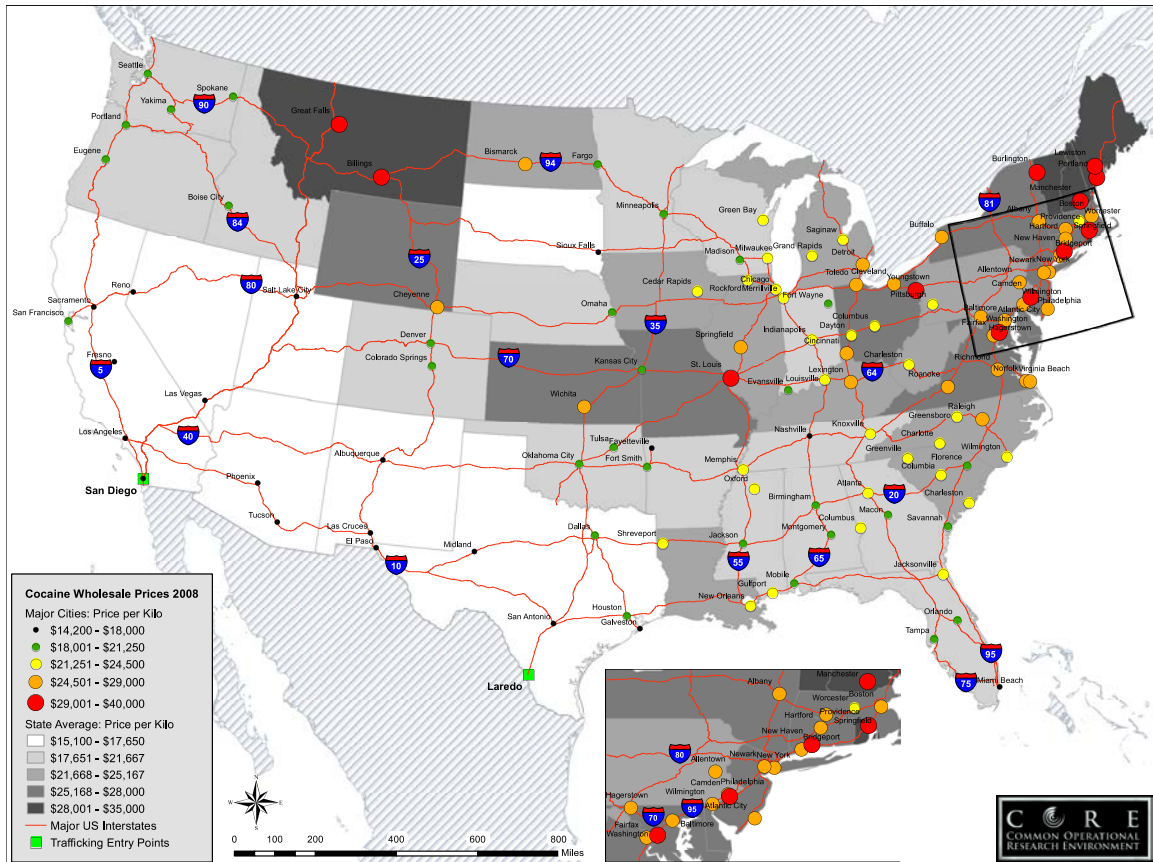


Figure 7. Cocaine Wholesale Prices.²⁸⁴

First, there is about a 100 percent price increase between the wholesale price of cocaine along the southwest border and its wholesale price in the northeast. Beyond a couple anomalies in Montana and St. Louis, the highest value of cocaine is found in the northeast. As a way to analyze this price information in a different context, I conducted a regression analysis by examining the correlation between the wholesale prices of cocaine versus the distance traveled from points of entry. The 2011 National Drug Threat Assessment lists the main entry points for Cocaine as Southern California and South Texas, as seen in Figure 8.²⁸⁵

²⁸⁴ Graphic designed by Daniel LeRoy and Robert Kurrle, Jr. using data from the National Drug Intelligence Center, “National Illicit Drug Prices,” December 2008.

²⁸⁵ “2011 National Drug Threat Assessment,” 19.



Figure 8. Cocaine Transportation Routes.²⁸⁶

So using the main entry points of San Diego and Laredo, along with Google Maps as a method to estimate distances, I calculated a linear regression using the state averages from Figure 7:

²⁸⁶ “Internal Cocaine Movement, FY2008-FY2010,” in “2011 National Drug Threat Assessment,” 19.

Wholesale Price of Cocaine vs. Distance from Border

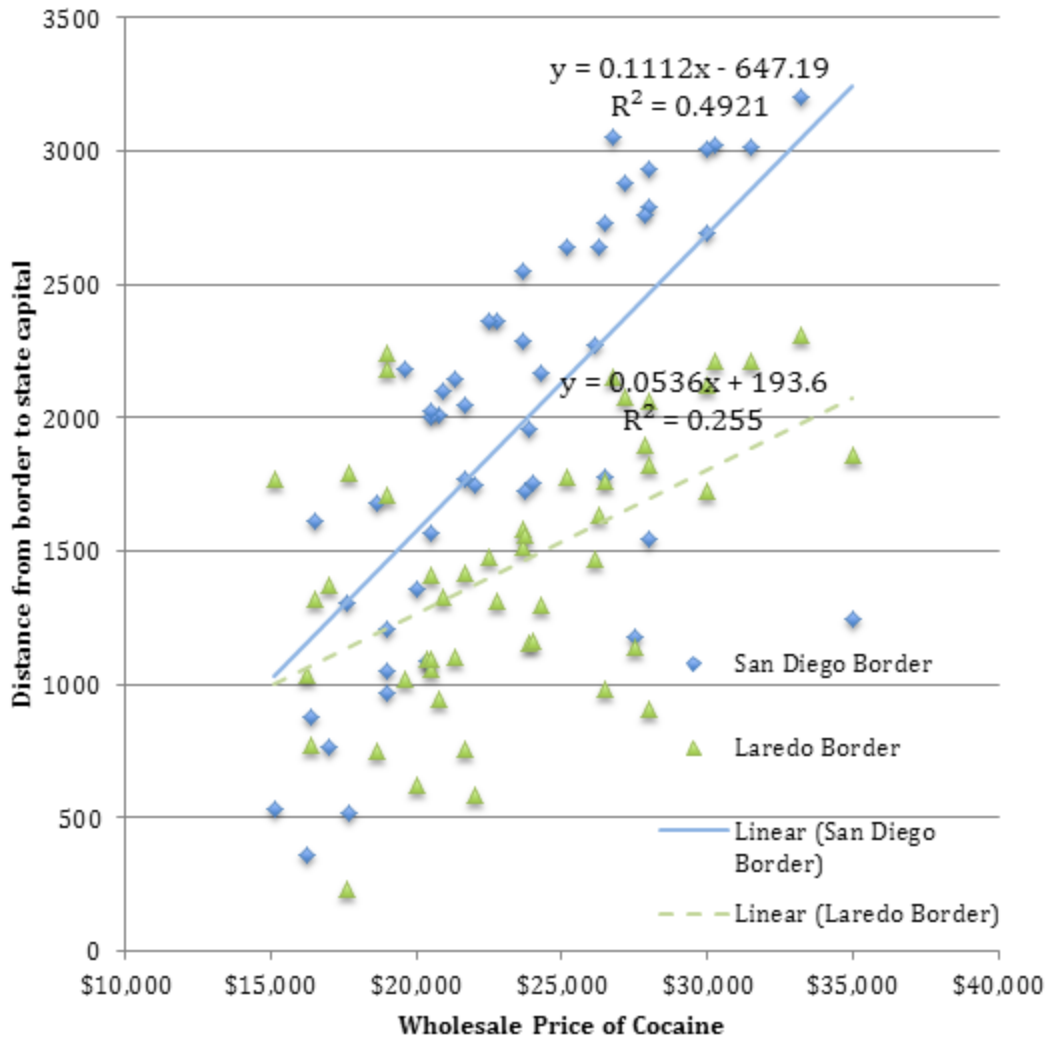


Figure 9. Wholesale Price of Cocaine versus Distance from Border.²⁸⁷

The R-squared value, or correlation between price and distance, for cocaine that enters through Southern California is 0.49213. This means that the price of cocaine and the distance traveled from the border are highly correlated, hence as distance increases

