

# Chapter 33

## Collaborative Cross–Border Security Infrastructure and Systems: Identifying Policy, Managerial and Technological Challenges

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### ABSTRACT

*A long-standing problem in the US-Mexico bilateral agenda is migration. Although both countries have important agreements to promote economic exchange and trade, the events of 9/11 and other acts of terrorism have increased concerns about border security. Since the US-Mexico border is one of the most important borders in the world in terms of activity, securing it without interfering with the legitimate flow of people and goods, poses an important challenge. The purpose of this paper is to propose conceptual frameworks and models to facilitate collaboration across national borders, by discussing and considering key factors for collaborative US-Mexico Border Security Infrastructure and Systems. Border security technical solutions pose an interesting domain because there are a myriad of concerns (e.g., political, economic, social and cultural) outside the technical implementation that must be deliberated and examined. In this conceptual study, unique aspects of trust, governance, information sharing, culture, and technical infrastructure are identified as the key ingredients in a cross-border collaboration effort. A bi-national organizational network appears to be an effective institutional design to develop a better understanding of the problem, as well as required policies and technologies. This approach is consistent with experiments, research, and conclusions found in the European Union.*

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## INTRODUCTION

Cross border collaboration is required in order to solve the common complex problems of the modern world. The globalization process and the establishment of international free trade agreements are increasing the need for new ways to collaborate across national boundaries around the world. In fact, this trend has been transforming the mission and main objectives of customs administration, which now include promoting global competitiveness (Maldonado Carrasco, 2009; Vogel, Schmidt, Lemm, & Österle, 2008). Studying borders has a long tradition, and these recent phenomena, plus the rise of international terrorism, have renewed interest in border studies. For example, the North American Free Trade Agreement (NAFTA) was signed to promote commercial interchange between Mexico, Canada and the United States. Although NAFTA emphasizes free trade, the 9/11 terrorist attacks on the US have increased concerns about border security and the ability to screen large volumes of trucks at commercial ports of entry. Moreover, immigration has been a longstanding concern for both Mexico and the United States. The convergence of border security, immigration and trade represents a dynamic and complex issue. Moreover, the political clout of local border communities, together with the interplay of these local interests with state and federal interests has an impact on both the debate and implementation of policies related to this complex issue. The border environment has unique political, social and economic challenges for effective transnational collaboration. Thus, the value of investing in information systems and information technology in the border environment lies in the ability to facilitate trade and maintain security in a politically acceptable way. In this sense, although introducing technologies at the border has the potential of transforming current activities (e.g., increasing competitiveness), the selection and implementation of information technologies at the border is not only a technical-economic process, but also a social and political one (Dawes, Cresswell, & Pardo, 2009; Livermore & Rippa, 2011).

In order to meet the daunting challenge of facilitating trade and securing borders, it is becoming apparent that effective border security can only result from effective cross-national collaboration (Henningsson, Gal, Bjørn-Andersen, & Yao-Hua, 2011). Accordingly, trust, information sharing, technical infrastructure and cultural understanding become the cornerstones of successful cross-border collaborative efforts. On the basis of a literature review on border theory and interorganizational collaboration and governance, as well as fieldwork at the US-Mexican border, the purpose of this paper is to propose a process model that integrates technical development and policy development process in order to facilitate collaboration across national borders. Our model is a feasible way of developing technologies that respond to the social, economic and political issues associated with cross-border collaboration. We highlight key challenges and factors that must be considered for collaborative US-Mexico Border Security Infrastructure and Systems, and we also discuss societal and political issues involved in cross-border collaboration. Our guiding questions for the study are what is the current status of technology and systems infrastructure at the US-Mexico border? And which processes and frameworks may help build effective cross-national systems? Collaborative cross-border security infrastructure and systems is one aspect of Government to Business (G2B) interorganizational systems that is under-reported in the academic literature (Rukanova, van Stijn, Henriksen, Baida, & Yao-Hua, 2009). This paper attempts to fill this gap by exploring policy, managerial and technical challenges associated with developing such systems.

The paper is organized in five interrelated sections. First, we present some particularities of the US Mexico border and two frameworks to understand information sharing and collaboration at national borders. After introducing these frameworks, we present fieldwork and data to contribute to the understanding of the current status of border systems. As a result of this work, we present five key challenges

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