²⁸⁷ Data derived from 2008 “National Illicit Drug Prices.”

from the border, so does the price. Next, I conducted a more thorough regression analysis that just focused on the San Diego border, which produced Table 1:

SUMMARY OUTPUT: SAN DIEGO BORDER

<i>Regression Statistics</i>					
Multiple R	0.701522588				
R Square	0.492133941				
Adjusted R Square	0.481328281				
Standard Error	3430.507928				
Observations	49				

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	535980317.4	535980317.4	45.54408559	1.96752E-08
Residual	47	553114078.1	11768384.64		
Total	48	1089094396			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>
Intercept	14722.47852	1369.231436	10.75236672	2.92582E-14	11967.94022
San Diego Border	4.424348831	0.65559158	6.748635832	0.00000	3.10546871

	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	17477.01683	11967.94022	17477.01683
San Diego Border	5.743228952	3.10546871	5.743228952

Table 1. Regression Analysis for the San Diego Border.²⁸⁸

An adjusted R-squared value, which compensates for added variables, is 0.48133 and therefore still indicates a high correlation between distance and price. Significant to this output are the coefficients of 4.42, which is the price multiplier, based on the distance from the border, and 14722.48, which is the base price at the San Diego border based on all of the inputs. So using these two coefficients, an equation can be derived, base price + price multiplier x distance traveled, that predicts the price of cocaine anywhere in the U.S. For example, the predicted price of cocaine in New York would be \$14722.48 + (\$4.42/mile) x (2,883 miles), which equals \$27,478, only a \$311 difference from the state average. Using the same formula for Iowa predicts a price that is only \$4 different than the actual state average. There are some anomalies in price that do not correlate to distance that can be pointed out on figure 7, such as Montana, Kansas, Wyoming, South Dakota, and Florida, of which the equation will not work. However, this tool can give

²⁸⁸ Data derived from 2008 “National Illicit Drug Prices.”

law enforcement the ability to predict drug prices throughout the U.S. and monitor local price changes relative to other areas.

For the cocaine entering through South Texas, the correlation is less, with a R-squared value of 0.255. However, from South Texas, cocaine that is distributed to the Midwest and West coast markets may also be supplied through San Diego and thus would throw off the distance correlation. However, assuming some cocaine does cross the border in El Paso, if a regression analysis is conducted using San Diego, Laredo, and El Paso, an even greater correlation exists between distance and price; the adjusted R-squared value is 0.548. Thus, statistically, the distance cocaine travels to reach its various markets in the U.S. explains 54.8% of its price increase. However, that means other factors exist that drive up the wholesale price of cocaine as it moves from its initial safe house to its final market, which must explain the other 45.2%.

SUMMARY OUTPUT: SAN DIEGO, EL PASO, AND LAREDO BORDER

<i>Regression Statistics</i>					
Multiple R		0.75934828			
R Square		0.57660981			
Adjusted R Square		0.548383797			
Standard Error		3201.082744			
Observations		49			

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	627982512.6	209327504.2	20.4283126	1.67658E-08
Residual	45	461111882.9	10246930.73		
Total	48	1089094396			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>
Intercept	9484.110801	2247.473754	4.219898356	0.000116877	4957.466362
San Diego Border	8.356328153	2.373080939	3.521299259	0.000996914	3.576697861
El Paso Border	-10.13962158	5.002178491	-2.027041138	0.048607078	-20.21452608
Laredo Border	8.63772128	3.311335467	2.608531019	0.01229787	1.968349391

	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	14010.75524	4957.466362	14010.75524
San Diego Border	13.13595845	3.576697861	13.13595845
El Paso Border	-0.064717077	-20.21452608	-0.064717077
Laredo Border	15.30709317	1.968349391	15.30709317

Table 2. Regression Analysis for the San Diego, El Paso, and Laredo Borders.²⁸⁹

²⁸⁹ Data derived from 2008 “National Illicit Drug Prices.”

The second aspect of cocaine prices in the U.S. is the graphical depiction of a second, imaginary border. A closer look at Figure 7 using both city prices and state averages, reveals a jump in price once cocaine is moved beyond the southwestern states. On Figure 7, the states are shaded to indicate higher wholesale price of cocaine. Additionally, cities with larger markers indicate higher cocaine prices. Figure 7 indicates that once cocaine is moved beyond about 600 miles to 1,000 miles from its entry point, except for San Francisco and Houston, the price increases dramatically. If an imaginary border does exist within the U.S., the causal factors could be numerous and would help explain the other 42.5% that distance cannot.

Similar to the economics of value addition being the greatest along the route with the highest risk, Figure 7 depicts an area of high risk; moving drugs out of the southwest. It also depicts the lucrative reward for successfully shipping drugs to different parts of the U.S., especially to the northeast. The southwest band of lower prices could be an indication of successful U.S. law enforcement anti-drug trafficking campaigns. Or, it could be a reflection of policies within the U.S. working, and thus making it more challenging for traffickers to move drugs outside of the southwest. Regardless of the reason for the price jump, the graphical depiction portrays another lucrative opportunity to entice DTOs to increase involvement in U.S. markets.

To test the hypothesis of the imaginary border, I conducted another regression analysis using dummy variables (Table 3). States within the imaginary border, or the Southwest U.S., were given a value of “0” for their distance. These states were Arizona, California, Colorado, Nevada, New Mexico, Texas, and Utah. All other states that were beyond the imaginary border were given a value of “1.” However, the results of this statistical analysis produced a P-value of 0.139, meaning that this hypothesis is not statistically significant. For this hypothesis to prove correct, a P-value less than one in twenty, or 0.05, needs to be produced. Instead, this regression analysis, and its P-value, shows that the invisible border cannot be proven based on the given inputs, but that does not mean it does not exist.²⁹⁰

²⁹⁰ Ronald A. Thisted, “What is P-value?” (University of Chicago, 2010), 5–6, <http://galton.uchicago.edu/~thisted/Distribute/pvalue.pdf>.

SUMMARY OUTPUT: INVISIBLE BORDER WITH OTHER THREE BORDERS

<i>Regression Statistics</i>					
Multiple R		0.772892445			
R Square		0.597362732			
Adjusted R Square		0.560759343			
Standard Error		3156.918782			
Observations		49			

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	650584403	162646100.8	16.31988	2.87487E-08
Residual	44	438509992.5	9966136.194		
Total	48	1089094396			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>
Intercept	8478.991338	2314.776858	3.662984322	0.000666	3813.865181
Invisible Border	2539.833615	1686.538631	1.505944524	0.139227	-859.1616077
San Diego Border	7.871175776	2.362409755	3.331841887	0.001755	3.110051823
El Paso Border	-10.81361422	4.95342588	-2.183057641	0.03441	-20.79658798
Laredo Border	9.167462715	3.284541438	2.791093639	0.00774	2.547904495

	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	13144.11749	3813.865181	13144.11749
Invisible Border	5938.828838	-859.1616077	5938.828838
San Diego Border	12.63229973	3.110051823	12.63229973
El Paso Border	-0.830640451	-20.79658798	-0.830640451
Laredo Border	15.78702094	2.547904495	15.78702094

Table 3. Regression Analysis for the Invisible Border and Other Entry Points.²⁹¹

These two discoveries, the correlation between distance and price and the theoretical invisible border, give even more reason that Mexican DTOs will continue to infiltrate the U.S. and attempt to control more of the supply chain process. As DTOs expand their presence in the U.S. to capitalize on as much of these revenues as possible, American cities could begin to see an increase in drug related violence. Additionally, by gaining a greater footprint north of the border and continuing their roles as entrepreneurs, cartels will uncover new opportunities within the deviant world.²⁹² These aspects should be studied in more detail with future research.

²⁹¹ Data derived from 2008 “National Illicit Drug Prices.”

²⁹² Kirzner, *Perception, Opportunity, and Profit: Studies in the Theory of Entrepreneurship*.

B. RECOMMENDATIONS

I have three recommendations to help guide future policies and strategies of the U.S. government in regard to fighting the Mexican DTOs.

1. Fighting the drug cartels is an extremely challenging problem and should not be understated. Mexican DTOs operate highly evolved, incentive based, and self-healing networks that can absorb major law-enforcement induced disruptions. Time and time again, they prove their organizational resilience by quickly and efficiently shifting operations to alternate cells when required. The U.S. must understand and respect the Mexican DTOs' capabilities to bypass or overcome any policy or strategy it designs to disrupt their operations. Any national policy or strategy that underestimates the drug cartels' ability to strategize and execute will fail.

2. Most U.S. government and local organizations are organized in a hierarchical structure with multiple layers of bureaucracy, from federal entities all the way down to local law enforcement. These layers of hierarchy force decisions, changes in plans, and communication to go through multiple decision makers or layers of approval, thus adding weeks and even months to a process. When an organization does make a decision to execute an operation or make a change to policy, the DTOs quickly flex their network to overcome or circumvent the latest barrier. This variation between DTO and government organization gives the cartels a significant advantage when it comes to adapting to changing environments. The government will always be at a disadvantage when it is in an arms race against a flat organization because every strategic counter made by U.S. authorities requires several layers of approval and thus cannot keep up with the efficiency in which cartels and their contractors can adapt. To overcome this impediment and level the playing field, the U.S. should move towards fighting these cartels with its own flat networks.²⁹³ To make this drastic change, law enforcement organizations that fight drug cartel activities should organize themselves so that more actors have autonomy to make real-time changes to plans, execute their own operations, and flex and adapt in a similar

²⁹³ This concept is derived from references and books by John Arquilla: Thomas A. Stewart, "America's Secret Weapon," *Business 2.0*, December 2001; John Arquilla and David Ronfeldt, *Networks and Netwars* (Santa Monica: Rand, 2001).

manner to the cartels. With this flatter structure, less emphasis should be placed on large, time-consuming, tangible projects or operations, such as advanced border fences or permanent inner-border checkpoints, because the DTOs have proven their ability to side step these types of barriers. Instead, small law enforcement units should execute random, hard to predict activities that challenge the innovativeness of the cartels. An example could be setting up a one to two day inner-border checkpoint at a new location to disrupt and confuse traffickers. This activity would have similar results to random border inspections, but would decrease predictability by constantly changing positions within the U.S. Most importantly, it would introduce confusion to the drug traffickers within the U.S. and would test the DTOs' ability to flex and adapt in a region of which they focus more on efficiency and less on overcoming obstacles. For example, in Chapter III I highlight the resilience of the contracting model that DTOs use to move illicit products across the border and into safe houses within the U.S. To distribute drugs throughout the U.S., precautions are still taken to make it challenging for law enforcement to find the drugs stashed in vehicles or track suspicious movement, but more emphasis is placed on efficiency and less on overcoming challenging obstacles. Random law enforcement activities within the U.S., such as the checkpoint example, would significantly inhibit the DTO activities because the focus of the traffickers in the U.S. is moving the product through the supply chain. Thus, by using multiple, flat cells to fight the drug cartel activities, law enforcement can execute activities designed to confuse and disrupt the DTOs within the U.S. while also having the autonomy to quickly adapt to new tactics in a similar manner to the cartels so that they can cause confusion and disruption.

3. The war on drugs in the U.S. has been going on for over 40 years, and although that battle encompasses many aspects, such as policies, supply, demand, education, treatment, etc., drug cartels and their business activities continue to infiltrate our borders. With regards to these illicit activities, the U.S. must reframe the problem. Most policies are designed with an end state of complete elimination of the drug cartels and their illicit activities from the U.S., however, as argued in this thesis, the Mexican DTO networks are too evolved and complex, and incredibly difficult, if not impossible, to dissolve. Instead, the U.S. should shift its paradigm to target an end state that increases

the price of drugs. For example, by making it more difficult and risky for traffickers to smuggle drugs into and throughout the US, the value of the drugs will continue to increase. Higher prices will eventually push buyers out of the market and thus change the dynamic of the drug trade. To accomplish this task, U.S. strategies should focus on the least expensive way to increase the price of drugs.

Why the least expensive methods? Because the U.S. is notorious for conducting operations or implementing projects that are high in cost, slow in production, and thus produce small returns on investment. A way to overcome this would be to build on my second recommendation of using a small, flat organizational structure to combat the drug cartel activities. For example, more autonomy and responsibility should be given to local organizations, such as local police, so that drug cartel activities become a bigger focus for these small law enforcement units.

On an even smaller scale of participation, lessons can be taken from the U.S. Defense Advanced Research Projects Agency's (DARPA) Red Balloon challenge, in which teams competed to find 10 red balloons placed randomly around the U.S. The winning team found all 10 balloons in less than nine hours through crowd sourcing by incentivizing individuals to network on its behalf, which encouraged strangers to span their city blocks and then report balloon sightings through that network, as opposed to passing information to a competing team or not participating at all.²⁹⁴ To tie this challenge into increasing the risk associated with drug cartel activities and thus raising the price of drugs, the U.S. must think and act on a smaller scale that capitalizes on advances in communication and Internet connectivity. If it could incentivize ways that everyday citizens could report suspicious drug related activities to law enforcement, the U.S. would be able to gather more intelligence and act quickly to disrupt these operations. Similar to how the drug cartels utilize bribes to stay one step ahead of

²⁹⁴ Larry Greenemeir, "Inflated Expectations: Crowd-Sourcing Comes of Age in the DARPA Network Challenge," *Scientific American*, December 21, 2009, <http://www.scientificamerican.com/article.cfm?id=darpa-network-challenge-results>; Jennifer Chu, "Searching for Balloons in a Social Network," *MIT News*, October 28, 2011, <http://web.mit.edu/newsoffice/2011/red-balloons-study-102811.html>.

authorities in Mexico, the U.S. could do something similar within its borders. It just has to find the incentive.

THIS PAGE INTENTIONALLY LEFT BLANK.

VI. LIST OF TABLES²⁹⁵

Cocaine Average Price in US Dollars

State	City	2008 City Averages			2008 State Averages		
		Wholesale per kg	Midlevel per oz.	Retail per gram	Wholesale per kg	Midlevel per oz.	Retail per g.
Alabama	Birmingham	\$21,250	\$1,000	\$105	\$20,750	\$950	\$106
	Mobile	\$20,000	\$1,000	\$110			
	Montgomery	\$21,000	\$850	\$103			
Arizona	Phoenix	\$16,750	n/a	120/ .125oz	\$16,250	\$675	
	Tucson	\$15,750	\$675				
Arkansas	Fayetteville	\$16,000			\$18,667	\$800	\$95
	Fort Smith	\$19,000	\$800	\$100			
	Little Rock	\$21,000	\$800	\$90			
California	Fresno	\$16,250			\$17,650	\$700	\$77
	Los Angeles	\$18,000	\$700	\$80			
	Sacramento	\$17,500	\$750	\$100			
	San Diego	\$16,000	\$650	\$50			
	San Francisco	\$20,500	\$700	n/a			
Colorado	Colorado Springs	\$20,000	\$750	\$75	\$20,375	\$775	\$93
	Denver	\$20,750	\$800	\$110			
Connecticut	Bridgeport	\$27,000	\$975		\$28,000	\$942	\$44
	Hartford	\$27,000	\$900	\$43			
	New Haven	\$30,000	\$950	\$45			
Delaware	Wilmington	\$28,000	\$1,050	\$125	\$28,000	\$1,050	\$125
DC	District of Columbia	\$30,000	\$1,225	\$125	\$30,000	\$1,225	\$125
Florida	Jacksonville	\$21,500	\$850	\$80	\$19,594	\$844	\$81
	Miami	\$16,375	\$950	\$100			
	Orlando	\$21,000	\$775	\$90			
	Tampa	\$19,500	\$800	\$53			
Georgia	Atlanta	\$21,750	n/a	\$45	\$21,313		\$76
	Columbus	\$24,000		\$70			
	Macon	\$20,000		\$90			
	Savannah	\$19,500		\$100			
Idaho	Boise	\$19,000	\$700	\$63	\$19,000	\$700	\$63
Illinois	Chicago	\$24,000	\$825	\$150	\$23,833	\$883	\$117
	Rockford	\$21,500	\$775	\$100			
	Springfield	\$26,000	\$1,050	\$100			

²⁹⁵ The tables listed in this section were derived from 2008 “National Illicit Drug Prices.” Distances were calculated using Google Maps.

Indiana	Indianapolis	\$21,500	\$900	\$90	\$20,875	\$863	\$87
	Evansville	\$20,000	\$800	\$90			
	Fort Wayne	\$20,000	\$900	\$78			
	Merrillville	\$22,000	\$850	\$90			
Iowa	Cedar Rapids	\$24,000	\$1,100	\$100	\$24,000	\$1,013	\$110
	Des Moines		\$925	\$120			
Kansas	Wichita	\$28,000	\$700	\$90	\$28,000	\$700	\$90
Kentucky	Lexington	\$25,000	\$900	\$100	\$24,250	\$888	\$100
	Louisville	\$23,500	\$875				
Louisiana	Baton Rouge		\$1,000	\$100	\$22,000	\$800	\$105
	Shreveport	\$22,500	\$800	\$100			
	New Orleans	\$21,500	\$600	\$115			
Maine	Bangor		\$1,450	\$90	\$33,250	\$1,300	\$83
	Lewiston	\$31,500	\$1,200	\$88			
	Portland	\$35,000	\$1,250	\$70			
Maryland	Baltimore	\$28,000	\$1,050	\$125	\$26,500	\$1,138	\$125
	Hagerstown	\$25,000	\$1,225	\$125			
Massachusetts	Springfield	\$29,000	\$1,075	\$29	\$26,750	\$1,075	\$46
	Worcester	\$24,500		\$55			
	Boston	\$26,750	n/a	\$55			
Michigan	Detroit	\$26,500	\$1,125	\$85	\$23,667	\$992	\$83
	Grand Rapids	\$22,000	\$950				
	Saginaw	\$22,500	\$900	\$80			
Minnesota	Minneapolis	\$20,500	\$950	\$100	\$20,500	\$950	\$100
Mississippi	Gulfport	\$22,500	\$950	\$100	\$21,667	\$850	\$100
	Jackson	\$20,500	\$750	\$100			
	Oxford	\$22,000	\$850	\$100			
Missouri	Kansas City	\$20,000	\$1,000	\$90	\$26,500	\$1,100	\$95
	St. Louis	\$33,000	\$1,200	\$100			
Montana	Billings	\$30,000	\$1,850	\$113	\$35,000	\$1,713	\$113
	Great Falls	\$40,000	\$1,575	\$113			
Nebraska	Omaha	\$20,500	\$925	n/a	\$20,500	\$925	
Nevada	Las Vegas	\$16,000	\$799	\$90	\$15,100	\$725	\$70
	Reno	\$14,200	\$650	\$50			
New Hampshire	Manchester	\$30,250	\$1,000	\$97	\$30,250	\$1,000	\$97
New Jersey	Atlantic City	\$28,500	\$1,150	\$75	\$27,833	\$958	\$57
	Camden	\$29,500	\$975	\$58			
	Newark	\$25,500	\$750	\$38			
New Mexico	Albuquerque	\$17,000	\$600	\$90	\$16,375	\$600	\$90
	Las Cruces	\$15,750	\$600	\$90			
New York	Albany	\$27,500	\$1,175	\$100	\$27,167	\$1,075	\$74
	Buffalo	\$26,500	\$1,125	\$70			
	New York City	\$27,500	\$925	\$53			

North Carolina	Charlotte	\$21,500	\$850	\$70	\$23,688	\$906	\$64
	Greensboro	\$24,000	\$800	\$50			
	Raleigh	\$25,000	\$975	\$75			
	Wilmington	\$24,250	\$1,000	\$60			
North Dakota	Bismarck	\$27,500	\$1,600	\$175	\$23,750	\$1,625	\$175
	Fargo	\$20,000	\$1,650	\$175			
Ohio	Cincinnati	\$26,000	\$938	\$100	\$26,167	\$1,090	\$100
	Cleveland	\$25,000	\$1,050	\$100			
	Columbus	\$22,500	\$1,000	\$100			
	Dayton	\$23,500	\$1,000	\$100			
	Toledo	\$29,000	\$1,200	\$100			
	Youngstown	\$31,000	\$1,350	\$100			
Oklahoma	Oklahoma City	\$20,000	\$700	\$90	\$20,000	\$825	\$90
	Tulsa	\$20,000	\$950	\$90			
Oregon	Eugene	\$18,500	\$900	\$70	\$19,000	\$850	\$80
	Portland	\$19,500	\$800	\$90			
Pennsylvania	Allentown	\$25,000	\$875	\$33	\$25,167	\$900	\$85
	Philadelphia	\$27,000	\$925	\$85			
	Pittsburg	\$23,500		\$138			
Rhode Island	Providence	\$30,000	\$950	\$34	\$30,000	\$950	\$34
South Carolina	Charleston	\$24,000	\$925	\$75	\$22,750	\$897	\$86
	Columbia	\$23,000	\$963	\$135			
	Florence	\$20,500	\$800	\$50			
	Greenville	\$23,500	\$900	\$85			
South Dakota	Rapid City		\$1,500	\$110	\$16,500	\$1,275	\$108
	Sioux Falls	\$16,500	\$1,050	\$105			
Tennessee	Knoxville	\$22,500	\$1,050		\$20,500	\$892	\$53
	Memphis	\$23,750	\$775	\$55			
	Nashville	\$15,250	\$850	\$50			
Texas	Alpine	\$17,250	\$550	\$200	\$17,586	\$670	\$114
	Dallas	\$18,350	\$775	\$65			
	El Paso	\$16,750	\$515	\$60			
	Galveston	\$17,500	\$950	\$100			
	Houston	\$20,500	\$800	\$80			
	Midland	\$17,250	\$550	\$200			
	San Antonio	\$15,500	\$550	\$90			
Utah	Salt Lake City	\$17,000	\$575	\$70	\$17,000	\$575	\$70
Vermont	Burlington	\$31,500	\$1,250	\$90	\$31,500	\$1,250	\$90
Virginia	Fairfax	\$26,000	\$1,000	\$100	\$26,300	\$900	\$96
	Norfolk	\$27,500	\$1,000	\$100			
	Richmond	\$25,500	\$700	\$80			
	Roanoke	\$26,000		\$100			
	Virginia Beach	\$26,500		\$100			

Washington	Seattle	\$18,500	\$688	\$65	\$19,000	\$679	\$65
	Spokane	\$18,500	\$750	\$70			
	Yakima	\$20,000	\$600	\$60			
West Virginia	Charleston	\$22,500	\$800	\$150	\$22,500	\$800	\$150
Wisconsin	Green Bay	\$22,500	\$1,150	\$113	\$21,667	\$1,042	\$101
	Madison	\$20,000	\$975	\$88			
	Milwaukee	\$22,500	\$1,000	\$103			
Wyoming	Cheyenne	\$27,500	\$1,750	\$163	\$27,500	\$1,750	\$163

Table 4. Average Price of Cocaine in the U.S.

Cocaine Wholesale Price State Average and Distance from Border

Distance (miles)
*Using Google Maps

State	Wholesale per kg	San Diego	El Paso	Laredo	State Capital	Predicted Price using Regression Analysis	Difference
Alabama	\$20,750	2013	1282	947	Montgomery	\$23,629	\$2,879
Arizona	\$16,250	363	430	1036	Phoenix	\$16,329	\$79
Arkansas	\$18,667	1684	954	749	Little Rock	\$22,173	\$3,506
California	\$17,650	518	1184	1790	Sacramento	\$17,014	-\$636
Colorado	\$20,375	1090	635	1096	Denver	\$19,545	-\$830
Connecticut	\$28,000	2936	2305	2066	Hartford	\$27,712	-\$288
Delaware	\$28,000	2794	2063	1824	Dover	\$27,084	-\$916
DC	\$30,000	2693	1962	1724	DC	\$26,637	-\$3,363
Florida	\$19,594	2183	1452	1023	Tallahassee	\$24,381	\$4,787
Georgia	\$21,313	2147	1416	1107	Atlanta	\$24,222	\$2,909
Idaho	\$19,000	966	1201	1714	Boise	\$18,996	-\$4
Illinois	\$23,833	1955	1322	1154	Springfield	\$23,372	-\$461
Indiana	\$20,875	2101	1468	1329	Indianapolis	\$24,018	\$3,143
Iowa	\$24,000	1757	1132	1164	Des Moines	\$22,496	-\$1,504
Kansas	\$28,000	1549	880	912	Topeka	\$21,576	-\$6,424
Kentucky	\$24,250	2172	1506	1300	Frankfort	\$24,332	\$82
Louisiana	\$22,000	1745	1015	585	Baton Rouge	\$22,443	\$443
Maine	\$33,250	3207	2551	2313	Augusta	\$28,911	-\$4,339
Maryland	\$26,500	2732	2002	1763	Annapolis	\$26,810	\$310
Massachusetts	\$26,750	3051	2396	2157	Boston	\$28,221	\$1,471
Michigan	\$23,667	2290	1711	1580	Lansing	\$24,854	\$1,188
Minnesota	\$20,500	2004	1380	1412	Saint Paul	\$23,589	\$3,089
Mississippi	\$21,667	1769	1039	756	Jackson	\$22,549	\$882
Missouri	\$26,500	1781	1148	980	Jefferson City	\$22,602	-\$3,898
Montana	\$35,000	1244	1345	1861	Helena	\$20,226	-\$14,774
Nebraska	\$20,500	1572	961	1055	Lincoln	\$21,678	\$1,178
Nevada	\$15,100	537	1167	1773	Carson City	\$17,098	\$1,998
New Hampshire	\$30,250	3027	2451	2212	Concord	\$28,115	-\$2,135
New Jersey	\$27,833	2764	2141	1902	Trenton	\$26,951	-\$882
New Mexico	\$16,375	882	328	772	Santa Fe	\$18,625	\$2,250

New York	\$27,167	2883	2282	2077	Albany	\$27,478	\$311
North Carolina	\$23,688	2553	1822	1513	Raleigh	\$26,018	\$2,330
North Dakota	\$23,750	1726	1339	1560	Bismarck	\$22,359	-\$1,391
Ohio	\$26,167	2275	1674	1469	Columbus	\$24,788	-\$1,379
Oklahoma	\$20,000	1362	730	622	Oklahoma City	\$20,748	\$748
Oregon	\$19,000	1053	1718	2186	Salem	\$19,381	\$381
Pennsylvania	\$25,167	2643	2017	1779	Harrisburg	\$26,416	\$1,249
Rhode Island	\$30,000	3009	2363	2124	Providence	\$28,035	-\$1,965
South Carolina	\$22,750	2361	1630	1315	Columbia	\$25,168	\$2,418
South Dakota	\$16,500	1611	1161	1322	Pierre	\$21,850	\$5,350
Tennessee	\$20,500	2029	1200	1093	Nashville	\$23,699	\$3,199
Texas	\$17,586	1307	576	235	Austin	\$20,505	\$2,919
Utah	\$17,000	763	864	1377	Salt Lake City	\$18,098	\$1,098
Vermont	\$31,500	3018	2417	2212	Montpelier	\$28,075	-\$3,425
Virginia	\$26,300	2642	1911	1638	Richmond	\$26,412	\$112
Washington	\$19,000	1210	1733	2246	Olympia	\$20,076	\$1,076
West Virginia	\$22,500	2363	1685	1480	Charleston	\$25,177	\$2,677
Wisconsin	\$21,667	2050	1425	1418	Madison	\$23,792	\$2,126
Wyoming	\$27,500	1175	736	1143	Cheyenne	\$19,921	-\$7,579

Table 5. State Averages of Cocaine and Distance from the Border

LIST OF REFERENCES

- “2012 Houston High Intensity Drug Trafficking Area Threat Assessment.” Office of the National Drug Control Policy. Houston Intelligence Support Center, June 2012.
- “3. Distribute.” iOS Developer Program. Apple Developer. Accessed March 7, 2013. <https://developer.apple.com/programs/ios/distribute.html>.
- Aaronson, Becca and Ben Hasson. “The Black Market Peso Exchange.” *Texas Tribune*. November 13, 2011. <http://www.texastribune.org/library/multimedia/black-market-peso-exchange-money-launderer/#graphic>.
- Afuah, Allan and Christopher L. Tucci. *Internet Business Models and Strategies: Text and Cases*. New York: McGraw-Hill, 2001.
- Agullar, Julian. “In Laredo, Was a Criminal Enterprise Bathed in Sweet Perfume.” *Texas Tribune*, November 13, 2011. <http://www.texastribune.org/library/multimedia/black-market-peso-exchange-money-launderer/#story>.
- America’s Navy: A Global Force for Good. Accessed January 31, 2013. www.navy.com.
- Amit, Raphael and Christoph Zott. “Value Creation in E-Business.” *Strategic Management Journal* 22 (2001): 493–520. 10.1002/smj.187.
- Andersen, Arya. “Looking at Mexico’s New Anti-Money Laundering Legislation.” *Financial Integrity & Economic Development Task Force*. Last modified October 16, 2012. <http://www.financialtaskforce.org/2012/10/16/looking-at-mexicos-new-anti-money-laundering-legislation/>.
- Andreas, Peter. “Illicit Globalization: Myths, Misconceptions, and Historical Lessons.” *Political Science Quarterly* 126, no. 3 (2011): 1–23.
- “Anti-Money Laundering, 2nd Edition.” International Federation of Accountants. 2004.
- “A Banker’s Guide to Avoiding Problems.” Washington, DC: Office of the Comptroller of the Currency, 2002.
- “App Store Tops 40 Billion Downloads with Almost Half in 2012: Record-Breaking December with Over Two Billion Downloads.” Apple Press Info. Last modified January 7, 2013. <http://www.apple.com/pr/library/2013/01/07App-Store-Tops-40-Billion-Downloads-with-Almost-Half-in-2012.html>.

- “Appendix F: Money Laundering and Terrorist Financing ‘Red Flags’.” Federal Financial Institutions Examination Council Bank Secrecy Act/ Anti-Money Laundering Info Base. Accessed February 15, 2013.
http://www.ffiec.gov/bsa_aml_infobase/pages_manual/OLM_106.htm.
- Archibold, Randal C. “Honoring Drug War Dead, and Spurring a Debate.” *New York Times*, January 23, 2013. <http://www.nytimes.com>.
- Arquilla, John and David Ronfeldt. *Networks and Netwars*. Santa Monica: Rand, 2001.
- Baker, Raymond and Eva Joly. “Illicit Money: Can it be Stopped?” in *Deviant Globalization: Black Market Economy in the 21st Century*. Edited by Nils Gilman, Jesse Goldhammer, and Steven Weber. New York: The Continuum International Publishing Group, 2011.
- Behn, Robert D. and Peter A. Kant. “Strategies for Avoiding the Pitfalls of Performance Contracting.” *Public Productivity & Management Review* 22, no. 4 (1999): 470–489. <http://www.jstor.org/stable/3380931>.
- Bogan, Jesse. “Cocaine King,” *Forbes*. March 30, 2009.
<http://www.forbes.com/forbes/2009/0330/102-cocaine-king.html>.
- “Border Crossing/ Entry Data: Time Series Analysis.” Research and Innovative Technology Administration, Bureau of Transportation Statistics. Accessed February 22, 2013.
http://transborder.bts.gov/programs/international/transborder/TBDR_BC/TBDR_BCTSA.html.
- Brice, Jeff. “Legitimate and Illicit Entrepreneurship: An Opinion Concerning the Relation of Convergent and Divergent Business Development Strategies.” *Hofstra Horizons*, Fall 2003, 4–7.
- Bunker, Pamela L., Lisa J. Campbell, and Robert J. Bunker. “Torture, beheadings, and narcocultos.” *Small Wars & Insurgencies* 21, no. 1 (2010): 145–178.
doi.org/10.1080/09592310903561668.
- Calia, Rogerio C., Fabio M. Guerrini, and Gilnei L. Moura. “Innovation Networks: From Technological Development to Business Model Reconfiguration.” *Technovation* 27 (2007): 426–432. www.elsevier.com/locate/technovation.
- Carlyle, Erin. “Billionaire Druglords: El Chapo Guzman, Pablo Escobar, The Ochoa Brothers.” *Forbes*, March 13, 2012.
<http://www.forbes.com/sites/erincarlyle/2012/03/13/billionaire-druglords-el-chapo-guzman-pablo-escobar-the-ochoa-brothers/>.
- Campbell, Howard. *Drug War Zone: Frontline Dispatches from the Streets of El Paso and Juarez*. Austin: University of Texas Press, 2009.

- Campbell, Lisa J. "Los Zetas: Operational Assessment." *Small Wars & Insurgencies* 21, no. 1. 2010. 55–80. doi.org/10.1080/09592310903561429.
- Caputo, Philip. "The Fall of Mexico." *Atlantic*, December 2009.
http://www.theatlantic.com/magazine/archive/2009/12/the-fall-of-mexico/307760/?single_page=true.
- Chalk, Peter. "Profiles of Mexico's Seven Major Drug Trafficking Organizations." *CTC Sentinel* 5, no. 1 (2012): 5–8. <http://www.ctc.usma.edu/posts/january-2012>.
- Chesbrough, Henry and Richard S. Rosenbloom. "The role of the business model in capturing value from innovation: Evidence from Xerox Corporation's Technology Spinoff Companies." *Industrial and Corporate Change* 11, no. 3 (2002): 529–555.
- "Chicago High Intensity Drug Trafficking Area." Drug Market Analysis 2011. U.S. Department of Justice National Drug Intelligence Center, September 2011.
- Christin, Nicolas. "Traveling the Silk Road: A Measurement Analysis of a Large Anonymous Online Marketplace." Carnegie Mellon INI/ CyLab Working Paper, 2012. http://www.cylab.cmu.edu/files/pdfs/tech_reports/CMUCyLab12018.pdf.
- Chu, Jennifer. "Searching for Balloons in a Social Network." *MIT News*, October 28, 2011. <http://web.mit.edu/newsoffice/2011/red-balloons-study-102811.html>.
- "A Cooperative Strategy for 21st Century Seapower." October 2007.
<http://www.navy.mil/maritime/Maritimestrategy.pdf>.
- Culp, Robert. "Strategy for Military Counter Drug Operations." *Small Wars Journal*. 2011. <http://smallwarsjournal.com/jrnl/art/strategy-for-military-counter-drug-operations>.
- Dainty, Andrew R., Geoffrey H. Briscoe, and Sarah J. Millett. "Subcontractor Prospectives on Supply Chain Alliances." *Construction Management and Economics* 19, no. 8 (2001): 841–848. doi.org.10.1080/01446190110089727.
- Eisenmann, Thomas, Geoffrey Parker, and Marshall W. Van Alstyne. "Strategies for Two-Sided Markets." *Harvard Business Review* 84, no. 10 (2006): 92–101. *Business Source Complete, EBSCOhost* (accessed April 25, 2013).
- Felbab-Brown, Vanda. "Counternarcotics Policy Overview: Global Trends & Strategies." *Brookings*, October 2008.
- Farah, Douglas. "Money Laundering and Bulk Cash Smuggling: Challenges for the Merida Initiative." Working Paper Series on U.S.-Mexico Security Cooperation, May 2010.

- Finnegan, William. "Letter from Mexico: Silver or Lead." *New Yorker*, May 31, 2010.
www.newyorker.com.
- "Five Convicted in Relation to \$20-plus Million 'Black Market Peso Exchange' Scheme." *Cypress Creek Mirror*, February 13, 2013.
<http://www.yourhoustonnews.com>.
- "FY13 Budget Press Brief." Fiscal Year 2013 Department of the Navy Budget Materials. Accessed January 31, 2013.
<http://www.finance.hq.navy.mil/FMB/13pres/BOOKS.htm>.
- Gat, Azar. "So Why Do People Fight? Evolutionary Theory and the Causes of War." *European Journal of International Relations* 14, no. 4 (2009): 571–599.
<http://ejt.sagepub.com/content/15/4/571>.
- Gilman, Nils. "Deviant Globalization." The Long Now Foundation, *FORA.tv*. (n.d.).
http://fora.tv/2010/05/10/Nils_Gilman_Deviant_Globalization.
- Gilman, Nils, Jesse Goldhammer, and Steven Weber, eds. *Deviant Globalization: Black Market Economy in the 21st Century*. New York: The Continuum International Publishing Group, 2011.
- Glenny, Misha. *McMafia: A Journey Through the Global Criminal Underworld*. New York: Vintage Books, 2008.
- Grayson, George W. "La Familia: Another Deadly Mexican Syndicate." *Zimbio*, February 19, 2009. www.zimbio.com.
- Goddard, Terry. "How To Fix a Broken Border: Hit the Cartels Where it Hurts." *Immigration Policy Center*. September 2011.
<http://www.immigrationpolicy.org/perspectives/how-fix-broken-border-three-part-series>.
- . "How to Fix a Broken Border: Disrupting Smuggling at its Source." *Immigration Policy Center*. February 2012.
<http://www.immigrationpolicy.org/perspectives/how-fix-broken-border-three-part-series>.
- . "How To Fix a Broken Border: Follow the Money." *Immigration Policy Center*. May 2012. <http://www.immigrationpolicy.org/perspectives/how-fix-broken-border-three-part-series>.
- Gootenberg, Paul. "Talking About The Flow: Drugs, Borders, and the Discourse of Drug Control." *Cultural Critique* 71 (2009): 13–46.
<http://www.jstor.org/stable/25475500>.

- Greenemeir, Larry. "Inflated Expectations: Crowd-Sourcing Comes of Age in the DARPA Network Challenge." *Scientific American*, December 21, 2009. <http://www.scientificamerican.com/article.cfm?id=darpa-network-challenge-results>.
- "Guidance to Financial Institutions on the Repatriation of Currency Smuggled into Mexico from the United States." Department of the Treasury. Financial Crimes Enforcement Network. Last modified April 28, 2006. http://www.fincen.gov/statutes_regs/guidance/html/advis04282006.html.
- "HSBC Holdings Plc. and HSBC Bank USA N.A. Admit to Anti-Money Laundering and Sanctions Violations, Forfeit \$1.256 Billion in Deferred Prosecution Agreement: Bank Agrees to Enhanced Compliance Obligations, Oversight by Monitor in Connection with Five-year Agreement." Department of Justice. Office of Public Affairs, December 11, 2012. <http://www.justice.gov/opa/pr/2012/December/12-crm-1478.html>.
- "Illegal Drug Market Violence in Mexico – Infographic." *Global Post*. Accessed March 20, 2012. <http://rehab-international.org/blog/drug-violence-in-mexico-infographic>.
- Jacobs, Peter K. "Venture Capital: Spurring Innovation and Growth." *New Business: Entrepreneurial Pursuits at Harvard Business School*, 2002.
- Johnson, Mark W., Clayton M. Christensen, and Henning Kagermann. "Reinventing Your Business Model." *Harvard Business Review* 86, no. 12 (2008): 50–59. Business Source Complete (35386627).
- Jones, Geoffrey and R. Daniel Wadhvani. "Entrepreneurship and Business History: Renewing the Research Agenda." Working paper for Harvard Business School, 2006.
- Jones, Chuck. "Apple's App Store Could Generate \$22 Billion in 2016 Revenue." *Forbes*. Last modified January 10, 2013. <http://www.forbes.com/sites/chuckjones/2013/01/10/apples-app-store-could-generate-22-billion-in-2016-revenue/>.
- Keefe, Patrick R. "Cocaine Incorporated." *New York Times*, June 15, 2012. <http://www.nytimes.com>.
- Kenney, Michael. "The Architecture of Drug Trafficking: Network Forms of Organization in the Colombian Cocaine Trade." *Global Crime* 8, no. 3 (2007): 233–259. doi.org/10.1080/17440570701507794.

- “Kindergarten and Elementary School Teachers.” United States Department of Labor: Bureau of Labor Statistics. Last modified March 29, 2012. <http://www.bls.gov/ooh/Education-Training-and-Library/Kindergarten-and-elementary-school-teachers.htm>.
- Kirzner, Israel M. *Perception, Opportunity, and Profit: Studies in the Theory of Entrepreneurship*. Chicago: The University of Chicago Press, 1979.
- Luhnow, David and Jose de Cordoba. “Hit Men Kill Mexican Hero’s Family: Attack on Family of Marine Who Died in Drug Raid Suggests Cartels Turning To Terror.” *Wall Street Journal*, December 23, 2009. <http://www.wsj.com>.
- Maliha, George. “Renewing the War on Drugs: A Firmer Stand against Mexican Cartels.” *American Foreign Policy*. Accessed March 18, 2012. <http://afpprinceton.com/2011/12/renewing-the-war-on-drugs-a-firmer-stand-against-mexican-cartels/>.
- Margretta, Joan. “Why business models matter.” *Harvard Business Review* 80, no. 5 (2002): 86–92. Business Source Complete (623782).
- McGuire, Martin C. *Secrecy and the Arms Race: A Theory of the Accumulation of Strategic Weapons and How Secrecy Affects It*. Cambridge: Harvard University Press, 1965.
- Mentzer John T., William DeWitt, James S. Keebler, Soonhong Min, Nancy W. Nix, Carlo D. Smith, and Zach G. Zacharia. “Defining Supply Chain Management.” *Journal of Business Logistics* 22, no. 2 (2001): 1–25. doi.org.10.1002/j.2158–1592.2001.tb00001.x.
- Montoya, Miguel A. *Ayer Medico, hoy narco: el mexicano que quiso ser Pablo Escobar*. Editorial Oveja Negra. <http://motherboard.vice.com/2009/7/14/drug-smuggling-with-submarines>.
- Naim, Moises. *Illicit: How Smugglers, Traffickers, And Copycats are Hijacking the Global Economy*. New York: Doubleday, 2005.
- “National Bulk Cash Smuggling Center.” ICE. Accessed February 19, 2013. <http://www.ice.gov/bulk-cash-smuggling-center/>.
- National Drug Intelligence Center. “2009 National Drug Threat Assessment.” <http://www.justice.gov/archive/ndic/pubs31/31379/index.htm>.
- National Drug Intelligence Center. “2011 National Drug Threat Assessment.” www.justice.gov/archive/ndic/pubs44/44849/44849p.pdf.
- “National Illicit Drug Prices.” U.S. Department of Justice, June 2008. <http://www.dare.com/home/DrugInformation/documents/32579p.pdf>.

- Nieto-Gomez, Rodrigo. "Complex Adaptive Systems and Deviant Innovation: The case study of the Mexican-American border." Prepress.
- . "The Geopolitics of Clandestine Innovation in the Drug Business. A Framework of Analysis to Understand Adaptation Capacities of TCOs." in *The "New" Face of Transnational Crime Organizations (TCOs): A Geopolitical Perspective and Implications to US National Security*, edited by Ben Riley and Kathleen Kieran, 150–159. Joint Chiefs of Staff and Department of Defense: 2013.
- . "Ugly Narco Jeep Stuck at the Border." Rodrigo Nieto-Gomez Blog Spot. Accessed February 14, 2013. <http://rodrigonietogomez.blogspot.com>.
- Osterwalder, Alexander and Yves Pigneur. *Business Model Generation*. Hoboken: John Wiley & Sons, Inc., 2010.
- "Our Rich History." Western Union, Accessed February 26, 2013. <http://corporate.westernunion.com/History.html>.
- Paul, Christopher, Agnes G. Schaefer, and Colin P. Carke. *The Challenge of Violent Drug-Trafficking Organizations: An Assessment of Mexican Security Based on Existing RAND Research on Urban Unrest, Insurgency, and Defense-Sector Reform*. Santa Monica: RAND, 2011. <http://www.rand.org/pubs/monographs/MG1125>.
- Powley, Edward H. "Underlying Social Mechanisms of Organizational Resilience: The Role of Connective Capacity." in "Organizational Resilience: A Social Mechanisms Perspective," edited by Michelle Barton and Marlys Christianson, 31–36.
- "Prepaid Cards: Credit, Debit, Prepaid." RushCard. Assessed March 18, 2013. <http://www.rushcard.com>.
- Reuter, Peter. "The Limits of Supply-Side Drug Control." *Milken Institute Review*. First Quarter 2001: 14–23. http://www.milkeninstitute.org/publications/review/2001_3/14-23mr9.pdf.
- Richardson, Lewis F. *Arms and Insecurity: A Mathematical Study of the Causes and Origins of War*. Edited by Nicolas Rashevsky and Ernesto Trucco. Pittsburgh: The Boxwood Press, 1960.
- Rivait, Jonathon and Richard Johnson. "Graphic: Mexican Drug Cartels' Spreading Influence." *National Post*, February 2, 2013. <http://news.nationalpost.com/2012/07/13/mexican-drug-cartels-spreading-influence-graphic/>.
- Rowe, Thomas. *Federal Narcotics Law and the War on Drugs: Money Down a Rat Hole*. New York: Haworth Press, 2006.

- Sakhuja, Vijay. "Indian Ocean and the Safety of Sea Lines of Communication." *Strategic Analysis* 25, no. 5 (2008): 689–702.
<http://dx.doi.org/10.1080/09700160108458989>.
- Schmidt, Michael S. and Thom Shanker. "To Smuggle More Drugs, Traffickers Go Under the Sea," *New York Times*, September 9, 2012. <http://www.nytimes.com>.
- "South Texas High Intensity Drug Trafficking Area." Drug Market Analysis 2011. U.S. Department of Justice National Drug Intelligence Center, September 2011.
- Stewart, Scott. "Mexico's Cartels and the Economics of Cocaine." *Stratfor*, January 3, 2013. <http://www.stratfor.com/weekly/mexicos-cartels-and-economics-cocaine>.
- Stewart, Thomas A. "America's Secret Weapon." *Business 2.0*. December 2001.
- Teece, David J. "Business Models, Business Strategy and Innovation." *Long Range Planning* 43 (2010): 172–194. 10.1016.
- Thisted, Ronald A. "What is P-value?" University of Chicago, 2010.
<http://galton.uchicago.edu/~thisted/Distribute/pvalue.pdf>.
- Timmers, Paul. "Business Models for Electronic Markets." *Electronic Markets*, 8 (1998): 1–12. www.commerce.net.
- United Nations Office on Drugs and Crime. *Estimating Illicit Financial Flows Resulting from Drug Trafficking and Other Transnational Organized Crime*. 2011.
http://www.unodc.org/documents/data-and-analysis/Studies/Illicit_financial_flows_2011_web.pdf.
- . *The Globalization of Crime: A Transnational Organized Crime Threat Assessment*. 2010. <http://www.unodc.org/unodc/en/data-and-analysis/tocta-2010.html>.
- United States Department of State Bureau for International Narcotics and Law Enforcement Affairs. *International Narcotics Control Strategy Report Volume II: Money Laundering and Financial Crimes* (2012).
<http://www.state.gov/documents/organization/185866.pdf>.
- United States Library of Congress. Congressional Research Service. *Mexico and the 112th Congress*, by Clare R. Seelke. CRS Report RL32724. Washington, DC: Office of congressional Information and Publishing, January 29, 2013.
- . Congressional Research Service. *Mexico's Drug Trafficking Organizations: Source and Scope of the Rising Violence*, by June S. Beittel. CRS Report R41576. Washington, DC: Office of congressional Information and Publishing, August 3, 2012.

- . Congressional Research Service. *Mexico's Drug Trafficking Organizations: Source and Scope of the Rising Violence*, by June S. Beittel. CRS Report R41576. Washington, DC: Office of congressional Information and Publishing, September 7, 2011.
- . Congressional Research Service. *Federal Domestic Illegal Drug Enforcement Efforts: Are They Working?* by Celinda Franco. CRS Report R40732. Washington, DC: Office of congressional Information and Publishing, January 27, 2010.
- Van Valen, Leigh. "A New Evolutionary Law." *Evolutionary Theory* 1 (1973): 1–30.
- Weill, Peter, Thomas W. Malone, Victoria T. D'Urso, George Herman, Stephanie Woerner. "Do Some Business Models Perform Better than Others? A Study of the 1000 Largest U.S. Firms." MIT Sloan School of Management Working paper No. 226, 2004. <http://ccs.mit.edu/papers/pdf/wp226.pdf> (accessed September 2012).
- "West Texas High Intensity Drug Trafficking Area." Drug Market Analysis 2011. U.S. Department of Justice National Drug Intelligence Center, September 2011.
- Zott, Christoph and Raphael H. Amit. "Designing your future business model: An Activity System Perspective." IESE Business School Working Paper No. 781. 2009.
- . "Business Model Design and the Performance of Entrepreneurial Firms." *Organizational Science* 18, no. 2 (2007): 181–199. 10.1287/orsc.1060.0232.
- Zott, Christoph, Raphael Amit, and Lorenzo Massa. "The Business Model: Recent Developments and Future Research." *Journal of Management* (May 2011): 1–24. 10.1177/014920631140625.

THIS PAGE INTENTIONALLY LEFT BLANK.

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
Ft. Belvoir, Virginia
2. Dudley Knox Library
Naval Postgraduate School
Monterey, California